

#### Curt Russell

Topock Site 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

July 15, 2010

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

Subject: Board Order R7-2006-0060

PG&E Topock Compressor Station, Needles, California

Interim Measure No. 3 Groundwater Treatment System Discharge to Injection Wells Combined Second Quarter 2010 Monitoring and Semiannual January-June 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment

System

(Document ID: PGE20100715B)

Dear Mr. Perdue:

Enclosed is the Combined Second Quarter 2010 Monitoring and Semiannual January-June 2010 Operation and Maintenance Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure (IM) No. 3 Groundwater Treatment System.

This report is being submitted in compliance with the Waste Discharge Requirements (WDRs) issued September 20, 2006 by the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) under Order R7-2006-0060 and in compliance with the revised Monitoring and Reporting Program for Order R7-2006-0060, issued August 28, 2009. The WDRs apply to IM No. 3 Treatment System discharge by subsurface injection.

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

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

Sincerely,

Curt Russell

Topock Site Manager

#### **Enclosures:**

Combined Second Quarter 2010 Monitoring and Semiannual January-June 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System

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

# Document ID: PGE20100715B

Combined Second Quarter 2010 Monitoring and Semiannual January – June 2010 Operation and Maintenance 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** 

June 2010

CH2MHILL 155 Grand Avenue, Suite 800 Oakland, CA 94612

## Combined Second Quarter 2010 Monitoring and Semiannual January – June 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20100715B

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

Prepared for Pacific Gas and Electric Company

July 15, 2010

No. C68986

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

Dennis Fink, P.E.

Project Engineer

# Contents

			Page
Acro	nyms a	nd Abbreviations	ix
1.0	Intro	oduction	1-1
2.0	Sam	pling Station Locations	2-1
3.0	Desc	ription of Monitoring Activities	3-1
	3.1	Groundwater Treatment System	
	3.2	Groundwater Treatment System Flow Rates for Second Quarter 2010	
		3.2.1 Treatment System Influent	
		3.2.2 Effluent Streams	
	3.3	Sampling and Analytical Procedures	3-3
4.0	Ana	ytical Results	4-1
5.0	Sem	iannual Operation and Maintenance	5-1
	5.1	Flowmeter Calibration Records	5-1
	5.2	Volumes of Groundwater Treated	5-2
	5.3	Residual Solids Generated (Sludge)	5-2
	5.4	Reverse Osmosis Concentrate Generated	
	5.5	Summary of WDR Compliance	
	5.6	Operation and Maintenance – Required Shutdowns	
	5.7	Treatment Plant Modifications	
6.0	Con	clusions	6-1
7.0	Cert	ification	7 <b>-</b> 1
Tabl	es		
1	Sam	pling Station Descriptions	
2	Flow	Monitoring Results	
3	Sam	ole Collection Dates	
4	Boar Resu	d Order No. R7-2006-0060 Waste Discharge Requirements Influent Monitollts	oring
5	Boar Resu	d Order No. R7-2006-0060 Waste Discharge Requirements Effluent Monitolits	oring
6		d Order No. R7-2006-0060 Waste Discharge Requirements Reverse Osmos centrate Monitoring Results	sis
7	Boar Resu	d Order No. R7-2006-0060 Waste Discharge Requirements Sludge Monito. Its	ring

ES071310045503BA0\101950001 vi

8 Board Order No. R7-2006-0060 Waste Discharge Requirements Monitoring Information

### **Figures**

1	IM No. 3 Project Site Features
TP-PR-10-10-04	Raw Water Storage and Treated Water Storage Tanks and Sampling Locations
PR-10-03	Reverse Osmosis System Sampling and Metering Locations (1 of 2)
PR-10-04	Reverse Osmosis System Sampling and Metering Locations (2 of 2)
TP-PR-10-10-06	Sludge Storage Tanks Sampling Locations
TP-PR-10-10-03	Extraction Wells - Influent Metering Locations
TP-PR-10-10-11	Injection Wells - Effluent Metering Locations

### **Appendixes**

- A Semiannual Operations and Maintenance Log, January 1, 2010 through June 30, 2010
- B Daily Volumes of Groundwater Treated
- C Flowmeter Calibration Records
- D Second Quarter 2010 Laboratory Analytical Reports

viii ES071310045503BAO\101950001

# **Acronyms and Abbreviations**

BLM U.S. Bureau of Land Management

DTSC California Department of Toxic Substance Control

FMIT Fort Mojave Indian Tribe

gpm gallons per minute

IM Interim Measure

IM No. 3 Interim Measure No. 3 Groundwater Treatment Plant

MRP Monitoring and Reporting Program

PG&E Pacific Gas and Electric Company

ppb parts per billion

RCRA Resource Conservation and Recovery Act

RO reverse osmosis

Regional Water Board California Regional Water Quality Control Board, Colorado

River Basin Region

Truesdail Laboratories, Inc.

WDR Waste Discharge Requirements

ES071310045503BA0\101950001 ii

# 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 (Regional 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 revised Monitoring and Reporting Program (MRP) under the Order, issued August 28, 2009, requires quarterly monitoring reports to be submitted by the fifteenth day of the month following the end of the quarter.

This report covers the IM No. 3 groundwater treatment system monitoring activities during the Second Quarter 2010 and the operation and maintenance activities during the January 1, 2010 to June 30, 2010 semiannual period (First and Second Quarters 2010). The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

ES071310045503BAO\101950001 1-1

# 2.0 Sampling Station Locations

Table 1 lists the locations of sampling stations. (Tables are located at the end of this report.) Sampling station locations are shown on the process and instrumentation diagrams provided at the end of this report; these diagrams are presented in the following figures:

- TP-PR-10-10-04 Raw Water Storage and Treated Water Storage Tanks;
- PR-10-03 and PR-10-04 Reverse Osmosis System (diagrams 1 and 2 of 2);
- TP-PR-10-10-06 Sludge Storage Tanks;
- TP-PR-10-10-03 Extraction Wells; and
- TP-PR-10-10-11 Injection Wells.

ES071310045503BAO\101950001 2-1

# 3.0 Description of Monitoring Activities

This report describes Second Quarter 2010 monitoring activities and the January1, 2010 through June 30, 2010 (First and Second Quarters) operation and maintenance activities related to the IM No. 3 groundwater treatment system. IM No. 3 monitoring activities from January 1, 2010 through March 31, 2010 (First Quarter monitoring) were presented in the following monitoring report:

• IM No. 3 First Quarter 2010 Monitoring Report for Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060, submitted to the Regional Water Board April 15, 2010.

The present report therefore also serves as the semiannual January through June 2010 Operation and Maintenance Report for IM No. 3.

## 3.1 Groundwater Treatment System

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

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

- 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.

Operation of the groundwater treatment system results in the following three effluent streams:

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

ES071310045503BA0\101950001 3-1

# 3.2 Groundwater Treatment System Flow Rates for Second Quarter 2010

Downtime is defined as any periods when all extraction wells are not operating so that no groundwater is being extracted and piped into IM No. 3 as influent. Periods of planned and unplanned extraction system downtime (that together resulted in approximately 7.5 percent downtime during Second Quarter 2010) are summarized in the Semiannual Operations and Maintenance Log provided in Appendix A. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site. Periods of planned and unplanned extraction system downtime during the months January 2010 – March 2010 are reported in the First Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060, PG&E Topock Compressor Station, Needles, CA, published April 15, 2010.

Data regarding daily volumes of groundwater treated and discharged are provided in Appendix B. The IM No. 3 groundwater treatment system flowmeter calibration records are included in Appendix C.

### 3.2.1 Treatment System Influent

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

- 85.0 percent during April 2010.
- 98.9 percent during May 2010.
- 93.7 percent during June 2010.

The Second Quarter 2010 treatment system monthly average flow rates (influent, effluent, and RO concentrate) are presented in Table 2. The system influent flow rate was measured by flowmeters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-PR-10-10-03).

The IM No. 3 facility treated approximately 16,411,289 gallons of extracted groundwater during Second Quarter 2010.

In addition to extracted groundwater, during Second Quarter 2010 the IM No. 3 facility treated 3,380 gallons of water generated from the groundwater monitoring program and 51,800 gallons of injection well development water.

### 3.2.2 Effluent Streams

The treatment system effluent flow rate was measured by flowmeters in the piping leading to injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11) and in the piping running from the treated water tank T-700 to the injection wells (Figure TP-PR-10-10-04). The IM No. 3 facility injected 16,081,696 gallons of treatment system effluent during Second Quarter 2010. The monthly average flow rate to injection wells is shown in Table 2.

3-2 ES071310045503BAO\101950001

The reverse osmosis concentrate flow rate was measured by a flowmeter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figures PR-10-03 and PR-10-04). The IM No. 3 facility generated 338,662 gallons of RO concentrate during Second Quarter 2010. The monthly average RO concentrate flow rate is shown in Table 2.

The sludge flow rate is measured by the size and weight of containers shipped offsite. Nine sludge containers were shipped offsite from the IM No. 3 facility during Second Quarter 2010. The shipment dates and approximate weights are provided in Section 5.3.

# 3.3 Sampling and Analytical Procedures

With the exception of samples for pH analyses, all samples collected at the designated sampling locations were placed directly into containers provided by Truesdail Laboratories, Inc. (Truesdail). Sample containers were labeled and packaged according to standard sampling procedures.

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

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

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

Truesdail is certified by the California Department of Health Services under the State of California's Environmental Laboratory Accreditation Program. California-certified laboratory analyses were performed in accordance with the latest edition of the *Guidelines Establishing Test Procedures for Analysis of Pollutants* (40 Code of Federal Regulations Part 136), promulgated by the United States Environmental Protection Agency.

Influent, effluent, reverse osmosis concentrate, and sludge sampling were conducted in accordance with the revised MRP, issued August 28, 2009. See Table 3 for sample collection dates and frequencies.

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 Regional Water Board on June 17, 2005. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.

ES071310045503BA0\101950001 3-3

# 4.0 Analytical Results

The analytical results and laboratory reports for the IM No. 3 groundwater treatment system monitoring program between January 1, 2010 and March 31, 2010 were included in the First Quarter Monitoring Reports submitted to the Regional Water Board (see Section 3.0).

Laboratory reports for samples collected in Second Quarter 2010 were prepared by certified analytical laboratories, and are presented in Appendix D. The Second Quarter 2010 analytical results are presented in Tables 4, 5, 6, and 7:

- Influent analytical results are presented in Table 4.
- Effluent analytical results are presented in Table 5. There were no exceedances of effluent limitations during the reporting period.
- Reverse osmosis concentrate analytical results are presented in Table 6.
- Sludge analytical results are presented in Table 7.

The sludge is required to have an aquatic bioassay test annually. The aquatic bioassay test results were conducted on a September 2009 sample and were presented in the Third Quarter Monitoring Report submitted to the Regional Water Board October 15, 2009. The 2010 sludge aquatic bioassay test for IM No. 3 will be performed in the second half of the year.

Table 8 identifies the following information for each analysis:

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

ES071310045503BAO\101950001 4-1

# 5.0 Semiannual Operation and Maintenance

Pursuant to the WDR's Operations and Maintenance Section 1:

The discharger shall inspect and document any operation/maintenance problems by inspecting each unit process. In addition, calibration of flow meters and equipment shall be performed in a timely manner and documented. Operation and Maintenance reports shall be submitted to the Regional Water Board Office twice annually.

This section includes the Semiannual Operation and Maintenance Report for the IM No. 3 groundwater treatment system for the period January 1, 2010 through June 30, 2010.

All operations and maintenance records are maintained at the facility, including site inspection forms, process monitoring records, hazardous waste generator records (i.e., waste manifests), and self-monitoring reports. These records will be maintained onsite for a period of at least 5 years. Operational programmable logic controller data (flow rates, system alarms, process monitoring data, etc.) are maintained electronically via data historian software. Operations and maintenance records are also archived using maintenance software. The subsections below summarize the operations and maintenance activities during this semiannual reporting period.

### 5.1 Flowmeter Calibration Records

The IM No. 3 groundwater treatment system flowmeter calibration records are included in Appendix C. Flowmeter calibrations are performed in a timely manner consistent with the use, flow, material, and manufacturer recommendations. The following flowmeters are used at the plant to measure groundwater flow.

Location	Flowmeter Location ID	Current Flowmeter Serial No.	Date of Calibration	Date of Installation
Extraction well PE-1	FIT-103	7700F216000	11/30/06	2/25/09
Extraction well TW-3D	FIT-102	6C037016000	9/12/07	1/25/09
Extraction well TW-2D <sup>a</sup>	FIT-101	6A021F16000	11/29/04	7/28/05
Extraction well TW-2S <sup>b</sup>	FIT-100	6A022016000	11/29/04	7/28/05
Injection well IW-02	FIT-1202	6C037316000	2/26/09	2/26/09
Injection well IW-03	FIT-1203	6C037216000	7/6/09	4/21/10
Combined IW-02 and IW-03	FIT-700	6A022416000	11/29/04	2/13/09
Reverse osmosis concentrate	FIT-701	6C037116000	1/31/05	2/25/09

#### Notes:

ES071310045503BAO\101950001 5-1

<sup>&</sup>lt;sup>a</sup> TW-2D is a backup extraction well only operated for brief testing and sampling periods since January 2006.

<sup>&</sup>lt;sup>b</sup> TW-2S is a backup extraction well only operated for brief testing and sampling periods since October 2005

## 5.2 Volumes of Groundwater Treated

Data regarding daily volumes of groundwater treated between January 1, 2010 and June 30, 2010 are provided in Appendix B.

Approximately 33,082,542 gallons of groundwater were extracted and treated between January 1, 2010 and June 30, 2010. Treatment of this water at the IM No. 3 facility is being performed in accordance with the conditions of Order No. R7-2006-0060.

Additionally, approximately 9,020 gallons of well purge water (generated during well development, monitoring well sampling, and/or aquifer testing) and 118,300 gallons of injection well re-development water were treated at the IM No. 3 facility during the January 1, 2010 through June 30, 2010 semiannual period.

A total of approximately 32,370,931 gallons of treated groundwater was injected back into the Alluvial Aquifer between January 1, 2010 and June 30, 2010.

# 5.3 Residual Solids Generated (Sludge)

During the January 1, 2010 through June 30, 2010 reporting period, eight containers of sludge were shipped offsite for disposal. The sludge was shipped to Chemical Waste Management at Kettleman Hills for disposal. A listing of each shipment during the January 1, 2010 through June 30, 2010 reporting period is provided below.

Date Sludge Bin Removed from Site	Approximate Quantity from Waste Manifests (cubic yards)	Approximate Wet Weight (lbs)	Type of Shipment
1/15/2010	9	12,560	non-RCRA hazardous waste
2/18/2010	8	12,420	non-RCRA hazardous waste
3/11/2010	9	14,580	non-RCRA hazardous waste
4/8/2010	8	15,880	non-RCRA hazardous waste
4/13/2010	8	15,480	non-RCRA hazardous waste
5/19/2010	8	17,060	non-RCRA hazardous waste
5/19/2010	8	17,100	non-RCRA hazardous waste
6/17/2010	8	14,240	non-RCRA hazardous waste

#### Notes:

The approximate wet weight is provided by the disposal facility based on full container weight less the empty container weight.

RCRA = Resource Conservation and Recovery Act.

## 5.4 Reverse Osmosis Concentrate Generated

Data regarding daily volumes of reverse osmosis concentrate generated are provided in Appendix B, as measured by flowmeter FIT-701 (Figures PR-10-03 and PR-10-04). From January 1, 2010 through June 30, 2010, approximately 667,009 gallons of RO concentrate were transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal.

5-2 ES071310045503BAO\101950001

## 5.5 Summary of WDR Compliance

No WDR violations were identified during the January 1, 2010 through June 30, 2010 semiannual reporting period.

One release event occurred during the January 1, 2010 through June 30, 2010 semiannual reporting period. The release occurred on May 19, 2010, and was reported to the Regional Water Board via telephone and email on May 19, 2010. The following is a description of the release:

A release of approximately 3,200 gallons of IM No. 3 treated effluent water occurred May 19, 2010 at approximately 6:40 a.m. from one of the vaults along the IM No. 3 above-ground effluent pipeline that goes to the injection wells. The water released was non-hazardous and did not threaten human health or the environment. A sample of effluent was analyzed at the IM No. 3 onsite laboratory on May 19, 2010. Analysis results showed that the specific conductivity was 7,900 micro-mhos; the total chromium was non-detect; the hexavalent chromium was non-detect; and the pH was 7.1 pH units. See Table 5 for weekly effluent sampling results from analyses conducted at a California certified laboratory. The vault is located on U.S. Bureau of Land Management (BLM) property (along Historic Route 66, west of the treatment plant, just east of the first wash to the west of the treatment plant) and some of the water flowed east onto land owned by the Fort Mojave Indian Tribe (FMIT).

The release occurred due to failure of a ¾-inch steel pipe nipple (welded to the treated water pipeline) caused by corrosion of the pipe threads. The air release valve piping broke off of the treated water pipeline and water was released into the vault, until the leak was detected at 7:10 a.m. on May 19, 2010, and the effluent pipeline was shut down. The treated water flowed from the vault east into the drainage ditch alongside Historic Route 66. The water flowed no further than the culvert at the driveway into the treatment plant. The water flow had no effect on the protective gravel cover on top of Historic Route 66. According to IM No. 3 flowmeter data, up to 3,200 gallons of treated water may have been released.

The broken pipe nipple was repaired with a temporary extension and re-installed. The IM No. 3 plant and effluent pipeline were put back in service at approximately 3:30 p.m. on May 19, 2010. PG&E ordered replacement parts for the air release valve assembly and will replace the temporarily-repaired assembly when the parts arrive. PG&E also inspected the other similar air release assemblies in the system and determined that none were leaking; however, PG&E will systematically replace parts that are subject to similar corrosive conditions.

In addition to telephone and email notifications to the Regional Water Board, PG&E notified BLM, FMIT, and California Department of Toxic Substance Control (DTSC) by telephone on May 19, 2010. PG&E also brought tribal monitor representatives from FMIT and the Hualapai tribe to the release location for observations.

ES071310045503BAO\101950001 5-3

# 5.6 Operation and Maintenance - Required Shutdowns

Records of maintenance activities are kept onsite.

Appendix A contains a summary of the operation and maintenance issues that required the groundwater extraction system to be shut down during the January 1, 2010 through June 30, 2010 semiannual reporting period.

Activities during the Second Quarter 2010 included one extended shutdown. No extended shutdowns of the IM No. 3 extraction system occurred during the First Quarter 2010. The extended shutdown was in April, due primarily to the planned annual plant maintenance outage.

### **April Extended Shutdown**

The IM No. 3 extraction system was shut down for 108 hours during April 2010, for both planned and unplanned events. See Appendix A for a summary of the operation and maintenance issues. The main cause of the extraction system downtime was:

• The planned annual plant outage for maintenance.

### 5.7 Treatment Plant Modifications

No major IM No. 3 treatment plant modifications that affected the quality or quantity of treated effluent were performed during the January 1, 2010 through June 30, 2010 semiannual period.

5-4 ES071310045503BAO\101950001

# 6.0 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. No events that caused an immediate or potential threat to human health or the environment, and no new releases of hazardous waste or hazardous waste constituents, or new solid waste management units, were identified during the reporting period.

ES071310045503BAO\101950001 6-1

# 7.0 Certification

On August 12, 2005, PG&E submitted a signature delegation letter to the Regional Water Board, delegating PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2004-0103. Order R7-2006-0060 is the successor to Order R7-2004-0103; an additional signature authority delegation is not required, as confirmed in an email from Jose Cortez dated December 12, 2006.

### **Certification Statement:**

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

Signature:	behum
Name:	Curt Russell
Company: _	Pacific Gas and Electric Company
Title:	Topock Site Manager
Date:	July 15, 2010

ES071310045503BAO\101950001 7-1



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

Sampling 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-PR-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-PR-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 Figures PR-10-03 and PR-10-04).
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-PR-10-10-06).

#### Note:

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

ES071310045503BAO\101950001 TABLES-1

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

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

Parameter	System Influent <sup>a,b</sup> (gpm)	System Effluent <sup>b,c</sup> (gpm)	Reverse Osmosis Concentrate <sup>b</sup> (gpm)
April 2010 Average Monthly Flowrate	114.4	112.0	3.7
May 2010 Average Monthly Flowrate	134.3	131.8	2.1
June 2010 Average Monthly Flowrate	126.7	123.9	1.9

#### Notes:

gpm: gallons per minute.

January, February, and March 2010 Average Monthly Flowrates were presented in the IM No. 3 First Quarter 2010 Monitoring Report

- <sup>a</sup> Extraction wells TW-3D and PE-1 were operated during the Second Quarter 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during Second Quarter 2010.
- <sup>b</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the Second Quarter 2010 is approximately 0.69 percent.
- <sup>c</sup> Effluent was discharged into injection well IW-02 and IW-03 during the Second Quarter 2010.

TABLES-2 ES071310045503BAO\101950001

TABLE 3
Sample Collection Dates

Second Quarter 2010 Monitoring Report for Interim Measure No. 3

Parameter	Sample Collection Dates	Results
Influent <sup>a</sup>	April 7, 2010	See Table 4
	May 4, 2010	
	June 2, 2010	
Effluent <sup>b</sup>	April 7, 2010	See Table 5
	April 14, 2010	
	April 19, 2010	
	April 23, 2010	
	April 28, 2010	
	May 4, 2010	
	May 12, 2010	
	May 18, 2010	
	May 26, 2010	
	June 2, 2010	
	June 9, 2010	
	June 17, 2010	
	June 23, 2010	
	June 30, 2010	
Reverse Osmosis Concentrate <sup>c</sup>	June 2, 2010	See Table 6
Sludge <sup>d</sup>	January 15, 2010	See Table 7
	February 18, 2010	
	March 11, 2010	
	April 8, 2010	
	April 13, 2010	
	May 19, 2010	
	May 19, 2010	

#### Notes:

ES071310045503BAO\101950001 TABLES-3

<sup>&</sup>lt;sup>a</sup> Influent sampling is required monthly.

<sup>&</sup>lt;sup>b</sup> Effluent sampling is required weekly.

<sup>&</sup>lt;sup>c</sup> Reverse Osmosis Concentrate sampling is required quarterly.

One composite sludge sample is required quarterly. Two sludge bins were shipped off-site May 19, 2010 and both were sampled to add to the composite sample. Sludge bioassay analysis is required annually, and was conducted on the Third Quarter 2009 sludge composite sample, reported (pass at 95 percent survival rate) in the IM No. 3 Third Quarter 2009 Monitoring Report. IM No. 3 will conduct the 2010 sludge aquatic bioassay test in the second half of the year.

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

Required Sampling	Frequency										Мо	nthly												
	Analytes Units <sup>b</sup>	TDS mg/L	Turbidity NTU	Specific Conductance µmhos/cm	Field <sup><b>c</b></sup> pH pH units	Chromium µg/L	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	Fluoric mg/L	le 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	0.434	0.0140	0.0220		0.0750	2.00	2.36	0.0020	0.495	0.140	0.210	0.0050	0.520	0.0600	0.0750	0.0600	0.725	0.205	0.0950	0.00020	1.00	10.0	1.32
SC-100B-WDR-251	4/7/2010	4600	ND (0.100)	8010	7.3	1040	928	ND (50.0)	ND (0.500)	ND (10.0)	3.82	26.7	1.01	ND (5.00)	2.54	ND (10.0)	ND (10.0)	24.7	ND (10.0)	3.16 I	ND (0.0050	569 1	ND (20.0)	ND (10.0)
RL		250	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-100B-WDR-255	5/4/2010	4570	ND (0.100)	7990	7.4	995	838	ND (50.0)	ND (0.500)	ND (10.0)	3.45	25.1	1.04	ND (5.00)	2.68	ND (10.0)	10.4	19.9	ND (10.0)	3.12	ND (0.500)	570 I	ND (20.0)	ND (10.0)
RL		250	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	50.0	20.0	10.0
SC-100B-WDR-259	6/2/2010	4950	ND (0.100)	7970	7.3	993	1030	ND (50.0)	ND (0.500)	ND (10.0)	4.40	26.7	0.951	ND (5.00)	2.67	ND (10.0)	10.6	23.6	ND (10.0)	3.67	ND (0.500)	548 I	ND (20.0)	ND (10.0)
RL		250	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	12.5	20.0	10.0

#### NOTES:

(---) = not required by the WDR Monitoring and Reporting Program J = concentration or reporting limits estimated by laboratory or validation

MDL = method detection limit

mg/L = milligrams per liter

N = nitrogen

ND = parameter not detected at the listed value

NTU = nephelometric turbidity units

RL = project reporting limit

μg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

Page 1 of 1 Date Printed 7/8/2010

<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.

c Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results <sup>a</sup>
Second Quarter 2010 Monitoring Report for Interim Measure 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 Sampli	ng Frequency			Weekly	<i>'</i>											Monthly								
	Analytes	TDS	Turbidity	Specific Conductance	Field <sup>e</sup> pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead M	langanese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
	Units <sup>c</sup>	mg/L	NTU	µmhos/cm	pH units	μg/L	μg/L	μg/L	mg/L	μg/L	μg/L	μg/L	mg/L	μg/L	mg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	μg/L	μg/L
l	MDLd	0.434	0.0140	0.0220		0.0750	0.0200	2.36	0.0020	0.495	0.140	0.210	0.0050	0.520	0.0600	0.0750	0.0600	0.725	0.205	0.0950	0.00020	1.00	10.0	1.32
Sample ID	Date																							
SC-700B-WDR-25	1 4/7/2010	4270	ND (0.100)	7260	7.00	ND (1.00)	0.290	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	11.3	0.982	ND (5.00)	1.82	ND (10.0)	ND (10.0)	18.6	ND (10.0)	2.87	ND (0.0050)	512	ND (20.0)	) ND (10.0)
RL		250	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-25	2 4/14/2010	4060	ND (0.100)	7010	7.30	1.09	0.270										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-253	3a 4/19/2010	4290	ND (0.100)	7300	7.20	ND (1.00)	0.390										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-253	3b 4/23/2010	3780	ND (0.100)	6380	7.20	3.54	3.22										ND (10.0)							
RL		125	0.100	2.00		1.00	1.05										10.0							
SC-700B-WDR-25	4 4/28/2010	4120	ND (0.100)	7070	7.40	ND (1.00)	0.310										13.7							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-25	5 5/4/2010	4140	ND (0.100)	7210	7.10	1.05	0.770	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	ND (10.0	) 1.00	ND (5.00)	2.09	ND (10.0)	ND (10.0)	18.5	ND (10.0)	2.88	ND (0.500)	515	ND (20.0)	) 21.5
RL		250	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	25.0	20.0	10.0
SC-700B-WDR-25	66 5/12/2010	4380	ND (0.100)	7560	6.90	ND (1.00)	0.680										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-25	7 5/18/2010	4330	ND (0.100)	7580	7.00	ND (1.00)	0.640										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-25	8 5/26/2010	4440	ND (0.100)	7380	7.10	1.30	0.550										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-25	9 6/2/2010	4650	ND (0.100)	7300	7.10	1.10	0.490	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	11.7	0.871	ND (5.00)	2.06	ND (10.0)	ND (10.0)	17.7	ND (10.0)	3.04	ND (0.500)	522	ND (20.0)	) ND (10.0)
RL		250	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	50.0	20.0	10.0
SC-700B-WDR-26	60 6/9/2010	4530	ND (0.100)	7280	7.60	ND (1.00)	0.670										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-26	1 6/17/2010	4350	ND (0.100)	7530	7.00	ND (1.00)	ND (0.200)										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-26	2 6/23/2010	4530	ND (0.100)	7250	7.00	ND (1.00)	0.220										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							
SC-700B-WDR-26	3 6/30/2010	4580	ND (0.100)		7.10	ND (1.00)	0.310										ND (10.0)							
RL		250	0.100	2.00		1.00	0.200										10.0							

Page 1 of 2 Date Printed 7/8/2010

#### TABLE 5

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

Effluent Monitoring Results a

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

#### NOTES:

(---) = not required by the WDR Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
MDL = method detection limit
mg/L = milligrams per liter
N = nitrogen
NA = not applicable
ND = parameter not detected at the listed value

NTU = nephelometric turbidity units RL = project reporting limit

μg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

- <sup>a</sup> Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection wells (see attached P&ID TP-PR-10-10-04).
- 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>c</sup> Units reported in this table are those units required in the WDRs.
- d MDL listed is the target MDL by analysis method; however, the MDL may change for each sample analysis due to the dilution required by the matrix to meet the method QC requirements. The target MDL for each method/analyte combination is calculated annually.
- e Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

G:\PacificGasElectricCo\TopockProgram\Database\Tuesdai\VM3W
DR\VM3\_WDR\_Qtrly.mdb\rpt\_qtrlyEffluentResults\_noROWDresult

Page 2 of 2

Page 2 of 2

TABLE 6

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

Reverse Osmosis Concentrate Monitoring Results a

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

Required Sampling Frequenc	y									G	uarterly											
Analytes	TDS	Specific Conductance	Field <sup>c</sup> pH	Chromium	Hexavalent Chromium		Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units <sup>D</sup>	mg/L	µmhos/cm	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample ID Date	0.434	2.00		0.0010	0.00050	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.500	0.0010	0.0020	0.00050	0.0010	0.0010	0.0010	0.0010	0.0010	0.0050
SC-701-WDR-259 6/2/2010	33100	58600	7.4	0.00910	0.00680	ND (0.0100)	0.00160	0.113	ND (0.0010) I	ND (0.0030)	ND (0.0050	) 0.00530	19.7	ND (0.010	00) 0.183	ND (0.0040)	ND (0.0100	0.0365	ND (0.0050	) ND (0.0010	) ND (0.0050)	0.0133
RL	1250	2.00		0.0010	0.0052	0.0100	0.0010	0.0100	0.0010	0.0030	0.0050	0.0050	0.500	0.0100	0.0100	0.0040	0.0100	0.0100	0.0050	0.0010	0.0050	0.0100

### NOTES:

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

J = concentration or reporting limits estimated by laboratory or validation

MDL = method detection limit

mg/L = milligrams per liter

ND = parameter not detected at the listed value

RL = project reporting limit

μg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

Page 1 of 1

<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.

c Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

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

Required Sampling	Frequency		Quarterly																	
	Analytes	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
	Units b	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
Sample ID	MDL Date	0.0875	0.875	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0050	0.500	0.0100	0.0100	0.00035	0.0100	0.0500	0.0200	0.0200	0.0050	0.0100
SC-Sludge-WDR-259	6/2/2010	10300	87.0	117	8.50	96.2	2.29	10.6	11.2	197	37.6	11.7	18.8	0.282	41.7	ND (1.26)	ND (1.26)	ND (2.00)	133	264
RL		13.9	5.83	2.00	1.26	1.26	1.26	1.26	1.26	1.26	11.7	1.26	1.26	0.126	1.26	1.26	1.26	2.00	1.26	2.00

### NOTES:

(---) = not required by the WDR Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
mg/kg = milligrams per killogram
mg/L = milligrams per liter
MDL = method detection limit

ND = parameter not detected at the listed reporting limit

RL = project reporting limit

<sup>&</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 WDRs.

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-251	J. Aide	4/7/2010	8:00:00 AM	TLI	EPA 120.1	SC	4/8/2010	Tina Acquiat
					TLI	EPA 200.7	В	4/15/2010	Kris Collins
					TLI	EPA 200.7	FE	4/15/2010	Kris Collins
					TLI	EPA 200.8	AL	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	AS	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	BA	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	CR	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	CU	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	MN	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	MO	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	NI	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	PB	4/12/2010	Romuel Chavez
					TLI	EPA 200.8	SB	4/12/2010	Romuel Chavez
				TLI	EPA 200.8	ZN	4/12/2010	Romuel Chavez	
					TLI	EPA 218.6	CR6	4/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	4/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	4/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	4/8/2010	Giawad Ghenniwa
					FIELD	HACH	PH	4/7/2010	J. Aide
					TLI	SM2130B	TRB	4/8/2010	Gautam Savani
					TLI	SM2540C	TDS	4/8/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	4/9/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	4/8/2010	Tina Acquiat
SC-100B	SC-100B-WDR-255	Ron Phelps	5/4/2010	9:15:00 AM	TLI	EPA 120.1	SC	5/6/2010	Iordan Stavrev
					TLI	EPA 200.7	В	5/12/2010	Kris Collins
					TLI	EPA 200.7	FE	5/12/2010	Kris Collins
					TLI	EPA 200.8	AL	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	AS	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	BA	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	CR	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	CU	5/21/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	MN	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	MO	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	NI	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	PB	5/11/2010	Daniel Kang/Linda Saet
					TLI	EPA 200.8	SB	5/11/2010	Daniel Kang/Linda Saete

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-255	Ron Phelps	5/4/2010	9:15:00 AM	TLI	EPA 200.8	ZN	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 218.6	CR6	5/5/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	5/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	5/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	5/5/2010	Giawad Ghenniwa
					FIELD	HACH	PH	5/4/2010	Ron Phelps
					TLI	SM2130B	TRB	5/5/2010	Gautam Savani
					TLI	SM2540C	TDS	5/6/2010	Ethel Suico
					TLI	SM4500NH3D	NH3N	5/10/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	5/5/2010	Ethel Suico
SC-100B	SC-100B-WDR-259	Ron Phelps	6/2/2010	8:00:00 AM	TLI	EPA 120.1	SC	6/4/2010	Iordan Stavrev
					TLI	EPA 200.7	AL	6/10/2010	Daniel Kang
					TLI	EPA 200.7	В	6/8/2010	Daniel Kang
					TLI	EPA 200.7	FE	6/8/2010	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2010	Daniel Kang
					TLI	EPA 200.8	BA	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CR	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CU	6/8/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/8/2010	Daniel Kang
					TLI	EPA 200.8	MO	6/8/2010	Daniel Kang
					TLI	EPA 200.8	NI	6/8/2010	Daniel Kang
					TLI	EPA 200.8	PB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	SB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	ZN	6/8/2010	Daniel Kang
					TLI	EPA 218.6	CR6	6/4/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	6/3/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	6/3/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	6/3/2010	Giawad Ghenniwa
					FIELD	HACH	PH	6/2/2010	Ron Phelps
					TLI	SM2130B	TRB	6/3/2010	Gautam Savani
					TLI	SM2540C	TDS	6/7/2010	Ethel Suico
					TLI	SM4500NH3D	NH3N	6/7/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	6/3/2010	Ethel Suico
SC-700B	SC-700B-WDR-251	J. Aide	4/7/2010	8:00:00 AM	TLI	EPA 120.1	SC	4/8/2010	Tina Acquiat
					TLI	EPA 200.7	В	4/15/2010	Kris Collins
					TLI	EPA 200.7	FE	4/15/2010	Kris Collins

G:\PacificGasElectricCo\TopockProgram\Database\Tuesdai\IM3W DR\IM3\_WDR\_Qtrly.mdb\rpt\_qtrlySummary\_Parameters pkumar2 07/09/2010 09:31:38

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

ocation	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-251	J. Aide	4/7/2010	8:00:00 AM	TLI	EPA 200.8	AL	4/12/2010	Romuel Chave:
					TLI	EPA 200.8	AS	4/12/2010	Romuel Chave
					TLI	EPA 200.8	BA	4/12/2010	Romuel Chave
					TLI	EPA 200.8	CR	4/12/2010	Romuel Chave
					TLI	EPA 200.8	CU	4/12/2010	Romuel Chave
					TLI	EPA 200.8	MN	4/12/2010	Romuel Chave
					TLI	EPA 200.8	MO	4/12/2010	Romuel Chave
					TLI	EPA 200.8	NI	4/12/2010	Romuel Chave
					TLI	EPA 200.8	РВ	4/12/2010	Romuel Chave
					TLI	EPA 200.8	SB	4/12/2010	Romuel Chave
					TLI	EPA 200.8	ZN	4/12/2010	Romuel Chave
					TLI	EPA 218.6	CR6	4/8/2010	Sonya Bersuds
					TLI	EPA 300.0	FL	4/8/2010	Giawad Ghenni
					TLI	EPA 300.0	NO3N	4/8/2010	Giawad Ghenni
					TLI	EPA 300.0	SO4	4/8/2010	Giawad Ghenni
					FIELD	HACH	PH	4/7/2010	J. Aide
					TLI	SM2130B	TRB	4/8/2010	Gautam Savar
					TLI	SM2540C	TDS	4/8/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	4/9/2010	lordan Stavre
					TLI	SM4500NO2B	NO2N	4/8/2010	Tina Acquiat
SC-700B	SC-700B-WDR-252	J. Aide	4/14/2010	8:00:00 AM	TLI	EPA 120.1	SC	4/19/2010	Tina Acquiat
					TLI	EPA 200.8	CR	4/19/2010	Romuel Chave
					TLI	EPA 200.8	MN	4/19/2010	Romuel Chave
					TLI	EPA 218.6	CR6	4/15/2010	Sonya Bersuds
					FIELD	HACH	PH	4/14/2010	J. Aide
					TLI	SM2130B	TRB	4/15/2010	Gautam Savar
					TLI	SM2540C	TDS	4/19/2010	Tina Acquiat
SC-700B	SC-700B-WDR-253a	J. Aide	4/19/2010	8:00:00 AM	TLI	EPA 120.1	SC	4/20/2010	Tina Acquiat
					TLI	EPA 200.8	CR	4/22/2010	Romuel Chave
					TLI	EPA 200.8	MN	4/22/2010	Romuel Chave
					TLI	EPA 218.6	CR6	4/26/2010	Sonya Bersuds
					FIELD	HACH	PH	4/19/2010	J. Aide
					TLI	SM2130B	TRB	4/20/2010	Gautam Savar
					TLI	SM2540C	TDS	4/22/2010	Tina Acquiat
SC-700B	SC-700B-WDR-253b	Ryan Phelps	4/23/2010	4:00:00 PM	TLI	EPA 120.1	SC	4/27/2010	Tina Acquiat

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-253b	Ryan Phelps	4/23/2010	4:00:00 PM	TLI	EPA 200.8	CR	4/28/2010	Daniel Kang
					TLI	EPA 200.8	MN	4/28/2010	Daniel Kang
					TLI	EPA 218.6	CR6	4/26/2010	Sonya Bersudsky
					FIELD	HACH	PH	4/23/2010	Ryan Phelps
					TLI	SM2130B	TRB	4/24/2010	Kim Luck
					TLI	SM2540C	TDS	4/27/2010	Tina Acquiat
SC-700B	SC-700B-WDR-254	Ryan Phelps	4/28/2010	2:56:00 PM	TLI	EPA 120.1	SC	4/29/2010	Tina Acquiat
					TLI	EPA 200.8	CR	4/30/2010	Daniel Kang
					TLI	EPA 200.8	MN	4/30/2010	Daniel Kang
					TLI	EPA 218.6	CR6	5/5/2010	Sonya Bersudsky
					FIELD	HACH	PH	4/29/2010	Ryan Phelps
					TLI	SM2130B	TRB	4/29/2010	Gautam Savani
					TLI	SM2540C	TDS	5/4/2010	Ethel Suico
SC-700B	SC-700B-WDR-255	Ron Phelps	5/4/2010	9:15:00 AM	TLI	EPA 120.1	SC	5/6/2010	Iordan Stavrev
					TLI	EPA 200.7	В	5/12/2010	Kris Collins
					TLI	EPA 200.7	FE	5/12/2010	Kris Collins
					TLI	EPA 200.8	AL	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	AS	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	BA	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	CR	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	CU	5/21/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	MN	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	MO	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	NI	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	PB	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	SB	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 200.8	ZN	5/11/2010	Daniel Kang/Linda Saete
					TLI	EPA 218.6	CR6	5/5/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	5/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	5/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	5/5/2010	Giawad Ghenniwa
					FIELD	HACH	PH	5/4/2010	Ron Phelps
					TLI	SM2130B	TRB	5/5/2010	Gautam Savani
					TLI	SM2540C	TDS	5/6/2010	Ethel Suico
					TLI	SM4500NH3D	NH3N	5/10/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	5/5/2010	Ethel Suico

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-256	Ron Phelps	5/12/2010	8:00:00 AM	TLI	EPA 120.1	SC	5/21/2010	lordan Stavrev
					TLI	EPA 200.8	CR	5/20/2010	Hope Trinidad
					TLI	EPA 200.8	MN	5/20/2010	Hope Trinidad
					TLI	EPA 218.6	CR6	5/14/2010	Sonya Bersudsky
					FIELD	HACH	PH	5/12/2010	Ron Phelps
					TLI	SM2130B	TRB	5/13/2010	Gautam Savani
					TLI	SM2540C	TDS	5/17/2010	Ethel Suico
SC-700B	SC-700B-WDR-257	Ron Phelps	5/18/2010	8:00:00 AM	TLI	EPA 120.1	SC	5/19/2010	lordan Stavrev
					TLI	EPA 200.8	CR	5/20/2010	Hope Trinidad
					TLI	EPA 200.8	MN	5/20/2010	Hope Trinidad
					TLI	EPA 218.6	CR6	5/19/2010	Sonya Bersudsky
					FIELD	HACH	PH	5/18/2010	Ron Phelps
					TLI	SM2130B	TRB	5/19/2010	Gautam Savani
					TLI	SM2540C	TDS	5/19/2010	Ethel Suico
SC-700B	SC-700B-WDR-258	Ron Phelps	5/26/2010	8:00:00 AM	TLI	EPA 120.1	SC	5/28/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	5/29/2010	Daniel Kang
					TLI	EPA 200.8	MN	5/29/2010	Daniel Kang
					TLI	EPA 218.6	CR6	5/27/2010	Sonya Bersudsky
					FIELD	HACH	PH	5/26/2010	Ron Phelps
					TLI	SM2130B	TRB	5/27/2010	Gautam Savani
					TLI	SM2540C	TDS	6/1/2010	Ethel Suico
SC-700B	SC-700B-WDR-259	Ron Phelps	6/2/2010	8:00:00 AM	TLI	EPA 120.1	SC	6/4/2010	Iordan Stavrev
					TLI	EPA 200.7	AL	6/10/2010	Daniel Kang
					TLI	EPA 200.7	В	6/8/2010	Daniel Kang
					TLI	EPA 200.7	FE	6/8/2010	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2010	Daniel Kang
					TLI	EPA 200.8	BA	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CR	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CU	6/8/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/8/2010	Daniel Kang
					TLI	EPA 200.8	MO	6/8/2010	Daniel Kang
					TLI	EPA 200.8	NI	6/8/2010	Daniel Kang
					TLI	EPA 200.8	PB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	SB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	ZN	6/8/2010	Daniel Kang

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

_ocation	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-259	Ron Phelps	6/2/2010	8:00:00 AM	TLI	EPA 218.6	CR6	6/4/2010	Sonya Bersudsk
					TLI	EPA 300.0	FL	6/3/2010	Giawad Ghenniw
					TLI	EPA 300.0	NO3N	6/3/2010	Giawad Ghenniw
					TLI	EPA 300.0	SO4	6/3/2010	Giawad Ghenniw
					FIELD	HACH	PH	6/2/2010	Ron Phelps
					TLI	SM2130B	TRB	6/3/2010	Gautam Savan
					TLI	SM2540C	TDS	6/7/2010	Ethel Suico
					TLI	SM4500NH3D	NH3N	6/7/2010	lordan Stavrey
					TLI	SM4500NO2B	NO2N	6/3/2010	Ethel Suico
SC-700B	SC-700B-WDR-260	C. Knight	6/9/2010	8:00:00 AM	TLI	EPA 120.1	SC	6/11/2010	Gautam Savan
					TLI	EPA 200.8	CR	6/14/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/14/2010	Daniel Kang
					TLI	EPA 218.6	CR6	6/10/2010	Sonya Bersuds
					FIELD	HACH	PH	6/9/2010	C. Knight
					TLI	SM2130B	TRB	6/10/2010	Gautam Savar
					TLI	SM2540C	TDS	6/15/2010	Ethel Suico
SC-700B	SC-700B-WDR-261	J. Aide	6/17/2010	8:00:00 AM	TLI	EPA 120.1	SC	6/21/2010	lordan Stavrev
					TLI	EPA 200.8	CR	6/21/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/21/2010	Daniel Kang
					TLI	EPA 218.6	CR6	6/22/2010	Sonya Bersuds
					FIELD	HACH	PH	6/17/2010	J. Aide
					TLI	SM2130B	TRB	6/18/2010	Gautam Savar
					TLI	SM2540C	TDS	6/22/2010	Ethel Suico
SC-700B	SC-700B-WDR-262	Ron Phelps	6/23/2010	8:00:00 AM	TLI	EPA 120.1	SC	6/24/2010	Ethel Suico
					TLI	EPA 200.8	CR	6/25/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/25/2010	Daniel Kang
					TLI	EPA 218.6	CR6	6/24/2010	Sonya Bersuds
					FIELD	HACH	PH	6/23/2010	Ron Phelps
					TLI	SM2130B	TRB	6/24/2010	Gautam Savar
					TLI	SM2540C	TDS	6/24/2010	Kim Luck
SC-700B	SC-700B-WDR-263	J. Aide	6/30/2010	8:00:00 AM	TLI	EPA 120.1	SC	7/1/2010	lordan Stavre
					TLI	EPA 200.8	CR	7/2/2010	Daniel Kang
					TLI	EPA 200.8	MN	7/2/2010	Daniel Kang
					TLI	EPA 218.6	CR6	7/1/2010	Sonya Bersuds
					FIELD	HACH	PH	6/30/2010	J. Aide

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-263	J. Aide	6/30/2010	8:00:00 AM	TLI	SM2130B	TRB	7/1/2010	Gautam Savani
					TLI	SM2540C	TDS	7/1/2010	Ethel Suico
SC-701	SC-701-WDR-259	Ron Phelps	6/2/2010	2:00:00 PM	TLI	EPA 120.1	SC	6/4/2010	Iordan Stavrev
					TLI	EPA 200.8	AG	6/8/2010	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2010	Daniel Kang
					TLI	EPA 200.8	BA	6/8/2010	Daniel Kang
					TLI	EPA 200.8	BE	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CD	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CO	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CR	6/8/2010	Daniel Kang
					TLI	EPA 200.8	CU	6/8/2010	Daniel Kang
					TLI	EPA 200.8	HG	6/4/2010	Daniel Kang
					TLI	EPA 200.8	MN	6/8/2010	Daniel Kang
					TLI	EPA 200.8	MO	6/8/2010	Daniel Kang
					TLI	EPA 200.8	NI	6/8/2010	Daniel Kang
					TLI	EPA 200.8	PB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	SB	6/8/2010	Daniel Kang
					TLI	EPA 200.8	SE	6/8/2010	Daniel Kang
					TLI	EPA 200.8	TL	6/8/2010	Daniel Kang
					TLI	EPA 200.8	V	6/8/2010	Daniel Kang
					TLI	EPA 200.8	ZN	6/8/2010	Daniel Kang
					TLI	EPA 218.6	CR6	6/4/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	6/3/2010	Giawad Ghenniwa
					FIELD	HACH	PH	6/2/2010	Ron Phelps
					TLI	SM2540C	TDS	6/7/2010	Ethel Suico
hase Seperator	SC-Sludge-WDR-259	Ron Phelps	6/2/2010	2:00:00 PM	TLI	EPA 300.0	FL	6/3/2010	Giawad Ghenniwa
					TLI	EPA 6010B	AG	6/25/2010	Daniel Kang/Hope Trinida
					TLI	EPA 6010B	AS	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	BA	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	BE	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	CD	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	CO	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	CR	6/8/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	CU	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	MO	6/17/2010	Daniel Kang/Hope Trinid
					TLI	EPA 6010B	NI	6/17/2010	Daniel Kang/Hope Trinida

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Seperator	SC-Sludge-WDR-259	Ron Phelps	6/2/2010	2:00:00 PM	TLI	EPA 6010B	PB	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 6010B	SB	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 6010B	SE	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 6010B	TL	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 6010B	V	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 6010B	ZN	6/17/2010	Daniel Kang/Hope Trinidad
					TLI	SW 6020A	HG	6/18/2010	Daniel Kang
					TLI	SW 7199	CR6	6/3/2010	Sonya Bersudsky

#### TABLE 8

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

Monitoring Information

Second Quarter 2010 Monitoring Report for Interim Measure 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).

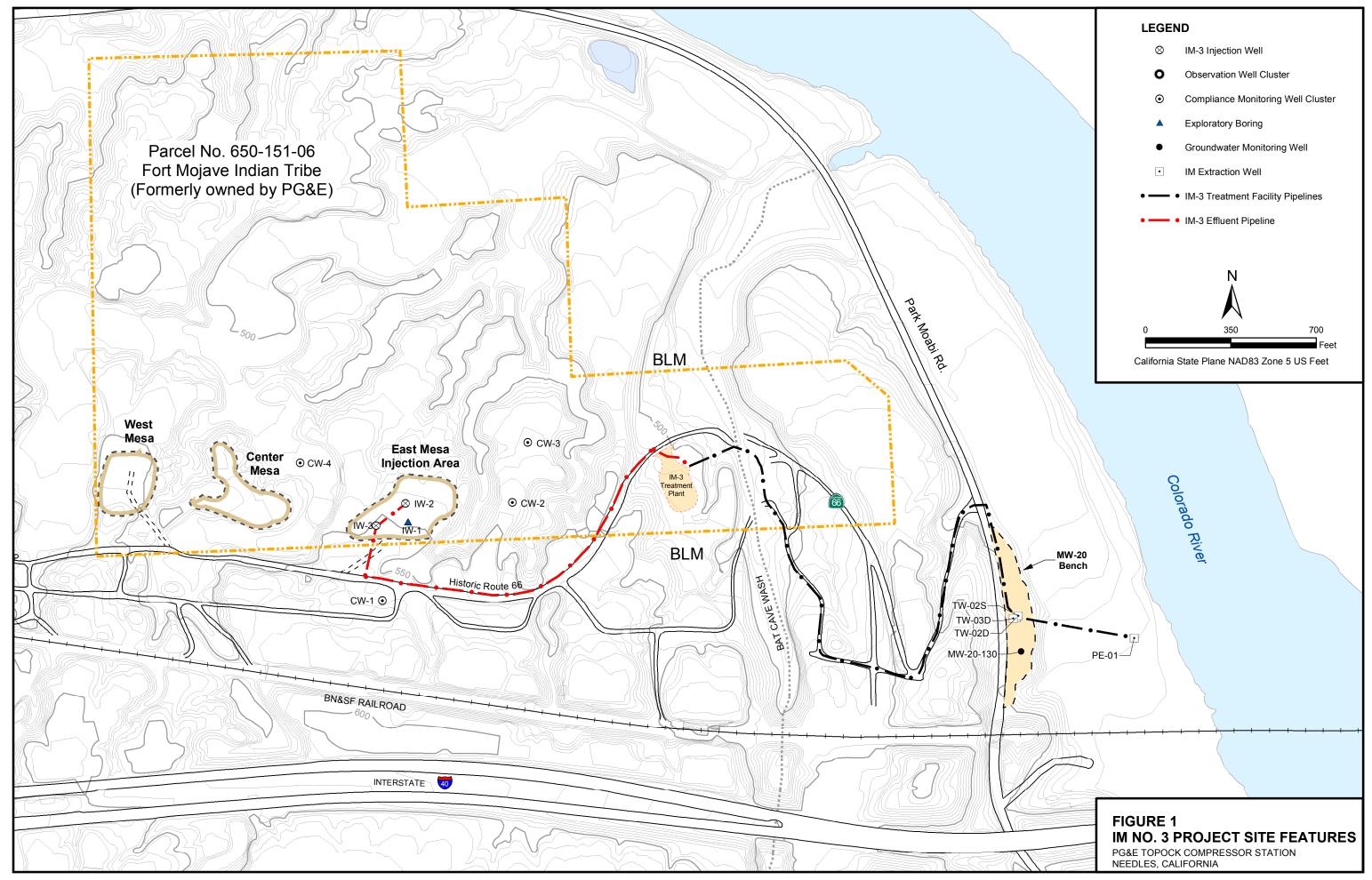
SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

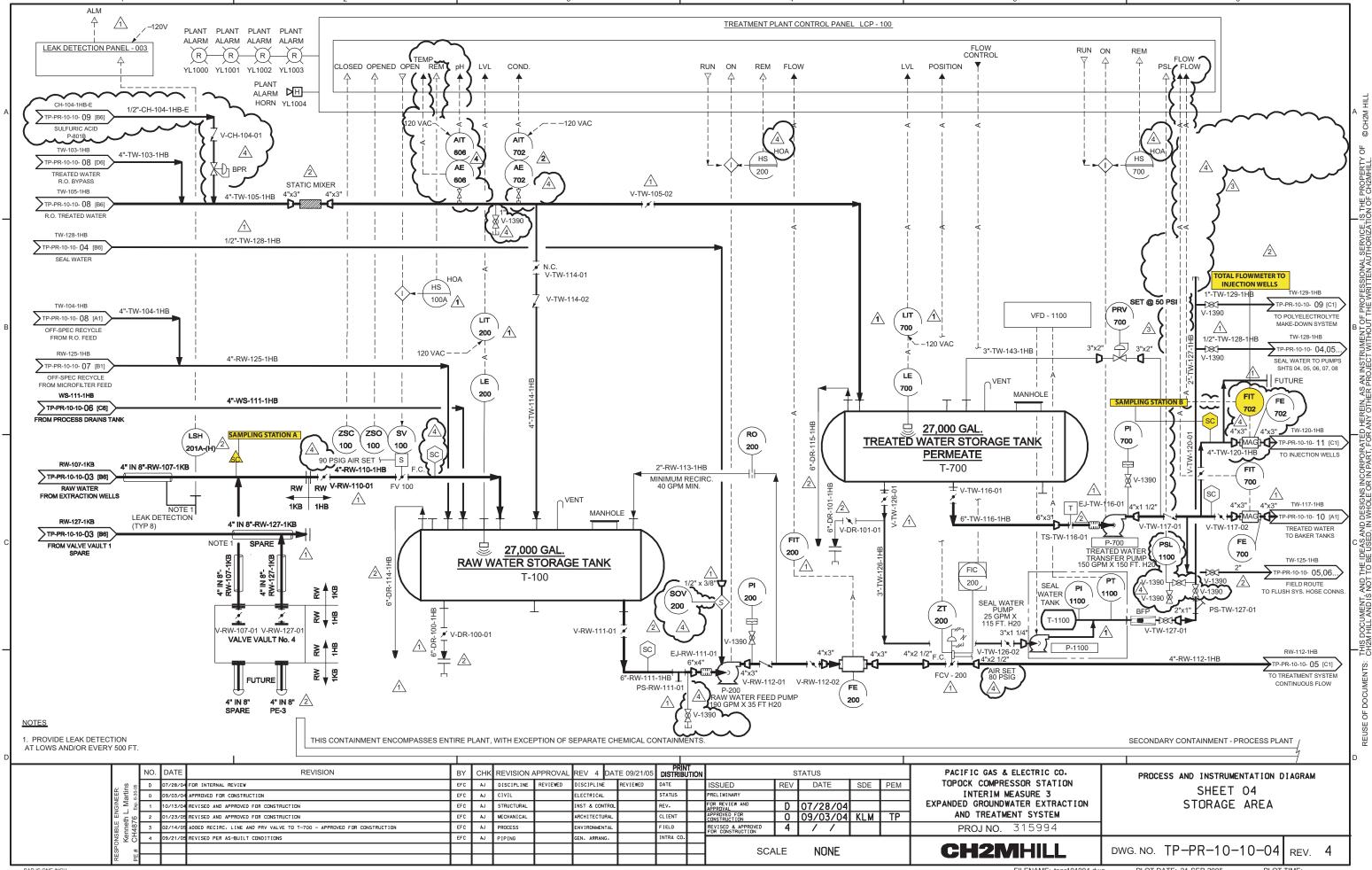
SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08).

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

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







FILENAME: PR-10-03.dgn

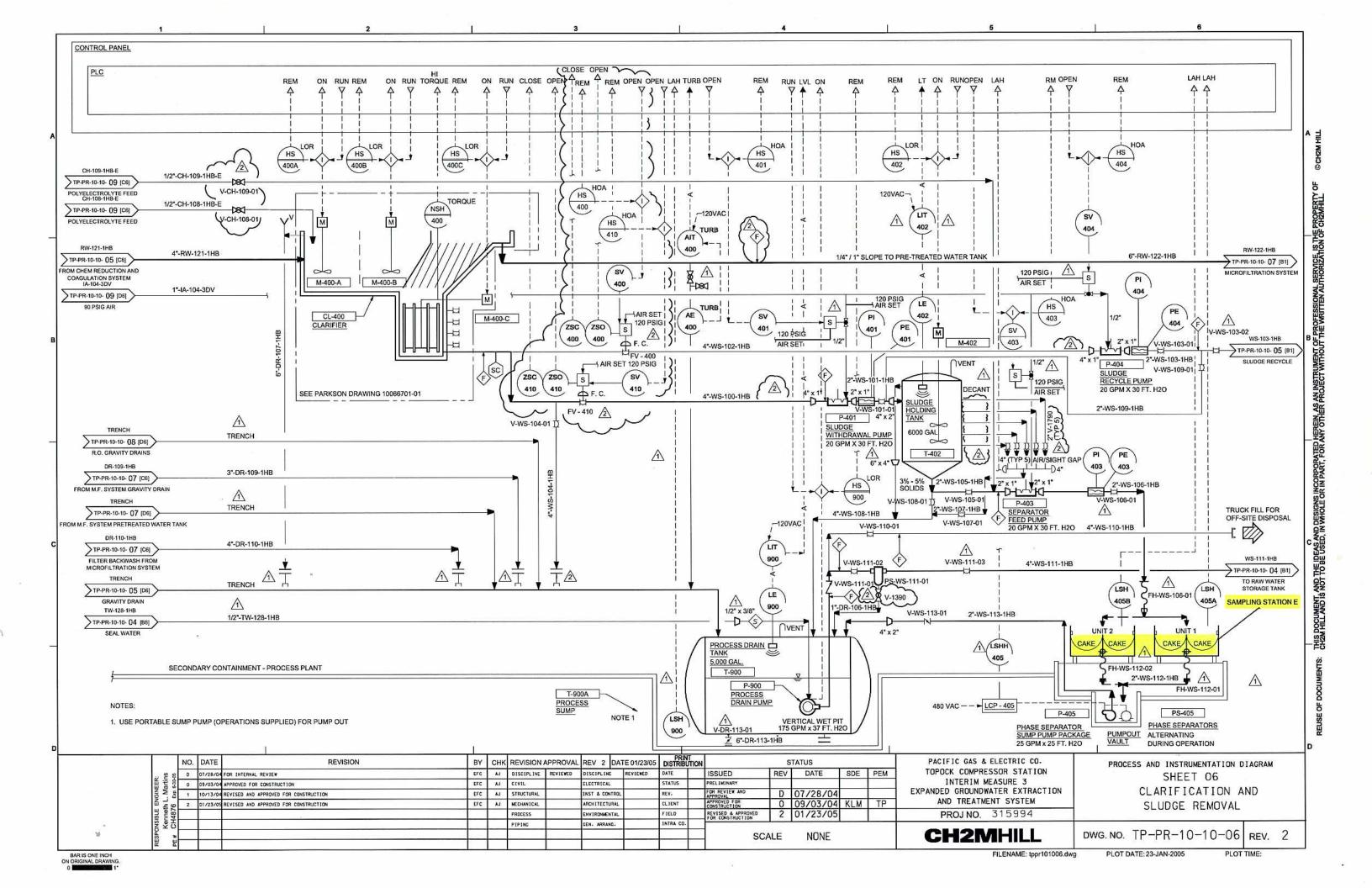
PLOT DATE: 11/19/2009

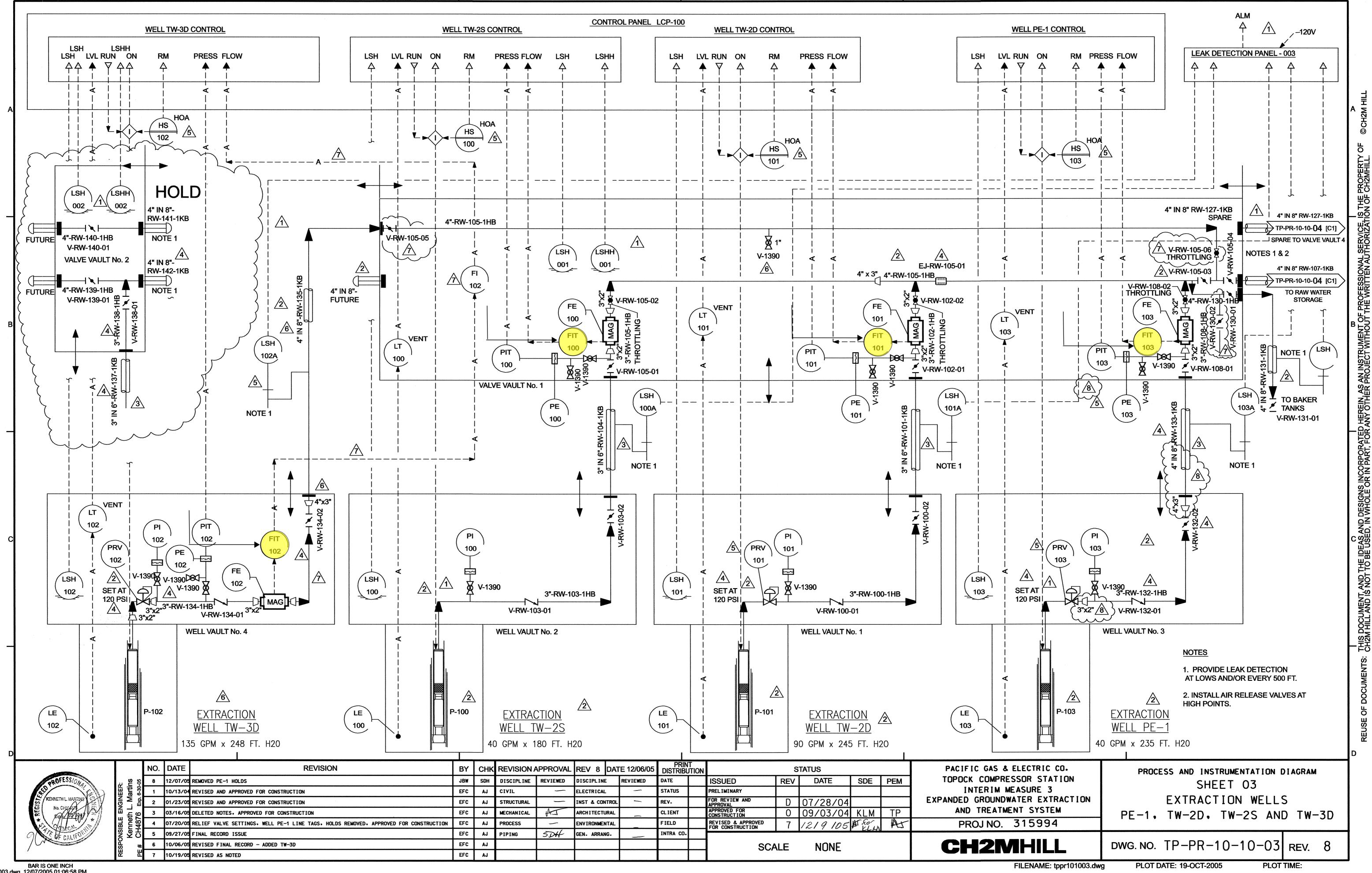
PLOT TIME: 10:27:54 AM

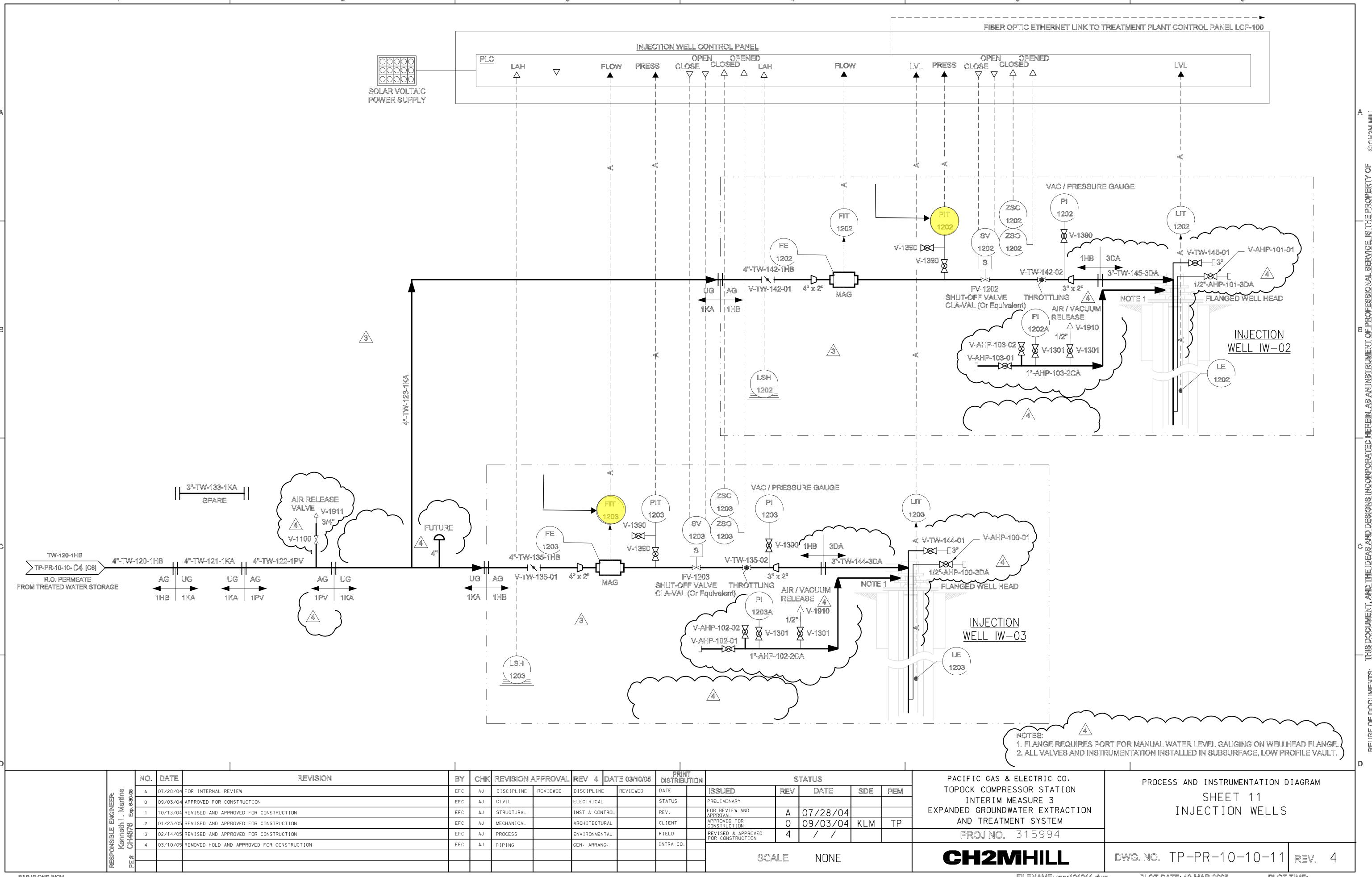
BAR IS ONE INCH ON ORIGINAL DRAWING. COND

RUN ON FLOW

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







Appendix A Semiannual Operations and Maintenance Log, January 1, 2010 through June 30, 2010

### APPENDIX A

### Semiannual Operations and Maintenance Log, January 1, 2010 through June 30, 2010

Downtime is defined as any periods when all extraction wells are not operating, so that no groundwater is being extracted and piped into IM No. 3 as influent. Periods of planned and unplanned extraction system downtime are summarized here. The times shown are in Pacific Standard Time to be consistent with other data collected at the site.

### January 2010

- **January 1, 2010 (planned):** The extraction well system was offline from 12:50 p.m. to 1:02 p.m. for microfilter maintenance. Extraction system downtime was 12 minutes.
- **January 5, 2010 (planned):** The extraction well system was offline from 7:24 p.m. to 10:48 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 24 minutes.
- **January 10, 2010 (planned):** The extraction well system was offline from 6:32 a.m. to 7:40 a.m. for reverse osmosis system maintenance. Extraction system downtime was 1 hour and 8 minutes.
- **January 12, 2010 (planned):** The extraction well system was offline from 12:48 p.m. to 12:52 p.m. while the plant was run in recirculation mode. Extraction system downtime was 4 minutes.
- **January 13, 2010 (planned):** The extraction well system was offline from 12:30 p.m. to 12:32 p.m. and 1:18 p.m. to 1:20 p.m. for critical alarm testing. Extraction system downtime 4 minutes.
- **January 13, 2010 (planned):** The extraction well system was offline from 5:50 p.m. to 6:48 p.m. for microfilter maintenance. Extraction system downtime 58 minutes.
- **January 14, 2010 (planned):** The extraction well system was offline from 12:30 p.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 2 hours and 8 minutes.
- **January 15, 2010 (planned):** The extraction well system was offline from 11:46 a.m. to 12:40 p.m. for microfilter maintenance. Extraction system downtime was 54 minutes.
- **January 19, 2010 (planned):** The extraction well system was offline from 3:22 p.m. to 4:08 p.m. to reduce water level in T-100. Extraction system downtime was 46 minutes.
- **January 19, 2010 (unplanned):** The extraction well system was offline from 9:12 p.m. to 9:20 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 8 minutes.

ES071310045503BAO\101950001 A-1

- **January 20, 2010 (planned):** The extraction well system was offline from 3:00 p.m. to 4:06 p.m. to clean out microfilter strainer filter. Extraction system downtime was 1 hour and 6 minutes.
- **January 21, 2010 (unplanned):** The extraction well system was offline from 4:44 p.m. to 8:30 p.m. due to failure of chemical feed pumps. Extraction system downtime was 3 hours and 46 minutes.
- **January 23, 2010 (planned):** The extraction well system was offline from 10:48 a.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 50 minutes.
- **January 25, 2010 (planned):** The extraction well system was offline from 1:38 p.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 1 hour.
- **January 28, 2010 (planned):** The extraction well system was offline from 2:06 p.m. to 3:56 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 50 minutes.
- **January 29, 2010 (planned):** The extraction well system was offline from 7:06 p.m. to 8:31 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 25 minutes.

### February 2010

- **February 1, 2010 (planned):** The extraction well system was offline from 5:14 p.m. to 6:10 p.m. for microfilter maintenance. Extraction system downtime was 56 minutes.
- **February 4, 2010 (planned):** The extraction well system was offline from 12:26 p.m. to 1:10 p.m. for microfilter maintenance. Extraction system downtime was 44 minutes.
- **February 5, 2010 (planned):** The extraction well system was offline from 2:22 p.m. to 3:02 p.m. for microfilter maintenance. Extraction system downtime was 40 minutes.
- **February 9, 2010 (planned):** The extraction well system was offline from 8:08 a.m. to 3:30 p.m. while the plant was shut down for injection line repair and cleaning of chemical loop. Extraction system downtime was 7 hours and 22 minutes.
- **February 10, 2010 (planned):** The extraction well system was offline from 8:18 a.m. to 8:20 a.m., 8:44 a.m. to 8:46 a.m., 8:52 a.m. to 9:10 a.m., 9:12 a.m. to 9:16 a.m., and 10:32 a.m. to 10:34 a.m. for testing of the pipeline leak detection alarm system. Extraction system downtime 28 minutes.
- **February 11, 2010 (planned):** The extraction well system was offline from 12:16 p.m. to 3:50 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 34 minutes.
- **February 15, 2010 (planned):** The extraction well system was offline from 1:38 a.m. to 2:18 a.m., and 10:22 a.m. to 3:44 p.m. for microfilter maintenance. Extraction system downtime was 6 hours and 2 minutes.

A-2 ES071310045503BAO\101950001

- **February 17, 2010 (planned):** The extraction well system was offline from 12:26 p.m. to 1:58 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 32 minutes.
- **February 18, 2010 (unplanned):** The extraction well system was offline from 12:14 p.m. to 12:42 p.m., 12:50 p.m. to 12:56 p.m., and 8:34 p.m. to 8:42 p.m., due to failure of level sensor in T-100. Extraction system downtime was 42 minutes.
- **February 18, 2010 (planned):** The extraction well system was offline from 2:10 p.m. to 2:26 p.m. for microfilter maintenance. Extraction system downtime was 16 minutes.
- **February 22, 2010 (unplanned):** The extraction well system was offline from 8:34 a.m. to 10:20 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 1 hour and 46 minutes.
- **February 22, 2010 (planned):** The extraction well system was offline from 2:44 p.m. to 6:14 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 30 minutes.

### March 2010

- March 1, 2010 (unplanned): The extraction well system was offline from 10:04 a.m. to 12:26 p.m. due to air compressor failure. Extraction system downtime was 2 hours and 22 minutes.
- March 2, 2010 (unplanned): The extraction well system was offline from 12:40 a.m. to 1:42 a.m. and 2:10 a.m. to 6:32 a.m. due to microfilter failure. Extraction system downtime was 5 hours and 24 minutes.
- March 5, 2010 (planned): The extraction well system was offline from 11:16 a.m. to 1:32 p.m. and 5:18 p.m. to 6:38 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 36 minutes.
- March 10, 2010 (planned): The extraction well system was offline from 10:42 a.m. to 10:44 a.m., 1:08 p.m. to 1:12 p.m., and 1:30 p.m. to 1:34 p.m. for testing of the pipeline leak detection alarm system. Extraction system downtime was 10 minutes.
- March 12, 2010 (unplanned): The extraction well system was offline from 9:40 p.m. to 9:42 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime 2 minutes.
- March 13, 2010 (planned): The extraction well system was offline from 6:26 p.m. to 9:24 p.m. for microfilter maintenance. Extraction system downtime was 2 hours and 58 minutes.
- March 17, 2010 (planned): The extraction well system was offline from 9:30 p.m. to 10:48 p.m. for a shutdown to generator power training exercise for new employees. Extraction system downtime was 1 hour and 18 minutes.

ES071310045503BA0\101950001 A-3

- March 18, 2010 (unplanned): The extraction well system was offline from 1:12 a.m. to 1:22 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 10 minutes.
- March 24, 2010 (planned): The extraction well system was offline from 9:58 a.m. to 12:28 p.m. for loop reactor maintenance. Extraction system downtime was 2 hours and 30 minutes.
- March 30, 2010 (planned): The extraction well system was offline from 7:36 a.m. to 5:50 p.m. and 6:20 p.m. to 7:16 p.m. for planned monthly maintenance. Extraction system downtime was 11 hours and 10 minutes.
- March 31, 2010 (planned): The extraction well system was offline from 5:30 p.m. to 10:46 p.m. for microfilter maintenance. Extraction system downtime was 5 hours and 16 minutes.

### April 2010

- April 5, 2010 (unplanned): The extraction well system was offline from 1:50 p.m. to 3:52 p.m. due to high water level in T-100. Extraction system downtime was 2 hours and 2 minutes.
- April 6 7, 2010 (unplanned): The extraction well system was offline from 10:56 p.m. on April 6 to 12:08 a.m. on April 7 due to high water level in T-100. Extraction system downtime was 1 hour and 12 minutes.
- April 7, 2010 (planned): The extraction well system was offline from 8:08 a.m. to 11:24 a.m. for loop reactor maintenance. Extraction system downtime was 3 hours and 16 minutes.
- **April 7, 2010 (unplanned):** The extraction well system was offline from 1:14 p.m. to 1:16 p.m., 1:20 p.m. to 1:22 p.m., 1:30 p.m. to 1:52 p.m., and 2:08 p.m. to 2:10 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime 28 minutes.
- April 9, 2010 (unplanned): The extraction well system was offline from 1:26 p.m. to 1:28 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 2 minutes.
- **April 15, 2010 (planned):** The extraction well system was offline from 4:40 a.m. to 5:00 a.m. for plant maintenance. Extraction system downtime was 20 minutes.
- April 19-23, 2010 (planned): The extraction well system was offline from 1:14 p.m. on April 19 to 7:26 p.m. on April 22, from 7:46 p.m. on April 22 to 2:11 p.m. on April 23, and from 3:37 p.m. on April 23 to 5:31 p.m. on April 23 for annual plant outage. Extraction system downtime was 4 days 2 hours and 31 minutes.
- **April 28, 2010 (planned):** The extraction well system was offline from 3:41 p.m. to 5:53 p.m. to replace polymer pump and permeate rinse valve on RO. Extraction system downtime was 2 hours and 12 minutes.

A-4 ES071310045503BAO\101950001

• April 29, 2010 (unplanned): The extraction well system was offline from 8:38 p.m. to 8:42 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 4 minutes.

### May 2010

- May 4, 2010 (planned): The extraction well system was offline from 10:58 a.m. to 11:00 a.m., 11:24 a.m. to 11:26 a.m., 11:30 a.m. to 11:32 a.m., 11:36 a.m. to 11:38 a.m., and 11:42 a.m. to 11:44 a.m. for critical alarm testing. Extraction system downtime was 10 minutes.
- May 17, 2010 (unplanned): The extraction well system was offline from 10:06 a.m. to 10:10 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 4 minutes.
- May 19, 2010 (planned): The extraction well system was offline from 7:28 a.m. to 3:08 p.m. for planned monthly plant maintenance. Extraction system downtime was 7 hours and 40 minutes.

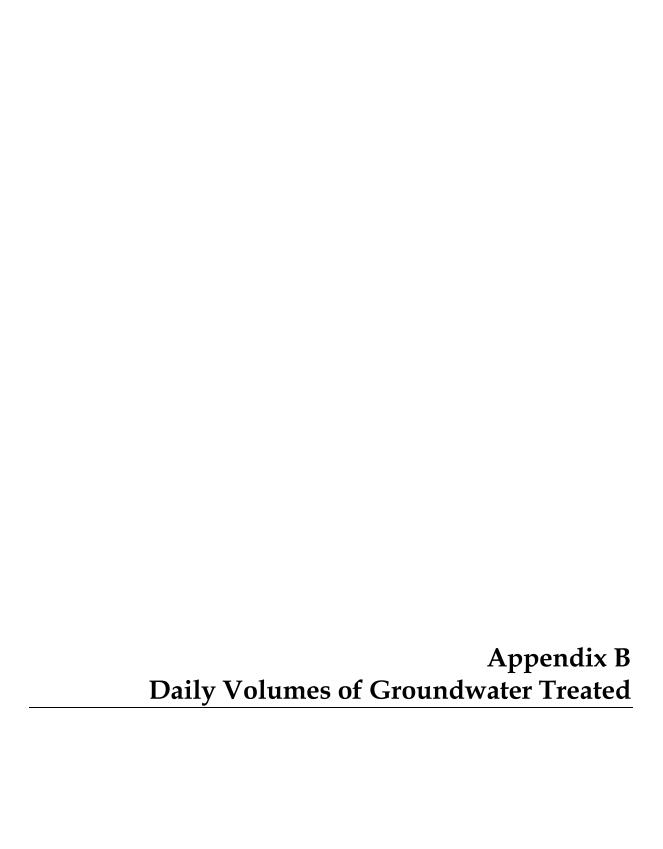
### June 2010

- June 7, 2010 (planned): The extraction well system was offline from 1:50 p.m. to 6:02 p.m. for microfilter maintenance. Extraction system downtime was 4 hours and 12 minutes.
- June 8, 2010 (planned): The extraction well system was offline from 11:30 a.m. to 11:32 a.m., 11:40 a.m. to 11:48 a.m., and 11:58 a.m. to 12:12 p.m. for critical alarm testing and leak detection system testing. Extraction system downtime 24 minutes.
- **June 14, 2010 (unplanned):** The extraction well system was offline from 9:20 a.m. to 10:46 a.m. due to plant shutdown from low flow. Extraction system downtime was 1 hour and 26 minutes.
- **June 15, 2010 (unplanned):** The extraction well system was offline from 1:16 p.m. to 1:20 p.m. and 1:24 p.m. to 2:16 p.m. due to the installation and testing of software update. Extraction system downtime was 56 minutes.
- **June 17, 2010 (unplanned):** The extraction well system was offline from 6:28 a.m. to 7:12 a.m. and 12:24 p.m. to 1:46 p.m. due to plant shutdown from no sludge production. Extraction system downtime was 2 hours and 6 minutes.
- **June 17, 2010 (unplanned):** The extraction well system was offline from 3:04 p.m. to 4:28 p.m. and 8:30 p.m. to 11:22 p.m. due to clarifier failure. Extraction system downtime was 4 hours and 16 minutes.
- **June 18, 2010 (unplanned):** The extraction well system was offline from 2:12 a.m. to 4:56 a.m. and 6:26 a.m. to 7:06 a.m. due to high water level in the raw water storage tank. Extraction system downtime was 3 hours and 24 minutes.
- **June 18, 2010 (unplanned):** The extraction well system was offline from 11:12 a.m. to 11:16 a.m. when City of Needles power utility adjusted power feed to plant. Extraction system downtime was 4 minutes.

ES071310045503BAO\101950001 A-5

- **June 21, 2010 (unplanned):** The extraction well system was offline from 7:16 a.m. to 1:12 p.m. due to polymer system failure. Extraction system downtime was 5 hours and 56 minutes.
- **June 23, 2010 (planned):** The extraction well system was offline from 7:16 a.m. to 5:40 p.m. for monthly scheduled maintenance. Extraction system downtime was 10 hours and 24 minutes.
- June 27-28, 2010 (unplanned): The extraction well system was offline from 11:22 p.m. on June 27 to 1:52 a.m. on June 28 when the primary RO system alarmed and shut down the plant. Extraction system downtime was 2 hours and 30 minutes.
- June 28, 2010 (planned): The extraction well system was offline from 7:58 a.m. to 8:16 a.m. when City of Needles Power came to the site and adjusted the AMP's electric current feed to the plant. Extraction system downtime was 18 minutes.
- **June 28, 2010 (planned):** The extraction well system was offline from 1:54 p.m. to 3:06 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 12 minutes.
- **June 29, 2010 (unplanned):** The extraction well system was offline from 12:44 p.m. to 3:38 p.m. due to high water level in the raw water storage tank. Extraction system downtime was 2 hours and 54 minutes.
- **June 30, 2010 (unplanned):** The extraction well system was offline from 8:02 a.m. to 11:36 a.m. and 11:38 a.m. to 1:08 p.m. due to high water level in the raw water storage tank. Extraction system downtime was 5 hours and 4 minutes.

A-6 ES071310045503BAO\101950001



				Extrac	tion Well Sys	tem		lnj	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
January	1	2010			152,771	38,796	191,568	19	186,511	186,530	3,312
January	2	2010			155,328	37,948	193,276	19	186,060	186,078	3,705
January	3	2010			155,128	38,289	193,417	17	189,776	189,793	1,966
January	4	2010			155,138	38,289	193,427	17	183,474	183,491	3,049
January	5	2010			132,656	32,988	165,643	11	160,929	160,939	3,991
January	6	2010			155,065	38,414	193,479	13,148	178,791	191,939	3,447
January	7	2010			155,181	38,214	193,395	18	191,439	191,458	3,854
January	8	2010			154,993	38,552	193,545	12,286	180,028	192,314	3,838
January	9	2010			155,142	38,269	193,411	15	186,124	186,139	3,846
January	10	2010			147,260	36,582	183,841	14	181,784	181,798	10
January	11	2010			154,503	39,165	193,668	15	188,713	188,728	6,157
January	12	2010			147,714	38,843	186,557	15,318	160,025	175,343	2,221
January	13	2010			145,595	37,212	182,807	3,896	185,922	189,818	3,383
January	14	2010			140,053	35,803	175,856	12	165,244	165,256	2,523
January	15	2010			148,153	37,966	186,119	15	182,828	182,843	3,702
January	16	2010			154,472	39,354	193,826	18	185,351	185,369	4,526
January	17	2010			154,670	39,101	193,771	13	187,305	187,318	2,792
January	18	2010			154,468	39,577	194,045	17	192,075	192,092	2,639
January	19	2010			139,326	38,164	177,489	16	177,281	177,298	3,820
January	20	2010			142,335	36,915	179,251	16	172,175	172,191	2,359
January	21	2010			118,830	33,181	152,011	14	151,132	151,146	3,771
January	22	2010			154,222	39,565	193,788	15	195,546	195,561	3,028
January	23	2010			127,441	33,074	160,515	18	149,757	149,775	3,729
January	24	2010			154,491	39,190	193,680	17	191,139	191,156	2,383
January	25	2010			147,697	37,469	185,166	18	185,374	185,392	4,995
January	26	2010			154,071	39,859	193,930	17	186,690	186,707	2,764
January	27	2010			149,849	39,903	189,752	15	181,312	181,326	3,963
January	28	2010			142,063	36,546	178,609	14	174,002	174,016	3,709
January	29	2010			145,128	36,941	182,070	18,006	161,670	179,676	8,467
January	30	2010			154,767	38,972	193,739	11	192,304	192,315	3,131
January	31	2010			154,745	38,761	193,505	15	183,652	183,667	3,326
otal Monthly	Volumes	s (gal)	0	0	4,603,255	1,171,901	5,775,157	63,060	5,574,412	5,637,472	108,406
-		n Rates (gpm	0.0	0.0	103.1	26.3	129.4	1.4	124.9	126.3	2.4

NOTES: gal: gallons

gpm: gallons per minute RO: Reverse Osmosis

a. Extraction wells TW 3D and PE 1 were operated during January 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during January 2010.

b. Effluent was discharged into injection wells IW 02 and IW 03 during January 2010.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the January 2010 is approximately 0.51 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

### February 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		lnj	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
February	1	2010			147,937	38,033	185,969	10	181,967	181,978	4,498
February	2	2010			154,353	39,080	193,432	11	183,668	183,679	5,147
February	3	2010			154,540	38,901	193,440	17,094	171,370	188,465	8,790
February	4	2010			149,311	38,001	187,312	11,816	174,630	186,445	2,782
February	5	2010			149,923	37,837	187,761	6,316	179,632	185,948	4,277
February	6	2010			154,576	38,979	193,555	11	184,526	184,537	4,006
February	7	2010			154,711	38,911	193,622	18	193,806	193,824	2,779
February	8	2010			154,375	39,743	194,117	13	183,742	183,755	3,037
February	9	2010			106,417	27,273	133,690	15	125,409	125,425	3,009
February	10	2010			138,901	34,720	173,621	15	180,181	180,196	3,063
February	11	2010			115,189	32,452	147,641	18	154,062	154,079	3,048
February	12	2010			138,626	38,530	177,156	20	192,684	192,704	2,781
February	13	2010			155,025	38,653	193,677	7,100	172,647	179,747	5,299
February	14	2010			143,078	39,990	183,067	15	189,332	189,347	3,432
February	15	2010			114,595	29,185	143,780	23	143,272	143,295	2,927
February	16	2010			148,291	38,276	186,568	13	179,096	179,109	3,842
February	17	2010			144,607	36,256	180,863	16	178,124	178,141	2,618
February	18	2010			146,031	37,359	183,389	14	177,822	177,836	4,123
February	19	2010			155,492	38,041	193,533	12	186,555	186,568	3,182
February	20	2010			155,788	37,616	193,403	11	190,273	190,284	3,447
February	21	2010			155,504	38,101	193,605	14	183,742	183,756	5,537
February	22	2010			120,342	29,949	150,290	16	149,571	149,588	3,177
February	23	2010			154,763	39,156	193,919	15	184,882	184,897	4,095
February	24	2010			154,967	38,800	193,767	18	188,851	188,870	4,237
February	25	2010			155,881	38,734	194,616	11	184,353	184,364	3,681
February	26	2010			156,993	39,758	196,751	16	192,262	192,278	4,700
February	27	2010			156,402	40,476	196,879	10	191,274	191,284	3,983
February	28	2010			156,753	40,053	196,805	14	191,428	191,442	2,509
otal Monthly	Volumes	s (gal)	0	0	4,093,366	1,042,864	5,136,230	42,677	4,989,163	5,031,840	108,005
verage Pum	p/Injectio	n Rates (gpm	0.0	0.0	101.5	25.9	127.4	1.1	123.7	124.8	2.7

NOTES: gal: gallons

gpm: gallons per minute RO: Reverse Osmosis

a. Extraction wells TW 3D and PE 1 were operated during February 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during February 2010.

b. Effluent was discharged into injection wells IW 03 during February 2010. IW-02 operated for a short period of time on February 3-5 and February 13th 2010.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during February 2010 is approximately 0.07 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

### March 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inj	stem	RO Brine	
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
March	1	2010			140,925	35,616	176,541	17	172,614	172,631	4,091
March	2	2010			117,502	30,924	148,426	13	141,838	141,851	2,765
March	3	2010			155,056	39,259	194,316	66,244	126,792	193,036	3,411
March	4	2010			155,948	39,681	195,629	196,028	33	196,061	3,702
March	5	2010			131,765	33,314	165,079	159,822	38	159,860	3,315
March	6	2010			157,016	38,083	195,099	184,575	43	184,617	2,958
March	7	2010			157,393	37,560	194,953	190,992	42	191,034	3,307
March	8	2010			157,477	37,580	195,057	186,753	38	186,790	5,028
March	9	2010			157,346	37,681	195,027	187,384	40	187,424	4,600
March	10	2010			145,622	38,051	183,674	187,558	39	187,597	3,409
March	11	2010			155,746	40,070	195,816	187,637	39	187,676	3,186
March	12	2010			155,570	39,887	195,456	196,805	28	196,833	3,177
March	13	2010			136,996	33,547	170,543	156,015	46	156,060	3,188
March	14	2010			156,310	39,496	195,806	194,797	33	194,830	3,275
March	15	2010			156,324	39,518	195,843	191,713	35	191,748	6,096
March	16	2010			156,334	39,412	195,747	190,026	33	190,059	3,167
March	17	2010			146,443	38,621	185,064	110,376	77,289	187,665	3,158
March	18	2010			155,275	38,624	193,899	12	184,074	184,086	3,161
March	19	2010			156,674	38,961	195,635	13	191,638	191,651	3,037
March	20	2010			156,661	38,902	195,563	15	185,118	185,133	2,903
March	21	2010			156,153	39,663	195,817	9	191,344	191,353	5,969
March	22	2010			155,983	39,942	195,925	12	192,276	192,288	3,104
March	23	2010			155,663	40,386	196,049	15	190,168	190,182	3,149
March	24	2010			139,519	35,363	174,882	12	172,246	172,259	3,300
March	25	2010			156,778	38,570	195,348	13	192,318	192,331	3,137
March	26	2010			156,665	38,822	195,486	11	189,041	189,052	3,172
March	27	2010			156,431	39,304	195,735	11	194,615	194,626	3,331
March	28	2010			156,938	38,729	195,668	17	190,740	190,757	6,267
March	29	2010			156,567	39,305	195,871	16	189,269	189,284	3,164
March	30	2010			82,414	21,373	103,787	13	101,394	101,408	3,099
March	31	2010			121,243	30,884	152,127	14	155,326	155,340	3,310
tal Monthly	Volumes	s (gal)	0	0	4,602,738	1,157,128	5,759,866	2,586,937	3,038,587	5,625,524	111,93
-		n Rates (gpm)	0.0	0.0	103.1	25.9	129.0	58.0	68.1	126.0	2.5

a. Extraction wells TW 3D and PE 1 were operated during March 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during March 2010.

b. Effluent was discharged into injection wells IW-02 and IW-03. Flow from injection well IW-03 was not recorded by flow meter FIT-1203 on March 25, 2010 through March 31, 2010. The flow to the injection wells during this period was captured by the combined plant effluent flow meter, FIT-700.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during March 2010 is approximately 0.39 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

### **April 2010 Operational Data**

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inj	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
April	1	2010			148,300	39,181	187,481	16	178,975	178,991	3,175
April	2	2010			156,446	39,153	195,599	9	188,709	188,717	3,166
April	3	2010			146,148	38,898	185,045	9	184,030	184,038	3,176
April	4	2010			155,861	39,963	195,825	14	182,641	182,656	3,180
April	5	2010			142,800	35,899	178,699	12	182,534	182,546	3,044
April	6	2010			149,613	37,262	186,875	16	183,838	183,854	3,049
April	7	2010			129,246	33,285	162,531	15	159,537	159,552	4,506
April	8	2010			139,879	36,030	175,909	79,823	95,728	175,551	4,615
April	9	2010			154,354	40,157	194,511	190,685	4,179	194,864	6,406
April	10	2010			154,842	40,604	195,446	188,920	2,734	191,654	2,968
April	11	2010			155,448	40,540	195,987	185,662	3,059	188,721	5,959
April	12	2010			155,424	40,587	196,011	186,852	3,065	189,917	3,167
April	13	2010			155,545	40,424	195,969	187,354	4,331	191,685	3,309
April	14	2010			155,450	40,470	195,921	190,561	3,227	193,787	6,231
April	15	2010			152,848	38,980	191,828	192,102	3,088	195,189	3,151
April	16	2010			156,273	39,158	195,431	190,530	3,092	193,622	3,033
April	17	2010			155,251	40,603	195,854	188,082	3,142	191,224	3,037
April	18	2010			155,400	40,310	195,710	188,799	3,055	191,853	4,351
April	19	2010			85,723	22,255	107,978	112,406	2,283	114,689	3,587
April	20	2010			2	4	6	7	0	7	188
April	21	2010			8	4	12	9	10	18	0
April	22	2010			1,777	583	2,360	11	20	31	0
April	23	2010			50,334	13,392	63,726	14	46,166	46,180	3,713
April	24	2010			155,395	40,018	195,413	10	193,624	193,633	22,356
April	25	2010			155,020	40,360	195,380	22	190,575	190,597	9,148
April	26	2010			155,168	40,215	195,383	13	186,348	186,361	22,668
April	27	2010			155,281	40,015	195,296	10	186,388	186,398	10,592
April	28	2010			140,840	36,226	177,066	3,204	172,570	175,774	6,829
April	29	2010			155,069	39,696	194,766	1,354	191,684	193,038	4,446
April	30	2010			155,146	40,521	195,667	10	194,532	194,542	6,778
otal Monthly	Volumes	s (gal)	0	0	3,928,894	1,014,791	4,943,685	2,086,529	2,753,161	4,839,690	159,827
-		n Rates (gpm)	0.0	0.0	90.9	23.5	114.4	48.3	63.7	112.0	3.7

a. Extraction wells TW 3D and PE 1 were operated during April 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during April 2010.

b. Effluent was discharged into injection wells IW-02 and IW-03. Flow from injection well IW-03 was not recorded by flow meter FIT-1203 on April 1, 2010 through April 23, 2010. The flow to the injection wells during this period was captured by the combined plant effluent flow meter, FIT-700.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during April 2010 is approximately 1.13 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

### May 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inje	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
May	1	2010			155,472	40,091	195,563	20	191,796	191,815	6,089
May	2	2010			155,190	40,541	195,731	9	192,277	192,285	9,079
May	3	2010			155,243	40,134	195,377	25	189,514	189,539	6,890
May	4	2010			153,364	39,305	192,668	19	192,198	192,217	11
May	5	2010			156,515	38,817	195,332	10	189,399	189,409	4,144
May	6	2010			156,086	39,405	195,492	1,319	192,409	193,728	3,189
May	7	2010			156,518	38,875	195,393	82,984	108,489	191,472	3,321
May	8	2010			156,115	39,417	195,532	193,120	68	193,188	3,307
May	9	2010			156,141	39,416	195,557	190,755	72	190,827	3,473
May	10	2010			155,744	40,072	195,816	190,757	75	190,832	3,227
May	11	2010			155,618	40,262	195,880	189,899	88	189,987	3,062
May	12	2010			155,704	40,193	195,897	189,222	78	189,300	5
May	13	2010			155,847	39,929	195,776	186,744	75	186,819	3,204
May	14	2010			155,938	39,820	195,757	190,654	77	190,732	3,192
May	15	2010			155,915	39,843	195,759	197,568	66	197,634	3,041
May	16	2010			155,830	39,982	195,811	189,829	81	189,909	4
May	17	2010			155,522	39,209	194,732	191,718	67	191,785	3,325
May	18	2010			156,424	38,905	195,328	192,714	61	192,775	1,834
May	19	2010			105,978	26,522	132,500	117,839	49	117,888	799
May	20	2010			156,327	38,935	195,261	189,385	2,827	192,213	5,693
May	21	2010			156,451	38,628	195,079	116,266	80,539	196,804	3,172
May	22	2010			156,265	38,989	195,254	9	200,224	200,233	3,319
May	23	2010			155,965	39,467	195,433	18	185,856	185,874	3,184
May	24	2010			155,709	39,915	195,624	15	192,489	192,504	710
May	25	2010			155,549	40,046	195,596	10	195,248	195,258	3,171
May	26	2010			156,153	39,243	195,397	15	195,066	195,080	3,155
May	27	2010			156,186	39,332	195,518	19	194,176	194,195	3,290
May	28	2010			155,733	39,968	195,701	11	193,651	193,662	2,915
May	29	2010			156,159	39,377	195,536	12	190,028	190,041	135
May	30	2010			156,425	39,147	195,572	11	189,358	189,369	2,519
May	31	2010			155,998	39,626	195,624	16	194,900	194,916	3,039
otal Monthly			0	0	4,782,085	1,213,411	5,995,496	2,610,990	3,271,300	5,882,290	95,501
-		ກ Rates (gpm		0.0	107.1	27.2	134.3	58.5	73.3	131.8	2.1

a. Extraction wells TW 3D and PE 1 were operated during May 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during May 2010.

b. Effluent was discharged into injection wells IW-02 and IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during May 2010 is approximately 0.30 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

### June 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

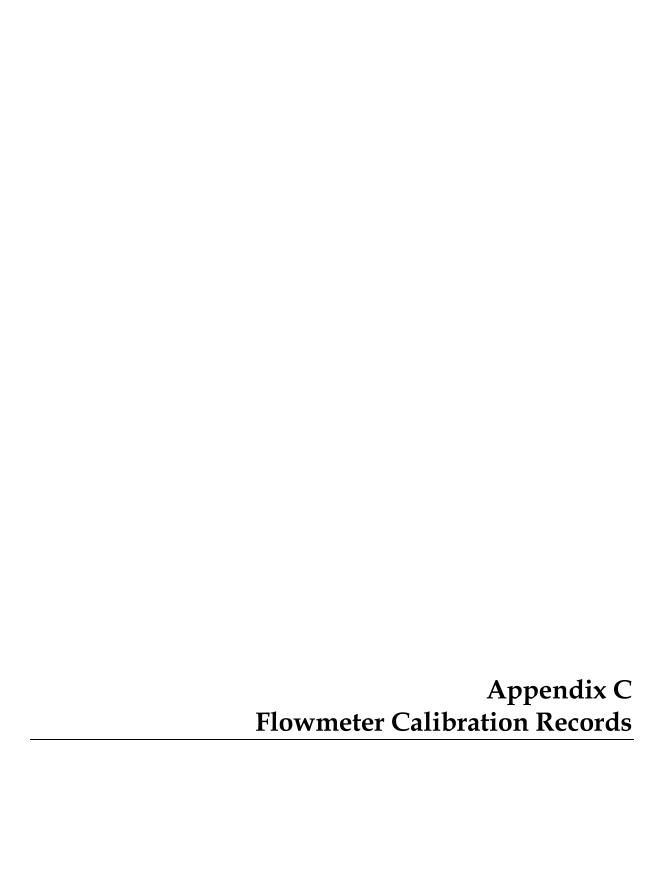
PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inj	ection Well Sys	stem	RO Brine	
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)	
June	1	2010			155,701	40,121	195,822	10	192,593	192,603	3,032	
June	2	2010			156,095	39,651	195,746	1,450	190,651	192,100	3,162	
June	3	2010			156,180	39,467	195,647	12	195,038	195,050	3,033	
June	4	2010			156,199	39,325	195,524	7	190,414	190,421	3,161	
June	5	2010			156,511	38,968	195,479	10	194,027	194,037	5	
June	6	2010			156,493	38,891	195,384	10	188,212	188,222	3,027	
June	7	2010			128,403	32,436	160,839	13	157,294	157,308	3	
June	8	2010			150,956	38,176	189,132	9	188,038	188,048	3,177	
June	9	2010			156,196	39,454	195,650	11	190,156	190,167	2,111	
June	10	2010			155,985	39,834	195,819	11	195,441	195,452	3,626	
June	11	2010			156,021	40,060	196,082	11	190,491	190,503	3,197	
June	12	2010			156,114	40,093	196,208	17	186,311	186,328	3,055	
June	13	2010			156,451	39,571	196,023	14	192,852	192,866	3,186	
June	14	2010			146,828	36,876	183,705	13	180,766	180,779	3,333	
June	15	2010			146,434	36,279	182,713	12	177,863	177,875	653	
June	16	2010			143,067	34,432	177,499	3,376	173,583	176,958	2,234	
June	17	2010			113,746	28,286	142,032	79,365	67,269	146,634	3,215	
June	18	2010			133,388	32,518	165,906	154,719	75	154,794	3,320	
June	19	2010			157,044	38,707	195,751	191,281	51	191,332	3,039	
June	20	2010			157,140	38,648	195,789	189,747	51	189,798	6,377	
June	21	2010			117,344	29,862	147,207	139,423	53	139,475	3,313	
June	22	2010			156,180	39,870	196,051	191,217	55	191,271	3,014	
June	23	2010			87,844	23,020	110,864	112,614	100	112,714	3	
June	24	2010			156,395	39,548	195,943	189,821	49	189,871	2,920	
June	25	2010			156,663	39,235	195,898	185,685	54	185,739	3,060	
June	26	2010			156,461	39,477	195,938	187,468	56	187,524	5,936	
June	27	2010			152,260	38,512	190,771	190,048	43	190,091	2,896	
June	28	2010			133,906	33,051	166,956	163,763	87	163,849	3,180	
June	29	2010			137,664	33,906	171,570	164,170	87	164,257	4	
June	30	2010			122,736	31,425	154,161	157,937	113	158,050	3,061	
tal Monthly	Volumes	s (gal)	0	0	4,372,406	1,099,702	5,472,108	2,302,243	3,051,872	5,354,115	83,334	
-		n Rates (gpm	) 0.0	0.0	101.2	25.5	126.7	53.3	70.6	123.9	1.9	

a. Extraction wells TW 3D and PE 1 were operated during June 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S were not operated during June 2010.

b. Effluent was discharged into injection wells IW-02 and IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during June 2010 is approximately 0.63 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.





### Flow Calibration with Adjustment

30092171-1385272

WWRA-000923-F Purchase order number US-19050353-20 / Endress+Hauser Flowtec Order Nº/Manufacturer 23P50-AL1A1AA022AW Order code PROMAG 23 P 2" Transmitter/Sensor 7700F216000 Serial No

Flow Duration V target V meas. Outp. \*\* A o.r.

[96]	[GPM]	[sec]	(US GAL)	[US GAL]	[%]	[mA]	
10.0	15.5	30.1	7.7642	7.7895	0.33	5.60	
40.5	62.9	30.1	31.549	31.556	0.02	10.47	
40.5	62.9	30.1	31.546	31.541	-0.02	10.47	
99.7	155.1	30.1	77.735	77.718	-0.02	19.95	
-	-	-	2	2	2	-	
-	-	-	2	2	-	-	
( <del>=</del> )	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-		-	
-	-	-	=	2	=	-	
*o.r.: of rate							

<sup>\*\*</sup>Calculated value (4 - 20 mA)

FCP-6.F

Calibration rig

155.6102 GPM

 $( \triangleq 100\%)$ 

Calibrated full scale

Current 4 - 20 mA

Calibrated output

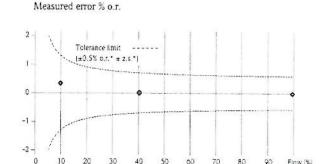
0.9289

Calibration factor

Zero point

74.9 °F

Water temperature



\*z.s.: Zero stability

For detailed data concerning output specifications of the unit under test, see technical informations (TI), chapter Performance characteristics. The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

11-30-2006 Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143

Morris E. Trueblood Jr.

M. E. Till

Operator



People for Process Automation

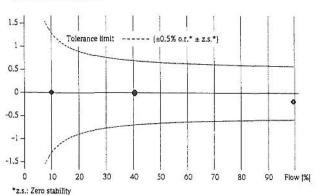
### Flow Calibration with Adjustment

30107893-1304706

WWRA-002048-F FCP-6.F Purchase order number Calibration rig US-19054161-10 / Endress+Hauser Flowtec 155.6102 GPM 100%) Order Nº/Manufacturer Calibrated full scale 23P50-AL1A1AA022AW Current 4 - 20 mAOrder code Calibrated output PROMAG 23 P 2" 0.9154 Transmitter/Sensor Calibration factor 6C037016000 0 Serial Nº Zero point FIT-1202 76.2 °F Tag Nº Water temperature

Flow	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	∆ о.т.* [%]	Outp.** [mA]
9.9	15.5	30.1	7.7531	7.7537	0.01	5.59
40.5	63.0	30.1	31.560	31.554	-0.02	10.47
40.5	63.0	30.1	31.569	31.574	0.01	10.48
99.5	154.8	30.1	77.589	77.448	-0.18	19.89
	1-	-	-	-	-	-
177	-	-	-	-	1.7	-
-	-	-	-	- 1	-	-
17.1		- 1	-		(7)	-
-	1.5	-	-	-	12 <del>70</del> 2	-
-	18 <del>7</del>	-		-	-	-

Measured error % o.r.



\*o.r.: of rate \*\*Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see technical informations (TI), chapter Performance characteristics. The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA) and Aurangabad (IN).

09-12-2007

Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143 Tim Swick

Operator

Certified acc. to MIL-STD-45662A ISO 9001, Reg.-№ 030502.2

TimSwint



### Flow Calibration with Adjustment

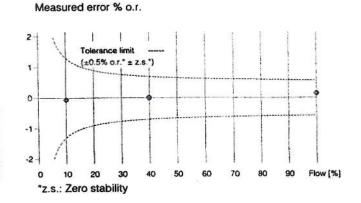
People for Process Automation

30057866-1275190

41/24888
Purchase Order Number
USA-49310090-40 / Endress+Hauser Flowte
Order Nº/Manufacturer
23P50-AL1A1RA022AW
Order Code
PROMAG 23 P 2"
Transmitter/Sensor
6A021F16000
Serial Nº FIT-100 / TW-20 /installed 7/28/05
Tag №

FCP-6.C Calibration rig	
155.6102 GPM	( ≙ 100%)
Calibrated full scale	
Current 4 - 20 mA	
Calibrated output	Le distribution de la constitución de la constituci
0.9178	
Calibration factor	
0	
Zero point	
72.9 °F	
Water temperature	

Flow	Flow	<b>Duration</b>	V target	V meas.	∆ o.r.*	Outp.**
(%)	(GPM)	[sec]	[US GAL]	[US GAL]	[%]	[mA]
10.0	15.5	30.0	7.7502	7.7457	-0.06	5.59
39.9	62.1	30.0	31.071	31.070	0.00	10.38
39.9	62.1	30.0	31.073	31.078	0.02	10.38
100.2	156.0	30.0	78.041	78.156	0.15	20.06
-	-	-	(5)	-	-	-
-	-	-	177	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-



\*o.r.: of rate

\*\*Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see technical informations (TI)

The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

11-29-2004

Date of calibration

Endress+Hauser 2350 Endress Place Greenwood, IN 46143 Tim Swick

Operator

Certified acc. to MIL-STD-45662A

ISO 9001, Reg.-Nº 030502.2

### Flow Calibration with Adjustment

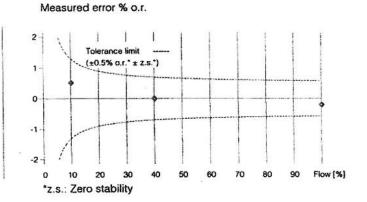


30057870-1275191

41724888	
Purchase Order Number	
USA-49310090-40 / Endress+Hauser Fl	owtec
Order №/Manufacturer	
23P50-AL1A1RA022AW	
Order Code	
PROMAG 23 P 2"	
Transmitter/Sensor	
6A022016000	
Serial No FIT-101 / TW-25/installed 7/	28/05
Tag №	

FCP-6.C	
Calibration rig	and annually supported the months of the first of the fir
155.6102 GPM	(
Calibrated full scale	21 Marie 1900 1900 1900 1900 1900 1900 1900 190
Current 4 - 20 mA	
Calibrated output	
0.9207	
Calibration factor	
0	
Zero point	THE RESIDENCE OF THE PROPERTY
74.1 °F	
Water temperature	ACCORDING CONTROL OF THE PROPERTY OF THE PROPE

Flow (%)	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.**
10.0	15.6	30.0	7.7910	7.8318	0.52	5.61
40.0	62.3	30.0	31.157	31.160	0.01	10.40
40.1	62.4	30.0	31.229	31.229	0.00	10.42
100.2	155.9	30.0	78.017	77.856	-0.21	20.00
-	-	-	-		-	-
-	•	-	-	-		-
-	-	-	-	-	-	-
-	-	-	-		-	-
-	-	-	-	-	-	2-0
-	-	-	-	-	-	-



\*o.r.: of rate
\*\*Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see technical informations (TI)

The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

11-29-2004

Date of calibration

Endress+Hauser 2350 Endress Place Greenwood, IN 46143 Tim Swick

Operator

Certified acc. to MIL-STD-45662A

ISO 9001, Reg.-Nº 030502.2



People for Process Automation

### Flow Calibration with Adjustment

30138407-1304709

WWRA-004329-F	FCP-6.C			
Furchase order number	Calibration rig			
US-19061458-10 / Endress+Hauser Flowtec	155.6102 GPM	$( \triangleq 100\%)$		
Order N°/Manufacturer	Calibrated full scale			
23P50-AL1A1AA022AW	Current 4 - 20 mA	*2		
Order code	Calibrated output			
PROMAG 23 P 2"	0.9146			
Transmitter/Sensor	Calibration factor			
6C037316000	0			
Serial Nº	Zero point			
FIT-1205 FIT-1202 IW-02	76.2 °F			
Tag N°	Water temperature			

Flow pt	Flow (GPM)	Duration M	V target [US GAU]	V meas. [US GAL]	Δ o.r.*  %;	Outp.**	Measured error % o.r. Tolerance Hmitt: ±0.5% o.r.* ± Zero stability
10.0	15.5	30.1	7.7933	7.7939	C.01	5.60	1.5-1
40.2	62.5	30.1	31.394	31.422	0.09	10.43	
40.2	62.5	30.1	31.416	31.448	0.10	10.44	'1   1   1   1   1   1
99.8	155.3	30.1	78.006	77.928	-0.10	19.95	0.5
-	-	- "	-	-	=	-	
7	-	-	-	-	+	- 1	
- 1	-	¥	2	- 1	-	-	-0.5 -
- 1	-	i	-	-	-	-	
7.	107.0	-	7	-	-	-	
= =	- 1	-	=	1 - 1	-	-	-15-    -   -   -   -   -   -   -   -
Tours of rate							0 10 20 30 40 50 60 70 80 90 100 [5]
** Calculated v	falce 14 - 20 ii	ne)					Pov

For detailed data concerning output specifications of the unit under test, see technical informations (TI), chapter Performance characteristics.

The calibration is traceable to the N.LS.T. through standards certified at preset intervals.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN) and Suzhou (CN).

02-26-2009

Date of calibration.

Endress-Hauser Flowtec, Division USA 2330 Endress Place Oreenwood, IN 46143 William Darnell

Operato:



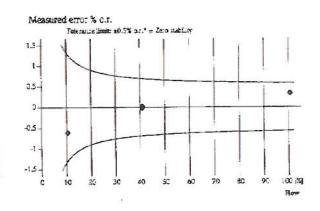
### Flow Calibration with Adjustment

30145126-1304708

WWRA-004952-F	
Purchase order number	
US-19063158-10 / Endress+Hauser Flow	ec
Order N <sup>3</sup> /Manufacture:	
23P50-AL1A1AA022AW	
Order cade	
PROMAG 23 P 2"	
Transmitter/Senso:	
6C037216000	
Serial N° (AR)	
FIT-1264 1203	
Tag Nº	A STATE OF THE STA

FCP-6.F	
Calibration rig	
155.6102 us.gal/min	( ≙ 100%)
Calibrated full scale	
Current 4-20 mA	
Calibrated output	
0.9258	
Calibration factor	
20	
Zero point	
79.1 °F	
Water temperature	

	Flow	Flow [usgumin]	Duration [s]	V carget	V mess (usgs)	∆ o.r.* [24]	Outp.** mA]
1	9.9	15.4	30.2	7.7605	7.7127	-0.62	5.58
	40.5	63.0	30.2	31.702	31.596	-0.02	10.48
	40.5	63.0	30.2	31.687	31.694	0.02	10.48
ļ	100.6	156.5	30.2	78.761	79.022	0.33	20.14
	-	-	-	-	-	-	-
	_		-	-	-	-	-
	_	-	-	-	- 1	-	-
	2	-	- 1	-	-	-	-
ļ	-	-		-	-	-	-
1	-	-	-	-	-	-	-



For detailed data concerning output specifications of the unit under test, see technical informations (TI), chapter Performance characteristics.

The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cemay (FR), Greenwood (USA), Aurangabad (IN) and Sushou [CN].

07-06-2009 Date of calibration

"our .: of rate

\*\*Calculated value |4 - 20 mA|

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143 Taylor Shepard

Operator



### Flow Calibration with Adjustment

30057895-1275195

41724888

Purchase order number

US-49310090-60 / Endress+Hauser Flowtec

Order Nº/Manufacturer

23P80-AL1A1RA022AW

Order code

PROMAG 23 P 3"

Transmitter/Sensor

6A022416000

Serial Nº

FIT-700

Tag N°

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	
8.2	32.7	118.7	64.737	64.920	0.28	l
38.0	151.4	61.1	154.130	154.217	0.06	Ì
40.1	159.6	61.2	162.718	162.822	0.06	Ì
94.3	375.8	62.5	391.212	389.911	-0.33	Ì
-	-	-	-	-	-	l
-	-	-	-	-	-	l
-	-	-	-	-	-	l
-	_	-	-	-	-	Ì
_	_	-	-	_	-	Ì
-	_	_	_	_	-	l

\*o.r.: of rate

FCP-20 MEDIUM

Calibration rig

398.3621 GPM

 $( \triangleq 100\%)$ 

Calibrated full scale

Current 4 - 20 mA

Calibrated output

1.1430

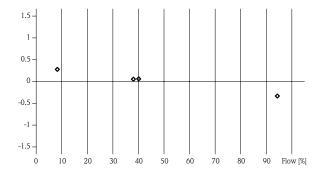
Calibration factor

0

Zero point

73.1 °F

Water temperature



Please note: This replacement document was established electronically, the most important data are extracted from the original document.

11-29-2004

Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143 Tim Swick

Operator



People for Process Automation

### Flow Calibration with Adjustment

30060319-1304707

Purchase order number

US-49311914-10 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1AA022AW

Order code

PROMAG 23 P 2"

Transmitter/Sensor

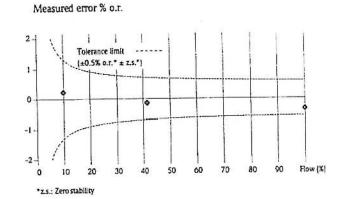
6C037116000

Serial N°

FIF 1203 FIT-701 R0 Concentrate

Calibration rig	
155.6102 GPM	$( \triangle 100\%)$
Calibrated full scale	
Current 4 - 20 mA	
Calibrated output	
0.9152	
Calibration factor	
0	
Zero point	
72.2 °F	
Water temperature	

Flow	Flow [CPM]	Duration (sec)	V target [US GAL]	V meas.	∆ o.r.* [%]	Outp.**	
10.0	15.5	61.2	15.818	15.853	0.22	5.60	
41.6	64.7	61.2	66.050	65.948	-0.15	10.64	
41.6	64.8	61.3	66.120	66.024	-0.14	10.65	
100.1	155.8	61.2	158.973	158.403	-0.36	19.96	
-	-	-		- 1	752	-	
-	-0	-	-	-	-	-	İ
_	-	-	·	-	-	-	l
-	-	-	-	-	_	_	١
-	-	-	-	-	-	-	İ
-	-	-	-	-	-	-	



\*o.r.: o' rate

Tag Nº

\*\*Calculated value [4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see technical informations (TI), chapter Performance characteristics. The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

01-31-2005 Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, JN 46143 fin Basse

Jim Baase Operator

Appendix D Second Quarter 2010 Laboratory Analytical Reports



www.truesdail.com



April 20, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-251 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 988683

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-251 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on April 7, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-251 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

Respectfully Submitted,

Truesdail Laboratories, Inc.

Manager, Analytical Services

K. R. P. gyer

K.R.P. Iver

Quality Assurance/Quality Control Officer

### TRUESDAIL LABORATORIES, INC.

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 988683

Date: April 20, 2010 Collected: April 7, 2010 Received: April 7, 2010

### **ANALYST LIST**

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	lordan Stavrev
SM 4500-NO2 B	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Kris Collins
EPA 200.8	Metals by ICP/MS	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

EXCELLENCE IN INDEPENDENT TESTING



14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7008

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

Date Received: April 7, 2010 Laboratory No.: 988683

Attention: Shawn Ouffy

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

Dakland, CA 94612

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

### Analytical Results Summary

	i i				
SM 4500-NH3 D Ammonia mm/	S	Ş			
EPA 218.6 Hexavalent Chromium	0.29	928	_		
SM 2130B Turbidity	S	S	SM 4500-NO2 B Nitrite as N	S	£
ळ।	4270		EPA 300.0 Nitrate as N	2.87	3.16
EPA 120.1 EC	7260	8010	EPA 300.0 Sulfate	512	8
			EPA 300.0 Fluoride	1.82	2.54
Sample Time	00:00	08:00	Sample Time	00:00	00:00
Sample I.D.	SC-7008-WDR-251	SC-100B-WDR-251	Sample I.D.	SC-700B-WDR-251	SC-100B-WDR-251
<u>Lab I.D.</u>	988683-1	988683-2	<u>Lab 1.D.</u>	988683-1	988683-2

ND: Non Defected (below reporting limit) mg/L: Miligrams per liter.

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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

Laboratory No.: 988683 Date Received: April 7, 2010

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

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

P.O. No.: 392895.AA.DM

## **Analytical Results Summary**

Total Netal Analyses as Requested
METALS ANALYSIS:

		I otal metal nimigees as neducated	noneonhou ce						
	ě	9 9	Aluminum EPA 200.8	Antimony EPA 200.8	Arsenic EPA 200.8	Barium EPA 200.8	Chromium EPA 200.8	Copper EPA 200.8	Lead EPA 200.8
Lab I.O.	Sample ID	Time Coll.	Hg/L	04.12.t3 μg/L	Hg/L	Hg/L	rB/L	ng/L	ugh.
988683-1	SC-700B-WDR-251	1 08:00	QN	ON	Ð	11.3	Q	Q	QN
988683-2	SC-100B-WDR-251	1 08:00	Q	Q	3.82	26.7	1040	ND	QN
			Manganese	Molybdenum	Nickel	Zinc			
	ć		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8			
Lab 1.D.	Sample ID	Date of Arranysis:	לורע ראט אפע	ሁቴፕሬካሁ µይ/L	oranau Jiga	υ4πατυ μg/L			
988683-1	SC-700B-WDR-251	08:00	۵N	18.6	QN	QN			
988683-2	SC-100B-WDR-251	08:00	2	24.7	Ð	Ø			
			Boron	Pol					
			EPA 200.7	EPA 200.7					
	2	Date of Analysis:	04/15/10	04/15/10					
Lab I.D.	Sample ID	Time Coll.	μg/L	μg/L					
988683-1	SC-700B-WDR-251	08:00	982	QN					
988683-2	SC-100B-WDR-251	08:00	1010	QN					

**KOTES**:

006

ND: Not detected, or below limit of detection

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM REPORT

Laboratory No.: 988683

Date: April 20, 2010 Collected: April 7, 2010 Received: April 7, 2010 Prep/ Analyzed: April 8, 2010

Analytical Batch: 04EC10C

investigation:

Specific Conductivity by EPA 120.1

### Analytical Results Specific Conductivity

<u>TL1 I.D.</u>	Field I.D.	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
988683-1	SC-700B-WDR-251	μ <b>mhos/cm</b>	EPA 120.1	1.00	2.00	7260
988683-2	SC-100B-WDR-251	μmhos/cm	EPA 120.1	1.00	2.00	8010

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988683-2	8010	8030	0.25%	≤ 10%	Yes
						7

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00		<2.00	Yes
ccs	705	706	99.9%	90% - 110%	Yes
CVS#1	992	1000	99.2%	90% - 110%	Yes
CVS#2	993	1000	99.3%	90% - 110%	Yes
LCS	706	706	100%	90% - 110%	Yes
LÇŞD	706	706	100%	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 Truesdail Laboratories.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Prolect No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

Laboratory No.: 988683

Date: April 20, 2010

Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 8, 2010

Analytical Batch: 04TDS10D

Investigation:

Total Dissolved Solids by SM 2540C

REPORT

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

TLI I.D.	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
988683-1	SC-700B-WDR-251	mg/L	SM 2540C	250	4270
988683-2	SC-100B-WDR-251	mg/L	SM 2540C	250	4600

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control	
Duplicate	988682-2	5110	5010	0.99%	<u>≤</u> 5%	Yes	

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

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

**Analytical Services** 

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM REPORT

Laboratory No.: 988683

Date: April 20, 2010 Collected: April 7, 2010

Received: April 7, 2010 Prep/ Analyzed: April 8, 2010 Analytical Batch: 04TUC10E

Investigation:

Turbidity by Method SM 2130B

### **Analytical Results Turbidity**

TLI I.D.	Field I.D.	Sample Time	<u>Ųnits</u>	<u>DF</u>	<u>RL</u>	Results
988683-1	SC-700B-WDR-251	08:00	NTU	1.00	0.100	ND
988683-2	SC-100B-WDR-251	08:00	NTU	1.00	0.100	ND

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988679-12	0.810	0.812	0.25%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
Blank	ND	<0.100		<0.100	Yes	
LCS	7.81	8.00	97.6%	90% - 110%	Yes	
LCS	7.75	8.00	96.9%	90% - 110%	Yes	

ND: Below the reporting limit (Not Detected).

DE: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Prep. Batch: 04CrH10B Laboratory No.: 988683

Date: April 20, 2010 Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 8, 2010 Analytical Batch: 04CrH10B

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>	<u>_RL</u>	<u>Results</u>
988683-1	SC-700B-WDR-251	08:00	10:28	μ <b>g/L</b>	1.05	0.20	0.29
988683-2	SC-100B-WDR-251	08:00	10:38	μg/L	105	21.0	928

**QA/QC Summary** 

	QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
	Duplicate	988682-1	13.7	13.6	0.73%	<u>&lt;</u> 20%	Yes
7		<del></del>		U	I Thereses	T .	

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	988683-1	0.29	1.06	1.00	1.06	1,26	1,35	91.5%	90-110%	Yes
MS	988683-2	928	105	10.0	1050	1960	1978	98.3%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	_	<0.200	Yes
MRCCS	5.38	5.00	108%	90% - 110%	Yes
MRCVS#1	9,64	10.0	96.4%	95% - 105%	Yés
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
LCS	5.05	5.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988663

Date: April 20, 2010

Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 9, 2010 Analytical Batch: 04NH3-E10A

Investigation:

Ammonia as N by Method SM 4500-NH3 D

REPORT

### **Analytical Results Ammonia as N**

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Method</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
988683-1	SC-700B-WDR-251	08:00	SM 4500-NH3 D	mg/L	1.00	0.500	ND
988683-2	SC-100B-WDR-251	08:00	SM 4500-NH3 D	mg/L	1.00	0.500	ND

**QA/QC Summary** 

	QC STC			aborate Numbe	r	Concentra	ation	Dup Conce	olica: entra	tion	Relative Percent Difference		eptance imits		QC Within Control	
	Duplic	ate	Ç	88683	-2	ND			ND		0.00%		20%		Yes	
QC Std I.D.	Lab Number	uns	nc.of piked nple		ition ctor	Added Spike Conc.		MS nount	Co SI	asured enc. of piked ample	Theoretical Conc. of spiked sample		MS% covery	^	Acceptance fimits	QC Within Control
MS	988683-2	0	.00	1.	00	6.00		6.00		5.73	6.00	,	5.5%		75-125%	Yes
		[	QC Std	I.D.		easured entration		neoretica ncentratio	-	Percen Recove			QC Witi Contro			
			Blan	k		ND		<0.500	T		<0.50	)	Yes			
			MRC	cs		5.85		6.00		97.5%	90% - 11	0%	Yes			
			MRCV	S#1		5.67		6.00		94.5%	90% - 11	0%	Yes	_		

10.0

101%

ND: Below the reporting limit (Not Detected).

LCS

10.1

DF: Dilution Factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Yes

, - Mona Nassimi, Manager Analytical Services

90% - 110%

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988683

Date: April 20, 2010

Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 8, 2010

Analytical Batch: 04AN10F

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

### **Analytical Results Fluoride**

TLI I.D.	Field I.D.	Sample Tims	<u>Run Time</u>	<u>Units</u>	DE	<u>RL</u>	<u>Results</u>
988683-1	SC-700B-WDR-251	08:00	15:07	mg/L	5.00	0.500	1.82
988683-2	SC-100B-WDR-251	08:00	15:18	mg/L	5.00	0.500	2.54

**QA/QC Summary** 

	QC ST	) I,D.		borat Yumb	•	Concentre	ition	•	olicate entration		Relative Percent lifference	1	eptance imits		QC Within Control	
	Duplic	ate	1	98867	6	ND			ND	T	0.00%	4	20%	<u> </u>	Yes	
QC Std	Lab Number	Co uns	nc.of piked mple		ution ctor	Added Spike Conc.	Aı	MS mount	Measure Conc. c spiked sample	of I	Theoretical Conc. of spiked sample	_ `	MS% covery	4	Acceptance limits	QC Within Control
MS	988676	C	0.00	7	.00	2.00		2.00	2.00	$\Box$	2.00		100%		85-115%	Yes
		ſ	2C Std	I.D.		easured centration	1	heoretica ncentrati			1		QC Wit	٠.		
		-	Blan	k		ND		<0.500	•	-	<0.500	)	Yes			
			MRC	S		4.16		4.00	10	4%	90% - 11	0%_	Yes			
			MRÇV:	S#1		3.12		3.00	10	4%	90% - 11	0%	Yes		]	

4.00

104%

ND: Below the reporting limit (Not Detected).

LĊŚ

4.14

DF: Dilution Factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Yes

/ ... Mona Nassimi, Manager Analytical Services

90% - 110%

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988683

Date: April 20, 2010

Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 8, 2010

Analytical Batch: 04AN10F

Investigation:

Sulfate by Method EPA 300.0

### **Analytical Results Sulfate**

<u>TLI I.D.</u>	<u>Field I.D.</u>	Sample Time	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
988683-1	\$C-700B-WDR-251	08:00	15:30	mg/L	25.0	12.5	512
988683-2	SC-100B-WDR-251	08:00	15:41	mg/L	25.0	12.5	569

QA/QC Summary

	QC ST	) 1.D. L	aboratory Number	Concentra	Concentration		plicate entration	Relative Percent Difference	Acceptance limits	QC Within Control	
	Duplio	ate	988676	NĎ			ND	0.00%	≤ 20%	Yes	
QC Std I.D.	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 limits	QC Within Control
мѕ	988676	0.00	1.00	2.00		2.00	2.02	2.00	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	20	<0.500		<0.500	Yes
MRCCS	20.2	20.0	101%	90% - 110%	Yes
MRCVS#1	15.2	15.0	101%	90% - 110%	Yes
MRCVS#2	15,1	15.0	101%	90% <u>- 110%</u>	Yes
LCS	20.2	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988683

Date: April 20, 2010 Collected: April 7, 2010

Received: April 7, 2010 Prep/ Analyzed: April 8, 2010 Analytical Batch: 04AN10F

Investigation:

Nitrate as N by Ion Chromatography using EPA 300.0

REPORT

### Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	RL	Results
988683-1	SC-700B-WDR-251	08:00	15:07	mg/L	5.00	1.00	2.87
988683-2	SC-100B-WDR-251	08:00	15:18	mg/L	5.00	1.00	3.16

QA/QC Summarv

	QC STD	I.D.	Numb		Concentra	etion		entration	Percent Difference		eptance imits	Control	
	Duplica	te	9886	76	ND			ND	0.00%	4	20%	Yes	
QC Std 1.D.	Leb Number	Conc.of unspiked sample	ı Dil	ution ictor	Added Spike Conc.	_ `	MS nount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample		MS% covery	Acceptance limits	QC Within Control
MS	988676	0.00	1	.00	2.00	2	2.00	2.12	2.00		106%	85-115%	Yes
		00.5		M	asured	Th	eoretica	l Perce	nt Accepta	ince	QC With	in	

Relative

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	***	<0.500	Yes
MRCCS	3.99	4.00	99.8%	90% - 110%	Yes
MRCV\$#1	2.98	3.00	99.3%	90% - 110%	Yes
LCS	3.99	4.00	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

O15

EXCELLENCE IN INDEPENDENT TESTING



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) Groundwaters
Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988683

Date: April 20, 2010

Collected: April 7, 2010 Received: April 7, 2010

Prep/ Analyzed: April 8, 2010 Analytical Batch: 04NO210C

investigation:

Nitrite as N by Method SM 4500-NO2-B

### Analytical Results for Nitrite as N

<u>TLI 1.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
988683-1	SC-700B-WDR-251	08:00	13:52	mg/L	1.00	0.0050	ND
988683-2	SC-100B-WDR-251	08:00	13:53	mg/L	1.00	0.0050	ND

**QA/QC Summary** 

	QC STO	) I,D.	Laboratory Number	Concentra	ition		plicate entration	Relative Percent Difference	Acceptance limits	QC Within Control	
	Duplic	ate	988683-2	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 nount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	M8% Recovery	Acceptance limits	QC Within Control
MS	988683-2	0.00	1.00	0.0200	0.	0200	0.0199	0.0200	99.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	02	<0.0050	488	<0.0050	Yes
MRCCS	0.0287	0.0270	106%	90% - 110%	Yes
MRCVS#1	0.0202	0.0200	101%	90% - 110%	Yes
LÇŞ	0.0462	0.0450	103%	90% - 110%	Yes

ND; Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services

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

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 202205 AA CM4

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

investigation: Total Metal Analyses as Requested

Laboratory No.: 988663 Reported: April 20, 2010 Collected: April 7, 2010 Received: April 7, 2010 Analyzed: See Below

### **Analytical Results**

SAMPLE ID: SC-7	00B-WDR-251	Time Col	ected:	08:00		LAB ID	: 900683-1	
		Reported					Date	Time
Parameter	Method	Value	DF	Units	RL	Batch	Analyzed	Analyzed
Aluminum	EPA 200.8	ND	5.00	μg/L	50.0	041210A	04/12/10	11;21
Antimony	EPA 200.8	ND	5.00	μg/L	10.0	041210A	04/12/10	11:21
Arsenic	EPA 200.8	ND	5.00	μ <b>g/L</b>	1.00	041210A	04/12/10	11:21
Barium	EPA 200.8	11.3	5.00	μ <b>g/L</b>	10.0	041210A	04/12/10	11:21
Chromium	EPA 200.8	ND	5.00	μg/L	1.00	041210A	04/12/10	11:21
Соррег	EPA 200.8	ND	5.00	μ <b>g/L</b>	5.00	041210A	04/12/10	11:21
Lead	EPA 200.8	ND	5.00	μg/L	10.0	041210A	04/12/10	11;21
Manganese	EPA 200.8	ND	5.00	μ <b>g/</b> L	10.0	041210A	04/12/10	11:21
Molybdenum	EPA 200.8	18.6	5.00	با/وبر	10.0	041210A	04/12/10	11:21
Nickel	EPA 200.8	ND	5.00	μg/L	10.0	041210A	04/12/10	11:21
Zinc	EPA 200.8	ND	1.00	μ <b>g/</b> L	10.0	041210A	04/12/10	11:21
Boron	EPA 200.7	982	1.00	μg/L	200	041510A-Th	04/15/10	12:51
Iron	EPA 200.7	ND	1,00	μg/L	20.0	041510A-Th	04/15/10	12:51

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



Report Continued

SAMPLE ID: SC-16	00B-WDR-251	Time Coll	ected:	08:00		LAB ID	988683-2	
		Reported					Date	Time
Parameter	Method	Value	DF	Unite	RL	Batch	Analyzed	Analyzed
Aluminum	EPA 200.8	ND	5.00	μg/L	50.0	041210A	04/12/10	11:48
Antimony	EPA 200.8	ND	5.00	μg/L	10.0	041210A	04/12/10	11:48
Arsenic	EPA 200.8	3.82	5.00	μ <b>ց</b> /Լ	1.00	041210A	04/12/10	11:48
Barlum	EPA 200.8	26.7	5.00	<b>µg/</b> Ļ	10.0	041210A	04/12/10	11:48
Chromium	EPA 200.8	1040	5.00	μ <b>g/</b> L	1.00	041210A	04/12/10	11:48
Copper	EPA 200.8	<b>N</b> D	5.00	μg/L	5.00	041210A	04/12/10	11:48
Lead	EPA 200.8	ND	5.00	րց/ե	10.0	041210A	04/12/10	11:48
Manganese	EPA 200.8	NĎ	5.00	μ <b>g/L</b>	10.0	041210A	04/12/10	11:48
Molybdenum	EPA 200.8	24,7	5.00	μg/L	10.0	041210A	04/12/10	11:48
Nickel	EPA 200.8	ND	5.00	μg/L	10.0	041210A	04/12/10	11:48
Zinc	EPA 200.8	ND	1.00	μg/L	10.0	041210A	04/12/10	11:48
Boron	EPA 200.7	1010	1,00	μ <b>g/</b> L	200	041510A-Th	04/15/10	13:17
Iron	EPA 200.7	ND	1.00	μg/L	20.0	041510A-Th	04/15/10	13:17

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

- Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING

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

Established 1931

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

Samples: Two (2) Groundwaters Oakland, CA 94612 Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Collected: April 7, 2010 Received: April 7, 2010

Reported: April 20, 2010

Laboratory No.: 988683

# Quality Control/Quality Assurance Report

				BLANK		MRCCS				MRCVS			
Parameter	Potted	Batch	- Mici	Blank	ā	Observed	TRUE	* 5	Control	Observed	TRUE	* (	Control
Aluminem	EPA 200.8	041210A	VBr	2	50.0	52.2	50.0	104%	90-110%	52.8	50.0	79C	90.119%
Antimony	EPA 200.8	0412104	rgr,	ð	10.0	53.1	50.0	106%	90-110%	51.1	50.0	102%	90-110%
Arsenic	EPA 200.8	041210A	Par Par	Q	0.200	52.2	50.0	12kg	90-110%	50.6	50.0	101%	90-110%
Barium	EPA 200.8	041210A	hgu!	QN	10.0	52.4	50.0	105%	90-110%	52.2	20.0	25. %	90-110%
Chromium	EPA 200.8	041210A	hg/L	QN	8.	52.0	20.0	25.8%	90-110%	51.8	50.0	25,	90-110%
Copper	EPA 200.8	041210A	μg/L	QV	2.00	51.6	50.0	103%	90-110%	52.2	50.0	104%	90-110%
Lead	EPA 200.8	041210A	μgη	ND	10.0	52.2	20.0	\$2 %	90-110%	51.2	50.0	102%	90-110%
Manganese	EPA 200.8	041210A	<b>J</b> on	ON	10.0	52.4	20.0	105%	90-110%	52.1	50.0	12%	90-110%
Molybdenum	EPA 200.8	041210A	Jøj.	N	10.0	54.4	50.0	109%	90-110%	52.7	20.0	105%	90-110%
Nickel	EPA 200.8	041210A	μgΛ	Q	10.0	51.8	50.0	<b>2</b> 2%	90-110%	51.9	50.0	104%	90-110%
Zinc	EPA 200.8	041210A	E P	QN	10.0	47.3	50.0	94.6%	90-110%	53.4	50.0	107%	90-110%
Boron	EPA 200.7	041510A-Th	μg/L	ND	200	4810	2000	96.2%	95-105%	4790	2000	95.8%	90-110%
lm	EPA 200.7	EPA 200.7 041510A-Th	μgΛ	2	20.0	4890	2000	97.8%	95-105%	4840	2000	%8'96	90:110%



Report Continued

### INTERFERENCE CHECK STANDARD

Parameter	Method	Units	<u>S</u>	<u>ន</u>	*	Control
			Obs.	Theo.	Rec.	Limita
Aluminum	EPA 200.8	μg/L	53.2	50.0	106%	80-120%
Arsenic	EPA 200.8	ug/L	51.6	50.0	103%	80-120%
Стопи	EPA 200.8	µg/L	52.2	50.0	104%	80-120%
Copper	EPA 200.8	mgr]	52.5	50.0	105%	80-120%
Manganese	EPA 200.8	ug/L	52.1	50.0	104%	80-120%
Nickel	.EPA 200.8	ng/L	51.5	50.0	103%	80-120%
Zinc	EPA 200.8	mg/L	52.8	50.0	106%	80-120%
Iron	EPA 200.7		1880		94.0%	86-120%

			LABORATO	LABORATORY CONTROL SAMP!	SAMPLES		SAMPLE DUPLICATES	UCATES			
											Precision
Parameter	Method	Units	SOT	SOT	×	Control	SAMPLE	SAMPLE	PUP	×	Control
			Obs.	Theo.	Rec.	Limits	0	RESULT	RESULT	RPD	Limits %
Aluminum	EPA 200.8	μg/L	52.2	50.0	104%	90-110%	988683-1	Ö	QN	0.00%	<200
Ащітопу	EPA 200.8	µg/L	52.9	50.0	106%	90-110%	98863-1	2	Q	%00.0	\$25
Arsenic	EPA 200.8	Ē	51.9	50.0	104%	90-110%	988683-1	QN	QN	0.00%	\$220
Barium	EPA 200.8	ug/L	52.5	50.0	105%	90-110%	988683-1	11.3	10.8	4.52%	ĈZ,
Chromium	EPA 200.8	Ę	52.3	50.0	105%	90-110%	988683-1	2	2	%00.0	02
Copper	EPA 200.8	µg/L	52.0	50.0	104%	90-110%	988683-1	Q.	Q	0.00%	G.
Lead	EPA 200.8	μg/L	52.2	50.0	104%	90-110%	988683-1	QN	Q	%00.0	520
Manganese	EPA 200.8	μg/L	52.0	50.0	104%	90-110%	988683-1	Q	N	%00.0	220
Molybdenum	EPA 200.8	μg/L	53.1	90.0	106%	90-110%	988683-1	18.6	18.8	1.07%	\$20
Nickel	EPA 200.8	иg/L	52.4	50.0	105%	90-110%	988683-1	Ð	QQ.	0.00%	\$25
Zinc	EPA 200.8	μg/L	47.9	50.0	95.8%	90-110%	988683-1	9	9	0.00%	92
Boron	EPA 200.7	щ	4860	2000	97.2%	90-110%	988683-1	982	950	3.31%	021
lron	EPA 200.7	Light.	4980	2000	99.6%	90-110%	988683-1	QN	QN	0.00%	03

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

LABOF
ESDAIL
TRUE

MATRIX SPIKE	¥										Accuracy
				Sample		Spike	Tota! Amt.	Theo.	SE	ሄ	Control
Sample ID	Parameter	Method	Units	Result	뇹	Level	of Spike	Value	Obs.	Rec.	Limits %
988683-1	Aluminum	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	250	100%	75-125%
988683-1	Antimony	EPA 200.8	μθ⁄L	00.0	5.00	50.0	250	250	265	106%	75-125%
988683-1	Arsenic	EPA 200.8	1,6γt	0.00	5.00	50.0	250	250	263	105%	75-125%
988683-1	Barium	EPA 200.8	µg/L	11.3	5.00	50.0	250	261	273	105%	75-125%
998683-1	Chromium	EPA 200.6	µg/î∟	00'0	5.00	0.06	250	250	258	103%	75-125%
988683-1	Copper	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	248	99.2%	75-125%
988683-1	Lead	EPA 200.8	µg∕l_	0.00	5.00	50.0	250	250	250	100%	75-125%
988683-1	Manganese	EPA 200.8	µg√L	1.25	5.00	50.0	250	251	554	101%	75-125%
988683-1	Molybdenum	EPA 200.8	hg/L	18.6	5.00	20.0	250	569	298	112%	75-125%
988683-1	Nickel	EPA 200.8	µ9∕L	0.00	5.00	50.0	250	250	246	98.4%	75-125%
988683-1	Zinc	EPA 200.8	тел	0.00	5.00	50.0	250	250	236	94.4%	75-125%
988683-1	Boron	EPA 200.7	<b>Д</b> 6Д	385	1.00	2000	2000	2962	2830	92.4%	75-125%
988683-1	Iron	EPA 200.7	µg√L	0.00	8:	2000	2000	2000	1800	%0.06	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

TRUESDAIL LABORATORIES, INC. Respectfully submitted,

for Mona Nassimi, Manager Analytical Services

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

### (IM3Plant-WDR-251] **988683** CHAIN OF CUSTODY RECORD

DATE 04/07/10

COC Number

TURNAROUND TIME

10 Days PAGE

ö

Tor Sample Condi See Form Attec Ļ. COMMENTS The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Al, Alo, Ni, Fe, Zn ş WARM SAMPLE CONDITIONS NUMBER OF CONTAINERS ΥES (Z) 8 SPECIAL REQUIREMENTS: CUSTODY SEALED 70(7.005) sleieM leio? RECEIVED (300.0) F, NO3, NO2, SO4 (20/ES) 201 A (0.00E) anolinh × Total Metals (2007) See List Below 07 2010 eve × Date 1 Date Pare Time Coate Datte! √ Time × 10S (2540 c) THE 22 MBL315 LIST (200.7, 200.8, 245.1) × × × 76.2 CUVI) (218.6) Lab Fillered × × CHAIN OF CUSTODY SIGNATURE RECORD 761 (\_ J. J. × × も在 Company/ Agency / Company/ Agency Company/ Agency Company/ Agency DESCRIPTION FAX 530-339-3303 8.35 1.245 7.49 (0.00) **ر** د SS SS Ĭ 04/107/10 **|0**80 Ŋ Printed Name /c/ 04/07/10 Printed Name Name 155 Grand Ave Ste 1000 0.0 0.0 Haby W. Ko Name Printed 13 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL Æ2 392895.AA.DM **SENSO** 0808 2180 SC-700B-WDR-251 SC-100B-WDR-251 BAMPLERS (SIGNATURE PROJECT NAME Signature (Relinquished∑ (Relinquished) P.O. NUMBER SAMPLEID &-700B Signalure COMPARY Se-100B (Received Signalure Signature ADDRESS PESE 070

Company/ Agency

Company/ Аделсу

Printed

Signature (Relinquished)

(Received)

Signature (Received)

Printed





### Sample Integrity & Analysis Discrepancy Form

Client	CH2M HILL	Lab# 988683
Date L	Delivered: 4 / 7 /10 Time: 21:02 By:  Mail  Field	ld Service
1.	Was a Chain of Custody received and signed?	Dayes CINO CIN/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes ☐No ŒN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ŒN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No □N/A
5.	Were all requested analyses understood and acceptable?	Maryes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u></u> <u> </u>	DYes ONO ON/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	De es □No □N/A
8.	Were sample custody seals intact?	□Yes □No □N/A
9.	Does the number of samples received agree with COC?	©Yes □No □N/A
10.	Did sample labels correspond with the client ID's?	DVes □No □N/A
11.	Did sample:labels indicate proper preservation? Preserved (¥ yes) by: □ <b>Truesdail</b> Client	□Yes □No □N/A
12.	Were samples pH checked? pH = 5ce C-o C	☐Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ÉrYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT):   RUSH  Std	ØYes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground V □Sludge □Soil □Wipe □Paint □Solid 增	Vater □Waste Water Other_WATER_
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Kafal Davila



Established 1931

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

April 26, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-252 PROJECT, GROUNDWATER MONITORING, TLI No.: 988820

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-252 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on April 14, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-252 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

💪 Mona Nassimi

Manager, Analytical Services

K. R. P. Syn

K.R.P. Iyee

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462 www.truesdall.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.: 392895.AA.DM

Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

### **ANALYST LIST**

REPORT

EPA 120.1	Specific Conductivity	Tìna Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 200.8	Total Manganese	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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 authorization from Truesdail Laboratories.

Established 1931

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

Laboratory No.: 988820 Date Received: April 14, 2010

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

## Analytical Results Summary

EPA 200.8 Manganese Total	QN
SM 2540C 7DS ma/L	4060
EPA 120.1 EC umhos/cm	7010
SM 2130B Turbidity NTU	Ð
EPA 218.6 Chromium Hexavalent	0.27
EPA 200.8 Chromium Total	, ,
ample Time	08:00
ωı	SC-700B-WDR-252
<u>Lab î.D.</u>	988820

ND: Non Detected (below reporting limit)

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

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 041910A

Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

Prep/ Analyzed: April 19, 2010

Analytical Batch: 041910A

Investigation:

Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer

using EPA 200.8

### Analytical Results Total Chromium

TLI I.D. Field I.D. <u>Units</u> Method Run Time DF RL Results SC-700B-WDR-252 **EPA 200.8** 10:53 5.00 1.00 1.09 μg/L 988820

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988820	1,09	1.00	8.61%	<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
мѕ	988820	1.09	5.00	50.0	250	248	251	98.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00		<1.00	Yes
MRCCS	51.7	50.0	103%	90% - 110%	Yes
MRCVS#1	50.9	50.0	102%	90% - 110%	Yes
ics	51.4	50.0	103%	80% - 120%	Yes
LCS	51.3	50.0	103%	90% - 110%	Yes

ND: Not detected at reporting limit

**DF:** Dilution Factor

Respectfully submitted,

TRUESDAIL 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 protection from Truesdail Laboratories.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 041910A

Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

Prep/ Analyzed: April 19, 2010

Analytical Batch: 041910A

Investigation:

Total Manganese by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8

### Analytical Results Total Manganese

TLI I.D. Field I.D. <u>Units</u> Method Run Time DF RL Results SC-700B-WDR-252 988820 μg/L **EPA 200.8** 10:53 5.00 10.0 ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988820	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
MS	5	988820	0.00	5.00	50.0	250	230	250	92.0%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<10.0	A4B	≺10.0	Yes
MRCCS	47.7	50.0	95.4%	90% - 110%	Yes
MRCVS#1	48.9	50.0	97.8%	90% - 110%	Yes
IC\$	48.5	50.0	97.0%	80% - 120%	Yes
LCS	46.8	50.0	93.6%	90% - 110%	Yes

ND: Not detected at reporting limit

OF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clionts, 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 products.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

Prep/ Analyzed: April 15, 2010

Analytical Batch: 04CrH10F

Investigation:

Hexavalent Chromium by EPA 218.6

### **Analytical Results Hexavalent Chromium**

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
988820	SC-700B-WDR-252	08:00	08:13	μ <b>g/L</b>	1.05	0.20	0.27

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control	
Dupticate	988698-4	30.3	30.2	0.33%	<u>&lt;</u> 20%	Yes	i
			Moasuror	Theoretics	<u>ii                                   </u>		

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	M8 Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988820	0.27	1.06	1.00	1.06	1.28	1.33	95,3%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200		<0.200	Yes
MRCCS	4.84	5.00	96.8%	90% - 110%	Yes
MRCV\$#1	9.85	10.0	98.5%	95% - 105%	Yes
MRCVS#2	10.2	10.0	102%	95% - 105%	Yes
MRCVS#3	10.4	10.0	104%	95% - 105%	Yes
MRCV\$#4	10.2	10,0	102%	95% - 105%	Yes
MRCVS#5	9.96	10.0	99.6%	95% - 105%	Yes
MRCVS#6	10.4	10.0	104%	95% - 105%	Yes
LCS	5.41	5.00	108%	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 progritten authorization from Truesdail Laboratories.

**EXCELLENCE IN INDEPENDENT TESTING** 

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

Qakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

Prep/ Analyzed: April 15, 2010

Analytical Batch: 04TUC10L

Investigation:

Turbidity by Method SM 2130B

### **Analytical Results Turbidity**

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

 988820
 SC-700B-WDR-252
 08:00
 NTU
 1.00
 0.100
 ND

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988817-27	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100		<0.100	Yes
LCS	7.75	8.00	96.9%	90% - 110%	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager Analytical Services

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Date: April 26, 2010

Collected: April 14, 2010

Laboratory No.: 988820

### 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.: 392895.AA.DM P.O. No.: 392895.AA.DM

Received: April 14, 2010 Prep/ Analyzed: April 19, 2010 Analytical Batch: 04EC10H

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

TLI I.D. Field I.D. <u>Unite</u> Method <u>DF</u> <u>RL</u> Results SC-700B-WDR-252 1.00 988820 µmhos/cm **EPA 120.1** 2.00 7010

	I.D.	-	'   Concentrat	ion	Concentra			Ofference		limits	Control
Duplica		ate 988820	7010		7020			0.14%		≤ 10%	Yes
		QC Std I.D.	Measured Concentration	,	Theoretical oncentration	Perce Reco		Acceptane Limite	CO	QC Withi Control	
	[	Blank	ND		<2.00			<2.00		Yes	
	[	ccs	704		70 <del>6</del>	99.7	<b>'</b> %	90% - 110	%	Yes	
	[	CVS#1	991		1000	99.1	%	90% - 110	%	Yes	
		LCS	704	<u> </u>	706	99.7	%	90% - 110	%	Yes	_
	ſ	LCSD	704	[	706	99.7	′%	90% - 110	%	Yes	

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

√ω - Mona Nassimi, Manager Analytical Services

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



### REPORT

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92760-7008 (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.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988820

Date: April 26, 2010

Collected: April 14, 2010 Received: April 14, 2010

Prep/ Analyzed: April 19, 2010

Analytical Batch: 04TDS10F

Investigation:

Total Dissolved Solids by SM 2540C

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

 TLI I.D.
 Field I.D.
 Units
 Method
 RL
 Results

 988820
 SC-700B-WDR-252
 mg/L
 SM 2540C
 250
 4060

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988820	4060	4080	0.25%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	22	<25.0	-	<25.0	Yes
LCS	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit,

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

988820

CHAIN OF CUSTODY RECORD

TRUESDAIL LABORATORIES, INC. 14201 Frankin Avenue, Tuetin, CA 92769-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdell.com

[M3Plant-WDR-262]

10 Days PAGE TURNAROUND TIME COC Number

OATE O4/14/10

능

TOTAL NUMBER OF CONTAINERS COMMENTS 0 X= 6 NUMBER OF CONTAINERS 9 ec'd 04/1/4/10 988820 Rec'd (DETSME) VAIDABLE × (2015SMR) SQI Specific Conductance (120.1) (T.COS) alexamido? Cr6 (278.6) Lab Finder DESCRIPTION Water FAX (530) 339-3303 TEAM ž D414710 088 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 392895.AA.DI PG&E Topock SAMPLERS (SIGNATURE 낊 SC-7008-WDR-252 PROJECT NAME P.O. NUMBER SAMPLE 10. COMPANY ADDRESS PRONE

TOMP

かな

Cré

AND S

21.20

.003

00:

For Sample Condition: See Form Attached

101	CHAIN OF CUSTODY SIGNATUR	IGNATURE RECORD	4/14/14	SAMPLE CONDITIONS
Signature (Relinquished)	Printed Manne - 110/1	Company! OMIT	Date ////	RECEIVED COOL   WARH   "F
Signature Soutoco	Signature / Printed Printed B. DAYAG.	Company/ FL/	Time 12.5	CUSTODY SEALED YES   NO
Signature (Relinquished) Benyana	Dayrey Name 18-04446	Company! 7-6/	Date 4-14-10	SPECIAL REQUIREMENTS:
Signature of Stacken	When Name oligh	Company! 717	Jose 4/14/10 20:30	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	





### Sample Integrity & Analysis Discrepancy Form

Clien	t: <u>E</u> 2	Lab #	988820
Date	Delivered: 4 / 14 /10 Time: 20:30 By: □Mail	Service	
1.	Was a Chain of Custody received and signed?	tyes □/	Vo □ <i>N/A</i>
2.	Does Customer require an acknowledgement of the COC?	□Yes □I	Vo DANIA
3.	Are there any special requirements or notes on the COC?	□Yes □!	Vo drva
4.	If a letter was sent with the COC, does it match the COC?	□Yes □!	Vo DANIA
5.	Were all requested analyses understood and acceptable?	de Yes on	Vo □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4°C</u>	ØMes □	No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	taves or	Vo □N/A
8.	Were sample custody seals intact?	□Yes □N	Vo □N/A
9.	Does the number of samples received agree with COC?	d√es □	No □N/A
10.	Did sample labels correspond with the client ID's?	Zarres DA	Vo □N/A
11.	Did sample:labels indicate proper preservation? Preserved (# yes) by: □Truesdail □Client	ØYes □∧	√o □N/A
12,	Were samples pH checked? pH= <u>See</u> C.o.e	ØYes □	lo □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ØVes □∧	lo 🗆 N/A
14.	Have Project due dates been checked and accepted?  Turn Around Time (TAT): □ <b>RUSH</b> □ Std	ODYes □∧	lo □N/A
<i>15</i> .	Sample Matrix: □Liquid □Drinking Water □Ground Water □Solid □Wipe □Paint □Solid □Oth	er □Wa er <u>U/A</u>	aste Water 7 E R
16.	Comments:		
17.	Sample Check-In completed by <b>Truesdail</b> Log-In/Receiving:	Kalan	1 Davila

Established 1931



April 30, 2010

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92760-7008 (714) 730-6239 · FAX (714) 730-6462 www.truesdall.com

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-253A PROJECT, GROUNDWATER

MONITORING, TLI No.: 988874

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-253a project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on April 19, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-253a for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

\_\_ Mona Nassimi

Manager, Analytical Services

K. R. P. Byen

K.R.P. Iver

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

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

Project No.: 392895.AA.DM

Laboratory No.: 988874

Date: April 28, 2010 Collected: April 19, 2010 Received: April 19, 2010

### **ANALYST LIST**

	PABAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 200.8	Total Manganese	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

EXCELLENCE IN INDEPENDENT TESTING

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

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

Established 1931

Date Received: April 19, 2010 Laboratory No.: 988874

Revision 1

### **Analytical Results Summary**

EPA 200.8 Manganese Total	10.	2
SM 2540C	ma/L	4290
<b>EPA 120.1</b> <i>EC</i>	umhos/cm	7300
SM 2130B Turbidity	NTC	QN
EPA 218.6 Chromium Hexavalent	ng/L	0.39
EPA 200.8 Chromium Total	μg/L	QN
Sample Time		08:00
Sample I.D.		SC-700B-WDR-253a
Lab I.D.		988874

ND: Non Detected (below reporting limit)

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc. REPORT

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 042210A

Laboratory No.: 988874

Date: April 28, 2010

Collected: April 19, 2010 Received: April 19, 2010

Prep/ Analyzed: April 22, 2010

Analytical Batch: 042210A

Investigation:

Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer

using EPA 200.8

### **Analytical Results Total Chromium**

<u>TLI I.D.</u> <u>Fleid I.D.</u> <u>Units</u> <u>Method</u> <u>Run Time</u> <u>DF</u> <u>RL</u> <u>Results</u> 988874 SC-700B-WDR-253a μg/L EPA 200.8 11:22 5.00 1.00 ND

QA/QC Summary

	QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
1	Duplicate	988874	ND	Đ	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
MS	988874	0.00	5.00	50.0	250	239	250	95.6%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00		<1.00	Yes
MRCCS	51.3	50.0	103%	90% - 110%	Yos
MRCVS#1	51.7	50.0	103%	90% - 110%	Yes
ICS	56.1	50.0	112%	80% - 120%	Yes
LCS	50.4	50.0	101%	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 products.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895,AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 042210A

Laboratory No.: 988874

Date: April 28, 2010

Collected: April 19, 2010

Received: April 19, 2010

Prep/ Analyzed: April 22, 2010

Analytical Batch: 042210A

Investigation:

Total Manganese by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8

### **Analytical Results Total Manganese**

TLI I.D. Field I.D. Units Method Run Time DF RL Results SC-700B-WDR-253a **EPA 200.8** 5.00 10.0 988874 μg/L 11:22 ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Ouplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988874	ND	ND	0.00%	<u>≺</u> 20%	Yes

QC 8td 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	988874	0.00	5.00	50,0	250	241	250	96.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<10.0		<10.0	Yes
MRCCS	51.8	50.0	104%	90% - 110%	Yes
MRCVS#1	52.9	<b>50</b> .0	106%	90% - 110%	Yes
ics	56.5	50.0	113%	80% - 120%	Yes
LCS	52.0	50.0	104%	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 products. As a mutual protection to clients, the public, and these laboratories, this report is soonlined and accepted for the distribution 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 problem.

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000 Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.; 988874

Date: May 11, 2010 Collected: April 19, 2010

Received: April 19, 2010

Prep/ Analyzed: April 26, 2010

Analytical Batch: 04CrH10G

Revision 1

Investigation:

Hexavalent Chromium by EPA 218.6

### **Analytical Results Hexavalent Chromium**

<u> TLI I.D.</u>	<u>Field I.D.</u>	Sample Time	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
988874	SC-700B-WDR-253a	08:00	12:28	μg/L	1.05	0.20	0.39

**QA/QC Summary** 

	QC STE	) I.D.		oratory umber	Concent	ation		licate ntration	Relative Percent Difference	1	eptance limits	QC Within Control	
	Duplic	ate	98	88969	3.22	,	3	41	5.73%		20%	Yes	
QC Std I.D.	Lab Number	uns	nc.of piked nple	Dilutio Factor	Added Spike		MS rount	Measured Conc. of spiked sample	Theoretic Conc. of spiked sample	F R	MS% ecovery	Acceptance limits	QC Within Control
MS	988874	0	.39	1.06	1.00	1	.06	1.48	1.45		103%	90 - 110%	Yes
		(	QC Std	I.D.	Measured Concentration	1	eoretical centration	Perce Recov			QC Wit		
			Blant	k	ND		<0.200		<0.2	200	Yes		
			MRCC	s	5.16		5.00	103	% 90%-	110%	Yes		
			MRCVS	3#1	9.89		10.0	98.9	% 95 <u>% -</u>	105%	Yes		
			MRCVS	5#2	10.4		10.0	104	<del>%</del> 95% -	105%	Yes		

5.00

103%

ND: Below the reporting limit (Not Detected).

LCS

5.14

DF: Dilution Factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

90% - 110%

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

Laboratory No.: 988874

Date: April 28, 2010

Collected: April 19, 2010

Received: April 19, 2010

Prep/ Analyzed: April 20, 2010

Analytical Batch: 04TUC10N

Investigation:

Turbidity by Method SM 2130B

### Analytical Results Turbidity

Results Sample Time Units DF RL TLI I.D. Field I.D. 988874 SC-700B-WDR-253a 08:00 NTU 1.00 0.100 ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988874	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
Blank	ND	<0.100		<0.100	Yes	
LCS	7.70	8.00	96.3%	90% - 110%	Yes	
LCS	7.73	8.00	96.6%	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 Oritten 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 authorization from Truesdail Laboratories.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

Laboratory No.: 988874

Date: April 28, 2010

Collected: April 19, 2010

Received: April 19, 2010 Prep/ Analyzed: April 20, 2010

Analytical Batch: 04EC10

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

 TLI i.D.
 Field i.D.
 Units
 Method
 DF
 RL
 Results

 988874
 SC-700B-WDR-253a
 μmhos/cm
 EPA 120.1
 1.00
 2.00
 7300

QA/QC Summarv

	I.D.	Number Concentratio		ion I .	Concentration		)ifference	limits		Control	
Duplicate 988874		te 988874	7300	732	7320		0.27%		<u>&lt;</u> 10%	Yes	
		QC Std I.D.	Measured Concentration	Theoretical Concentration	Perc Reco		Acceptan Limits	ce	QC With		
		Blank	ND	<2.00		-	<2.00		Yes	]	
	T	ccs	703	706	99.6	3%	90% - 110	%	Yes	_	
		CVS#1	992	1000	99.2	2%	90% - 110	%	Yes		
		LCS	704	706	99.7	7%	90% - 110	%	Yes	┙	
	Г	LCSD	704	706	99.7	7%	90% - 110	1%	Yes	1	

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

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

P.O. No.: 392895.AA.DM

Laboratory No.: 988874

Date: April 28, 2010

Collected: April 19, 2010

Received: April 19, 2010

Prep/ Analyzed: April 22, 2010

Analytical Batch: 04TDS10G

Investigation:

Total Dissolved Solids by SM 2540C

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

 TLI I.D.
 Field I.D.
 Units
 Method
 RL
 Results

 988874
 SC-700B-WDR-253a
 mg/L
 SM 2540C
 250
 4290

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988874	4290	4200	1.06%	<u>≤</u> 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
Blank	ND	<25.0	- 44	<25.0	Yes	
LCS	497	500	99.4%	90% - 110%	Yes	

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services

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

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

CHAIN OF CUSTODY RECORD [M3Plant-WDR-263a]

COC Number

10 Days PAGE TURNAROUND TIME

DATE 04/19/10

5

15883 y

CUMPANT	7						•	_	_	•	_	•	•	•	~	-	٠.	•		COMMENTS	
PROJECT NAME	PG&E Topock					***	***			•		-	<u>-</u>	-	-	. `	_		_		
PHONE	(530) 229-3303		(530) sx	FAX (530) 339-3303							≈ (	Rec'd	04	04/19/10	0	•••	•	S	_		
ADORESS	155 Grand Ave Sie 1000 Oakland, CA 94612	Ste 1000 612	1 1		•	- As	UN 'S	(1501)				<b>6</b>	8	8	4			VININER			
P.O. NUMBER	392896.AA.DM		TEAM	-	- 4	DVI C	(//	6000		(OE L				_			9	⁄Фэ.,			
SAMPLERS (SIGNATURE	TURE T	Jen			7 (9'812	Motals (S	SAZSAO No Condi	OFENS	- SVAVI	? WS) AUL							O 938/				
SAMPLE ID.	7	DATE	TIME	DESCRIPTION	روري	1001	50005	Sa	thut				$\neg$	$\int$			W7 <sub>N</sub>				
SC-700B-WDR-253a	1-253a	04/19/10	08C	Water	×	×	×	×	×								3		D	11:7	
					`		<b>\</b> .	, ,	Ċ							CY	8	TOTA	MUMB!	TOTAL NUMBER OF CONTAINERS	<del></del> -
χ (ξ) <b>χ</b>	*/	ij	S. C.	10	727			1 CML	7							j					1

Cub total 况

1001 7.70

72

0805

AUT XS

600

79.5

For Sample Conditions See Form Attached

Level III (

	۴					
rions	WARM	<u>П</u>				
SAMPLE CONDITIONS		YES 🗆				
₹.	□ 1000 G	CUSTODY SEALED	DUREMENTS			
	RECEIVED		SPECIAL REQUIREMENTS:	<u> </u>		
d/ 1010	OF-5,	01/6/-1	19-12	0110 01/100		
H	Date/ // Fime	Date 4	Dates 4-	Date 4/19/	Date/ Time	Oate/ Time
ECORD	7UK	177	177	171		
CHAIN OF CUSTODY SIGNATURE RECORD	Company/ Agency C	Company/ Agency	Company/ / Agency /	Company/ Agency	Company/ Agency	Company/ Agency
JSTODY SI	' Ady	0/1/00/	7470011	tuda		
HAIN OF CL	Printed /	Printed Name	Printed / /	Printed of Name	Prined Name	Printed Name
Ţ,	8	4,	Z	Buchus		
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	hedit	MI	M)(pau)	J. She	ihed)	. &
:	Signature (Refinquished)	Signature (Received	Signature (Refinquishe	Signature (Received)	Signature (Relinquished)	Signature (Received)

# Sample Integrity & Analysis Discrepancy Form

Clien	t: <u>E 2</u>	Lab #	988874
Date	Delivered:04/19/10 Time: 1:00 By: 🗆 Mail 💆 Field	Service	□Client .
1.	Was a Chain of Custody received and signed?	XiYes □	No □ <i>N/A</i>
2.	Does Customer require an acknowledgement of the COC?	□Yes □/	No 🏻 N/A
3.	Are there any special requirements or notes on the COC?	□Yes □/	No <b>IQ</b> N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □/	No <b>Ø</b> N/A
<b>5</b> .	Were all requested analyses understood and acceptable?	ØYes □/	Vo □ <i>N/A</i>
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>Y. 2 ° C</u>	ØdYes □/	Vo □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)	ØdYes □/	Vo □ <i>N/A</i>
8.	Were sample custody seals intact?  Does the number of samples received a true with COC!	□Yes □/	No <b>W</b> N/A
9.	Does the number of samples received a tree with SOC1	<b>⊠</b> Yes □/	Vo □ <i>N/A</i>
10.	Did sample labels correspond with the client is s?	ØYes □/	Vo □ <i>N/A</i>
11.	Did sample:labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	☐Yes □/	Vo Man/A
12.	Were samples pH checked? pH = See C.O.C.	Mayes □/	Vo □ <i>N/A</i>
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	MaYes □/	Vo □N/A
14.	Have Project due dates been checked and accepted?  Turn Around Time (TAT): □ RUSH	A∏Yes ⊡/	Vo □N/A
15.	Sample Matrix:   □Liquid □Drinking Water □Ground Water		aste Water
	□Sludge □Soil □Wipe □Paint □Solid ☑Othe	er_ <i>Wa</i>	ter_
16.	Comments:		····
17.	Sample Check-In completed by Truesdail Log-In/Receiving: (X	Suga	beccione



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

April 30, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-253B PROJECT, GROUNDWATER

MONITORING, TLI No.: 988969

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-253b project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on April 23, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

fo\_ Mona Nassimi

Manager, Analytical Services

K· R· P.

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010 Received: April 23, 2010

### **ANALYST LIST**

METRHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Kim Luck
EPA 200.8	Total Metals	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. No.: 392895.AA.DM Project No.: 392895.AA.DM

Established 1931



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

Date Received: April 23, 2010 Laboratory No.: 988969

# Analytical Results Summary

EPA 200.8 Manganese Total	ND
<b>SM 2540C</b> 7DS	3780
<b>EPA 120.1</b> EC	6380
SM 2130B Turbidity	ON
EPA 218.6 Chromium Hexavalent	3.22
EPA 200.8 Chromium Total	дg/L 3.54
Sample Time	16:00
Sample I.D. Sar	SC-700B-WDR-253b
<u>Lab I.O.</u>	988969

ND: Non Detected (below reporting limit)

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

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



### REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 042810A

Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010

Received: April 23, 2010

Prep/ Analyzed: April 28, 2010

Analytical Batch: 042810A

Investigation:

Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer

using EPA 200.8

### **Analytical Results Total Chromium**

DF RL Results Run Time Units Method TLI I.D. Field I.D. 5.00 1.00 3.54 16:31 EPA 200.8 988969 SC-700B-WDR-253b μg/L

QA/QC Summary

	QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
	Duplicate	988969-1	3.54	3.54	0.00%	<u>&lt;</u> 20%	Yes
_		1	r (		. 1		

QC Std	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
MŞ	988969-1	3.54	5.00	50.0	250	235	254	92.6%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	<u></u>	<1.00	Yes
MRCCS	47.4	50.0	94.8%	90% - 110%	Yes
MRCVS#1	47.3	50.0	94.6%	90% - 110%	Yes
ICS	46.8	50.0	93.6%	80% - 120%	Yes
LCS	48.1	50.0	96.2%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 FAX (714) 730-6462 www.truesdall.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.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 042810A

Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010

Received: April 23, 2010 Prep/ Analyzed: April 28, 2010

Analytical Batch: 042810A

Investigation:

Total Manganese by Inductively Coupled Argon Plasma Mass Spectrometer

using EPA 200.8

### Analytical Results Total Manganese

<u>TLI I.D.</u> Field I.D. Units Method Run Time DF RL Results 988969 SC-700B-WDR-253b μg/L **EPA 200.8** 16:31 5.00 10.0 ND

QA/QC Summary

Q	C STO I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
	Duplicate	988969	ND	Z 0	0.00%	<u>≤</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
MS	988969	3.32	5.00	50.0	250	253	253	99.9%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC WithIn Control
Blank	ND	<10.0		<10.0	Yes
MRÇÇS	51.2	50.0	102%	90% - 110%	Yes
MRCVS#1	51.4	50.0	103%	90% - 110%	Yes
ics	50.9	50.0	102%	80% - 120%	Yes
108	51.5	50.0	103%	90% - 110%	Vec

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

 $ot f_{\omega_{\infty}}$  Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



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.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988969

**Date:** April 30, 2010 **Collected:** April 23, 2010

Received: April 23, 2010

Prep/ Analyzed: April 26, 2010

Analytical Batch: 04CrH10G

Investigation:

Hexavalent Chromium by EPA 218.6

### **Analytical Results Hexavalent Chromium**

<u>TLI 1.D.</u>	<u>Field I.D.</u>	Sample Time	Run Time	<u>Unite</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
988969	SC-700B-WDR-253b	16:00	15:07	μ <b>g/L</b>	5.25	1.05	3.22

QA/QC Summary

	QC STO	) I.D. (		r	Concentra	ation	Conce	licate ntration	Percent Difference		eptance imits	QC Within Control	
	Duplic	ate	988969	<u> </u>	3.22		3	.41	5.73%	•	20%	Yes	
QC Std	Lab Number	Conc.of unspiked sample		tion :tor	Added Spike Conc.		MS ount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample		M\$% ecovery	Acceptance limits	QC Within Control
MS	988969	3.22	5.	25	1.00	5	.25	8.80	8,47		106%	90 - 110%	Yes
		QC St	d 1.D.	l	Measured Incentration		eoretical centration	Perce Recov			QC With		

QC Std 1.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200		<0,200	Yes
MRCCS	5,16	5.00	103%	90% - 110%	Yes
MRCVS#1	9.89	10.0	98.9%	95% - 105%	Yes
MRCVS#2	10.4	10.0	104%	95% - 105%	Yes
LCS	5.14	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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 mulual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010

Received: April 23, 2010 Prep/ Analyzed: April 24, 2010

Analytical Batch: 04TUC10R

investigation:

Turbidity by Method SM 2130B

### **Analytical Results Turbidity**

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

 988969
 SC-700B-WDR-253b
 16:00
 NTU
 1.00
 0.100
 ND

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988969	ND	ÓN	0.00%	≤ 20%	Yeş

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	**	<0.100	Yes
LCS	7.50	8.00	93.8%	90% - 110%	Yes
LCS	7.50	8.00	93.8%	90% - 110%	Yės

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 392895,AA,DM

P.O. No.: 392895.AA.DM

Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010 Received: April 23, 2010

Prep/ Analyzed: April 27, 2010

Analytical Batch: 04EC10K

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

 TLI.I.D.
 Field I.D.
 Units
 Method
 DF
 RL
 Results

 988969
 SC-700B-WDR-253b
 μmhos/cm
 EPA 120.1
 1.00
 2.00
 6380

**QA/QC Summary** 

QC S'	-   -	aborator Number	" I C	oncentrati	on	Duplicat Concentra			itive Percent Difference	Acceptance limits		QC Within Control
Duplic	ate	988969		6380		6390			0.16%		≤ 10%	Yes
	QC 9	itd I.D.		sured entration		heoretical incentration	Perce Recov		Acceptan Limits	Ce	QC Within	n
	ВІ	ank		ND	•	<2.00			<2.00		Yes	]
	С	cs	7	706		706	100	%	90% - 110	%	Yes	]
- 1	CV	/\$#1	9	991		1000	99.1	%	90% - 110	%	Yes	3
l	L	CS	7	706		706	100	%	90% - 110	%	Yes	
	LC	SD	7	706		706	100	%	90% - 110	%	Yes	7

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 988969

Date: April 30, 2010

Collected: April 23, 2010

Received: April 23, 2010

Prep/ Analyzed: April 27, 2010

Analytical Batch: 04TDS10H

Investigation:

Total Dissolved Solids by SM 2540C

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

TLI I.D. F

Field I.D.

<u>Units</u>

Method

<u>RL</u>

<u>Results</u>

988969

SC-700B-WDR-253b

mg/L

SM 2540C

125

3780

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988969	3780	3750	0.40%	≤ 5%	Yes

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

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

012

Mona Nassimi, Manager

Analytical Services

Rec'd 04/26/10 s18a **9889** 6 9

**CHAIN OF CUSTODY RECORD** TRUESDAL LABORATORIES, INC. 14201 Franklin Avenue, Tuetin, CA 92780-7008 (714)730-6239 FAX: (714) 730-8462

www.truesdail.com

[IM3Plant-WDR-253b]

COC Number

TURNAROUND TIME

6 10 Days PAGE DATE 04/23/10

TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS (DETSIAR) (SANZTO) × (20 pg 2005) SQL Specific Constuctance (120.1) × × Temp. × × Total 6 96886 DESCRIPTION Water FAX (530) 339-3303 TEAM 16:00 crl 04/23/10 155 Grand Ave Ste 1000 DATE: Ü Oakland, CA 94612 (530) 229-3303 392895.AA.DM PG&E Topock Ħđ SC-700B-WDR-253b SAMPLERS (SIGNATURĢ PROJECT NAME ANARYSIS P.O. NIMBER SAUPLE 1D. COMPANY ADD RESS 野の新

For Sample Conditions See Form Attached

77.0 F

400

.002

15:45

evel III ( ALERT

	CHAIN OF CUSTODY SIGNATURE R	SNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Ryan Phalps Romper	Company/ O.M.1	Date/ 4-23-10 Time /6:36	RECEIVED COOL   WARH   F
Signature (Received)	Printed R. Lau	Company! T. L. T.	Date 4-23-70 Time /6:30	CUSTODY SEALED YES \( \Box\)
Signeture (Reinquished)	Printed 1 Charles Ag Ag L	Company! 7. L. I.	Date 4-13-10	BPECIAL REQUIREMENTS:
Greened Poly	Printed 2 feel	Company! T. L. T.	Date 4-23-10	
Signature //	Printed ( /	Company! Agency	Oate/ Time	
Signature (Received)	Printed Name	Сотралу! Адепсу	Dote/ Time	





## Sample Integrity & Analysis Discrepancy Form

Client	:	Lab #	<u> 98</u>	<b>89</b> 69
Date I	Delivered:4 /23/10 Time:22:00 By: □Mail dField	Servic	;e □(	Client _
1.	Was a Chain of Custody received and signed?	d Yes	□No	□N/A_
2.	Does Customer require an acknowledgement of the COC?	□Yes	<b>□N</b> o .	EN/A
3.	Are there any special requirements or notes on the COC?	□Yes	□No	M/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes	□No	DINIA
5.	Were all requested analyses understood and acceptable?	<b>B</b> Yes	_ □ <i>N</i> o	□N/A
6.	Were samples received in a chilled condition?  Temperature (if yes)? 4°C.	Wes	□No	□N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Ves	□No	□N/A
8.	Were sample custody seals intact?	□Yes	□No	□N/A
9.	Does the number of samples received agree with COC?	<b>W</b> Yes	□No	□N/A
10.	Did sample labels correspond with the client ID's?	₫ Yes	□No	□N/A
11.	Did sample:labels indicate proper preservation? Preserved (# yes) by: ☐ Truesdall ☐ Client	<b>E</b> Yes	□No	□N/A
12.	Were samples pH checked? pH = See C - O-C	<b>W</b> Yes	□No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	<b>⊉</b> Yes	□No	□N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT):   RUSH  Std	<b>⊈</b> Yes	□No	□N/A
15.	Sample Matrix; □Liquid □Drinking Water □Ground Water □Solid □Wipe □Paint □Solid ⊕Oth		⊒Waste ∕_A	Water ER
16.	Comments:	7>		<del>/</del> -
17.	Sample Check-In completed by <b>Truesdail</b> Log-In/Receiving:	tag	al.	Davila



May 11, 2010

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

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-254 PROJECT, GROUNDWATER MONITORING, TLI No.: 989030

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-254 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical taw data have been included under Section 5.

The samples were received and delivered with the chain of custody on April 28, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-254 for Flexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

The sample date and time for the sample SC-700B-WDR-254, was reviewed, due to the discrepancy between the chain of custody and the container. The sample date and time on the container was reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

√ Mona Nassimi

Manager, Analytical Services

K. R. P. gyen

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING

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.: 392895.AA.DM

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

Laboratory No.: 989030

Date: May 11, 2010

Collected: April 28, 2010

Received: April 28, 2010

### **ANALYST LIST**

		Compared to the second of the second of
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7038

Established 1931

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

Date Received: April 28, 2010

Laboratory No.: 989030

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000 Oakland, CA 94612

Attention: Shawn Duffy

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

P.O. No.: 392895.AA.DM

# Analytical Results Summary

Hexavalent μ <b>g/L</b> 0.31	Lab I.D.	Sample I.D.	Sample Time	<b>EPA 200.8</b> Chromium	EPA 218.6 Chromium	SM 2130B Turbidity	<b>EPA</b> 120.1 EC	SM 2540C TDS	EPA 200.8 Manganese	
108:00 ND 0.31 ND 7070 4120				Total	Hexavalent	`			Total	
08:00 ND 0.31 ND 7070 4120				ug/L	ingv!L	NT.	mhos/cm	mg/L	μg/L	;
	989030	SC-700B-WDR-25	ľ	QN	0.31	Q	7070	4120	13.7	

ND: Non Detected (below reporting fimit)

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch; 043010A

Laboratory No.: 989030

**Date: May 11, 2010** 

Collected: April 28, 2010

Received: April 28, 2010

Prep/ Analyzed: April 30, 2010

Analytical Batch: 043010A

Investigation:

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

### **Analytical Results Total Chromium**

REPORT

TLI I.D. Fleid I.D. Units Method Run Time DF ŖL Results SC-700B-WDR-254 989030 μg/L EPA 200.8 15:35 5.00 1.00 ΝĎ

QA/QC Summarv

				· <i>y</i>			
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control	
Duplicate	989030	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	M8% Recovery	Acceptance limits	QC Within Control
MS	989030	0.00	5.00	50.0	250	219	250	87.6%	75-125%	Yes

QC Std I,D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00		<1.00	Yes
MRCCS	45.6	50.0	91.2%	90% - 110%	Yes
MRCV\$#1	45.4	50.0	90.8%	90% - 110%	Yes
ICS	45,1	50.0	90.2%	80% - 120%	Yes
LCS	45.7	50.0	91.4%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 043010A

Laboratory No.: 989030

Date: May 11, 2010

Collected: April 28, 2010

Received: April 28, 2010 Prep/ Analyzed: April 30, 2010

Analytical Batch: 043010A

Investigation:

Total Manganese by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8

### **Analytical Results Total Manganese**

REPORT

TLI I.D. Field I.D. Units Method Run Time RL Results DF 989030 SC-700B-WDR-254 μ**g/L** EPA 200.8 15:35 5.00 10.0 13.7

QA/QC Summarv

							_
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance ilmits	QC Within Control	
Duplicate	989030	13.7	13.6	0.73%	<u>≤</u> 20%	Yes	ĺ

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
мѕ	989030	13.7	5.00	50.0	250	258	264	97.7%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<10.0		<10.0	Yes
MRCCS	50.0	50.0	100%	90% - 110%	Yes
MRCVS#1	51.0	50.0	102%	90% - 110%	Yes
ics	50.2	50.0	100%	80% - 120%	Yes
LCS	50.0	50.0	100%	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 products.

EXCELLENCE IN INDEPENDENT TESTING



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.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 989030

Date: May 11, 2010

Collected: April 28, 2010 Received: April 28, 2010

Prep/ Analyzed: May 5, 2010

Analytical Batch: 05CrH10A

Acceptance

Investigation:

Hexavalent Chromium by EPA 218.6

### **Analytical Results Hexavalent Chromium**

<u>TLI I.D.</u>	<u>Field I.D.</u>	Sample Time	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
989030	SC-700B-WDR-254	08:00	09:00	μ <b>g/L</b>	1.05	0.20	0.31

QA/QC Summary

Duplicate

	Duplic			umber 9100-2	B38	ation		entration 198	Percent Difference 6.91%	 imits 20%	Control	
QC Std	Lab Number	Conc unspi sam	iked	Dilution Factor	Added Spike Conc.		//S ount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample	MS% ecovery	Acceptance limits	QC Within Control
MS	989030	0.3	11	1.06	1.00	1.	.06	1.38	1.37	 101%	90 - 110%	Yes
				1	Manager	76.		D		 00.000		

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200		<0.200	Yes
MRCCS	4.94	5.00	98.8%	90% - 110%	Yes
MRCVS#1	9.63	10.0	96.3%	95% - 105%	Yes
MRCVS#2	9.55	10.0	95.5%	95% - 105%	Yes
MRCVS#3	9.62	10.0	96.2%	95% - 105%	Yes
MRCV\$#4	9.76	10.0	97.6%	95% - 105%	Yes
LCS	5,30	5.00	106%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895,AA.DM Laboratory No.: 989030

Date: May 11, 2010

Collected: April 28, 2010

Received: April 28, 2010

Prep/ Analyzed: April 29, 2010

Analytical Batch: 04TUC10U

investigation:

Turbidity by Method SM 2130B

### Analytical Results Turbidity

TLI I.D. Field I.D. Sample Time <u>DF</u> <u>Units</u> <u>RL</u> Results 989030 SC-700B-WDR-254 08:00 NTU 1.00 0.100 ND

QA/QC Summary

QC STD I	.D.	Laborato Number	- 1	Concentrat	lon	Dupli Concer		Relative Percent Difference	Ac	ceptance limits	QC Within Control Yes
Duplicate		989030		ND		N	D	0.00%		≤ 20%	Yes
		0.0441.0		Measured	The	oretical	Percer	it Acce	ptance	QC Within	]

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100		<0.100	Yes
LCS	8.03	8.00	100%	90% - 110%	Yes
LCS	7.90	8.00	98.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

 $f_{e,r}$  Mona Nassimi, Manager

Analytical Services

### Truesdail Laboratories, Inc.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

QC STD I

Laboratory

LÇSD

705

Project No.: 392895.AA,DM P.O. No.: 392895,AA,DM Laboratory No.: 989030

Date: May 11, 2010

www.truesdail.com

Collected: April 28, 2010 Received: April 28, 2010

Prep/ Analyzed: April 29, 2010

Analytical Batch: 04EC10L

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

TLI I.D. Field I.D. <u>Units</u> <u>Me</u>thod DF RL Results 989030 SC-700B-WDR-254 µmhos/cm EPA 120.1 1.00 2.00 7070

> QA/QC Summary Duplicate

I.D.		Number	r   00		ion	Concentra	tion		Difference	'	limits	Control
Duplic	ate	989030		7070		7090			0.28%		<u>&lt;</u> 10%	Yes
	QC	\$td I.D.	Meas Concen			heoretical incentration	Perce Recov		Accepta: Limits		QC Within Control	
		Blank	N	5		<2.00			<2.00	l	Yes	]
		CCS	70	5		706	100	%	90% - 11	0%	Yes	
	ĭ	CVS#1	99	3		1000	99.3	%	90% - 11	0%	Yes	]
		LCS	70	5		706	100	%	90% - 11	0%	Yes	

100%

706

Respectfully submitted.

Relative Percent | Acceptance | QC Within

TRUESDAIL LABORATORIES, INC.

Yes

😓 Mona Nassimi, Manager

Analytical Services

90% - 110%

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM Laboratory No.: 989030

Date: May 11, 2010

Collected: April 28, 2010

Received: April 28, 2010

Prep/ Analyzed: May 4, 2010 Analytical Batch: 05TDS10A

investigation:

Total Dissolved Solids by SM 2540C

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>

Fleid I.D.

Units

<u>Method</u>

<u>RL</u>

Results

989030

SC-700B-WDR-254

mg/L

SM 2540C

250

4120

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	989030	4120	4100	0.24%	≤ 5%	Yes

QC Std 1.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0		<25.0	Yes
LCS	474	500	94.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

Analytical Services

every.truesdail.com

 $\Xi$ 

COMPANY

PROJECT NAME

TRUESDAIL LABORATORIES, INC. \$4201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-8462

**CHAIN OF CUSTODY RECORD** 

080686 [IM3Plant-WDR-264]

COC Number

TURNAROUND TIME DATE DAZB/10

10 Days PAGE 1

ÓΕ

COMMENTS NUMBER OF CONTAINERS 989030 04/28/10 Rec'd (OE ISME) WHOMAIN × Dos (SMS) sal **DESCRIPTION** Water FAX (530) 339-3303 1 14:56 04/28/10 155 Grand Ave Ste 1000 DATE: Oakland, CA 94612 392895-4X.DM (530) 229-3303 PG&E Topock

174444515 TIME-8:06

SC-7009-WDR-254

SANPLE LD.

SAMPLERS (S/ONATURE

P.O. NUMBER

ADDRESS

꿆

PH 7.9 EC 7.35 Crb :001

500-

evel III QC

For Sample Conditions See Form Attached

TOTAL NUMBER OF CONTAINERS

M

CHAIN O	CHAIN OF CUSTODY SIGNATU	NATURE RECORD	,	SAMPLE CONDITIONS
Signature Printed (Reinquished)	Compara Phylos Agency	Company/ Agency O.M.T	Date: 4-28-10 Time: 14:54	RECEINED COOL   WARN   F
Signature Signature Printed (Received) 15 on 1,200 Dayog Name B. DAYAG	B. DAYAG	7	Date: 4-28-10 Time /500	CUSTODY SEALED YES CONTINUE CO
Signature Printed		Company	Date 4-28.10	
med) Bonyació	Dayaginame B. DAYAG	Agency 74/	Time 2015	SPECIAL REQUIREMENTS:
Signature / M. / Printed	1 0	Company/ 📜 / 🧷	Date 4/12/10	
(Received) N . O M. W. W. W. W. M.	Luga	Agency ' -	Time	
Signature Printed		Company/	Dated Activity	
(Relinquished)		Apency	Time	
Signature		Companyi	Date	
(Received)		Agency	Time	

# Sample Integrity & Analysis Discrepancy Form

Clien	t: <u>E 2</u>	Lab#	98	90
Date	Delivered:04/28/10 Time: <u>20:</u> 75 By: □Mail ØField	l Service		Client
1.	Was a Chain of Custody received and signed?	<b>丸</b> Yes(	۱No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes [	□No	<b>M</b> N/A
Э.	Are there any special requirements or notes on the COC?	□Yes (	□No	<b>M</b> N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes	□No	<b>⊠</b> N/A
5.	Were all requested analyses understood and acceptable?	<b>⊠</b> Yes 0	□No	□N/A
6.	Were samples received in a chilled condition? Temperature (if yes)?3.8°C	<b>Ø</b> LYes [	⊒No	□N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbtes, etc.)?	<b>≴</b> ryes 0	□No	□ <i>N/A</i>
3.	Were sample custody seals intact?	Yes C	□No	<b>Ø</b> N/A
₽.	Does the number of samples received agree with	Yes C	□No	□N/A
10.	Did sample labels correspond with the client ID's?	β <b>Q</b> Yes [	□No	□N/A
11.	Did sample:labels indicate proper preservation? Preserved (if yes) by: □ <b>Truesdail</b> □Client	□Yes [	□No	<b>M</b> N/A
2.	Were samples pH checked? pH = <u>fel e</u> o, e.	K⊉Yes □	□No	□ <i>N/A</i>
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Ø(Yes [	□Nọ	□ <i>N/A</i>
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ <b>RUSH</b> ★ Std	A(Yes □	□No	□ <i>N/A</i>
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa □Sludge □Soil □Wipe □Paint □Solid MOth	ter 🗖 ner <u>WW</u>		Water
16.	Comments:			
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	· Sha	ali	nic

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

May 26, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-255 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 989100

Truesdail Laboratorics, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-255 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on May 4, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-255 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

f - Mona Nassimi

Manager, Analytical Services

K. R. P. Son

K.R.P. Iver

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

14201 FRANKLIN AVENUE

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989100

Date: May 26, 2010 Collected: May 4, 2010 Received: May 4, 2010

### **ANALYST LIST**

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

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

Date Received: May 4, 2010 Laboratory No.: 989100

Attention: Shawn Duffy

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

Oakland, CA 94612

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

P.O. No.: 392895.AA.DM

# Analytical Results Summary

O Sample 10	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	귙
			Lite	02177	0.46	٠	7240	mposicm	2 00
989100-001	SC-700B-WDR-255	E120.1	NON	0/4/10	3	ָ נ	0 4 7		
989100-001	SC-700B-WDR-255	E200.7	NON	5/4/10	9:15	BORON	1000	ng/L	3 G
989100.001	SC-700B-WDR-255	E200.7	NONE	5/4/10	9:15	iron	Ş	ng/L	20.0
080100-001	SC-700B-WDR-255	E200.8	NONE	5/4/10	9:15	Aluminum	2	ng/L	50.0
989100-001	SC-700B-WDR-255	E200.8	NONE	5/4/10	9:15	Antimony	2	ug/L	10.0
989100-001	SC-700B-WDR-255	E200.8	NONE	5/4/10	9:15	Arsenic	2	ug/L	1.00
989100-001	SC-700B-WDR-255	E200.8	NONE	5/4/10	9:15	Barium	S	ng/L	10.0
989100-001	SC-700B-WDR-255	E200.8	NONE	5/4/10	9.15	Chromium	1.05	ng/L	1.00
989 100-001	SC-700B-WDR-255	E200.8	NON	5/4/10	9:15	Copper	2	ng/L	5.00
989100-001	SC-700B-WDR-255	F200.8	NONE	5/4/10	9:15	Lead	2	ug/L	10.0
080100-001	SC-700B-WDR-255	F200.8	NONE	5/4/10	9:15	Manganese	S	ng/L	10.0
989100-001	SC-7008-WDR-255	F200.8	NONE	5/4/10	9:15	Molybdenum	18.5	J/fin	10.0
989100-001	SC-700B-WDR-255	F200 8	NONE	5/4/10	9:15	Nickel	Q	ng/L	10.0
909100-001	SC-700B-WDR-255	F200.8	NONE	5/4/10	9:15	Zinc	21.5	ng/L	10.0
909100-001	SC.700B-WDR-255	F218.6	LABELT	5/4/10	9:15	Chromium, hexavalent	0.77	ug/L	0.20
989100-001	SC-700B-WDR-255	E300	NONE	5/4/10	9:15	Fluoride	2.09	mg∕L	0.500
989100401	SC-700B-WDR-255	E300	NONE	5/4/10	9:15	Nitrate as N	2.88	J⁄6ш	1.00
989100001	SC-700B-WDR-255	E300	NONE	5/4/10	9:15	Sulfate	515	mg/L	25.0
989100-001	SC-700R-WDR-255	SM2130B	NONE	5/4/10	9:15	Turbidity	2	Ę	0.100
989100-001	SC-7008-WDR-255	SM2540C	NONE	5/4/10	9:15	Total Dissolved Solids	4140	шg/L	250
080100-001	SC.7008-WDR-255	SM4500NH3D	NONE	5/4/10	9:15	Ammonia-N	2	mg/L	0.500
989100-001	SC-700B-WDR-255	SM4500NO2B	NONE	5/4/10	9:15	Nitrite as N	Q N	mg/L	0.500



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	귐
					!	,			
989100-002	SC-100B-WDR-255	E120.1	NONE	5/4/10	9:15	о Ш	1990	Umhos/CH	2.00
989100-002	SC-100B-WDR-255	E200.7	NONE	5/4/10	9:15	BORON	1040	ng/L	200
989100-002	SC-100B-WDR-255	E200.7	NONE	5/4/10	9:15	Iron	2	ng/L	20.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Aluminum	Q	ng/L	50.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Antimony	9	ug/L	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Arsenic	3.45	ug/L	1.00
989100-002	SC-100B-WDR-255	E200.8	NON	5/4/10	9.15	Barium	25.1	uğíL	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Chromium	982	1,65n	1.00
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Copper	2	ug/L	5.00
989100-002	SC-100B-WDR-255	E200.8	NON	5/4/10	9:15	Lead	2	ug/L	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Manganese	10.4	ug/L	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Molybdenum	19.9	ng/L	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Nickel	2	ug/L	10.0
989100-002	SC-100B-WDR-255	E200.8	NONE	5/4/10	9:15	Zinc	2	ug/L	10.0
989100-002	SC-100B-WDR-255	E218.6	LABFLT	5/4/10	9:15	Chromium, hexavalent	838	ug/L	21.0
989100-002	SC-100B-WDR-255	E300	NONE	5/4/10	9:15	Fluoride	2.68	mg/L	0.500
989100-002	SC-100B-WDR-255	E300	NONE	5/4/10	9:15	Nitrate as N	3.12	mg/L	1.00
989100-002	SC-100B-WDR-255	E300	NONE	5/4/10	9:15	Sulfate	570	mg/L	50.0
989100-002	SC-100B-WDR-255	SM2130B	NONE	5/4/10	9:15	Turbidity	2	ΝĪ	0.100
989100-002	SC-100B-WDR-255	SM2540C	NONE	5/4/10	9:15	Total Dissolved Solids	4570	mg/L	250
989100-002	SC-100B-WDR-255	SM4500NH3D	NONE	5/4/10	9:15	Ammonia-N	2	mg/L	0.500
989100-002	SC-100B-WDR-255	SM4500N02B	NONE	5/4/10	9:15	Nitrite as N	2	mg/L	0.500

ND. Non Detected (below reporting fmit)

mg/L: Miligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895.AA.DM Project Number: 392895.AA.DM Laboratory No. 989100

Page 1 of 15

Printed 5/26/10

### Samples Received on 5/4/10 9:00:00 PM

Field ID				Lab ID	Colle	ected	Mat	ſix
SC-700B-WDR-255 SC-100B-WDR-255	***	40		989100-001 989100-002		2010 09:15 2010 09:15	Wat Wat	
Anions By I.C EPA	300.0		Betch	05AN10C				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989100-001 Fluoride	· · · · · ·	mg/L	05/05	5/2010 11:13	5.00		0.50	2.09
Nitrate as Nit	rogen	mg/L	05/05	5/2010 11:13	5.00		1.00	2.88
Sulfate		mg/L		5/2010 11:59	50.0		25.0	515.
989100-002 Fluoride		mg/L		5/2010 11:25	5.00		0.50	2.68
Nitrate as Nit	rogen	rng/L		5/2010 11:25	5.00		1.00	3.12
Sulfate	•	mg/L		5/2010 12:10	100		50.0	570.
Method Blank			"-				00.0	0.0.
Parameter	Unit	DF	Result					
Fluoride	mg/L	1.00	ND					
Nitrate as Nitrogen	mg/L	1.00	ND					
Sulfate	mg/L	1.00	ND					
Duplicate							Lab ID =	989100-002
Parameter	Unit	DF	Result	Expected	RF	PD	Accepta	ince Range
Fluoride	mg/L	5.00	2.67	2.68		0.374	0 - 20	
Nitrate as Nitrogen	mg/L	5.00	3.08	3.12		1.29	0 - 20	
Sulfate	mg/L	100	569.	570.	(	0.176	0 - 20	
Lab Control Sampl	е							
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Fluoride	mg/L	1.00	4.12	4.00		103.	90 - 110	_
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	1	100.	90 - 110	
Sulfate	mg/L	1.00	20.1	20.0	1	100	90 - 110	

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



Client: E2 Consulting Eng	gineers, Ind	c.	Project Name: Project Number:	PG&E Topock Project 392895.AA.DM		Page 2 of 15 Printed 5/26/10
Matrix Spike						Lab ID = 989100-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.5	22.7(20.0)	99.1	75 - 85
Nitrate as Nitrogen	mg/L	5.00	23.1	23.1(20.0)	99.9	75 - 85
Sulfate	mg/L	100	1020	1070(500)	90.0	75 - 85
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.12	4.00	103.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100.	90 - 110
Sulfate	mg/L	1.00	20,1	20.0	100	90 - 110
MRCVS - Primary				·		
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.12	3.00	104.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.00	3.00	100.	90 - 110
Sulfate	mg/L	1.00	<b>15</b> .1	15.0	101	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	2.98	3.00	99.3	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	2.99	3.00	99.7	90 - 110

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895.AA.DM

Page 3 of 15 Printed 5/26/10

Nitrite SM 4500-NO2 B Batch 05NO210B Parameter Unit Analyzed DF MDL RL Result 989100-001 Nitrite as Nitrogen mg/L 05/05/2010 16:50 1.00 0.500 ND 989100-002 Nitrite as Nitrogen mg/L 05/05/2010 16:54 1.00 0.500 ND Method Blank Parameter. Unit DF Result Nitrite as Nitrogen mg/L 1.00 ND **Duplicate** Lab ID = 989100-001 Parameter Unit ΦF Result Expected **RPD** Acceptance Range Nitrite as Nitrogen mg/L 1.00 ND 0 0 0 - 20Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Nitrite as Nitrogen mg/L 1:00 0.0471 0.0450 105 90 - 110 Lab Control Sample Duplicate Parameter Unit DF Result Expected Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0472 0.0450 105 90 - 110 Matrix Spike Lab ID = 989100-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0188 0.0200(0.0200 94.0 75 - 125 Matrix Spike Duplicate Lab ID = 989100-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0194 0.0200(0.0200 97.0 75 - 125MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0266 0.0270 98.5 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0202 0.0200 101. 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Nitrite as Nitrogen mg/L 1.00 0.0204 0.0200 102. 90 - 110

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 4 of 15

Project Number: 392895.AA.DM Printed 5/26/10

Specific Conductivity - El	PA 120.1		Batch	05EC10C			5/6/10	
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989100-001 Specific Conducti	vity	umhos	cm 05/06	5/2010	1.00		2.00	7210
989100-002 Specific Conducti	vity	<u>um</u> hos/	cm 05/06	6 <b>/201</b> 0	1.00		2.00	7990
Method Blank		"	-	<u> </u>				
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				lah ID =	989101-002
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 8700	Expected 8680	RP C	PD 0.230		ince Range
Parameter Specific Conductivity Lab Control Sample Du	Unit umhos	DF 1.00	Result 707.	Expected 706.		covery 00	Accepts 90 - 110	ance Range )
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 702.	Expected 706.		covery 9.4	Accepta 90 - 110	ance Range )
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 702.	Expected 706.		covery 9,4	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 980.	Expected 1000		covery 8.0	Accepta 90 - 110	ince Range

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories. 011



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA,DM

Page 5 of 15

Printed 5/26/10

<u>^</u>	17 L	A48 8
1.nrome	VI DV EUG	71X K
THE OTHER	VI by EPA	Z 10.0

D-4-L	05CrH10A

				,				
Parameter		Unit	Ana	ilyzed	DF	MDL	ŔL	Result
989100-001 Chromium, Hexa	avalent	ug/L	05/05	5/2010 09:10	1.08	5	0.20	0.77
989100-002 Chromium, Hexa	valent	ug/L	05/05	5/2010 09:20	105		21.0	838.
Method Blank		•				. "		
Parameter :	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID =	989100-002
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Chromium, Hexavalent	ug/L	105	898.	838.		6.91	0 - 20	•
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00		106.	90 - 110	_
Matrix Spike							Lab ID =	989030-001
Parameter .	Unit	DF	Result	Expected/Ad	lded	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.06	1.38	1.37(1.06)		101	90 - 110	_
Matrix Spike							Lab ID =	989100-002
Parameter	Unit	DF	Result	Expected/Ad	lded	Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	105	1930	1890(1050)	)	104.	90 - 110	)
Matrix Spike							Lab ID =	989100-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	1.06	1.88	1.83(1.06)		105	90 - 110	)
Matrix Spike							Leb ID =	989102-005
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	5.25	6.33	6.11(5.25)		104	90 - 110	)
Matrix Spike							Lab ID =	989102-006
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	10.5	181.	176(105)		104	90 - 110	)
Matrix Spike							Lab ID =	989102-003
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	5. <b>25</b>	5.03	5.25(5.25)		95.8	90 - 110	)
Matrix Spike							Lab ID =	989101-001
Parameter Channing Manager	Unit	DF	Result	Expected/Ad	ded	Recovery	-	nce Range
Chromium, Hexavalent	ug/L	1.09	28.5	28.0(15.0)		103	90 - 110	)

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



Client: E2 Consulting Engineers, Inc.			Project Name: PG&E Topock Project Project Number: 392895.AA.DM			Page 6 of 15 Printed 5/26/10	
Matrix Spike						Lab ID = 989102-001	
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.00	Expected/Added 5.25(5.25)	Recovery 95.2	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.94	Expected 5.00	Recovery 98.8	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.62	Expected 10.0	Recovery 96.2	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.76	Expected 10.0	Recovery 97.6	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.63	Expected 10.0	Recovery 96.3	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.55	Expected 10.0	Recovery 95.5	Acceptance Range 95 - 105	

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

O13



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895.AA,DM

Page 7 of 15

Printed 5/26/10

Metals by EPA 200.7, Tot	al		Batch	051210A-Th			
Parameter		Unit	Unit Analyzed		F MDL	RL	Result
989100-001 Boron		ug/L	05/12/2010 10:15		00	200.	1000
Iron		ug/L	05/12/2010 10:15		00	20.0	ND
989100-002 Boron		ug/L	05/12/2010 10:57		00	200.	1040
Iron		ug/L	05/12/2010 10:57		00	20.0	ND
Method Blank	_						
Parameter	Unit	DF	Result				
Boron	ug/L	1.00	ND				
Iron	ug/L	1.00	ND				
Duplicate	_					Lab ID ≂ 98	9100-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance	e Range
Boron	ug/L	1.00	1020	1000	1.98	0 - 20	~ ronge
Iron	ug/L	1.00	ND	0	0	0 - 20	
Calibration Blank							
Parameter ·	Unit	DF	Result				
Boron	ug/L	1:00	ND				
Iron	ug/L	1.00	ND				
Calibration Blank							
Parameter	Unit	DF	Result	•			
Boron	ug/L	1.00	ND				
Iron	ug/L	1.00	ND				
Lab Control Sample							
Parameter .	Unit	DF	Result	Expected	Recovery	Acceptano	e Range
Boron	ug/L	1.00	5430	5000	109	90 - 110	o manage
Iron	ug/L	1.00	4980	5000	99.6	90 - 110	
Matrix Spike						Lab ID = 98	9100-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptano	e Range
Boron	ug/L	1.00	3040	3000(2000)	102.	75 - 125	g
Iron ·	ug/L	1.00	1970	2000(2000)	98.5	75 - 125	
Matrix Spike Duplicate						Lab ID = 98	9100-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptano	e Range
Boron	ug/L	1.00	3070	3000(2000)	104	75 - 125	
Iron	ug/L	1.00	1980	2000(2000)	99.0	75 - 125	

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



Client: E2 Consulting En	gineers, in		roject Name: roject Number	PG&E Topock :: 392895.AA.DM	-	Page 8 of 15 Printed 5/26/10
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5250	5000	105.	95 - 105
Iron	ug/L	1.00	4820	5000	96.4	95 - 105
MRCVS - Primary						•
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5300	5000	106.	90 - 110
Iron	ug/L	1,00	5290	5000	106	90 - 110
MRCVS - Primary						·
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	4880	5000	97.6	90 - 110
Iron	ug/L	1.00	4840	5000	96.8	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 9 of 15

Printed 5/26/10

Metals by	EPA 200.8, Total		Batch 051110A		•	•	
Parameter		Unit	Analyzed	DF	MDL	ŘL	Result
989100-001	Aluminum	ug/L	05/11/2010 14:29	5.00		50.0	ND
	Antimony	ug/L	05/11/2010 14:29	5.00		10.0	ND
	Arsenic	ug/L	05/11/2010 14:29	5.00		1.00	ND
	Barium	ug/L	05/11/2010 14:29	5.00		10.0	ND
	Chromium	ug/L	05/11/2010 14:29	5.00		1.00	1.05
	Lead	ug/L	05/11/2010 14:29	5.00		10.0	ND
	Manganese	ug/L	05/11/2010 14:29	5.00		10.0	ND
	Molybdenum	ug/L	05/11/2010 14:29	5.00		10.0	18.5
	Nickel	ug/L	05/11/2010 14:29	5.00		10.0	ND
	Zinc	ug/L	05/11/2010 14:29	5.00		10.0	21.5
989100-002	Aluminum	ug/L	05/11/2010 14:36	5.00		50.0	ND
	Antimony	ug/L	05/11/2010 14:36	5.00		10.0	ND
	Arsenic	ug/L	05/11/2010 14:36	5.00		1.00	3.45
	Barium	ug/L	05/11/2010 14:36	5.00		10.0	25.1
	Chromium	ug/L	05/11/2010 14:36	5.00		1.00	995.
	Lead	ug/L	05/11/2010 14:36	5.00		10.0	ND
	Manganese	ug/L	05/11/2010 14:36	5.00		10.0	10.4
	Molybdenum	ug/L	05/11/2010 14:36	5.00		10.0	19.9
	Nickel	ug/L	05/11/2010 14:36	5.00		10,0	ND
	Zinc	ug/L	05/11/2010 14:36	5.00		10.0	ND

N 4	ath	 DI.		_
NA.		 н:	301	r

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



Client: E2 Consulting Eng	jineers, Ind	≎.	Project Name; Project Number	PG&E Topock : 392895.AA.Di	-	Page 10 of 15 Printed 5/26/10
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.6	50.0	101	90 - 110
Antimony	ug/L	1.00	47.5	50.0	95.0	90 - 110
Arsenic	ug/L	1.00	48.0	50.0	96.0	90 - 110
Barium	ug/L	1.00	47.7	50.0	95,4	90 - 110
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110
Lead	ug/L	1.00	47.9	50.0	95.8	90 - 110
Manganese	ug/L	1.00	50.4	50.0	101	90 - 110
Molybdenum	ug/L	1.00	49.6	50.0	99.2	90 - 110
Nickel	ug/L	1.00	47.9	50.0	95.8	90 - 110
Zinc	ug/L	1.00	46.4	50.0	92.8	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	48.9	50.0	97.8	90 - 110
Antimony	ug/L	1.00	48.7	50.0	97.4	90 - 110
Arsenic	ug/L	1.00	47.9	50.0	95.8	90 - 110
Barium	ug/L	1.00	48.1	50.0	96.2	90 - 110
Chromium	ug/L	1.00	47.3	50.0	94.6	90 - 110
Lead	ug/L	1.00	47.8	50.0	95.6	90 - 110
Manganese	ug/L	1.00	50.4	50.0	101	90 - 110
Molybdenum	ug/L	1.00	52.4	50.0	105	90 - 110
Nickel	ug/L	1.00	47,4	50.0	94.8	90 - 110
Zinc	u <b>g</b> /L	1.00	45.9	50.0	91.8	90 - 110
MRCVS - Primary			•			
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.0	50.0	104.	90 - 110
Antimony	ug/L	1.00	47.7	50.0	95.4	90 - 110
Arsenic	ug/L	1.00	47.6	50.0	95.2	90 - 110
Barium	ug/L	1.00	48.2	50.0	96.4	90 - 110
Chromium	ug/L	1.00	46.6	50.0	93.2	90 - 110
Lead	ug/L	1.00	48.4	50.0	96.8	90 - 110
Manganese	ug/L	1.00	50.8	50.0	102	90 - 110
Molybdenum	ug/L	1.00	49.4	50.0	98.8	90 - 110
Nickel	ug/L	1.00	46.3	50.0	92.6	90 - 110
Zinc	ug/L	1.00	45.8	50.0	91.6	90 - 110

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

-017



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 11 of 15 Printed 5/26/10

Project Number: 392895,AA,DM

MRCV\$ - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.8	50.0	102	90 - 110
Antimony	ug/L	1.00	46.5	50.0	93.0	90 - 110
Arsenic	ug/L	1.00	47.9	50.0	95.8	90 - 110
Barium	ug/L	1.00	47.5	50.0	95.0	90 - 110
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Lead	ug/L	1.00	48.0	50.0	96.0	90 - 110
Manganese	ug/L	1.00	51.0	50.0	102.	90 - 110
Molybdenum	ug/L	1.00	47.7	50.0	95.4	90 - 110
Nickel	ug/L	1.00	47.6	50.0	95.2	90 - 110
Zinc	ug/L	1.00	46.3	50.0	92.6	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 12 of 15

Project Number: 392895.AA.DM

Printed 5/26/10

Metals by EPA 200.8, Total	al		Batch	052110A .			
Parameter		Unit	Ana	lyzed [	OF MDL	RL	Result
989100-001 Copper		ug/L	05/21	/2010 12:18 5	.00	5.00	ND
989100-002 Copper	_	ug/L	05/21	/2010 12:25 5	.00	5.00	ND
Method Blank			_				
Parameter	Unit	DF	Result				
Copper	u <b>g</b> /L	1.00	ND				
Duplicate						Lab ID =	989399-022
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Copper	ug/L	5.00	ND	o ·	0	0 - 20	go
Lab Control Sample							
Parameter	Unit	ÐΕ	Result	Expected	Recovery	Accepta	nce Range
Copper	ug/L	1.00	45.0	50.0	90.0	90 - 110	_
Matrix Spike						Lab ID =	989399-022
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	nce Range
Copper	ug/L	5.00	212.	250.(250)	84.8 <sup>*</sup>	75 - 125	-
Matrix Spike Duplicate						Lab ID =	989399-022
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	nce Range
Copper	ug/L	5.00	210.	250.(250)	84.0	75 - 125	-
MRCCS - Secondary							
Parameter	Unit	ĎF	Result	Expected	Recovery	Accepta	nce Range
Соррег	ug/L	1.00	46.3	50.0	92.6	90 - 110	-
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Copper	ug/L	1.00	46.4	50.0	92.8	90 - 110	•
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Copper	ug/L	1.00	46.6	50.0	93.2	90 - 110	~
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepte	nce Range
Copper	ug/L	1.00	45.6	50.0	91.2	90 - 110	_

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories. 019



Client: E2 Consulting Engineers, Inc.

Project Name:

**PG&E Topock Project** 

Project Number: 392895.AA.DM

Printed 5/26/10

Page 13 of 15

Total Dissolved Solids	by S <b>M</b> 254	0 C	Batch	05TDS10B			5/6/10	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989100-001 Total Dissolved	Solids	mg/L	05/06	/2010	100		250.	4140
989100-002 Total Dissolved	Solids	mg/L	05/06	/2010	100		250.	4570
Method Blank				,				
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	10.0	ND					
Duplicate							Lab ID =	989100-001
Parameter	Unit	DF	Result	Expected	RÉ	ď	Accepta	ince Range
Total Dissolved Solids	mg/L	100	4140	4140	C	)	0-5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ince Range
Total Dissolved Solids	mg/L	10.0	494.	500.		8.8	90 - 110	_
Lab Control Sample I	Duplicate							
Parameter	Ųnit	ΦF	Result	Expected	Re	covery	Accepta	nce Range
Total Dissolved Solids	mg/L	10.0	<b>492</b> .	500.		8.4	90 - 110	_



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895.AA.DM

Page 14 of 15

Printed 5/26/10

Ammonia Nitrogen by SM	14500-NH	13D	Batch	05NH3-E10A		5/10/10	
Parameter		Unit	Ana	lyzed [	OF MDL	ŘL	Result
989100-001 Ammonia as N		mg/L	05/10	)/2010 1	.00	0.500	ND
989100-002 Ammonia as N		mg/L	05/10	)/2010 1	.00	0.500	ND
Method Blank							
Parameter	Unit	DF	Result				
Ammonia as N	mg/L	1.00	ND				
Duplicate						Lab ID = :	989100-002
Parameter	Unit	DF	Result	Expected	ŘPD	Accenta	nce Range
Ammonia as N	mg/L	1.00	ND	o`	0	0 - 20	
Lab Control Sample				•			
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	10.4	10.0	104.	90 - 110	•
Matrix Spike						Lab ID = s	989100-002
Parameter _	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.08	6.00(6.00)	101	90 - 110	
Matrix Spike Duplicate						Lab ID = 9	989100-002
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	5.92	6.00(6.00)	98.7	90 - 110	•
MRCCS - Secondary							
Parameter .	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1,00	5.90	6.00	98.3	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.01	6.00	100	90 - 110	

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895,AA.DM

Printed 5/26/10

Page 15 of 15

Turbidity by SM 2130 B			Batch	05TUC10D			5/5/10	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989100-001 Turbidity	,	NTU	05/05	5/2010	1.00		0.100	ND
989100-002 Turbidity		NTU	05/05	5/2010	1.00		0.100	ND
Method Blank						"		
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID = :	989095-003
Parameter	Unit	DF	Result	Expected	RP	D	Accenta	nce Range
Turbidity	NTU	1.00	ND	o o	0	_	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Red	covery	Accepta	nce Range
Turbidity	NTU	1,00	7.97	8.00		9.6	90 - 110	_
Lab Control Sample Do	uplicate							
Parameter	Unit	DF	Result	Expected	Red	covery	Accepta	nce Range
Turbidity	NTU	1.00	7.90	8.00		8.8	90 - 110	

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories. 022

TRUESDAL LABORATORIES, INC. 14201 Franklin Avenue, Tuetin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdell.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-255] **929 | 100** 

COC Number

PAGE DATE 05/04/10

10 Days TURNAROUND TIME

ö

COMPANY	CH2M HILL Æ2	2						•		•		~~		•		-			- mnco	CONNECTO
PROJECT NAME	PG&E Topock IM3	IM3						100				Ato		<b>≯</b> 0.					}	
PHONE	530-229-3303	303	FAX 530	530-339-3303	83	<u></u>		500.8	_		98 Isi		· • • • • • • • • • • • • • • • • • • •			-				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Sie 1000 4612					1 (2002).	1000			(EHA	(8)	N 'EON' :		- N		PANIATI	S'MEN.		
P.O. NUMBER	392895.AA.DM	_/	1				9e7 (o			_	005	3(0.0	(0.00	3 (500)		_	Voo j			
SAMPLERS (SIGNATURE	ATURE					(218	New &	`* <i>O</i> ?	7 6 6		BIUC	OE) s	OLES,	/elek		_	EG O			
SAMPLE 10.		DATE	TIME	DESCI	DESCRIPTION	CUN	S OPLL	/ 1	/~ ~	/e2~~~	ANINA	noinh	2001	V leioī	_		SWOW			
SC-700B-WDR-255	NDR-255	05/04/10	818			×	×	×	×	×		×				4	,		=HQ	43
SC-100B-WDR-255	WDR-255	05/04/10	516			×	×	×	×	×	,	×				h			= ned	7
																dash				1
									7					For	_	Sam	PIP.	Cor	Aitha	35
										ĮV	/ <u>Ľ</u>		$\dashv$		_			777	Dark Ba	7
		-							<u>†</u>	#		$\prod j$	П		مطد		4111	Alk	CIRC	Į,
	1651ED	Н	$ \mathcal{E} $	Colo	TOPL	TEM		-I	<b>37</b>	Z C	$\ln$	15	#	<b>]</b>						,
3C.100B	086	176	25%	100'	1 800°	1000				?/		3	$\Omega$			a		AL NUMBE	TOTAL NUMBER OF CONTAINERS	AUNERS
£-100B	945	2.4	18.26 1.17	111		bu							]							
	Ş	CHAIN OF CUSTODY SIGNAT	CUSTO	DY SIG	NATUŘ	'URE RÉCORD	CORD									SAMP	SAMPLE CONDITIONS	SNOIL		
Signature (Relinquished)	The second second	Printed Name	13	12/2	Companyi	n	1		Date/ Time	12/2	01-1		S.	RECEIVED	1000	<u>-</u>	**	WARM		'n
Signature (Received)	4/2	Printed Name	196/14	79	Company/ Agency	1	1		Oate/ Time	5-6	67.	9	CUSI	CUSTODY SEALED	EALED	¥	YES	2	0	
Signature // (Relinquished) //	37 M	Printed Name	118	9	Company/ Agency	77			Date/ Time	125	2.	0 O:	SPECIAL	REQUIR	SPECIAL REQUIREMENTS:					ĺ
Signature (Received) C.	Maly Wing Name	Printed	Luda		Company/ Agency	7.1	7.		DateNA) Time	MAY 1	14 23 11	⊒ ;00;	The	The metals ind Mo Ni Fe Zn	include 7n	C, A	, Sb, As	, Ba, B	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, No Ni Fe Zn	ď.
Signature (Relinquished)		Printed Name			Company/ Agency				Date/ Time						i					
Signature (Received)		Printed Name			Company/ Agency				Date.											

Signature (Received) A. (Relinquished) Signature Signature (Received)

Ņ

7

## Sample Integrity & Analysis Discrepancy Form

Clien	t: <u>E 2</u>	<sub>Lab #</sub> 98	910
Date	Delivered. <u>05 / 04</u> /10 Time; <u>.ℓ/∶.00</u> By: □Mail .ДField	d Service 🗆	Client .
1.	Was a Chain of Custody received and signed?	Ma(Yes □No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	<b>M</b> N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	<b>⊠</b> N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	□ N/A
<b>5</b> .	Were all requested analyses understood and acceptable?	AlYes □No	□N/A
6,	Were samples received in a chitled condition? Temperature (if yes)? Y°C	<b>t(</b> Yes □No	□ <i>N/A</i>
<b>7.</b> .	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	KQYes □No	□N/A
8.	Were sample custody seals intact? Level III OC	□Yes □No	MN/A
9.	Does the number of samples received agree with COC?	<b>¤</b> (Yes □No	□N/A
10.	Did sample labels correspond with the client ID's?	<b>¢</b> Yes □No	□N/A
11.	Did sample:labels indicate proper preservation? Preserved (if yes) by: □ <b>Truesdail</b> □ <b>X</b> Client	ApíYes □No	□N/A
12.	Were samples pH checked? pH = <u>\$\infty\$Ul.O.C.</u>	ÆjYes □No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	<b>\$</b> PYes □No	□N/A
14.	Have Project due dates been checked and accepted?  Turn Around Time (TAT): □ <b>RUSH</b>	<b>⊠</b> Yes □No	□N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa □Sludge □Soil □Wipe □Paint □Solid 🗘 Ott		
16.	Comments:		
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Steal 11.	was



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

May 28, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-256 PROJECT, GROUNDWATER

MONITORING, TLI No.: 989270

Truesdail Laboratorics, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-256 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on May 12, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run and the associated matrix spike for sample SC-700B-WDR-256 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

L. Mona Nassimi

Manager, Analytical Services

K. R. P. gyc

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989270

Date: May 28, 2010

Collected: May 12, 2010 Received: May 12, 2010

### **ANALYST LIST**

METHOD	PARAMETER	ANALYS7
EPA 120.1	Specific Conductivity	lordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Hope Trinidad
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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.: 989270

Date Received: May 12, 2010

Attention: Shawn Duffy

Oakland, CA 94612

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

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

# Analytical Results Summary

Lab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	凇
989270-001	SC-700B-WDR-2: E120.1	E120.1	NONE	5/12/10	8:00	S	7560	nmhos/cm	2.00
989270-001	SC-700B-WDR-2: E200.8	2: E200.8	NONE	5/12/10	8:00	Chromium	9	ng/L	1.0
989270-001	SC-700B-WDR-2: E200.8	S E200.8	NONE	5/12/10	8:00	Manganese	9	ng/	10.0
989270-001	SC-700B-WDR-2:E218.6	SE218.6	LABELT	5/12/10	8:00	Chromium, hexavalent	0.68	ug/L	0.20
989270-001	SC-700B-WDR-2: SM2130B	SM2130B	NON	5/12/10	8:00	Turbidity	2	NTU	0.100
989270-001	SC-700B-WDR-2: SM2540C	SM2540C	NONE	5/12/10	8:00	Total Dissolved Solids	4380	mg/L	250

NO: Non Detected (below reporting limit)

mg/L: Miligrams per Mer.

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

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

This report applies only to the 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 taboratories, 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.



### 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 Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895,AA,DM Project Number: 392895,AA,DM Laboratory No. 989270

Page 1 of 6

Printed 6/10/10

Samples Received on 5/12/10 10:15:00 PM

Field ID				Lab ID	Colle	ected	Mati	ix
SC-700B-WDR-256			•	989270-001	05/12/2	2010 08:00	Wat	er
Specific Conductivity - E	PA 120.1		Bato	h 05EC10J			5/21/10	
Parameter		Unit	An	alyzed	DF	MDL	RL	Result
989270-001 Specific Conducti	vity	umhos/cm	n 05/2	1/2010	1.00	0.038	2.00	7560
Method Blank	'			-				
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	989270-001
Parameter	Unit	DF	Result	Expected	RF	PD	Accepta	ince Range
Specific Conductivity	umhos	1.00	7550	7560	(	0.132	0 - 10	<b>J</b> .
Lab Control Sample								
Parameter	Unit	ΦF	Result	Expected	Re	ecovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	705.	706.	9	99.9	90 - 110	) •
Lab Control Sample Do	uplicate							
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	706.	706.	•	100.	90 - 110	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	ance Range
Specific Conductivity  MRCVS - Primary	umhos	1.00	704.	706.	•	<b>9</b> 9.7	90 - 11(	)
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	981.	1000		98.1	90 - 110	_



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 2 of 6 Printed 6/10/10

Chrome VI by EPA 218.6

Batch 05CrH10G

Thronto VI by Er A 210.0			Dato	OSCIPTOG				
Parameter		Unit	Ana	lyzed	ĎF	MDL	RL	Result
989270-001 Chromium, Hexa	valent	ug/L	05/14	1/2010 12:24 1	.05	0.019	0.20	0.68
Method Blank		<u> </u>						0.00
Parameter Chromium, Hexavalent Duplicate	Unit u <b>g</b> /L	DF 1.00	Result ND				Lab ID -	989247-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 25.2	Expected 24.6	RP 2	D :.41		ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.16	Expected 5.00		covery 03	90 - 110	ince Range ) 989270-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.83	Expected/Adde 1.74(1.06)	_	covery 08		ince Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	D <b>F</b> 1.00	Result 5.06	Expected 5.00		covery 01	Accepta 90 - 110	ince Range )
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	<b>DF</b> 1.00	Result 9.75	Expected 10.0		c <b>overy</b> 7.5	Accepta 95 - 105	ince Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0		covery 03.	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	<b>DF</b> 1.00	Result 10.1	Expected 10.0		covery 01.	Accepta 95 - 105	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG:

PG&E Topock Project

Project Number: 392895.AA,DM

Page 3 of 6 Printed 6/10/10

Metals by EPA 200.8, Total

Batch 052010A

	-		Date	1 USZUTUA				
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989270-001 Chromium		ug/L	05/20	0/2010 14:01	5.00	0.075	1,0	ND
Manganese		ug/L	05/20		5.00	0.06	10.0	ND
Method Blank								142
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID ≂	989270-001
Parameter	Unit	DF	Result	Expected	E	RPD		nce Range
Chromium	ug/L	5.00	ND	0	•	0	0 - 20	ince Range
Manganese	ug/L	5.00	ND	0		0	0 - 20	
Lab Control Sample						_	0 - 20	
Parameter	Unit	DF	Result	Expected	Ė	Recovery	Accenta	ince Range
Chromium	ug/L	1.00	45.7	50.0	·	91.4	90 - 110	~
Manganese	ug/L	1.00	50.5	50.0		101.	90 - 110	
Matrix Spike								989270-001
Parameter	Unit	DF	Result	Expected/Adde	ed B	Recovery		nce Range
Chromium	ug/L	5.00	225.	250.(250)		90.0	75 - 125	
Manganese	ug/L	5.00	245.	250.(250)		98.0	75 - 125	
Matrix Spike Duplicate				, ,				989270-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	Recovery		nce Range
Chromium	ug/L	5.00	217.	250.(250)	,,	86.8	75 - 125	
Manganese	ug/L	5.00	244.	250.(250)		97.6	75 - 125	
MRCCS - Secondary				, ,			, , , ,	
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Chromium	ug/L	1.00	45.5	50.0		91.0	90 - 110	
Manganese	ug/L	1.00	50.9	50.0		102	90 - <b>1</b> 10	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Chromium	ug/L	1,00	46.3	50.0		92.6	90 - 110	
Manganese	ug/L	1.00	52.6	50.0		105	90 - 110	
MRCVS - Primary							<del>-</del>	
Parameter	Ųnit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Chromium	ug/L	1.00	46.6	50.0		93.2	90 - 110	_
Manganese							- , i c	

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



Client: E2 Consulting Eng	jineers, Inc.		Project Name: Project Number:	PG&E Topock Pr 392895.AA.DM	roject	Page 4 of 6 Printed 6/10/10
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.3	50.0	92.6	90 - 110
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110
Interference Check Sta	andard A					00 110
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0	recovery	Acceptance Kange
Manganese	ug/L	1.00	ND	0		
Interference Check Sta	indard A					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0	( COOCIETY	Acceptance Mange
Manganese	ug/L	1.00	ND	0		
Interference Check Sta	indard AB			-		
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	44.9	50.0	89.8	80 - 120
Manganese	ug/L	1.00	51.3	50.0	103	80 - 120
Interference Check Sta	nd <b>ard</b> AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.4	80 - 120
Manganese	ug/L	1.00	52.3	50.0	105	80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 5 of 6 Printed 6/10/10

Total Dissolved Solids	by SM 264	0 C	Batc	h 05TD\$10E			5/17/10	
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989270-001 Total Dissolved	Solids	mg/L	05/1	7/2010	1.00	0.434	250.	4380
Method Blank	-							
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID ≃	989270-00
Parameter	Unit	DF	Result	Expected	RI	PD	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	4450	4380		1.59	0 - 5	oo
Duplicate							Lab ID =	989275-003
Parameter	Unit	DF	Result	Expected	RF	PD	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	599.	598.	(	0.167	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Ře	covery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	492.	500.	9	98.4	90 - 110	_
Lab Control Sample	Duplicate							
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	492.	500.		98.4	90 - 110	•
Turbidity by SM 2130 B			Batch	05TUC10J			5/13/10	****
Parameter		Unit		lyzed	DF	MDL	RL	Result
989270-001 Turbidity		NTU		3/2010	1.00	0.014	0.100	ND
Method Blank		, ,				0.014	0.100	ND.
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID = :	989270-001
Parameter	Unit	DF	Result	Expected	RP	יחי		<u>-</u>
Turbidity	NTU	1.00	ND	0	( ) (		0 - 20	nce Range
Lab Control Sample							· 20	
Parameter	Unit	DF	Result	Expected	Ře	covery	Accepto	nce Range
Turbidity	NTU	1.00	7.63	8.00		5.4	90 - 110	
Lab Control Sample [	Duplicate				•		10	
Parameter	Unit	DF	Result	Expected	Re	covery	Accepted	nce Range
Turbidity	NTU	1.00	7.73	8.00		6.6	90 - 110	_

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



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 6 of 6

Project Number: 392895.AA.DM Printed 6/10/10

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Turtin, CA 92780-7808
(714)730-4239 FAX: (714) 730-6462
(714)730-4239 FAX: (714) 730-6462
(714)730-4239 FAX: (714) 730-6462
(714)730-4239 FAX: (714) 730-6462

**CHAIN OF CUSTODY RECORD** 

0	
200	
05/12/10 <b>8927</b>	
<i>∂</i> <b>∞</b>	
Rec'd	•
	COO Missingly

COC Number

TURNAROUND TIME

10 Days

OF. PAGE 1 **DATE 05/12/10** 

COMPANY	<b>E</b> 2		)	•			_			_		•		_		_			_	
PROJECT NAME	PG&E Topock												_			•		_	ប	HAMENTS
PHONE	(530) 229-3303		FAX (530)	FAX (530) 339-3303				_				_					-	_		
ADDRESS	155 Grand Ave Ste 1000	Ste 1000	ı				Ly	<u>(1)</u>						_			B'd∃N/			
	Oakland, CA 94612	612	ı		_	Αο,	(12) (12)			-		•				_	KΊV			
P.O. NUMBER	392895.AA.DM		EAN /	-		DW. 7.00	a very	(0	(OE ).	<u></u>					_	-	(O <sub>O</sub> )			
SAMPLERS (SIGNATURE	ITURE MANAGEMENT	1/1			77 (98	Opuonos S) sierei	DISCOURT	N2S40	Z/185/ A							OAS				
BAMPLE I.D.		DATE	TIME	DESCRIPTION	(Z) 9(5)	W/AOJ	SQL		Turbidi	/	/		/	/		WON				
SC-700B-WDR-256	1-256	05/12/10	ay	Water	×	×	×	-	×							3	7	- H	C	

Level III QC ALERT !!

Nemp-77.1 pH - 6.9 1 8:06 E. 7.73 G - ,003 Jan. . 004

For Sample Condition See Form Attaches

TOTAL NUMBER OF CONTAINERS

11

CHAIN OF CUSTODY SIGNATURE RECORD	NATURE RECORD	SAMPLE CONDITIONS
Signature (Relinquished)	Company! (M) Date! 5-19-10 Agency (M) Time 15-30	RECEIVED COOL   WARM   *F
Latal Davidame Kato	Company! T. L. I Date! S-12-10	CUSTODY SEALED YES   NO
Signature ( Relinquished) X And ( Name And )	Agency / X Time S-12-0	SPECIAL REGLAREMENTS:
Signature A Multipline A Factor	Company! T. Y. T Irine S. J. J. C. Lime	-
Signature Printed (Relinquished) Name	Company/ Date/	
Signature Printed (Received) Name	Company! Date/ Agency Time	



# ALERT !! Level III QC

# Level III QC Sample Integrity & Analysis Discrepancy Form

Clien	<u> </u>	Lab #	9	<b>8</b> 92	70
Date i	Delivered: <u>5 / /2</u> /10 Time: <u>22 - /</u> 5 By: □Mail ⊴Field	Service		Client	
1.	Was a Chain of Custody received and signed?	dYes [	٦No	□N/A	
2.	Does Customer require an acknowledgement of the COC?	□Yes 〔	ÌNo	GN/A	•
3.	Are there any special requirements or notes on the COC?	□Yes□	<b>⊒</b> <i>N</i> o	EMN/A	
4.	If a letter was sent with the COC, does it match the COC?	□Yes □	⊒No.	DANIA	
<b>5</b> .	Were all requested analyses understood and acceptable?	Zer es C	١No	□N/A	
6.	Were samples received in a chilled condition?  Temperature (if yes)?C	DWes [	No	□N/A	
<b>7.</b> .	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Wes c	□No	□ <i>N/A</i>	
₿.	Were sample custody seats intact?	□Yes □	٥Ν⊑	□N/A	
9.	Does the number of samples received agree with COC?	W/es C	No	□N/A	
10.	Did sample labels correspond with the client ID's?	Yes C	ΙNο	□N/A	
11.	Did sample labels indicate proper preservation?  Preserved (if yes) by: □ Truesdall □ Client	□Yes □	No	₫N/A	_
12.	Were samples pH checked? pH = See C - O-C	□Yes □	١No	ŮN/A	
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	terves c	<b>] /</b> ∕o	□N/A	
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT):   RUSH  Std	t Yes □	ΙNο	□N/A	
15.	Sample Matrix: □Liquid □Drinking Water □Ground Water			Water	
	□Sludge □Soil □Wipe □Paint □Solid 噹Othe	er <u>(//</u> /	<del>9</del> 7	ER	
16.	Comments:			<u></u>	<del></del>
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	afa	4	Day	iila



www.truesdail.com

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

May 28, 2010

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

Dear Mr. Duffy;

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WIDR-257 PROJECT, GROUNDWATER

MONITORING, TLI No.: 989379

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-257 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on May 18, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run and the associated matrix spike for sample SC-700B-WDR-257 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

K. R. P. Fyen

K.R.P. Iyer

Quality Assurance/Quality Control Officer

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989379

Date: June 16, 2010

Collected: May 18, 2010 Received: May 18, 2010

### **ANALYST LIST**

METHOD		ANALYST
EPA 120.1	Specific Conductivity	lordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Hope Trinidad
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

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

Established 1931

Date Received: May 18, 2010 Laboratory No.: 989379

155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Ouffy

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

# **Analytical Results Summary**

		Analysis Method	Extraction Method	Sample Date	Sample	Parameter	Result	Units	굺
989379-001 SC-700B-WDR-257 E120.1	JR-257	E120.1	NONE	5/18/10	8:00	EC	7580	umhos/cm	2.00
•	JR-257	E200.8	NONE	5/18/10	8:00	Chromium	Ş		1.0
0,	<b>JR-257</b>	E200.8	NONE	5/18/10	8:00	Manganese	9		10.0
٠,		E218.6	LABFLT	5/18/10	8:00	Chromium, hexavalent	0.64		0.20
٠,		SM2130B	NONE	5/18/10	8:00	Turbidity	9		0.100
•	<b>JR-257</b>	SM2540C	NONE	5/18/10	8:00	Total Dissolved Solids	4330	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Militgrams per liter.

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

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### **REPORT**

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895.AA.DM Project Number: 392895.AA.DM Laboratory No. 989379

Page 1 of 5

Printed 6/16/10

### Samples Received on 5/18/10 9:00:00 PM

Field ID				Lab ID	Colle	ected	Matr	ix
SC-700B-WDR-257		,		989379-001	05/18/2	2010 08:00	Wat	er
Specific Conductivity - E	PA 120.1		Batc	h 05EC10I			5/19/10	4.
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989379-001 Specific Conduct	tivity	umhos/cm	n 05/1	9/2010	1.00	0.038	2.00	7580
Method Blank		· •••				• "		
Parameter	Unit	DF	Result			•		
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	989379-001
Parameter	Unit	ĎΕ	Result	Expected	RE	PD	Accepta	nce Range
Specific Conductivity	umhos	1.00	7570	7580		0.132	0 - 10	oo r tango
Lab Control Sample								
Parameter	Ųnit	DF	Result	Expected	Re	covery	Accepta	nce Range
Specific Conductivity	umhos	1.00	702.	706.		99.4	90 - 110	
Lab Control Sample D	uplicate							
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Specific Conductivity	umhos	1.00	703.	706.		99.6	90 - 110	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Specific Conductivity	umhos	1.00	702.	706.		99.4	90 - 110	~
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Specific Conductivity	umhos	1.00	984.	1000		98.4	90 - 110	_

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 2 of 5 Printed 6/16/10

Chrome VI by EPA 218.6

Batch 05CrH10K

Time ti by El A Ele,e	,		Dato	OSCITION				
Parameter		Unit	Ana	alyzed [	)F	MDL	RL	Result
989379-001 Chromium, Hexa	avalent	ug/L	05/19	9/2010 09:23 1	.05	0.019	0.20	0.64
Method Blank							0.20	0.04
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND					
•				_			Lab ID =	989249-003
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 15.7	Expected 15.7	RP 0		Accepta 0 - 20	nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	<b>DF</b> 1.00	Result 5.03	Expected 5.00		covery 01	90 - 110	nce Range 989379-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit u <b>g</b> /L	DF 1.06	Result 1.67	Expected/Added 1.70(1.06)		covery 7.2		nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.23	Expected 5.00		covery 05	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.92	Expected 10.0		covery 9.2	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.79	Expected 10.0		covery 7.9	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.84	Expected 10.0		overy 3.4	Acceptar 95 - 105	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895,AA,DM

Page 3 of 5

Printed 6/16/10

Batch 0520104

Metals by EPA 200.8, Tot	tal		Batch	1 052010A				
Parameter		Unit	Ana	ilyzed (	)F	MDL	RL	Result
989379-001 Chromium	7.1	ug/L	05/20	0/2010 18:00 5	00 0	.075	1.0	ND
Manganese		ug/L	05/20		_	.06	10.0	ND
Method Blank		· · · ·						
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	989270-001
Parameter	Unit	DF	Result	Expected	RPD			nce Range
Chromium	ug/L	5.00	ND	0	0		0 - 20	ince italige
Manganese	ug/L	5.00	ND	0	Ō		0 - 20	
Lab Control Sample	-				•		0 20	
Parameter	Unit	DF	Result	Expected	Recov	P.DV	Accenta	nce Range
Chromium	ug/Ļ	1.00	45.7	50.0	91.4	-1 <b>y</b>	90 - 110	~
Manganese	ug/L	1.00	50.5	50.0	101.		90 - 110	
Matrix Spike								989270-001
Parameter	Unit	DF	Result	Expected/Added	d Recove	÷rv		nce Range
Chromium	ug/L	5.00	225.	250.(250)	90.0	,	75 - 125	~
Manganese	ug/L	5.00	245.	250.(250)	98.0		75 - 125	
Matrix Spike Duplicate				, ,				989270-001
Parameter	Unit	DF	Result	Expected/Added	d Recove	PD/		nce Range
Chromium	ug/L	5.00	217.	250.(250)	86.8	y	75 - 125	-
Manganese	ug/L	5.00	244.	250.(250)	97.6		75 - 125	
MRCCS - Secondary				, , , ,				
Parameter	Unit	DF	Result	Expected	Recove	÷[V	Accenta	nce Range
Chromium	ug/L	1.00	45.5	50.0	91.0	,	90 - 110	_
Manganese	ug/L	1.00	50.9	50.0	102		90 - 110	
MRCVS - Primary							_	
Parameter	Unit	DF	Result	Expected	Recove	erv	Accepta	nce Range
Chromium	ug/L	1.00	46.3	50.0	92.6	,	90 - 110	_
Manganese	ug/L	1.00	52.6	50.0	105		90 - 110	
MRCVS - Primary							- /·•	
Parameter	Unit	DF	Result	Expected	Recove	erv	Accepta	nce Range
Chromium	ug/L	1.00	46.6	50.0	93.2	,	90 - 110	
Manganese	ug/L	1.00	53.3	50.0	107		90 - 110	

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

009



Client: E2 Consulting En	ıgineers, In	c.	Project Name: Project Number:	PG&E Topo 392895.AA.	•	ct	Frinted 6	Page 4 of 5 5/16/10
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accenta	ance Range
Chromium	ug/L	1.00	46.3	50.0		92.6	90 - 110	_
Manganese	ug/L	1.00	50.3	50.0		101	90 - 110	)
Interference Check S	tandard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	0		,	, чесери,	ando riange
Manganese	ug/L	1.00	ND	0				
Interference Check S	tandard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	ND	0		,		inos i tange
Manganese	ug/L	1.00	ND	0				
Interference Check St	tandard AB							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Chromium	ug/L	1.00	44.9	50.0	-	89.8	80 - 120	•
Manganese	ug/L	1.00	51,3	50.0		103	80 - 120	)
Interference Check St	tandard AB							
Parameter	Unit	ΦF	Result	Expected	F	Recovery	Acceptance Rang	
Chromium	ug/L	1.00	47.7	50.0		95.4	80 - 120	_
Manganese	ug/L	1.00	52.3	50.0		105	80 - 120	)
Total Dissolved Solids b	CM 2540		D-4-6 0	CT001011			5/19/10	
Parameter	y 3M 254(			5TDS10H				
		Unit	Analyz	ed	DF	MDL	RL	Result
989379-001 Total Dissolved !	Solids	mg/L	05/19/20	010	1.00	0.434	250. 4330	
Method Blank							230. 4330	
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicat <del>e</del>							Lab ID =	989379-001
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	4340	4330		0.231	0 - 5	J.
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	503.	500.		101	90 - 110	-

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

010



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 5

Project Number: 392895.AA.DM

Printed 6/16/10

Turbidity by SM 2130 B			Batch	05TUC10M			5/19/10	
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
989379-001 Turbidity		NTU	05/19	9/2010	1.00	0.014	0.100	ND
Method Blank				"				
Parameter Turbidity	Ųnit <b>N</b> TŲ	DF 1.00	Result ND					
Duplicate							Lab ID = !	989379-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0		o O	Accepta 0 - 20	nce Range
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1,00	Result 7.94	Expected 8.00		ecovery 99.2	Accepta 90 - 110	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.01	Expected 8.00		ecovery 100	Accepta 90 - 110	nce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nasşimi

Manager, Analytical Services

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

05/18/10 Rec'd

ક્સુલ 93**79** 

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

www.truesdail.com

CHAIN OF CUSTODY RECORD

ПИЗРЫМ-WDR-2671 97937-9

10 Days PAGE 1 TURNAROUND TIME DATE 05MBM0

COC Number

QF.

							٠.,	•	•	•	•		•	•	-	_	•	/	SOMMENTS
PROJECT NAME	PG&E Topock					*****	-					_	_		-	•	_		
FHONE	(530) 229-3303		FAX (530) 339-3303	339-3303															
ADDRESS	155 Grand Ave Ste 1000	Ste 1000							_	•	-		_			_	SH3		
	Oakland, CA 94612	4612	iı				(150 ·	· · ·				_					N/A/N		
P.O. NUMBER	392896.AA.DM	_	TEAN	-	0	(1 00	eaugh	-	(OE)							003	Vo.		
SAMPLERS (SIGNATURE	ATURE THAT				38 jay	PELIODO,	DOISZNE DOLOUGO DOLOUGO	***	Z145) (Q	****	*********				_	O MEE	O MAR		
SAMPLE 1D.		DATE	TIME	DESCRIPTION	ر د <i>وو</i> ل	Vieroj	Sal		ipiq <sub>inj</sub>			/	/	//		WON			
SC-700B-WDR-257	R-257	05/18/10	an	Water	×	×	×		×						3			9 = M	
1	1 1 Time										!	 			0	_	OTAL NU	OTAL NUMBER OF CONTAINERS	FAINERS

C1-1001

For Sample Conditions See Form Attached



H CH	<b>CHAIN OF CUSTODY SIGNATURE RECORD</b>	CORD	SAMPLE CONDITIONS
Signature (Relinquished Fax	Printed HELLS Roansy OM	Date/	RECEIVED COOL   WARM   "F
Signature (Received)	Printed Hall Company!	Time 15-18-10	CUSTODY SEALED YES CONTROL
Signature (Mal)	Printed / 10/1/ Company! +	6/ Date 5-18-60	SPECIAL REQUIREMENTS:
Signature Printed (1111/11) Printed Printed	Printed Challe Will Goods	2 2 Date 9/8/10 21:00	
Signature (Relinquished)	Printed ' Company/ Name Agency	Date/ Time	
Signature (Received)	Printed Company/ Name Agency	Deter Time	

# Sample Integrity & Analysis Discrepancy Form

Clie	nt:E_2	<sub>Lab #</sub> _ <b>9893</b> 79
Date	e Delivered: <u>05</u> 7 <u>/8</u> /10 Time: <u>2/′.€0</u> By: □Mail <b>⊡</b> Fiel	d Service 🗀 Client
1.	Was a Chain of Custody received and signed?	MiYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No XIN/A
З.	Are there any special requirements or notes on the COC?	□Yes □No ¤N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No <b>⊠</b> N/A
5.	Were all requested analyses understood and acceptable?	ØYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>Y ° C</u>	APYes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?  Were sample custody seals intact?	χDYes □Nο □N/A
8.	Were sample custody seals intact?	_ □Yes □No ØN/A
9.	Does the number of samples received agree with	Yes □No □N/A
10.	Did sample labets correspond with the client ID's?	√DYes □No □N/A
11.	Did sample labets indicate proper preservation?  Preserved (if yes) by: **DTruesdail** **DClient**	□Yes □No ÆDN/A
12.	Were samples pH checked? pH =fel_ ( . 0, f',	ØYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	MaYes □No □N/A
14.	Have Project due dates been checked and accepted?  Turn Around Time (TAT): □ RUSH ☑ Std	daYes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa	/
16.	Comments:	
17,	Sample Check-In completed by <b>Truesdail</b> Log-In/Receiving: 6	L. Stephensen

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

June 8, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-258 PROJECT, GROUNDWATER

MONITORING, TLI NO.: 989498

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-258 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on May 26, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run and the associated matrix spike for sample SC-700B-WDR-257 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

K.R.P. Iver

K. R. P.

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989498

Date: June 8, 2010 Collected: May 26, 2010

Received: May 26, 2010

### **ANALYST LIST**

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

Established 1931

Laboratory No.: 989498

Date Received: May 26, 2010 Revision 1

Attention: Shawn Duffy

Oakland, CA 94612

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

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

P.O. No.: 392895.AA.DM

# **Analytical Results Summary**

SC-700B-WDR-2: E120.1       NONE       5/26/10       8:00       EC       7380       U         SC-700B-WDR-2: E200.8       NONE       5/26/10       8:00       Chromium       1.3         SC-700B-WDR-2: E200.8       NONE       5/26/10       8:00       Chromium, hexavalent       0.55         SC-700B-WDR-2: SM2130B       NONE       5/26/10       8:00       Turbidity       ND         SC-700B-WDR-2: SM2540C       NONE       5/26/10       8:00       Total Dissolved Solids       4440	Lab Sample ID Field ID	Field JD	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	占
SC-700B-WDR-2: E200.8         NONE         5/26/10         8:00         Chromium         1.3           SC-700B-WDR-2: E200.8         NONE         5/26/10         8:00         Manganese         ND           SC-700B-WDR-2: E218.6         LABFLT         5/26/10         8:00         Chromium, hexavalent         0.55           SC-700B-WDR-2: SM2130B         NONE         5/26/10         8:00         Turbidity         ND           SC-700B-WDR-2: SM2540C         NONF         5/26/10         8:00         Total Dissolved Solids         4440	989498-001	SC-700B-WDR-2	: E120.1	NONE	5/26/10	8:00	EC	7380	umhos/cm	2.00
SC-700B-WDR-2: E200.8         NONE         5/26/10         8:00         Manganese         ND           SC-700B-WDR-2: E218.6         LABFLT         5/26/10         8:00         Chromium, hexavalent         0.55           SC-700B-WDR-2: SM2130B         NONE         5/26/10         8:00         Turbidity         ND           SC-700B-WDR-2: SM2540C         NONE         5/26/10         8:00         Total Dissolved Solids         4440	989498-001	SC-700B-WDR-2	: E200.8	NONE	5/26/10	8:00	Chromium	<del>1</del> .3	ng/L	1.0
SC-700B-WDR-2: E218.6 LABFLT 5/26/10 8:00 Chromium, hexavalent 0.55 SC-700B-WDR-2: SM2130B NONE 5/26/10 8:00 Turbidity ND SC-700B-WDR-2: SM2540C NONE 5/26/10 8:00 Total Dissolved Solids 4440	989498-001	SC-700B-WDR-2	: E200.8	NONE	5/26/10	8:00	Manganese	2	ng/L	10.0
SC-700B-WDR-2: SM2130B NONE 5/26/10 8:00 Turbidity ND SC-700B-WDR-2: SM2540C NONE 5/26/10 8:00 Total Dissolved Solids 4440	989498-001	SC-700B-WDR-2	: E218.6	LABFLT	5/26/10	8:00	Chromium, hexavalent	0.55	ng/L	0.20
SC-700B-WDR-2; SM2540C NONF 5/26/10 8:00 Total Discolved Solids 4440	989498-001	SC-700B-WDR-2	SM2130B	NONE	5/26/10	8:00	Turbidity	Q	) DIV	0.100
	989498-001	SC-700B-WDR-2	: SM2540C	NONE	5/26/10	8:00	Total Dissolved Solids	4440	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

Page 1 of 5

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

Printed 6/16/10

Laboratory No. 989498

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention;

Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895.AA.DM

Project Number: 392895,AA,DM

Samples Received on 5/26/10 9:30:00 PM

Field ID				Lab ID	Colle	ected	Mate	rix
SC-700B-WDR-258				989498-001	05/26/2	2010 08:00	Wat	
Specific Conductivity - E	PA 120.1		Batch	05EC10L			5/28/10	
Parameter	_	Unit	Ana	alyzed	DF	MDL	RL	Result
989498-001 Specific Conduct	ivity	umhos	cm 05/28	B/2010	1,00	0.038	2.00	7380
Method Blank		·		""				7000
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID ≃	989501-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 3250	Expected 3210		PD 1.24		nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 703.	Expected 706.		ecovery 99.6	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 702.	Expected 706.		ecovery 99.4	Accepta 90 - 110	ince Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 703.	Expected 706.		ecovery 99.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 978.	Expected 1000		ecovery 97.8	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 979.	Expected 1000		covery 97,9	Accepta 90 - 110	nce Range

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 Truesdall Laboratories. 800



Client: E2 Consulting Engineers, Inc.

Project Name:

**PG&E Topock Project** 

Page 2 of 5 Printed 6/16/10

Project Number: 392895.AA.DM

Batch 05CrH10W

Chrome VI by EPA 218.6 Parameter 989498-001 Chromium, Hexavalent									
		Unit	Analyzed 05/27/2010 07:51		)F	MDL	RL	Result 0.55	
		ug/L			05	0.019	0.20		
Method Blank		'				1			
Parameter	Unit	DF	Result						
Chromium, Hexavalent Duplicate	ug/L	1.00	ND				Lab ID =	989439-002	
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 105	Result 942.	Expected 896.	RPD 5.0	RPD 5.01		Acceptance Range 0 - 20	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.30	Expected 5.00	Reco 106	-	Acceptance Range 90 - 110 Lab ID = 989498-001		
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.56	Expected/Adde 1.61(1.06)	led Recovery 95.3		Acceptance Range 90 - 110		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1,00	Result 5.00	Expected 5.00	Reco 100	•	Acceptance Range 90 - 110		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.0	Expected 10.0	Recc 100	•	Acceptance Range 95 - 105		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.0	Expected 10.0	Recovery 100.		Acceptance Range 95 - 105		
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recc 102		Accepta 95 - 108	ance Range 5	

009



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 3 of 5 Printed 6/16/10

Metals	by	EPA	200.8	, Total
--------	----	-----	-------	---------

Batch	052910A	

mound by El A 200.0, Total			DAIC	1 032810A					
Parameter		Unit Analyzed		ilyzed [	F MDL	RL	Result		
989498-001 Chromium		ug/L			00 0.075	1.0	1.3		
Manganese		ug/L	· · · · · · · · · · · · · · · · · ·		0.06	10.0	ND		
Method Blank		· ·		·					
Parameter	Unit	DF	Result						
Chromium	ug/L	1.00	ND						
Manganese	ug/L	1.00	ND						
Duplicate						Lab ID =	989498-001		
Parameter	Unit	ÐF	Result	Expected	RPD	Accepta	ince Range		
Chromium	ug/L	5.00	1.09	1.29	16.8	0 - 20			
Manganese	ug/L	5.00	ND	0	0	0 - 20			
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range			
Chromium	ug/L	1.00	50.1	50.0	100	90 - 110			
Manganese	ug/L	1.00	54.1	50.0	108	90 - 110	90 - 110		
Matrix Spike						Lab ID =	989498-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ince Range		
Chromium	ug/L	5.00	248.	251(250)	98.7	75 - 125	_		
Manganese	ug/L	5.00	251.	250.(250)	100	75 - 125	5		
Matrix Spike Duplicate				•		Lab ID =	989498-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ince Range		
Chromium	ug/L	5.00	<b>25</b> 7.	251(250)	102	75 - 125	-		
Manganese	ug/L	5.00	273.	250 (250)	109	75 - 125	5		
MRCCS - Secondary					•				
Parameter	Unit	ÐF	Result	Expected	Recovery	Accepta	ince Range		
Chromium	ug/L	1.00	49.4	50.0	98.8	90 - 110	~		
Manganese	ug/L	1.00	53.3	50.0	107	90 - 110	)		
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range		
Chromium	ug/L	1.00	49.7	50.0	99.4	90 - 110	•		
Manganese	ug/L	1.00	53.9	50.0	108	90 - 110	)		
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range		
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110	•		
Manganese	ug/L	1.00	53.8	50.0	108	90 - 110			

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

010



Client: E2 Consulting En	ıgineers, in		Project Name: Project Numbe	PG&E Topo r: 392895,AA.I		et	F Printed 6	Page 4 of 5 /16/10
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium	ug/L	1.00	47.2	50.0		94,4	90 - 110	_
Manganese	ug/L	1.00	52.3	50.0		105	90 - 110	)
Interference Check S	tandard A							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	o <sup>.</sup>		,	. ,	······································
Manganese	ug/L	1.00	ND	0				
Interference Check S	tandard A							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Chromium	ug/L	1.00	ND	0			7.0000	oo ranga
Manganese	ug/L	1.00	ND	0				
Interference Check S	tandard AB							
Parameter	Unit	ĎF	Result	Expected	R	ecovery	Accenta	nce Range
Chromium	ug/L	1.00	48.5	50.0		97.0	80 - 120	
Manganese	ug/L	1.00	52.4	50.0		105	80 - 120	)
Interference Check S	tandard AB							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	ince Range
Chromium	ug/L	1.00	43.0	50.0		86.0	80 - 120	_
Manganese	ug/L	1.00	47.4	50.0		94.8	80 - 120	)
Total Discount Callet			-				· · · · · · · · · · · · · · · · · · ·	
Total Dissolved Solids t	DY SM 254			06TDS10A			6/3/10	
Parameter		Unit	Anal		DF	MDL	RL	Result
989498-001 Total Dissolved	Solids	mg/L	06/01/	/2010	1.00	0.434	250.	4440
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID ≖	989498-001
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	4550	4440		2.45	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	486.	500.		97.2	90 - 110	

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 5 of 5

Project Number: 392895.AA.DM

Printed 6/16/10

Turbidity by SM 2130 B			Batch	05TUC10R			5/27/10	
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
989498-001 Turbidity	"	NTU	05/27	7/2010	1.00	0.014	0.100	ND ND
Method Blank	"					0.014	0.100	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID ≖ 9	989498-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0		PD )		nce Range
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1.00	Result 7.90	Expected 8.00		ecovery 98.8	Accepta 90 - 110	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.85	Expected 8.00		covery 98.1	Acceptar 90 - 110	nce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for Mona Nassimi

Manager, Analytical Services

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

TOTAL NUMBER OF CONTAINERS For Sample Conditions See Form Attached PAGE NONBER OF CONTAINERS TURNAROUND TIME DATE 06/26/10 COC Number 10 CHAIN OF CUSTODY RECORD (OE IS, WANDER (SM.2730) × Level III [IM3Plant-WDR-258] TDS (SARESADC) × 99498 DEBCREPTION Water FAX (530) 339-3303 TRUESDAL LABORATORIES, INC. 14291 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 RISULTS 7.1 0826m0 0800 뱵 79.3 7.62 Seg 155 Grand Ave Ste 1000 PATE Dakland, CA 94612 530) 229-3303 392885.AA,DM PG&E Topock ANRかい。 806 ener.truesdail.com SAMPLERS (SKONATURE SC-700B-WDR-258 PROJECT NAME P.O. NUMBER 1000 HOURS SAMPLE ID. ## COMPANY ADDRESS 黑器

COMMENTS

6

10 Days

۳ ջ WARM | SAMPLE CONDITIONS YES □ 2005 SPECIAL REQUAREMENTS: CUSTODY SEALED RECEIVED 0 Bala 5-26 Date 5-26 Time / Date: 5-22 Date/ Time Date Time CHAIN OF CUSTODY SIGNATURE RECORD Company/ Agency Compeny/ Agency Company/ Agency Company/ Company/ Agency Company/ A Dency Agency Printed Name Printed Name Printed Kerne Signature (Relinquished) (Relinquished) (Refineuished) Signature (Received) (Received) Signature (Received) Signature Signature

# Sample Integrity & Analysis Discrepancy Form

Client	: E2	Lab #	9894	9 1
Date L	Delivered:05/16/10 Time: 2/:30 By: □Mail □Field	Service	□ <i>Client</i>	
1.	Was a Chain of Custody received and signed?	⊠Yes □	No <b>I</b> N/A	
2.	Does Customer require an acknowledgement of the COC?	□Yes □	No 🗖 N/A	
3.	Are there any special requirements or notes on the COC?	□Yes □	No ØN/A	
<b>4</b> .	If a letter was sent with the COC, does it match the COC?	□Yes □	No 🗖 N/A	
5.	Were all requested analyses underslood and acceptable?	<b>X</b> Yes □	No □N/A	
<i>6</i> .	Were samples received in a chilled condition? Temperature (if yes)? 4 ° C	⊈Yes □	No □ <i>N/A</i>	
<b>7.</b> ,	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?  Were sample custody seals intact?	Yes □	No □N/A	
8.	Were sample custody seals intact?	Yes 🗅	No XIN/A	
9.	Does the number of samples received agree with COC?	Ø Yes □	No □N/A	
10.	Did sample labels correspond with the client ID's?	<b>⊉</b> Yes □	Nọ □N/A	
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ <b>Truesdail</b> □Client	□Yes □	No ⊠N/A	
12.	Were samples pH checked? pH = $\int \frac{\partial \mathcal{L}}{\partial t} \mathcal{L} \cdot \mathcal{O} \cdot \mathcal{C}$ .	On Yes □	No □N/A	
13.	Were all analyses within holding time at time a require if not, notify Project Manager.	, pA(Yes ロ	No □N/A	
14.	Have Project due dates been checked and accepted? QC Turn Around Time (TAT): □ RUSH ☒ Std	Ø(Yes □	No □N/A	
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa		/aste Water	
	□Studge □Soil □Wipe □Paint □Solid ぬOth	her_ <i>Wa</i>	ter	-
16.	Comments:		<u>.</u> .	_
17.	Sample Check-In completed by Truesdall Log-In/Receiving:	C. Sty	Buni	40



June 21, 2010

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

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-259 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 989585

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-259 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 2, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Total Organic Carbon analysis was requested on the chain of custody for sample SC-100B-WDR-259 but no sample container was received. When Mr. Shawn Duffy was notified, the analysis was cancelled by him.

The straight run for sample SC-700B-WDR-259 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the straight run agree with those from the 5x dilution, the data from the straight run is reported.

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

√ Mona Nassimi

Manager, Analytical Services

K. R. P. gryen K.R.P. Iyer

Quality Assurance/Quality Control Officer

# TRUESDAIL LABORATORIES, INC.

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989585

Date: June 21, 2010 Collected: June 2, 2010 Received: June 2, 2010

### **ANALYST LIST**

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

Established 1931

Date Received: June 2, 2010

Laboratory No.: 989585

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

Attention: Shawn Duffy

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

P.O. No.: 392895.AA.OM

# **Analytical Results Summary**

Of classes	2	Analysis	Extraction	Sample	Sample	I			
Lati Sample ID	rieid ID	Method	Method	Date	Time	Parameter	Resuft	Units	RL
989585-001	SC-700B-WDR-259	E120.1	NONE	6/2/10		EC	7300	majsoquin	2.00
989585-001	SC-700B-WOR-259	E200.7	NONE	6/2/10		Aluminum	S	loi.	20.0
989585-001	SC-700B-WDR-259	E200.7	NONE	6/2/10		Boron	871	1 (6)	200
989585-001	SC-700B-WDR-259	E200.7	NONE	6/2/10		ligh	Q Z	je je	20.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Antimony	Ş	101	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Arsenic	2	, j	0.1
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Barium	11.7	l jon	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Chromium	1.1	nod.	1 2
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10	8:00	Copper	2	Light.	5.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Lead	2	, jon	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Manganese	R	1/6/n	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Molybdenum	17.7	l'on	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Nickel	2	uail	10.0
989585-001	SC-700B-WDR-259	E200.8	NONE	6/2/10		Zinc	2	1,611	10.0
989585-001	SC-700B-WDR-259	E218.6	LABFLT	6/2/10		Chromium, hexavalent	0.49	[/on	0.20
989585-001	SC-700B-WDR-259	E300	NONE	6/2/10		Fluoride	2.06	mod	0.500
989585-001	SC-700B-WDR-259	E300	NONE	6/2/10		Nitrate as N	308	1,00	100
989585-001	SC-700B-WDR-259	E300	NONE	6/2/10		Sulfate	522	1,000	50.0
989585-001	SC-700B-WDR-259	SM2130B	NONE	6/2/10		Turbidity	2	Ē	0.100
989585-001	SC-700B-WDR-259	SM2540C	NONE	6/2/10		Total Dissolved Solids	4650	ma/L	250
989585-001	SC-700B-WDR-259	SM4500NH3D	NONE	6/2/10		Ammonia-N	Q	)   	0.500
989585-001	SC-700B-WDR-259	SM4500NO2B	NONE	6/2/10		Nitrite as N	2	1/6u	0.500

This report applies only to the 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.



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	<u> </u>	ã
989585-002	SC-100B-WDR-259	E120.1	NONE	6/2/10	8:00	FC	7970	mojeodæn	200
989585-002	SC-100B-WDR-259	E200.7	NONE	6/2/10	8:00	Altminum	Š		50.0
989585-002	SC-100B-WDR-259	E200.7	NONE	6/2/10	8:00	Boron	951	7	200
989585-002	SC-100B-WDR-259	E200.7	NONE	6/2/10	8:00	ron	9	yon yon	20.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Antimony	2	1 POI	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Arsenic	4	] [j]	1.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Barium	26.7	     	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Chromium	993	l'on	10
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Copper	Q	ng/L	5.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8.00	Lead	Q	ua/î.	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Manganese	10.6	, n	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Molybdenum	23.6	l'en	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Nickel	Q	l/bn	10.0
989585-002	SC-100B-WDR-259	E200.8	NONE	6/2/10	8:00	Zinc	2	Ten Ten	10.0
989585-002	SC-100B-WDR-259	E218.6	LABFLT	6/2/10	8:00	Chromium, hexavalent	1030	1/00	21.0
989585-002	SC-100B-WDR-259	E300	NONE	6/2/10	8:00	Fiuoride	2.67	mo/l	0.500
989585-002	SC-100B-WDR-259	E300	NONE	6/2/10	8:00	Nitrate as N	3.67	Į į	1.00
989585-002	SC-100B-WDR-259	E300	NONE	6/2/10	8:00	Sulfate	. 25 848	1,6E	12.5
989585-002	SC-100B-WDR-259	SM2130B	NONE	6/2/10	8:00	Turbidity	2	NTO	0 100
989585-002	SC-100B-WDR-259	SM2540C	NONE	6/2/10	8:00	Total Dissolved Solids	4950	mo/L	250
989585-002	SC-100B-WDR-259	SM4500NH3D	NONE	6/2/10	8:00	Ammonia-N	2	mg/L	0.500
989585-002	SC-100B-WDR-259	SM4500NO2B	NONE	6/2/10	8:00	Nitrite as N	문	mg/L	0.500



tah Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	묎
080585-003	SC.701-WDB-259	E120.1	NONE	6/2/10	14:00	EC	58600	umhos/cm	2.00
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	10 Antimony	Q	ug/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Arsenic	1.6	ug/L	1.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Barium	113	ug/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Beryllium	Q	ug/L	1.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Cadmium	Q	ug/L	3.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Chromium	9.1	ug/L	1.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Cobalt	2	ng/L	5.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Copper	5.3	ng/L	5.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Lead	9	ng/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Manganese	15.1	ug/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Mercury	2	1/6n	4.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Molybdenum	183	ng/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Nickel	2	ng/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Selenium	36.5	ng/L	10.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Silver	9	ug/L	5.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Thallium	2	ng/L	1.0
989585-003	SC-701-WOR-259	E200.8	NON	6/2/10	14:00	Vanadium	S	ng/L	5.0
989585-003	SC-701-WDR-259	E200.8	NONE	6/2/10	14:00	Zinc	13.3	ng/L	10.0
989585-003	SC-701-WDR-259	E218.6	LABFLT	6/2/10	14:00	Chromium, hexavalent	8. 8.	ng/L	5.2
989585-003	SC-701-WOR-259	E300	NONE	6/2/10	14:00	Fluoride	19.7	<b>1</b> 6u	0.500
989585-003	SC-701-WDR-259	SM2540C	NONE	6/2/10	14:00	Total Dissolved Solids	33100	mg∕L	1250

ND: Non Detected (below reporting limit) mg/L: Milligners per fren.

Note: The following 'Significant Figures' rule has been applied to all results: Results below 0 0 fopm will have two (2) significant figures. Result above or equal to 0.01 ppm will have three (3) significant figures. Quality Control data will elweys have three (3) significant figures.

## TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895.AA.DM Project Number: 392895.AA.DM Laboratory No. 989585

Printed 6/21/10

Page 1 of 22

Samples Received on 6/2/10 9:30:00 PM

Field ID				Lab ID	Colle	ected	Matr	ix
SC-700B-WDR-259			• • •	989585-001	06/02/2	2010 08:00	Wate	er
SC-100B-WDR-259				989585-002	06/02/2	2010 08:00	Wate	эг
SC-701-WDR-259				989585-003	06/02/2	2010 14:00	Wate	er
Anions By I.C EPA	300.0		Batch	06AN10D				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989585-001 Fluoride		rng/L	06/03	3/2010 10:13	5.00	0.0600	0.500	2.06
Nitrate as Nitr	rogen	rng/L	06/03	3/2010 10:13	5.00	0.0950	1.00	3.04
Sulfate		rng/L	06/03	3/2010 11:10	100	4.00	50.0	522.
989585-002 Fluoride		rng/L	06/03	3/2010 10:25	5.00	0.0600	0.500	2.67
Nitrate as Nitr	rogen	rng/L	06/03	3/2010 10:25	5.00	0.0950	1.00	3.67
Sulfate		rng/L	06/03	/2010 12:07	25.0	1.00	12.5	548.
989585-003 Fluoride		mg/L	06/03	/2010 10:36	5.00	0.0600	0.500	19.7
. Method Blank							• 111	
Parameter	Unit	DF	Result					
Fluoride	mg/L	1.00	ND					
Nitrate as Nitrogen	mg/L	1.00	ND					
Sulfate	mg/L	1.00	ND					
Duplicate							Lab ID = 9	989585-001
Parameter	Unit	DF	Result	Expected	RF	PD	Accepta	nce Range
Fluoride	mg/L	5.00	2.11	2.06		2.40	0 - 20	
Nitrate as Nitrogen	mg/L	5.00	3.02	3.04	(	0.660	0 - 20	
Sulfate	mg/L	100	510.	522.	:	2.33	0 - 20	

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



Client: E2 Consulting Eng	ineers, Inc	<b>:.</b>	Project Name: Project Number:	PG&E Topock Pro 392895.AA.DM	pject	Page 2 of 22 Printed 6/21/10
Lab Control Sample						
Parameter	Ųnit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.09	4.00	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100.	90 - 110
Suifate	mg/L	1.00	20.1	20.0	100	90 - 110
Matrix Spike						Lab ID = 989585-001
Parameter	Unit	ÐΕ	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	21,3	22.1(20.0)	96.2	85 - 115
Nitrate as Nitrogen	mg/L	5.00	22.8	23.0(20.0)	98.8	85 - 115
Sulfate	mg/L	100	1020	1020(500)	99.6	85 - 115
MRCCS - Secondary						
Parameter	Unit	ĎΕ	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.10	4.00	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.99	4.00	99.8	90 - 110
Sulfate	mg/L	1,00	20.1	20.0	100	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.06	3.00	102.	90 - 110
Sulfate	mg/L	1.00	15.4	15.0	103	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.05	3.00	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.02	3.00	101	90 - 110
Sulfate	mg/L	1.00	15.3	15.0	102,	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name:

**PG&E Topock Project** 

Page 3 of 22

Project Number: 392895,AA,DM

Printed 6/21/10

Nitrite SM 4500-NO2 B			Batch	06NO210C				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989585-001 Nitrite as Nitrogen		mg/L	06/03	/2010 11:35 1	1.00	0.000200		ND
989585-002 Nitrite as Nitrogen		mg/L	06/03	/2010 11:36 1	.00	0.000200		ND
Method Blank				<del>-</del>				
Parameter	Unit	DF	Result					
Nitrite as Nitrogen	mg/L	1.00	ND					
Duplicate							Lab ID = s	989585-002
Parameter	Unit	DF	Result	Expected	RPI	כ	Accepta	nce Range
Nitrite as Nitrogen	mg/L	1.00	ND	o o	0		0 - 20	oo raange
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Red	overy	Accepta	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0475	0.0450		•	90 - 110	ioe range
Matrix Spike							Lab (D = 6	989585-002
Parameter	Unit	DF	Result	Expected/Adde	d Rec	overy	Acceptar	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0224	0.0200(0.020		12.	75 - 125	.co range
Matrix Spike Duplicate							Lab ID = 9	89585-002
Parameter	Unit	DF	Result	Expected/Adde	d Rec	overy	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1,00	0.0222	0.0200(0.020		•	75 - 125	.ee raaago
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0286	0.0270	10	-	90 - 110	iee riange
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Acceptar	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200	10	-	90 - 110	rango



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 4 of 22

Printed 6/21/10

Specific Conductivity -	EPA 120.1		Bato	h 06EC10A			6/4/10	
Parameter		Unit	An	alyzed	DF	MDL	RL	Result
989585-001 Specific Conduc 989585-002 Specific Conduc 989585-003 Specific Conduc	ctivity	umhos/ umhos/ umhos/	/cm 06/0	4/2010 4/2010 4/2010	1,00 1,00 1,00	0,0380 0.0380 0.0380	2.00 2.00 2.00	7300 7970 58600
Method Blank		·						-
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				( - <del> </del> 10 -	000505 000
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 58800	Expected 58600	RF (	PD 0.341		989585-003 ince Range
Parameter Specific Conductivity Lab Control Sample [	Unit umhos Duplicate	DF 1.00	Result 701.	Expected 706.		ecovery 99.3	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 699.	Expected 706.		ecovery 99.0	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 706.	Expected 706.		covery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 999.	Expected 1000		covery 99.9	Accepta 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 22

Project Number: 392895.AA.DM

Printed 7/6/10

Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
989585-001 Chromium, Hexa	avalent	ug/L	06/04	/2010 11:25	1.05	0.0190	0.20	0.49
989585-002 Chromium, Hexa	avalent	ug/L	06/04	/2010 11:36	105	2.00	21.0	1030
989585-003 Chromium, Hexa	avalent	ug/L	06/04	/2010 14:12	26.2	0.498	5.2	6.8
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID =	989584-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ince Range
Chromium, Hexavalent	ug/L	1.05	14.0	14.0		0	0 - 20	
Lab Control Sample	,							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00		100	90 - 110	)
Matrix Spike	e transport to day						Lab ID =	989584-001
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.09	30.5	30.4(16.4)	)	101	90 - 110	)
Matrix Spike							Lab ID =	989585-001
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	1,55	1.55(1.06)	)	100.	90 - 110	)
Matrix Spike							Lab ID =	989585-002
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	105	2080	2080(1056	D)	100.	90 - 110	כ
Matrix Spike							Lab ID =	989585-003
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	26.2	32.0	33.0(26.2)	)	96.2	90 - 11	כ
MRCCS - Secondary								•
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	4.90	5.00		98.0	90 - 11	Ď
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	*	ance Range
Chromium, Hexavalent	ug/L	1.00	10.5	10.0		105.	95 - 10	5
MRCVS - Primary								.* * *
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0		104.	95 - 10	5

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 6 of 22 Printed 6/21/10

Metals by EPA 200.7, Total			Batch	Batch 060810A-Th						
Parameter	"	Unit	Ana	lyzed [	F	MDL	RL	Result		
989585-001 Boron		ug/L	06/08	3/2010 19:39 1.	00	2.00	200,	871.		
iron		ug/L	06/08	3/2010 19:39 1.	00	4,00	20.0	ND		
989585-002 Boron		ug/L	06/08/2010 19:56		00	2.00	200.	951,		
. Iron		ug/L	06/08		00	4.00	20.0	ND		
Method Blank	-									
Parameter	Unit	ÐΕ	Result							
Boron	ug/L	1.00	ND							
Iron	ug/L	1.00	ND							
Duplicate							Lab ID =	989585-001		
Parameter	Unit	DF	Result	Expected	RPD	)	Accepta	nce R <b>an</b> ge		
Boron	ug/L	1.00	901.	871.	3.3		0 - 20	oo rterige		
Iron	ug/L	1.00	ND	0	0		0 - 20			
Lab Control Sample										
Parameter	Unit	DF	Result	Expected	Reco	overy	Accepta	nce Range		
Boron	ug/L	1.00	4820	5000	96		90 - 110			
Iron	ug/L	1.00	5190	5000	10	4	90 - 110			
Matrix Spike							Lab ID =	989585-001		
Parameter	Unit	DF	Result	Expected/Added	Reco	overy	Accepta	nce Range		
Boron	ug/L	1.00	2820	2870(2000)	97	•	75 - 125	_		
Iron	ug/L	1.00	1980	2000(2000)	99.	.0	75 - 125			
MRCCS - Secondary							•			
Parameter	Unit	DF	Result	Expected	Reco	overy	Accepta	nce Range		
Boron	ug/L	1.00	4770	5000	95	*	90 - 110	_		
Iron	ug/L	1.00	5090	5000	103	2	90 - 110			
MRCVS - Primary										
Parameter	Unit	DF	Result	Expected	Reco	verv	Accepta	nce Range		
Boron	ug/L	1.00	4570	5000	91.	-	90 - 110			
Iron	ug/L	1.00	4860	5000	97.	2	90 - 110			
MRCVS - Primary										
Parameter	Unit	DF	Result	Expected	Reco	verv	Accepta	nce Range		
Boron	ug/L	1.00	4640	5000	92.	•	90 - 110	_		
Iron	ug/L	1.00	4990	5000	99.	8	90 - 110			



Client: E2 Consulting Engineers, Inc.		c.	Project Name: PG&E Topock Project Project Number: 392895.AA.DM			Page 7 of 22 Printed 6/21/10	
Interference Check	Standard A						
Parameter Boron	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range	
Iron Interference Check	ug/L Standard A	1.00	1870	2000	93.5	80 - 120	
Parameter Boron	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range	
Iron Interference Check	ug/L	1.00	1900	2000	95.0	80 - 120	
Parameter Boron	Unit ug/L	DF 1.00	Result <b>N</b> D	Expected 0	Recovery	Acceptance Range	
Iron Interference Check	ug/L	1.00	1920	2000	96.0	80 - 120	
Parameter Boron	Unit ug/L	DF 1,00	Result ND	Expected 0	Recovery	Acceptance Range	
Iron	ug/L	1.00	1910	2000	95.5	80 - 120	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 8 of 22

Printed 6/21/10

Metals by EPA 200.7, To		Batch	061010A-Th					
Parameter		Unit	Analyzed		DF	MDL	ŔL	Result
989585-001 Aluminum		ug/L		0/2010 21:52	1.00	2.84	50.0	ND
989585-002 Aluminum		ug/L		0/2010 22:14	1.00	2.84	50.0	ND
Method Blank					1.00	2.04	30.0	
Parameter	Unit	DF	Result					
Aluminum	ug/L	1.00	ND					
Duplicate							Lab ID =	989585-001
Parameter	Unit	DF	Result	Expected	F	RPD		nce Range
Aluminum	ug/L	1.00	ND	0		0	0 - 20	ince ivarige
Lab Control Sample							•	
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Aluminum	ug/L	1.00	4830	5000		96.6	90 - 110	_
Matrix Spike							Lab ID =	989585-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Aluminum	ug/L	1.00	1600	2000(2000)		80.0	75 - 125	-
Matrix Spike Duplicate	e						Lab ID =	989585-001
Parameter	Unit	DF	Result	Expected/Add	ed R	Recovery	Accepta	nce Range
Aluminum	ug/L	1.00	1660	2000(2000)		83.0	75 - 125	_
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Aluminum	ug/L	1.00	4740	5000		94.8	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Ŕ	ecovery	Accepta	nce Range
Aluminum	ug/L	1.00	4530	5000		90.6	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Aluminum	ug/L	1.00	4870	5000		97.4	90 - 110	
Interference Check St	andard A							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Aluminum	ug/L	1.00	1720	2000		86.0	80 - 120	-
Interference Check St	andard A							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Aluminum	ug/L	1.00	1930	2000		96.5	80 - 120	~



Client: E2 Consulting	ı Engineers, Inc.		Project Name: Project Number:	PG&E Topock 392895.AA.DM	•	Page 9 of 22 Printed 6/21/10
Interference Chec	k Standard AB					
Parameter Aluminum	Unit ug/L	DF 1.00	Result 1740	Expected 2000	Recovery 87.0	Acceptance Range 80 - 120
Interference Chec	k Standard AB					
Parameter Aluminum	Unit ug/L	DF 1.00	Result 1820	Expected 2000	Recovery 91.0	Acceptance Range 80 - 120

# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 10 of 22

Project Number: 392895,AA,DM

Printed 6/21/10

fetals	by	<b>EPA</b>	200.8,	Total
--------	----	------------	--------	-------

Batch 060410A-Hg

Parameter		Unit	Analyzed		DF	MDL	RL	Result
989585-003 Mercury	"	ug/L					4.0	ND
Method Blank					20.0	0.000	<u>4.0</u>	110
Parameter Mercury	Unit ug/L	DF 1,00	Result ND					
Duplicate							Lab ID =	989585-003
Parameter Mercury Lab Control Sample	Unit ug/L	DF 20.0	Result ND	Expected 0		RPD 0	Accepta 0 - 20	ance Range
Parameter Mercury Matrix Spike	Unit ug/L	DF 1.00	Result 1.97	Expected 2.00		Recovery 98.5	90 - 110	ence Range ) 989585-003
Parameter Mercury Matrix Spike Duplicat	Unit ug/L te	DF 20.0	Result 37.0	Expected/Ad 40.0(40.0)	ded	Recovery 92.5	75 - 12	ance Range 5 989585-003
Parameter Mercury MRCCS - Secondary	Unit ug/L	DF 20.0	Result 37.4	Expected/Ad 40.0(40.0)	ded	Recovery 93.5	Accepta 75 - 128	ance Range 5
Parameter Mercury MRCVS - Primary	Unit ug/L	DF 1,00	Result 2.00	Expected 2.00		Recovery 100.	Accepta 90 - 110	ance Range )
Parameter Mercury MRCVS - Primary	Unit ug/L	DF 1.00	Result 1.92	Expected 2.00		Recovery 96.0	Accepta 90 - 110	ance Range )
Parameter Mercury MRCVS - Primary	Unit ug/L	DF 1.00	Result 1,92	Expected 2.00		Recovery 96.0	Accepta 90 - 110	ince Range )
Parameter Mercury Interference Check S	Unit ug/L tandard A	DF 1.00	Result 1.95	Expected 2.00		Recovery 97.5	Accepta 90 - 110	ince Range )
Parameter Mercury	Unit ug/L	DF 1.00	Result 1.82	Expected 2.00		Recovery 91.0	Accepta 80 - 110	ince Range )

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



Client: E2 Consulting Engineers, Inc.			Project Name: Project Numbe	PG&E Topock r: 392895.AA.DN	T	Page 11 of 22 Printed 6/21/10	
Interference Check	Standard A						
Parameter Mercury Interference Check	Unit ug/L : Standard AB	DF 1.00	Result 1.87	Expected 2.00	Recovery 93.5	Acceptance Range 80 - 110	
Parameter Mercury Interference Check	Unit ug/L : Standard AB	DF 1.00	Result 1.91	Expected 2.00	Recovery 95.5	Acceptance Range 80 - 110	
Parameter Mercury	Unit ug/L	DF 1.00	Result 1.90	Expected 2.00	Recovery 95.0	Acceptance Range 80 - 110	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 12 of 22

Printed 6/21/10

A	etals	by	<b>EPA</b>	200.8	, Total
---	-------	----	------------	-------	---------

0-1	~~~~
Haich	060810A

Metals by EPA 200.8, 10tal			Batch 060810A				
Paramete	<u>r</u>	Unit	Analyzed	DF	MDL	RL	Result
989585-00	)1 Antimony	ug/L	06/08/2010 15:54	5.00	0.495	10.0	ND
	Barium	ug/L	06/08/2010 15:54	5.00	0.210	10.0	11.7
	Chromium	ug/L	06/08/2010 15:54	5.00	0.0750	1.0	1.1
	Copper	ug/L	06/08/2010 15:54	5.00	0.520	5.0	ND
	Lead	ug/L	06/08/2010 15:54	5.00	0.0750	10.0	ND
	Manganese	ug/L	06/08/2010 15:54	5.00	0.0600	10.0	ND
	Molybdenum	ug/L	06/08/2010 15:54	5.00	0.725	10.0	17.7
	Nickel	ug/L	06/08/2010 15:54	5.00	0.205	10.0	ND
	Zinc	ug/L	06/08/2010 15:54	5.00	1.32	10.0	ND
989585-00	2 Antimony	ug/L	06/08/2010 16:21	5.00	0.495	10.0	ND
	Barium	ug/L	06/08/2010 16:21	5.00	0.210	10.0	26.7
	Chromium	ug/L	06/08/2010 16:21	5.00	0.0750	1.0	993.
	Copper	ug/L	06/08/2010 16:21	5.00	0.520	5.0	ND
	Lead	ug/L	06/08/2010 16:21	5.00	0.0750	10.0	ND
	Manganese	ug/L	06/08/2010 16:21	5.00	0.0600	10.0	10.6
	Molybdenum	ug/L	06/08/2010 16:21	5.00	0.725	10.0	23.6
	Nickel	ug/L	06/08/2010 16:21	5.00	0.205	10.0	ND
	Zinc	ug/L	06/08/2010 16:21	5.00	1.32	10.0	ND
989585-00	3 Antimony	ug/L	06/08/2010 16:28	5.00	0.495	10.0	ND
	Barium	ug/L	06/08/2010 16:28	5.00	0.210	10.0	113.
	Beryllium	ug/L	06/08/2010 16:28	5.00	0.150	1.0	ND
	Cadmium	ug/L	06/08/2010 16:28	5.00	0.0600	3.0	ND
	Chromium	ug/L	06/08/2010 16:28	5.00	0.0750	1.0	9.1
	Cobalt	ug/L	06/08/2010 16:28	5.00	0.0750	5.0	ND
	Copper	ug/L	06/08/2010 16:28	<b>5</b> .00	0.520	5.0	5.3
	Lead	ug/L	06/08/2010 16:28	5.00	0.0750	10.0	ND
	Manganese	ug/L	06/08/2010 16:28	5.00	0.0600	10.0	15.1
	Molybdenum	ug/L	06/08/2010 16;28	5.00	0.725	10.0	183.
	Nickel	ug/L	06/08/2010 16:28	5.00	0.205	10.0	ND
	Selenium	ug/L	06/08/2010 16:28	5.00	0.245	10.0	36.5
	Silver	ug/ <b>L</b>	06/08/2010 16:28	5.00	0.190	5.0	ND
	Thallium	ug/L	06/08/2010 16:28	5.00	0.0850	1.0	ND
	Vanadium	ug/L	06/08/2010 16:28	5.00	0.0600	5.0	ND
	Zinc	ug/L	06/08/2010 16:28	5.00	1.32	10.0	13.3

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 13 of 22

Printed 6/21/10

Method Blank			,			
Parameter	Unit	DF	Result			
Antimony	ug/L	1.00	ND			
Barium	ug/L	1.00	ND			
Beryllium	ug/L	1.00	ND			
Cadmium	ug/L	1.00	ND			
Chromium	ug/L	1.00	ND			
Cobalt	ug/L	1.00	ND			
Copper	ug/L	1.00	ND			
Lead	ug/L	1.00	ND			
Manganese	ug/L	1.00	ND			
Molybdenum	ug/L	1.00	ND			
Nickel	ug/L	1.00	ND			
Selenium	ug/L	1.00	ND			
Silver	ug/L	1.00	ND			
Thallium	ug/L	1.00	ND			
Vanadium	ug/L	1.00	ND			
Zinc	ug/L	1.00	ND			
Duplicate						Lab (D = 989585-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Antimony	ug/L	5.00	ND	0	0	0 - 20
Barium	ug/L	5.00	11.4	11.7	2.60	0 - 20
Beryllium	ug/L	5.00	ND	0	0	0 - 20
Cadmium	ug/L	5.00	ND	0	0	0 - 20
Chromium	ug/L	5.00	1.00	1.10	9.52	0 - 20
Cobalt	ug/L	5.00	ND	0	0	0 - 20
Copper	u <b>g/L</b>	5.00	ND	0	0	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20
Molybdenum	ug/L	5.00	17.6	17.7	0.567	0 - 20
Nickel	ug/L	5.00	ND	0	0	0 - 20
Selenium	ug/L	5.00	ND	0	ō	0 - 20
Silver	ug/L	5.00	ND	0	0	0 - 20
Thallium	ug/L	5.00	ND	0	0	0 - 20
Vanadium	ug/L	5.00	ND	0	ō	0 - 20
Zinc	ug/L	5.00	ND	Ō	0	0 - 20

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



Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 14 of 22
	Project Number	: 392895.AA.DM	Printed 6/21/10

		.,	ojeot Mainipe	1. 392090.AA,DIVI		Printed 6/21/10
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	49.8	50.0	99.6	90 - 110
Barium	ug/L	1.00	49.6	50.0	99.2	90 - 110
Beryllium	ug/L	1.00	49.7	50.0	99.4	90 - 110
Çadmium	ug/L	1.00	49.0	50.0	98.0	90 - 110
Chromium	ug/L	1.00	48.7	50.0	97.4	90 - 110
Cobalt	ug/L	1.00	52.5	50.0	105.	90 - 110
Copper	ug/L	1.00	49.3	50.0	98.6	90 - 110
Lead	ug/L	1.00	49.6	50.0	99.2	90 - 110
Manganese	ug/L	1.00	52.4	50.0	105	90 - 110
Molybdenum	ug/L	1.00	48.3	50.0	96.6	90 - 110
Nickel	ug/L	1.00	50.2	50.0	100	90 - 110
Selenium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Silver	ug/L	1.00	49.2	50.0	98.4	90 - 110
Thallium	ug/L	1.00	49.8	50.0	99.6	90 - 110
Vanadium	ug/L	1.00	48.3	50.0	96.6	90 - 110
Zinc	ug/L	1.00	49.4	50.0	98.8	90 - 110
Matrix Spike						Lab ID = 989585-001
Parameter	Unit	ÐF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	5.00	256.	250.(250)	102	75 - 125
Barium	ug/L	5.00	261,	262(250)	99.7	75 - 125
Beryllium	ug/L	5.00	255.	250.(250)	102.	75 - 125
Cadmium	ug/L	5.00	235.	250.(250)	94.0	75 - 125
Chromium	ug/L	5.00	244.	251(250)	97.2	75 - 125
Cobalt	ug/L	5.00	242.	250.(250)	96.8	75 - 125
Copper	ug/L	5.00	238.	250.(250)	95.2	75 - 125
Lead	ug/L	5.00	232.	250.(250)	92.8	75 - 125
Manganese	ug/L	5.00	260.	250.(250)	104.	75 - 125
Moiybdenum	ug/L	5.00	260.	268(250)	96.9	75 - 125
Nickel	ug/L	5.00	240.	250.(250)	96.0	75 - 125
Selenium	und/I	5.00	255.	250.(250)	102.	75 - 125
QQIQIIIQIII	ug/L			//		
Silver	ug/L ug/L	5.00	219.	250.(250)	87.6	
	_					75 - 125 75 - 125
Silver	ug/L	5.00	219.	250.(250)	87.6	75 - 125



Client: E2 Consulting Engineers, Inc.			Project Name: Project Number:	PG&E Topock Pro	oject	Page 15 of 22		
			, ojovi riumbon.	002000://\.DIV		Printed 6/21/10		
Matrix Spike Duplicate						Lab ID = 989585-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Antimony	ug/L	5.00	258.	250.(250)	103 Î	75 - 125		
Barium	ug/L	5.00	262.	262(250)	100	75 - 125		
Beryllium	ug/L	5.00	260.	250.(250)	104.	75 - 125		
Cadmium	ug/L	5.00	238.	250.(250)	95.2	75 - 125		
Chromium	ug/L	5.00	243.	251(250)	96.8	75 - 125		
Cobalt	ug/L	5.00	254.	250.(250)	102	75 - 125		
Copper	ug/L	5.00	<b>237</b> .	250.(250)	94.8	75 - 125		
Lead	ug/L	5.00	231.	250.(250)	92.4	75 - 125		
Manganese	ug/L	5.00	259.	250.(250)	104	75 - 125		
Molybdenum	ug/L	5.00	<b>26</b> 5.	268(250)	98.9	75 - 125		
Nickel	ug/L	5.00	238.	250.(250)	95.2	75 - 125		
Selenium	ug/L	5.00	254.	250.(250)	102	75 - 125		
Silver	ug/L	5.00	221.	250.(250)	88.4	75 - 125		
Thallium	ug/L	5.00	231.	250.(250)	92.4	75 - 125		
Vanadium	ug/L	5.00	253.	250.(250)	101	75 - 125		
Zinc	ug/L	5.00	247.	250.(250)	98.8	75 - 125		
MRCCS - Secondary				, ,				
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Antimony	ug/L	1,00	51.8	50.0	104	90 - 110		
Barium	ug/L	1,00	51.1	50.0	102	90 - 110		
Beryllium	ug/L	1.00	51.7	50.0	103	90 - 110		
Cadmium	ug/L	1.00	50.8	50.0	102	90 - 110		
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110		
Cobalt	ug/L	1.00	53.6	50.0	107	90 - 110		
Copper	ug/L	1.00	50.2	50.0	100	90 - 110		
Lead	ug/L	1.00	51.1	50,0	102	90 - 110		
Manganese	ug/L	1.00	<b>53.9</b>	50.0	108	90 - 110		
Molybdenum	ug/L	1.00	50.6	50.0	101	90 - 110		
Nickel	ug/L	1.00	51.0	50.0	102.	90 - 110		
Selenium	ug/L	1.00	51.8	50.0	104	90 - 110		
Silver	ug/L	1.00	50.9	50.0	102	90 - 110		
Thallium	ug/L	1.00	51.4	50.0	103	90 - 110		
Vanadium	ug/Ļ	1.00	49.7	50.0	99.4	90 - 110		
Zinc	ug/Ļ	1.00	51.3	50.0	103	90 - 110		



Client: E2 Consulting Engineers, Inc.		c.	Project Name: PG&E Topock Project Project Number: 392895.AA.DM		•	Page 16 of 22 Printed 6/21/10	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Antimony	ug/L	1.00	50.6	50.0	101	90 - 110	
Barium	ug/L	1.00	50.5	50.0	101.	90 - 110	
Beryllium	ug/L	1.00	46.1	50.0	92.2	90 - 110	
Cadmium	ug/L	1.00	48.5	50.0	97.0	90 - 110	
Chromium	ug/L	1.00	48.5	50.0	97.0	90 - 110	
Cobalt	ug/L	1.00	49.6	50.0	99.2	90 - 110	
Copper	ug/L	1.00	48.6	50.0	97.2	90 - 110	
Lead	ug/L	1.00	48.2	50.0	96.4	90 - 110	
Manganese	ug/L	1.00	52.9	50.0	106	90 - 110	
Molybdenum	ug/L	1.00	48.1	50.0	96.2	90 - 110	
Nickel	ug/L	1.00	49.3	50.0	98.6	90 - 110	
Selenium	ug/L	1.00	47.7	50.0	95.4	90 - 110	
Silver	ug/L	1.00	49.0	50.0	98.0	90 - 110	
Thallium	ug/L	1.00	48.7	50.0	97.4	90 - 110	
Vanadium	ug/L	1.00	48.6	50.0	97,2	90 - 110	
Zinc	ug/L	1.00	49.7	50.0	99.4	90 - 110	
Interference Check S	tandard A						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Antimony	ug/L	1.00	ND	o o	•	, <b></b>	
Barium	ug/L	1.00	ND	0			
Beryllium	uġ/L	1.00	ND	0			
Cadmium	ug/L	1.00	ND	0			
Chromium	ug/L	1.00	ND	0			
Cobalt	ug/L	1.00	ND	0			
Copper	ug/L	1.00	ND	0			
Lead	ug/L	1.00	ND	0			
Manganese	ug/L	1.00	ND	0			
Molybdenum	ug/L	1.00	ND	0			
Nickel	ug/L	1.00	ND	0			
Selenium	ug/L	1.00	ND	0			
Silver	ug/L	1.00	ND	0			
Thallium	ug/L	1.00	ND	0			
Vanadium	u <b>g</b> /L	1.00	ND	0			
Zinc	ug/L	1.00	ND	0			

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895.AA.DM

Page 17 of 22

Printed 6/21/10

Parameter         Unit Antimony         DF Lower No. ND         Result ND         Expected ND         Recovery ND         Acceptance Range Antimony         Acceptance Range Range ND         Acceptance Range Range ND         Acceptance Range Range ND         Acceptance Range Range Range ND         Acceptance Range	Interference Ch	eck Standard A					
Antimony ug/L 1.00 ND 0 Barium ug/L 1.00 ND 0 Beryllium ug/L 1.00 ND 0 Cadmium ug/L 1.00 ND 0 Chromium ug/L 1.00 ND 0 Chromium ug/L 1.00 ND 0 Cobalt ug/L 1.00 ND 0 Copper ug/L 1.00 ND 0 Copper ug/L 1.00 ND 0 Manganese ug/L 1.00 ND 0 Molybdenum ug/L 1.00 ND 0 Molybdenum ug/L 1.00 ND 0 Selenium ug/L 1.00 ND 0 Silver ug/L 1.00 ND 0 Silver ug/L 1.00 ND 0 Thallium ug/L 1.00 ND 0 Thallium ug/L 1.00 ND 0 Silver ug/L 1.00 ND 0 0 Silver ug/L 1.00 ND 0 0 Silver ug/L 1.00 ND 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Dance
Barium         ug/L         1.00         ND         0           Beryllium         ug/L         1.00         ND         0           Cadmium         ug/L         1.00         ND         0           Chromium         ug/L         1.00         ND         0           Cobalt         ug/L         1.00         ND         0           Copper         ug/L         1.00         ND         0           Lead         ug/L         1.00         ND         0           Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selver         ug/L         1.00         ND         0           Selver ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Parameter         Unit         DF         Result         Expected         Recovery	Antimony					recovery	Acceptance Range
Beryllium	Barium	-	1.00	ND			
Cadmium         ug/L         1.00         ND         0           Chromium         ug/L         1.00         ND         0           Cobalt         ug/L         1.00         ND         0           Copper         ug/L         1.00         ND         0           Lead         ug/L         1.00         ND         0           Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Interference Check Standard AB         Expected         Recovery         Acceptance Range Ange Antimony           Antimony         ug/L         1.00         ND         0         80 - 120           Berrameter         Unit         DF         Result         Expected         Recovery         Acceptance Range Ange Action <td>Beryllium</td> <td>-</td> <td>1.00</td> <td>ND</td> <td></td> <td></td> <td></td>	Beryllium	-	1.00	ND			
Chromium         ug/L         1.00         ND         0           Cobalt         ug/L         1.00         ND         0           Copper         ug/L         1.00         ND         0           Lead         ug/L         1.00         ND         0           Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Interference Check Standard         ND         0         0         80 - 120           Parameter         Unit         DF         Result         Expected         Recovery         Acceptance Range           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120	Cadmium	_	1.00	ND			
Cobalt         ug/L         1.00         ND         0           Copper         ug/L         1.00         ND         0           Lead         ug/L         1.00         ND         0           Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Interference Check Standard AB         Variance         Vari	Chromium	_	1.00	ND			
Copper         ug/L         1.00         ND         0           Lead         ug/L         1.00         ND         0           Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Tammeter         Unit         DF         Result         Expected         Recovery         Acceptance Range           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         98.2	Cobalt	ug/L	1.00	ND			
Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB           Fearmeter         Result         Expected         Recovery         Acceptance Range           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         50.3         50.0         101         80 - 120	Copper	ug/L	1.00	ND			
Manganese         ug/L         1.00         ND         0           Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB         Expected         Recovery         Acceptance Range 80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Man	Lead	u <b>g</b> /L	1.00	ND			
Molybdenum         ug/L         1.00         ND         0           Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB         The Country of the Country	Manganese	ug/L	1.00	ND			
Nickel         ug/L         1.00         ND         0           Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0         80 - 120           Interference Check Standard AB         Brander         Unit         DF         Result         Expected         Recovery         Acceptance Range 80 - 120           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         49.1         50.0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         104         80 - 120           Copper         ug/L         1.00         ND         0         80 - 120 <tr< td=""><td>Molybdenum</td><td>ug/L</td><td>1.00</td><td>ND</td><td></td><td></td><td></td></tr<>	Molybdenum	ug/L	1.00	ND			
Selenium         ug/L         1.00         ND         0           Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB           Expected         Recovery Acceptance Range Acceptance Range Antimony           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         ND         0         98.2         80 - 120           Chromium         ug/L         1.00         49.1         50.0         98.2         80 - 120           Chopper         ug/L         1.00         50.9         50.0         101         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L	Nickel	ug/L	1.00	ND			
Silver         ug/L         1.00         ND         0           Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB           Parameter         Unit         DF         Result         Expected         Recovery         Acceptance Range           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         ND         0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0 </td <td>Selenium</td> <td>ug/L</td> <td>1.00</td> <td>ND</td> <td></td> <td></td> <td></td>	Selenium	ug/L	1.00	ND			
Thallium         ug/L         1.00         ND         0           Vanadium         ug/L         1.00         ND         0           Zinc         ug/L         1.00         ND         0           Interference Check Standard AB           Parameter         Unit         DF         Result         Expected         Recovery         Acceptance Range 80 - 120           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         ND         0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L	Silver	ug/L	1.00	ND			
Zinc         ug/L         1.00         ND         0           Interference Check Standard AB           Parameter         Unit         DF         Result         Expected         Recovery         Acceptance Range 80 - 120           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         A9.1         50.0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         ND         0         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         <	Thailium	ug/L	1.00	ND			
Parameter	Vanadium	ug/L	1.00	ND	0		
Parameter         Unit         DF         Result         Expected         Recovery         Acceptance Range 80 - 120           Antimony         ug/L         1.00         ND         0         80 - 120           Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         49.1         50.0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         ND         0         80 - 120           Silver         ug	Zinc	ug/L	1.00	ND	0		
Antimony ug/L 1.00 ND 0 80 - 120  Barium ug/L 1.00 ND 0 80 - 120  Beryllium ug/L 1.00 ND 0 80 - 120  Cadmium ug/L 1.00 ND 0 98.2 80 - 120  Chromium ug/L 1.00 50.3 50.0 101 80 - 120  Cobalt ug/L 1.00 51.8 50.0 104 80 - 120  Copper ug/L 1.00 50.9 50.0 102 80 - 120  Lead ug/L 1.00 ND 0 80 - 120  Manganese ug/L 1.00 ND 0 80 - 120  Molybdenum ug/L 1.00 ND 0 80 - 120  Nickel ug/L 1.00 ND 0 80 - 120  Selenium ug/L 1.00 ND 0 80 - 120  Silver ug/L 1.00 ND 0 99.8 80 - 120  Silver ug/L 1.00 ND 0 99.8 80 - 120  Thailium ug/L 1.00 ND 0 80 - 120  Vanadium ug/L 1.00 ND 0 80 - 120	Interference Che	eck Standard AB					
Antimony       ug/L       1.00       ND       0       80 - 120         Barium       ug/L       1.00       ND       0       80 - 120         Beryllium       ug/L       1.00       ND       0       80 - 120         Cadmium       ug/L       1.00       49.1       50.0       98.2       80 - 120         Chromium       ug/L       1.00       50.3       50.0       101       80 - 120         Cobalt       ug/L       1.00       51.8       50.0       104       80 - 120         Copper       ug/L       1.00       50.9       50.0       102       80 - 120         Lead       ug/L       1.00       ND       0       80 - 120         Manganese       ug/L       1.00       ND       0       80 - 120         Molybdenum       ug/L       1.00       ND       0       80 - 120         Nickel       ug/L       1.00       ND       0       80 - 120         Selenium       ug/L       1.00       ND       0       99.8       80 - 120         Thallium       ug/L       1.00       ND       0       80 - 120         Vanadium       ug/L       1.00       <	Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium         ug/L         1.00         ND         0         80 - 120           Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         49.1         50.0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         ND         0         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND	Antimony	ug/L	1.00	ND	•	,	
Beryllium         ug/L         1.00         ND         0         80 - 120           Cadmium         ug/L         1.00         49.1         50.0         98.2         80 - 120           Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         ND         0         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND	Barium	ug/L	1.00	ND	0		
Cadmium       ug/L       1.00       49.1       50.0       98.2       80 - 120         Chromium       ug/L       1.00       50.3       50.0       101       80 - 120         Cobalt       ug/L       1.00       51.8       50.0       104       80 - 120         Copper       ug/L       1.00       50.9       50.0       102       80 - 120         Lead       ug/L       1.00       ND       0       80 - 120         Manganese       ug/L       1.00       ND       0       80 - 120         Molybdenum       ug/L       1.00       ND       0       80 - 120         Nickel       ug/L       1.00       ND       0       80 - 120         Selenium       ug/L       1.00       ND       0       80 - 120         Silver       ug/L       1.00       ND       0       80 - 120         Thaillium       ug/L       1.00       ND       0       80 - 120         Vanadium       ug/L       1.00       ND       0       80 - 120	Beryllium	ug/L	1.00	ND	0		
Chromium         ug/L         1.00         50.3         50.0         101         80 - 120           Cobalt         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         54.9         50.0         110         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Cadmium	ug/L	1.00	49.1	50.0	98.2	
Cobalit         ug/L         1.00         51.8         50.0         104         80 - 120           Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         54.9         50.0         110         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Chromium	ug/L	1,00	50.3	50.0	101	
Copper         ug/L         1.00         50.9         50.0         102         80 - 120           Lead         ug/L         1.00         ND         0         80 - 120           Manganese         ug/L         1.00         ND         0         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Cobalt	ug/L	1.00	51.8	50.0		
Manganese         ug/L         1.00         54.9         50.0         110         80 - 120           Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         99.8         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Copper	ug/L	1.00	50.9	50.0	102	
Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         49.9         50.0         99.8         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Lead	ug/L	1.00	ND	0		
Molybdenum         ug/L         1.00         ND         0         80 - 120           Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         ND         0         99.8         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Manganese	ug/L	1.00	54,9	50.0	110	80 - 120
Nickel         ug/L         1.00         51.6         50.0         103         80 - 120           Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         49.9         50.0         99.8         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Molybdenum	ug/L	1.00	ND	0		
Selenium         ug/L         1.00         ND         0         80 - 120           Silver         ug/L         1.00         49.9         50.0         99.8         80 - 120           Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120	Nickel	ua/l	1.00	51.6	50.0	103	
Silver     ug/L     1.00     49.9     50.0     99.8     80 - 120       Thallium     ug/L     1.00     ND     0     80 - 120       Vanadium     ug/L     1.00     ND     0     80 - 120	Mongi	ug, L					
Thallium         ug/L         1.00         ND         0         80 - 120           Vanadium         ug/L         1.00         ND         0         80 - 120			1.00	ND	0		80 - 120
Vanadium ug/L 1.00 ND 0 80 - 120	Selenium Silver	ug/L				99.8	
7:44	Selenium Silver Thallium	ug/L ug/L	1.00	49.9	50.0	99.8	80 - 120
	Selenium Silver Thallium Vanadium	ug/L ug/L ug/L	1.00 1.00	49.9 ND	50.0 0	99.8	80 - 120 80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 18 of 22

Printed 6/21/10

### Interference Check Standard AB

Parameter	l lucia	0.0	D	<b>5</b>	_	
	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		80 - 120
Barium	ug/L	1.00	ND	0		80 - 120
Beryllium	ug/L	1.00	ND	0		80 - 120
Cadmium	ug/L	1.00	51.1	50.0	102	80 - 120
Chromium	ug/L	1.00	50.8	50.0	102	80 - 120
Cobalt	ug/L	1.00	54.2	50.0	108	80 - 120
Copper	ug/L	1.00	51.8	50.0	104	80 - 120
Lead	ug/L	1.00	ND	0		80 - 120
Manganese	ug/L	1.00	55.1	50.0	110	80 - 120
Molybdenum	ug/L	1.00	ND	0		80 - 120
Nickel	ug/L	1.00	52.2	50.0	104	80 - 120
Selenium	ug/L	1.00	ND	0		80 - 120
Silver	ug/L	1.00	51.8	50.0	104	80 - 120
Thallium	ug/L	1.00	ND	0		80 - 120
Vanadium	ug/L	1.00	ND	0		80 - 120
Zinc	ug/L	1.00	52.2	50.0	104	80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895,AA,DM

Page 19 of 22

Printed 6/21/10

Metals by EPA 200.8, 1	<b>fotal</b>		Batch	061010A				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989585-001 Arsenic		ug/L	06/10	0/2010 19:11	5.00	0.140	1.0	ND
989585-002 Arsenic		ug/L		0/2010 19:11	5.00		1.0	4.4
989585-003 Arsenic		ug/L	06/10	06/10/2010 19:11			1.0	1.6
Method Blank		· · · · · ·	'	'				
Parameter	Unit	DF	Result					
Arsenic	ug/L	1.00	ND					
Duplicate							Lab ID =	989585-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Arsenic	ug/L	5.00	ND	0		0	0 - 20	ance renge
Lab Control Sample	;							
Parameter	Ųnit	DF	Result	Expected		Recovery	Accenta	ance Range
Arşenic	ug/L	1.00	52.3	50.0		105	90 - 110	
Matrix Spike								989585-001
Parameter	Unit	DF	Result	Expected/Ad	dded	Recovery	Accepta	ance Range
Arsenic	ug/L	5.00	258.	250.(250)		103	75 - 128	-
Matrix Spike Duplica	ate						Lab ID =	989585-001
Parameter	Ųnit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Arsenic	ug/L	5.00	263.	250.(250)		105	75 - 12	-
MRCCS - Secondar	У							
Parameter	Ųnit	DF	Result	Expected		Recovery	Accepta	ance Range
Arsenic	ug/L	1.00	51.5	50.0		103.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Arsenic	ug/L	1.00	55.0	50.0		110.	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Arsenic	ug/L	1.00	54.1	50.0		108	90 - 110	)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Arsenic	ug/L	1.00	52.6	50.0		105	90 - 110	-
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Ars <b>e</b> nic	ug/L	1.00	ND	0		-	•	•

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



Client: E2 Consulting Engineers, Inc.			Project Name: Project Numbe		PG&E Topock Project 392895.AA.DM			Page 20 of 22 Printed 6/21/10	
Interference Check	Standard A								
Parameter Arsenic Interference Check 9	Unit ug/L	D <b>F</b> 1.00	Result ND	Expected 0	R	ecovery	Accepta	ance Range	
Parameter Arsenic Interference Check	Unit ug/L	DF 1.00	Result 53.0	Expected 50.0		ecovery 106.	Accepta 80 - 110	ance Range )	
Parameter Arsenic	Unit ug/L	DF 1.00	Result 50.2	Expected 50.0	Recovery 100		Acceptance Range 80 - 110		
Total Dissolved Solids	by S <b>M</b> 2540	C	Batch	06TD\$10B	· · · · · ·	, ·	6/7/10		
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
989585-001 Total Dissolved	Solids	mg/L	06/07/2010		1.00	0.434	250.	4650	
989585-002 Total Dissolved	Solids	mg/L	06/07	/2010	1.00	0.434	250.	4950	
989585-003 Total Dissolved	Solids	mg/L	06/07	/2010	1.00	0.434	1250	33100	
Method Blank		'				·			
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				l ah ID	989584-001	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 3570	Expected 3450		PD 3.42		ince Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 498.	Expected 500.		ecovery 99.6	Accepta 90 - 110	ince Range )	

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



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Project Number: 392895.AA.DM

Page 21 of 22

Printed 6/21/10

Ammonia Nitrogen by SM4500-NH3D Batch 06NH-E10B 6/7/10

Parameter		Unit	Ana	elyzed	DF	MDL	RL	Result
989585-001 Ammonia as N		mg/L	06/07	7/2010	1.00	0.00200	0.500	ND
989585-002 Ammonia as N		mg/L	06/07	7/2010	1.00	0.00200	0.500	ND
Method Blank			- <del>"</del>			, ,		
Parameter	Unit	DF	Result					
Ammonia as N	mg/L	1.00	ND					
Duplicate							Lab ID = 9	989585-001
Parameter	Unit	DF	Result	Expected	R	PD		nce Range
Ammonia as N	mg/L	1.00	ND	0		0	0 - 20	nce italiye
Lab Control Sample						•		
Parameter	Unit	DF	Result	Expected	R	ecovery	Acconta	nce Range
Ammonia as N	mg/L	1.00	10.3	10.0	,,	103.	90 - 110	
Matrix Spike							<b>-</b>	989585-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery		nce Range
Ammonia as N	mg/L	1.00	6.01	6.00(6.00)		100	75 - 125	nce Kange
Matrix Spike Duplicate				, ,				989585-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery		nce Range
Ammonia as N	mg/L	1.00	5.99	6.00(6.00)		99.8	75 - 125	ice itange
MRCCS - Secondary				,				
Parameter	Unit	₽F	Result	Expected	R	ecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	5.92	6.00		98.7	90 - 110	ice Range
MRCVS - Primary							<b>40</b> 110	
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptes	noe Ponce
Ammonia as N	mg/L	1.00	5.86	6.00		97. <b>7</b>	90 - 110	nce Range

029



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895,AA.DM

Page 22 of 22

Printed 6/21/10

Turbidity by SM 2130 B			Batch	06TUC10E			6/3/10	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989585-001 Turbidity		NTU	06/03	3/2010	1.00	0.0140	0.100	ND
989585-002 Turbidity		NTŲ	06/03	3/2010	1.00	0.0140	0.100	ND
Method Blank						0.01-0	0.100	IND
Parameter	Ųnit	DF	Result					
Turbidity	ŊŢŲ	1.00	ND					
Duplicate							Lab ID = 9	989585-002
Parameter	Unit	DF	Result	Expected	RF	חס		
Turbidity	NTU	1.00	ND	0	(	_	0 - 20	nce Range
Lab Control Sample					•	•	V - <b>2</b> 0	
Parameter	Unit	ĎF	Result	Expected	Do	covery	<b>^</b>	D.
Turbidity	NTU	1.00	8.10	8.00		101	90 - 110	nce Range
Lab Control Sample			-		'		30 - 110	
Parameter	Unit	ĎF	Result	Expected	Ro	covery	Accenter	D
Turbidity	NTU	1.00	8.06	8.00		101	90 - 110	nce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

I payed III QC

TRUESDAL LABORATORIES, INC. 14201 Franklin Avenue, Tustin, CA 92760-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdall.com

CHAIN OF CUSTODY RECORD [IM3Plant-WDR-259]

COC Number

용

10 Days PAGE

TURNAROUND TIME DATE 06/02/10 585686

TOTAL NUMBER OF CONTAINERS COMMENTS D4-2 NUMBER OF CONTAINERS See Form Attachie 4 ব Total Metals (2005) Mn (300.0) F. NO3, NO2, SO4 × × Anions (300.0) F × × Total Melals (2.00.7) See List Below × × ŝ 3 Ė × 10S (2840 c) Tible 22 Metals List (200.7. 200.8, 245.1) × × Ş 8 秀 8 × × × Cr(VI) (218.6) Lab Fillered × × × 81,749 74,82 61.6 B × Z 8 × × × DESCRIPTION 2000 FAX 530-339-3303 14:10 8. 20. *∞* '⊊ 8:3 080 8 HAE. 7.4 5 1 Ŧ 06/02/10 06/02/10 06/02/10 155 Grand Ave Ste 1000 OATE <u>&</u> <u>₹</u> g PER PER Oakland, CA 94612 PG&E Topock IM3 392895.AA.DM 530-229-3303 SC-100B-WDR-259 SC-700B-WDR-259 SC-701-WDR-259 SAMPLERS (SIGNATURE 臣 PROJECT NAME 8.700 P.O. NUMBER ક્ ઇ SAMPLE 1.D. COMPANY ADORESS PROME

-

	SAMPLE CONDITIONS	WARM (			), As, Ba, B, Cu, Pb, Mn,	111111	
	SAMPLE	RECEIVED COOL	CUSTODY SEALED YES	2/ 4 2 SPECIAL REQUIREMENTS:	The metals include: Cr. Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni Fe, Zn		
The state of the s		Date: 6-2-70 Time 1530	T Time 15:30	I Time 2/10	Date/ Time 6/2/10 21,30	Date/ / Time	Dabs' Time
	CHAIN OF CUSTODY SIGNATURE RECORD	Halfs Agency Om/	Company / L	Company! T. L.	Calludgency 76.7	Company/ Agency	Company/ Agency
	CHAIN OF CUSTOL	Printed South	Dulkame La Free	Day 1 Marie Kala	Mus Name Traleury	Printed Name	Printed Name
		Signature (Relinquished)	Signature (Received)	Signature (Relinquished)	Signature (Sulfum	Signature (Relinquished)	Signature (Received)

# Sample Integrity & Analysis Discrepancy Form

Client	:: <u>E2</u>	Lab # <b>9</b>	<u>8958</u> 5
Date i	Delivered: <u>06 / 02 /</u> 10 Time: <u>2/:'30</u> By: □Mail MField	Service	□ Client .
1.	Was a Chain of Custody received and signed?	ØYes □∧	lo □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □∧	lo SIN/A
З.	Are there any special requirements or notes on the COC?	□Yes □∧	lo QIN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □∧	lo 🛍 N/A
5.	Were all requested analyses understood and acceptable?	<b>∆</b> Yes □∧	lo □N/A
6.	Were samples received in a chilted condition? Temperature (if yes)? 4.2° C	⊠(Yes □∧	lo □N/A
<b>7</b> .	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)	<b>⊠</b> LYes □Λ	lo □N/A
8.	Were sample custody seals intact?	□Yes □N	lo 🖫N/A
9.	Does the number of samples received agree with COC?	Mayes Man	lo 🗆 N/A
10.	Did sample labels correspond with the client ID's?	<b>to</b> Yes □∧	lo □N/A
11.	Did sample labels indicate proper preservation?  Preserved (if yes) by:   Truesdail   Client	<b>⊠</b> Yes □∧	lo □N/A
12.	Were samples pH checked? pH = $\underline{See}_{C}$ . $\mathcal{O}$ . $\mathcal{C}$ .	ØdYes □∧	lo □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes ロ∧	lo □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ <b>RUSH ¤</b> Std	ØYes □∧	lo □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Water □Solid □Solid □Wipe □Paint □Solid □Drinking Water □Solid □Drinking □Drinking □Solid □Drinking □Dri	ter owa ner <u>Wata</u>	aste Water
16.	Comments: Toc sample for SC-100B-WDR-259 n	at rece	sed.
17,	Sample Check-In completed by Truesdail Log-In/Receiving:	" Strab	uning

Established 1931



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

June 30, 2010

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-259 PROJECT, SLUDGE

MONITORING,

TLI No.: 989586

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-259 project sludge monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 2, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

All final results and associated dilution factors are reported on a dry weight basis.

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

For K.R.P. Iyer

Quality Assurance/Quality Control Officer

## TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

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

Project No.: 392895.AA.DM

Laboratory No.: 989586

**Date:** June 30, 2010 **Collected:** June 2, 2010 **Received:** June 2, 2010

### **ANALYST LIST**

METHOD	PARAMETER	ANALYST
EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Daniel Kang / Hope Trinidad
SW 6020	Metals by ICP/MS	Daniel Kang
SW 7199	Hexavalent Chromium	Sonya Bersudsky

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7008

Established 1931

[7] 4] 730-6239 · FAX (714) 730-6462 · www.truesdeil.com

Date Received: June 2, 2010 Laboratory No.: 989586

155 Grand Ave. Suite 1000 Oakland, CA 94612

Attention: Shawn Ouffy

Client: E2 Consulting Engineers, Inc.

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

P.O. No.: 392895.AA.DM

# Analytical Results Summary

SM 2540 B % Moisture	%	55.7
EPA 300.0 Fluoride	mg/kg	37.6
SW 7199 Hexavalent Chromium	mg/kg	87.0
Sample Time		14:00
Sample I.D.		SC-Sludge
Lab I.D.		989586

ND: Non Detacted (before reporting limit)

mg/L: Miligrams per litar.

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

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

Date Received: June 2, 2010 Laboratory No.: 989586

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

# **Analytical Results Summary**

Total Metal Analyses as Requested METALS ANALYSIS:

Lab I.D.	Date of Analysis: Lab I.D. Sample ID Time Coll.	Antimony SW 6010B 06/17/10 mg/kg	Arsenic SW 6010B 06/17/10 mg/kg	Barium SW 6010B 06/17/10 mg/kg	Beryllium SW 6010B 06/17/10 mg/kg	Cadmium SW 6010B 06/17/10 ma/ka	Chromium SW 6010B 06/08/10	Cobalt SW 6010B 06/17/10 mo/ko	Copper SW 60108 06/17/10	Lead SW 6010B 06/17/10
989586	SC-Sludge-WDR-259 14:00	117	8.50	96.1	2.29	10.6	10300	11.2	961	11.7
Lab I.D.	Dete of Analysis: Lab I.D. Sample ID Time Coll.	Mercury SW 6020 06/18/10 mg/kg	Molybdenum SW 6010B 06/17/10 mg/kg	Nickel SW 6010B 08/17/10 mg/kg	Selenium SW 6010B 06/17/10 mg/kg	Silver SW 6010B 06/25/10 mg/kg	Thallium SW 6010B 06/17/10 mg/kg	Vanadium SW 6010B 06/17/10 mg/kg	Zinc SW 6010B 06/17/10 mg/kg	
989586	SC-Sludge-WDR-259 14:00	0.282	18.8	41.6	Ð	₽	QN	133	2	

NOTES:

ND: Not detected, or below limit of detection

This reportapplies 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.

Laboratory

Number

**EXCELLENCE IN INDEPENDENT TESTING** 

Established 1931



Relative

Percent

# REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Soil Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Prep. Batch: 06CrH10A

Laboratory No.: 989586

Date: June 30, 2010

QC Within

Control

Collected: June 2, 2010

Received: June 2, 2010

Prep/ Analyzed: June 3, 2010

Analytical Batch: 06CrH10A

Acceptance

limits

Investigation:

Hexavalent Chromium by IC Using Method SW 7199

# **Analytical Results Hexavalent Chromium**

<u>TLLLD.</u>	Field I.D.	Sample Time	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
989586	SC-Sludge-WDR-25	9 14:00	16:52	mg/kg	5.00	5.83	87.0

**QA/QC Summary** 

Duplicate

Concentration

\$ample

Concentration

		]						Difference			
	Duplio	ate	989502-2	ND	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ND	0.00%	<u>&lt; 20%</u>	Yes	
QC Std	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.		MS nount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	989502-2	0.00	10.0	8.98	-	39.8	86.9	89.8	96.7%	75-125%	Yes
IMS	989502-2	0.00	50.0	19.0	9	952	866	952	91.0%	75-125%	Yes
PDMS	989502-2	0.00	25.0	7.18		180	179	180	99.6%	75-125%	Yes

QC \$td I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400		<0.400	Yes
MRCCS	1.99	2.00	99.4%	90% - 110%	Yes
MRCVS#1	2.02	2.00	101%	90% - 110%	Yes
MRCVS#2	2.06	2.00	103%	90% - 110%	Yes
MRCVS#3	2.06	2.00	103%	90% - 110%	Yes
LCS	1.94	2.00	96.9%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

QC STD I.D.

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 those laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

EXCELLENCE IN INDEPENDENT TESTING

Î

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) Soil Sample Project Name: PG&E Topock Project

Project No.: 392895.AA, DM P.O. No.: 392895.AA, DM Laboratory No.; 989586

Date: June 30, 2010 Collected: June 2, 2010

Received: June 2, 2010

Prep/ Analyzed: June 7, 2010 Analytical Batch: 06SOLID10A

Investigation:

Total Solids by SM 2540 B

REPORT

# **Analytical Results % Moisture**

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

 989586
 SC-Sludge-WDR-259
 14:00
 %
 65.7

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	989586	65.7	66.2	0.76%	≤ 20%	Yes

ND: Below the reporting limit (Not Detected).

**DF:** Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services

**EXCELLENCE IN INDEPENDENT TESTING** 

Established 1931



# REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Soil Sample

Project Name: PG&E Topock Project

Project No.: 392895,AA,DM P.O. No.: 392895,AA,DM Laboratory No.: 989586

Date: June 30, 2010

Collected: June 2, 2010 Received: June 2, 2010

Prep/ Analyzed: June 3, 2010 Analytical Batch: 06AN10D

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

# **Analytical Results Fluoride**

TLI I.D. Field I.D. Sample Time Run Time Units DF <u>RL</u> Results 989586 SC-Sludge-WDR-259 14:00 12:19 mg/kg 1.00 11.7 37.6

QA/QC Summary

	QC ST		Labora Numt	er	Concentra	ation	Dupli Concen	cate	Relative Percent Difference	Acc	eptance imits	QC Within Control	
	Duplic	ate	98958	5-1	2.06		2.1	1	2.40%	5	20%	Yes	
QC Std I.D.	Lab Number	Conc.c unspike sample	d F	ution actor	Added Spike Conc.	_		Measured Conc. of spiked sample	Theoretical Conc. of spiked sample		MS% covery	Acceptance limits	QC Within Control
MS	989585-1	2.06		5.00	4.00	2	20.0	21.3	22.1	ç	6.2%	85-115%	Yes
		QC S	td I.D.	1	esured	ı	eoretical	Percer	·-   · · ·		QC With		

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500		<0.500	Yes
MRCCS	4.10	4.00	103%	90% - 110%	Yes
MRCVS#1	3.05	3.00	102%	90% - 110%	Yes
MRCVS#2	3.06	3.00	102%	90% - 110%	Yeş
LCS	4,09	4.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor,

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Laboratory No.: 989586

Reported: June 30, 2010 Collected: June 2, 2010 Received: June 2, 2010 Analyzed: See Below

## REPORT

Oakland, CA 94612

Attention: Shawn Duffy

Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

Investigation: Total Metal Analyses as Requested

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

# **Analytical Results**

SAMPLE ID: SC-SI	udge-WDR-259	Time Colle	ected: 14	1;00		LAB ID	989586	
		Reported					Date	Time
Parameter	Method	Value	DF	Units	RL	Batch	Analyzed	Analyzed
Antimony	SW 6010B	117	1.00	mg/kg	2.00	061710A-Th	06/17/10	16:31
Arsenic	SW 6010B	8.50	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Barium	SW 6010B	96.1	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Beryllium	SW 6010B	2.29	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Cadmium	SW 6010B	10.6	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Chromium	SW 6010B	10300	10.0	mg/kg	13.9	060810A-Th	06/08/10	17:01
Cobalt	\$W 6010B	11.2	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Copper	SW 6010B	196	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Lead	SW 6010B	11,7	1.00	mg/kg	1.26	061 <b>710</b> A-Th	06/17/10	16:31
Mercury	SW 6020	0.282	5.00	mg/kg	0.126	061810A-Hg	06/16/10	13:48
Molybdenum	SW 6010B	18.8	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Nickel	SW 6010B	41.6	1.00	mg/kg	1.26	061 <b>710</b> A-Th	06/17/10	16:31
Selenium	SW 6010B	ND	1,00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Silver	SW 6010B	ND	1.00	mg/kg	1.26	062510A	06/25/10	17:45
Thallium	SW 6010B	ND	1.00	mg/kg	2.00	061710A-Th	06/17/10	16:31
Vanadium	SW 6010B	133	1.00	mg/kg	1.26	061710A-Th	06/17/10	16:31
Zinc	SW 6010B	264	1.00	mg/kg	2.00	061710A-Th	06/17/10	16:31

## NOTES:

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

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy
Samples: One (1) Soil Sample
Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

P.O. No.: 392895.AA.DM

Established 1931

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

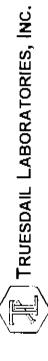
Laboratory No.: 989586

Reported: June 30, 2010

Collected: June 2, 2010 Received: June 2, 2010

# Quality Control/Quality Assurance Report

			DIGEST	DIGESTED BLANK		MRCCS				FRCVS			
						Observed	TRUE	'n¢.	Control	Observed	TRUE	*	Control
Parameter	Method	Batch	Units	Blank	교	Value	Value	<b>29</b> 6	Limits	Value	Value	æ	Limits %
Antimony	SW 6010B	SW 6010B 061710A-Th	mg/kg	Ş	2.00	5.04	5.00	101%	90-110%	4.69	5.00	93.8%	90-110%
Arsenic	SW 6010B	061710A-Th	тдля	NO.	0.50	5.05	5.00	105%	90-110%	4.71	5.00	94.2%	90-110%
Barium	SW 6010B	061710A-Th	mg/kg	ON	1.00	4.96	5.00	99.2%	90-110%	4.75	5.00	95.0%	90-110%
Berytlium	SW 6010B	061710A-Th	mg/kg	2	0.50	4.95	2.00	80.0%	90-110%	4.61	5.00	92.2%	90-110%
Cadmium	SW 6010B	061710A-Th	таука	Đ.	0.50	5.03	2.00	101%	90-110%	4.72	5.00	94.4%	90-110%
Chromium	SW 6010B	060810A-Th	mg/kg	2	8	5.10	5.00	102%	90-110%	5.11	2.00	102%	90-110%
Cobalt	SW 6010B	061710A-Th	mg/kg	õ	1.00	4.96	5.00	99.2%	90-110%	4.68	2.00	93.6%	90-110%
Copper	SW 6010B	061710A-Th	mg/kg	9	9.1	4.95	5.00	%0.66	90-110%	4.67	200	93.4%	90-110%
Lead	SW 6010B	061710A-Th	тдлед	Ö	1.00	5.07	5.00	101%	90-110%	4.69	5.00	93.8%	90-110%
Mercury	SW 6020	061810A-Hg	<b>g</b> Agm g Ag	ð	0.100	0.00198	0.00200	98.0%	90-110%	0000	0.00200	98.5%	90-110%
Molybdenum	SW 6010B	061710A-Th	mg/kg	ð	8	4.95	5.00	99.0%	90-110%	4.69	5.00	93.8%	90-110%
Nickel	SW 6010B	061710A-Th	mg/kg	9	1.00	4.97	5.00	99.4%	90-110%	4.68	5.00	93.6%	90-110%
Seleniam	SW 6010B	061710A-Th	mg/kg	Q	1.00	9.G	2:00	101%	90-110%	4.75	5.00	95.0%	90-110%
Silver	SW 6010B	062510A	mg/kg	Š	1.08	4.89	5.00	97.6%	90-110%	4.78	5.00	95.6%	90-110%
Thallium	SW 6010B	061710A-Th	mg/kg	NO	2.00	5.01	5.00	100%	90-110%	4.72	5.00	94.4%	90-110%
Vanadium	SW 6010B	061710A-Th	mg/kg	QN	1.00	4.82	5.00	96.4%	90-110%	<u>2</u>	2.00	90.8%	90-110%
Zinc	SW 6010B	061710A-Th	mg/kg	Q	2.00	5.01	5.00	100%	90-110%	4.79	2:00	95.8%	90-110%



Report Continued

INTERFERENCE CHECK STANDARD

Control	Limits	80-120%	80-120%	80-120%	80-120%	80-120%	80-120%	80-120%	80-120%
×	Rec.	80.76	96.5%	93.5%	%0.98	%0.66	93.5%	%0.86	100%
S	Thec.	2.00	2.00	2.00	2.00	2.00	0.00200	2.00	2.00
<u> </u>	Obs.	<u>8</u> .	1.93	1.87	1.92	1.98	0.00187	90°+	2.00
Units		mg/kg	mg/kg	mg/kg	mg/kg	щgлkg	mg/kg	Sp. Chi	mg/kg
Method		SW 6010B	SW 6010B	SW 6010B	SW 6010B	SW 6010B	SW 6020	SOLOS MIS	SW 6010B
Parameter		ji:	nin	min	Cobalt	! ! ! ! ! ! !	Mercury	Michel Wickel	Sinc

repter         Method         Units         LCS         LCS         Control         SAMPLE         SAMPLE         DuP         RESULT         RESULT         RPD           cory         SW 6010B         mg/kg         96.7         100         94.1%         60.120%         998568         117         121         2.87%           cory         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         998568         8.50         9.02         5.93%           inim         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         998568         8.50         9.02         5.93%           inim         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         989568         8.50         9.02         5.93%           inim         SW 6010B         mg/kg         97.5         100         96.8%         80-120%         989568         10.6         96.3%           inim         SW 6010B         mg/kg         95.0         100         96.8%         80-120%         989568         11.2         11.3%         90956           sW 6010B         mg/kg         96.5         100         96.8%         80-1				LABORATO	LABORATORY CONTROL SAMPL	SAMPLES		SAMPLE DUPLICATES	CATES			
r         Method         Units         LCS         LCS         Limits         London         SAMPLE         DuP         RESULT         RESULT         RESULT         RESULT         RESULT         RESULT         RESULT         REPD         LD            SW 6010B         mg/kg         94.1         10.0         94.1%         80-120%         998568         117         121         28.7%         LD           SW 6010B         mg/kg         95.6         10.0         95.7%         80-120%         998568         2.79         90.2         28.7%         1.0         2.8%         80-120%         998568         2.79         9.0         2.8%         80-120%         998568         2.79         9.0         9.												Precision
SW 6010B         mg/kg         94.1         No. 120%         98958B         117         121         287%         LD           SW 6010B         mg/kg         94.1         100         94.1%         80-120%         98958B         117         121         287%         LD           SW 6010B         mg/kg         95.7         100         95.7%         80-120%         98958B         177         121         287%         593%           SW 6010B         mg/kg         95.8         100         95.8%         80-120%         98958B         2.25         2.17         269%         993%         993         2.4%         80-120%         98958B         2.17         503%         993         2.4%         80-120%         98958B         2.17         503%         993         2.4%         80-120%         98958B         2.17         503%         993         2.17         503%         993         2.17         503%         993         993         1.13         1.13%         993         993         993         993         993         993         993         993         993         993         993         993         993         993         993         993         993         993         993	Paremeter	Method	Units	អ្ន	ຽງໆ	3¢	Control	SAMPLE	SAMPLE	oup	*	Control
SW 6010B         mg/kg         94.1         100         94.1%         80-120%         989586         8.50         9.02         5.93%           SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         8.50         9.02         5.93%           SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         2.9         2.17         5.93%           SW 6010B         mg/kg         95.7         100         95.3%         80-120%         989586         1.05         2.17         5.93%           SW 6010B         mg/kg         97.9         100         95.3%         80-120%         989586         1.05         0.01%           SW 6010B         mg/kg         95.5         100         95.5%         80-120%         989586         1.12         11.5         11.5         11.3%           SW 6010B         mg/kg         95.5         100         95.5%         80-120%         989586         19.6         19.3         15.3%           SW 6010B         mg/kg         97.5         100         97.4%         80-120%         989586         11.7         12.8         899%           SW 6010B <td< th=""><th></th><th></th><th>!</th><th>Obs.</th><th>Theo.</th><th>Rec</th><th>Limits</th><th>- CI</th><th>RESULT</th><th>RESULT</th><th>RPD</th><th>Limita %</th></td<>			!	Obs.	Theo.	Rec	Limits	- CI	RESULT	RESULT	RPD	Limita %
SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         8.50         9.02         5.93%           SW 6010B         mg/kg         95.8         100         95.8%         80-120%         989586         96.1         98.7         2.69%           SW 6010B         mg/kg         95.8         100         95.8%         80-120%         989586         10.6         10.6         10.6         10.6         10.6         10.6         10.8%         10.3%         10.8%         10.3%         10.8%         10.8%         10.8%         10.8%         10.8%         10.8         10.8         10.8         10.8         10.6         10.8         11.2         11.5         10.8%         10.8%         10.8%         10.8         10.8         10.8         10.2         11.5         11.3         10.8%         10.8         10.8         10.9         98.8%         10.2         98.9586         11.7         12.8         8.99%           SW 6010B         mg/kg         96.7         10.0         97.5%         80-120%         989586         11.7         12.8         8.99%           SW 6010B         mg/kg         96.7         10.0         97.8%         80-120%         989586	Antimony	SW6010B	maika	¥.	100	\$2.7% 54.7%	80-120%	983586	117	121	2.87%	520
SW 6010B         mg/kg         95.8         100         95.8%         80-120%         983-586         96.1         98.7         2 69%           SW 6010B         mg/kg         92.4         100         92.4%         80-120%         989566         2.29         2.17         5 03%           SW 6010B         mg/kg         97.3         100         97.9%         80-120%         989566         10.6         10.6         0.61%         5 03%           SW 6010B         mg/kg         96.5         100         96.5%         80-120%         989566         10.6         10.6         0.61%           SW 6010B         mg/kg         96.5         100         96.8%         80-120%         989566         11.2         11.5         3.08%           SW 6010B         mg/kg         96.5         100         97.5%         80-120%         989566         11.6         13.8         15.3%           SW 6010B         mg/kg         96.7         100         97.5%         80-120%         989566         11.6         13.9         5.58%           Um         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         999566         10.5         13.9         999566         <	Amening	SW 6010B	modea	95.7	5	95.7%	80-120%	989286	8.50	9.02	5.93%	63
SW 6010B         mg/kg         92.4         100         92.4%         80-120%         989586         1.06         10.20%         989586         11.2         11.5         3.08%         11.3%         11	Selling.	SW 6010B	Hoden :	95.8	;   25	95.8%	80-120%	983586	1.98	98.7	2.69%	153 153
SW 6010B         mg/kg         97.9         10.0         97.9%         80-120%         989586         10.6         10.6         0.61%           1         SW 6010B         mg/kg         95.5         100         96.8%         80-120%         98586         11.2         11.5         3.08%           SW 6010B         mg/kg         96.8         100         96.8%         80-120%         98586         11.2         11.5         3.08%           SW 6010B         mg/kg         95.0         100         97.5%         80-120%         98586         11.7         12.8         8.99%           SW 6010B         mg/kg         96.7         100         97.5%         80-120%         989586         11.7         12.8         8.99%           SW 6010B         mg/kg         96.7         100         96.7%         80-120%         989586         18.8         19.9         5.58%           Um         SW 6010B         mg/kg         96.7         100         96.8%         80-120%         989586         11.6         4.2         6.18%           SW 6010B         mg/kg         96.7         100         96.8%         80-120%         989586         MD         MD         0.00%	Danalium	SW 6010B	Moles Holes	97.4	<u> </u>	92.4%	80-120%	989586	2.29	2.17	5.03%	ଷ
SW 6010B         mg/kg         96.5         100         98.5%         80-120%         989586         11.2         11.5         3.08%           SW 6010B         mg/kg         96.8         100         96.8%         80-120%         989586         11.2         11.5         3.08%           SW 6010B         mg/kg         95.0         100         95.0%         80-120%         989586         19.6         19.3         1.53%           SW 6010B         mg/kg         97.5         100         97.4%         80-120%         989586         11.7         12.8         8.99%           um         SW 6010B         mg/kg         96.7         100         95.8%         80-120%         989586         41.6         44.2         6.18%           SW 6010B         mg/kg         96.7         100         95.8%         80-120%         989586         ND         ND         0.00%           SW 6010B         mg/kg         96.7         100         95.8%         80-120%         989586         ND         ND         0.00%           SW 6010B         mg/kg         96.6         100         96.8%         80-120%         989586         ND         ND         0.00%           SW 6010B		SWENTOR	2 40 E	- 679	2	97.9%	80-120%	983586	10.6	10.6	0.61%	60
H         SW 6010B         mg/kg         96 8 %         100         96 8 %         80-120%         969586         11.2         11.5         3.08%           er         SW 6010B         mg/kg         95.0         100         95.0%         80-120%         969586         11.7         12.8         8.99%           uy         SW 6010B         mg/kg         97.5         100         95.7%         80-120%         989586         11.7         12.8         8.99%           uy         SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         18.8         19.9         5.58%           uim         SW 6010B         mg/kg         95.8         100         95.8%         80-120%         989586         A1.6         A4.2         6.18%           ilium         SW 6010B         mg/kg         95.7         100         95.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         95.7         100         95.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         96.6         100         95.8%         80		SW 6010B	2 6 6 E	98.5	9	98.5%	80-120%	989586	10300	9200	11.3%	ଷ
er         SIW 6010B         mg/kg         95.0         100         95.0%         80-120%         989586         11.7         12.8         153%           upy         SW 6010B         mg/kg         97.5         100         97.5%         80-120%         989586         11.7         12.8         8.99%           upy         SW 6010B         mg/kg         97.5         100         97.5%         80-120%         989586         11.7         12.8         8.99%           silum         SW 6010B         mg/kg         95.7         100         96.7%         80-120%         989586         41.6         44.2         6.18%           silum         SW 6010B         mg/kg         95.7         100         95.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         95.7         100         95.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         96.6         100         95.6%         80-120%         989586         ND         ND         0.00%           sw 6010B         mg/kg         96.6         100         95.6%         80-120% <th< td=""><td>Cilidinal</td><td>SW 6010B</td><td>DOD O</td><td>888</td><td>8</td><td>96.8%</td><td>80-120%</td><td>989586</td><td>11.2</td><td>11.5</td><td>3.08%</td><td>83</td></th<>	Cilidinal	SW 6010B	DOD O	888	8	96.8%	80-120%	989586	11.2	11.5	3.08%	83
SW 6010B         mg/kg         97.5         100         97.5%         80-120%         989586         11.7         12.8         8.99%           uly         SW 6010B         mg/kg         97.5         100         97.4%         80-120%         989586         18.8         19.9         5.58%           odenum         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         989586         41.6         44.2         6.18%           ilum         SW 6010B         mg/kg         95.8         100         95.8%         80-120%         989586         ND         ND         0.00%           rium         SW 6010B         mg/kg         95.7         100         95.8%         80-120%         989586         ND         ND         0.00%           rium         SW 6010B         mg/kg         95.7         100         96.6%         80-120%         989586         ND         ND         0.00%           rium         SW 6010B         mg/kg         96.6         80-120%         80-120%         989586         ND         ND         0.00%           rium         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         80-120%	Copen	SIM 6010B	morko	95.0	8	95.0%	80-120%	989586	196	193	1.53%	ଟି
uly         SW 6020         mg/kg         0.500         97.4%         80-120%         989586         0.282         0.256         9.72%           Adenum         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         989586         41.6         44.2         6.18%           Alum         SW 6010B         mg/kg         95.8         100         96.8%         80-120%         989586         ND         ND         0.00%           NW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         ND         ND         0.00%           NW 6010B         mg/kg         95.7         100         96.6%         80-120%         989586         ND         ND         0.00%           NM         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           NM         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           SW 6010B         mg/kg         96.6         100         96.6%         80-120%         80-120%         989586         264	Coppe	SIM SOUGH	more	97.5	5	97.5%	80-120%	989586	11.7	12.8	8.99%	8
Light         SW 6010B         mg/kg         96.7         100         96.7%         80-120%         969586         16.8         19.9         5.58%           Adum         SW 6010B         mg/kg         96.7         100         95.8%         80-120%         989586         ND         ND         6.18%           ND         SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         ND         ND         0.00%           ND         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           ND         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           SW 6010B         mg/kg         96.6         100         93.6%         80-120%         989586         133         136         2.34%           SW 6010B         mg/kg         94.9%         100         94.9%         80-120%         989586         264         300         12.6%	near	SW 6030	S CAN	0.487	0.50	97.4%	80-120%	989586	0.282	0.256	9.72%	963
Activities         SW 6010B         mg/kg         95.8         100         95.8%         60-120%         989586         41.6         44.2         6.18%           slim         SW 6010B         mg/kg         95.8         100         93.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         ND         ND         0.00%           um         SW 6010B         mg/kg         96.6         100         95.6%         80-120%         989586         ND         ND         0.00%           system 6010B         mg/kg         93.6         100         93.6%         80-120%         989586         264         300         12.6%	Merculy	CIAL BOTTOR	Sales Dallog	46.7	900	26.7%	80-120%	989586	18.8	19.9	5.58%	0G
ilium         SW 6010B         mg/kg         93.8         100         93.8%         80-120%         989586         ND         ND         0.00%           r         SW 6010B         mg/kg         95.7         100         95.7%         80-120%         989586         ND         ND         0.00%           lum         SW 6010B         mg/kg         96.6         100         95.6%         80-120%         989586         ND         ND         0.00%           dlum         SW 6010B         mg/kg         93.6         100         93.6%         80-120%         989586         254         300         12.6%	Nickel	SW 6010B	Dipone.	95.8	100	95.8%	80-120%	989286	41.6	44.2	6.18%	520
SW 6010B         mg/kg         95.7         100         95.7%         60-120%         989586         ND         ND         0.00%           um         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           dium         SW 6010B         mg/kg         93.6         100         93.6%         80-120%         989586         133         136         2.34%           SW 6010B         mg/kg         94.9         100         94.9%         80-120%         989586         264         300         12.6%	Solonium	SW 6010B	marka	93.8	100	93.8%	80-120%	983686	S	Q	0.00%	075
um         SW 6010B         mg/kg         96.6         100         96.6%         80-120%         989586         ND         ND         0.00%           dlum         SW 6010B         mg/kg         93.6         100         93.6%         80-120%         989586         133         136         2.34%           SW 6010B         mg/kg         94.9         100         94.9%         80-120%         989586         264         300         12.6%	Cilyar	SW 6010B		95.7	100	95.7%	80-120%	989586	GN	₽	%00.0	052
dium         SW 6010B         mg/kg         93.6         100         93.6%         80-120%         989586         133         136         2.34%           SW 6010B         mg/kg         94.9         100         94.9%         80-120%         989586         264         300         12.6%	Thallim	SW 6010B	morka	996	100	8996	80-120%	989686	Q	Ð	%00:0	230
SW-6010B marka 94.9 100 94.9% 80-120% 989586 264 300 12.6%	Venadille	SW 6010B	ma/ka	93.6	100	93.6%	80-120%	989586	133	136	2.34%	530
	Zinc	SW 6010B	mg/kg	<u>9</u>	901	<b>26</b> .9%	80-120%	989286	<b>264</b>	300	12.6%	62

	1			Sample		Spike	Total Amt.	Theo.	SE	38	Control
Ol eldm	Sample ID Parameter	Method	Units	Regult	DF	Levei	of Spike	Value	Obs.	Rec	Limits %
989686	Альтопу	SW 6010B	mg/kg	117	1.00	259	259	376	396	108%	75-125%
989586	Arsenic	SW 6010B	тдле	8.50	1.00	528	259	267	309	116%	75-125%
989586	Barium	SW 6010B	тала	1.88	1.00	259	259	355	341	94.8%	75-125%
999299	Sertlium	Shirt exton	mg/kg	2.29	5	259	259	261	307	118%	75-125%
989586	Cadmium	SW 6010B	mg/kg	10.6	8.	528	259	269	268	99.6%	75-125%
989586	Chromium	SW 6010B	mg/kg	10300	10.0	282	2817	13117	12800	88.7%	75-125%
989886	Cobatt	SW 8010B	mg/kg	11.2	1.00	259	259	270	261	96.4%	75-125%
989586	Copper	SW 6010B	mg/kg	<del>2</del> 81	1.00	259	259	455	436	92.6%	75-125%
983686	Lead	SW 6010B	mg/kg	11.7	1,00	259	259	270	255	94.0%	75-125%
989586	Метсит	SW 6020	шале	0.282	5.00	0.251	1.26	1.54	1.51	97.8%	75-125%
989586	Molybdenum	SW 6010B	mg/kg	18.8	1.00	259	259	277	297	108%	75-125%
989586	Nickel	SW 6010B	тдле	61.6	8.	259	259	300	285	<u>17.</u>	75-125%
989586	Setenium	SW 6010B	тала	0.00	1.00	259	259	259	251	97.1%	75-125%
989686	Silver	SW 6010B	тале	0.00	1.00	259	259	259	273	106%	75-125%
983586	Thallium	SW 6010B	mg/kg	00.00	1.8	259	259	529	200	77.2%	75-125%
989586	Vanadium	SW 6010B	бубш	133	1.00	529	259	392	359	87.4%	75-125%
989586	Zinc	SW 6010B	maño	264.3	1.00	259	259	523	506	93,3%	75-125%

ND: Not detected, or below limit of detection. DF: Ditution Factor

TRUESDAIL LABORATORIES, INC. Respectfully submitted,

Mona Nassimi, Manager Analytical Services



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

## **Dry Weight Calculations**

Date Calculated: 6/30/10

	Sample Result Wet Weight mg/kg	Dilution Factor	% Moisture %	Sample Result Dry* Weight mg/kg	Reported Value mg/kg	Reporting Limit Wet Welght mg/kg	Reporting Limit Dry Weight mg/kg
Fluoride	12.902		65.7	37.6152	37.6	4.00	11.
Hexavalent Chromium	29.8603		65.7	87.0563	. 87. <u>0</u>	2.00	5.8
QC analyzed on 989502-2							
Hexavalent Chromium	ND		10.9	ND	ND.	0.400	
Hexavalent Chromium - Dup	ND	·	10.9	ND ND	ND	0.400	0.44
Hexavalent Chromium - MS	77.4030		10.9	86.8720	86.9	4.00	
Hexavalent Chromium - IMS	771.922		10.9	866.354	866	20.0	22.4
Hexavalent Chromium - PDMS	159.223		10.9	178.702	179	10.0	11.
Antimony	40.23	1.00	65.7	117.2886	117	0.431	2.00
Arsenic	2,915	1.00	65.7	8.4985	8.50	0.431	2.00
Barium	32.96	1.00	65.7	96.093	96.1	0.431	<u>1.2</u> 0
Beryllium	0.7843	1.00	65.7	2.2866	2.29	0.431_	1.20
Cadmium	3.62	1,00	65.7	10.5598	10.6	0.431	1.20
Chromium	3529	10.0	65.7	10289	10300	4.76	13.9
Cobalt	3.835	1.00	65.7	11.1808	11.2	0.431	
Copper	67.42	1.00	65.7	196.560	196	0.431	1.26 1.26
Lead	4.014	1.00	65.7	11.7026	1 <u>130</u>	0.431	1.26
Mercury	0.09693	5.00	65.7	0.28259	0.282	0.0431	0.126
Molybdenum	8.440	1.00	65.7	18.7755	18.8	0.431	1.26
Nickel	14.26	1.00	65.7	41.5743	41.6	0.431	1.20
Selenium	ND	1,00	65.7	ND	ND	0.431	1.26
Silver	ND	1.00	65.7	ND	ND	0.431	1.26
Thallium	ND	1.00	65.7	ND	ND.	0.431	2.00
√anadium	45.65	1.00	65.7	133.090	133	0.431	1.26
Zinc	90.66	1.00	65.7	264.315	264	0.431	2.00

Sample Result in Dry Weight = [Sample<sub>ww</sub> / (100-%Moisture)]\*100

where:

Sampleww = Sample result in wet weight



## TOTAL SOLIDS BY SM 2540 B

Date of Analysis:

06/07/10

E2 Sean

Analytical Batch: 06SOLID10A Oven Temp, °C: 105

Lab No.	Dish Number	Weight of dish,	Wt of wet sample, g	Wt of wet sample+ dish, g	Wt of dried residue+dish,g	Wt of dried residue, g	% Total Solids	% Moisture
989586	1	1.3234	2.0592	3.3826		0:7066	34.314	65.686
D	2	1.3219	2.0567	3.3786	2.0174	0.6955	33,816	66.184
	"							Was first of St.
	<u> </u>							Marian San
				Laborate Antigential				
				en effet i variante de la majorga (j. 1941). Antario de la companya de la companya (j. 1941).			ENAMOTE AUGUST HE	
				AND THE PROPERTY	_		Mittalia in in it	v.'
	,	1 "					California (A. D.C.) d	V 1
	-	1			<u>""                                   </u>	grif the later of the second s	\$27164 S. 11W 187	<u> </u>
	<u> </u>			Zarvie Witta, Eggittige		(38553) ANTELE CO	j Kortonija vilika dibiri <mark>ja il</mark>	glacy/
	"			Tellick V dyna Malancii		ogar vert om die gewone. Van Vert		
				<ul> <li>4. 2. 3 mm mmp (1.5 § 2.7)</li> </ul>		area all construction of the second s	Paramar de Maria	(f) in the property of the second sec
						Anna de la companya d		
'					<b>'</b>			
	1	<u> </u>						
					<u></u>			
	<del>                                     </del>			January Market Strain		nantie Linka St. P	B <mark>y</mark> ya, ostukot i vydeti	E
	· · · · · · · · · · · · · · · · · · ·			2000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	i:	79029; 000000 <del>0</del> 000;//cj		WWww.substances
				y was a suffer to the first of the suffer of	(	77.77.77.77.76		Walter State Comment
				1-1 MODE 1896		A PARTY (CAMPAGA A SU) A PARTY (CAMPAGA A SU)	8 7 A F S S 2 P C 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	64 V17 (1)
				1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A 1777 A		market Military		W
	1			V 10 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 - 1 - 1 - 1 X X - 1 - 1 X - 1		
	-	-			1	/ / // // //		
	<del> </del>	<u> </u>					4 E	7 K.
				7		(100,500,000,000,000,000,000		E

	Relati	ve Percent Difference	
Sample ID	Sample	Sample Dup	RPD
989586	65.686	66.184	0.8

% Total Solids =

(A-B)\*100 =

Weight of dried residue × 100
Weight of wet sample

Where:

A = Weight of dried Residue + Dish, g

B = Weight of dish, g

C = Weight of wet sample + Dish, g

G. Savani Analyst Name

ne Analyst Signature

Reviewer Name

Reviewer Signature

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

# CHAIN OF CUSTODY RECORD

[IM3plant-WDR-259]

COC Number

Ŷ

10 Days

9899 See TURNAROUND TIME

COMPANY	E2							una.		****	_		****					COMMENTS	
PROJECT NAME	PG&E Topock IM3	M3						ON S									_		
PHONE	530-229-3303		530-	FAX 530-339-3303		•		Ph/o									_		
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 612				**/	C Θ <sub>Ω</sub>	We 22, (Ir)								MAINER			
P.O. NUMBER	392895.AA.DM	\ M	Ŋ		7 107	A JULY	17 (80							_	_	COV			
SAMPLERS (SIGNATURE	ATURE SOM			'n	20ε) st	09) s <sub>i</sub>	09) 8	(ec		`		·			- 70	O Nac			
SAMPLE 1.D.		DATE	TIME	DESCRIPTION	45167	SEO/S	Cec.		/						MUM				1
SC-Sludge	SC-Sludge-WDR-259	06/02/10	æ:h1	Sludge	×	×	×								4				
	i																	:	
								1			-			Act of the control of	_				
								FO	or S	am	<u>0</u>	Co	400	No.					
									Coe	Eh	Y 1873	40	( ) ( )	· C					$\overline{}$
								_		•	7 7 7 7	K 10.7	\$ 1.78 M 5.50	100	7				_

SAMPLE CONDITIONS	WARM □ °F	YES 🕝 NO 🗇		LII TATIN		I avel III was
SAME	RECEIVED COOL	CUSTODY SEALED	Time 2/3 SPECIAL REQUIREMENTS:	٠,٠		
	Date! 6-2-10 Time 15-30	1 1 Time 15:30	Time 2/130	Unite 6/2/10 21:30	Date/ Time	Date/ Time
SIGNATURE RECORD	Companyl Om /	1 / L	Agency / . L. I	I 7 T Company 1 1 I	Company/ Agency	Company/ Agency
CHAIN OF CUSTODY SIGNATI	Printed Koul 1484	Whited A 401	Winted X 4	Printed Aux	Printed Name	Printed Name
	Signature (Relinquished)	Signature (Received) (April) (1)	Signature (Relinquished)	Signature Of Meeting	Signature (Relinquished)	Signature (Received)

TOTAL NUMBER OF CONTAINERS

⇉

# Sample Integrity & Analysis Discrepancy Form

Client	: <i>E_2</i>					Lab #		958
Date I	Delivered: <u>ℓ</u>	<u> 6   02</u>   10	Time 2 /: 3	⊘ By: □Mail	ĭ⊈Field	Servic	e 🗆	Client
1,	Was a Chair	of Custody	received and	signed?		ĭAYes	□No	□N/A
2.	Does Custo	mer require	an acknowled	gement of the CO	C?	□Yes	□No	XIN/A
3.	Are there ar	y special re	quirements or	notes on the COC	??	□Yes	□No	<b>M</b> N/A
4.	If a letter wa	s sent with	the COC, doe.	s it match the COO	0?	□Yes	□No	<b>M</b> N/A
<b>5</b> .	Were all req	uested ana	lyses understo	ood and acceptable	e?	<b>M</b> Yes	□No	□N/A
6.	Temperatur	e (if yes)? ។	· <del></del>	ALKA.	•	<b>⊠</b> Yes	□No	□N/A
7.	Were sampl (i.e. broken	les receivad bottles, leai	intact	SVO III		≰iYes	□No	□N/A
8.	Were sampl				C7	□Yes	□No	₩/N/A
9.	Does the nu	ımber of saı	mples received	d agree with COC		Ø¥es	□No	□N/A
10.	Did sample	labels corre	spond with the	e client ID's?		<b>⊠</b> Yes	□No	□N/A
11.	Did sample Preserved (		ate proper pre 1 <b>Truesdail</b>	servation? □Client		□Yes	□No	ØN/A
12.	Were samp	les pH chec	ked? pH = _			□Yes	□No	\$\delta N/A
13.	Were all and If not, notify			at time of receipt?	1	<b>⊠</b> Yes	□No	□N/A
14,			been checke T): 🗅 <b>RUSH</b>	d and accepted? ☑ Std		MiYes	□No	□N/A
15.	Sample Ma	trix: 🗆 Liq	uid 🗅 Drini	king Water □G	round We	nter C	]Wast	e Water
	<b>⊠</b> Sludge	□Soil	□Wipe	□Paint □Soli	d 🗅 Oti	her		
16.	Comments:	· 		•				
17.	Sample Chi	eck-In comi	oleted by True	<b>sdail</b> Log-In/Rece	ivina:{	teat	<sup>l</sup> u u	ine_

## LABORATORY REPORT

Date:

June 28, 2010

Client:

Truesdail Laboratories, Inc.

14201 Franklin Avenue Tustin, CA 92780

Attn: Sean Condon



"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107 Ventura, CA 93003

(805) 650-0546 FAX (805) 650-0756

CA DOHS ELAP Cert. No.: 1775

**Laboratory No.:** 

A-10062201-001

Sample ID.:

989586

**Sample Control:** 

The sample was received by ATL chilled, with the chain of custody record attached.

Date Sampled:

06/02/10

Date Received:

06/22/10

Date Tested:

06/23/10 to 06/27/10

Sample Analysis:

The following analyses were performed on your sample:

CCR Title 22 Fathead Minnow Hazardous Waste Screen Bioassay (Polisini & Miller 1988).

Attached are the test data generated from the analysis of your sample.

**Result Summary:** 

Sample ID.

989586

Results

PASS (LC50 > 750 mg/l)

**Quality Control:** 

Reviewed and approved by:

Joseph A. Len

Laboratory Director

# FATHEAD MINNOW HAZARDOUS WASTE SCREEN BIOASSAY



Lab No.: <u>A100 6220 1 - 00 1</u> Client/ID: <u>Tours dail 989586</u>

## **TEST SUMMARY**

Species: Pimephales promelas.

Fish length (mm): av: 27; min: 25; max: 29. Fish weight (gm): av: 0.37; min: 0.30; max: 0.45.

Test chamber volume: 10 liters. Temperature: 20 +/- 2°C.

Aeration: Single bubble through 30 bore tube.

Number of replicates: 2.

Dilution water: Soft reconstituted water (40 - 48 mg/l CaCO<sub>3</sub>).

QA/QC Batch No.: RT-100602.

Source: In-Lab Culture. Regulations: CCR Title 22.

Test Protocol: California F&G/DHS 1988.

Endpoints: Survival at 96 hrs.

Test type: Static. Feeding: None.

Number of fish per chamber: 10. Photoperiod: 16/8 hrs light/dark.

								TEST	DAT	[A									
	IN	ITIA	L ,		24	Hr			48	Hr			72	Hr			96	Hr	
Date/Time:	623	-10	1030	62	14-10	) /	vao	10-2	5-10		law	1-2	6-10		1070	6-2	740	11	100
Analyst:		2	-		12	~			2	~		į		2				2	
	°C	DO	pН	°C	DO	pН	# D	°C	DO	рH	# D	°C	DO	pН	# D	°C	DO	pН	# D
Control A	20.5	8.6	2.6	209	8.2	24	1)	204	8.3	25	0	21.0	8.1	7.4	0	ટા. ર	7.9	7.3	0
Control B	20.4	8.6	26	208	8.1	24	0	205	8.1	25	0	પ્ર	8.1	7.3	0	21.1	7,4	7.3	0
400 mg/l A	20.4	8.5	27	20.9	8.4	76	0	20.6	83	22	0	श. ०	8.₹	7.6	0	ટા. ડ	8. ₹	?/	0
400 mg/l B	20.3			20.8	8.6	26	0	205	85	27	0	21.0	8.4	7.7	0	26.1	8.5	7.7	Ó
750 mg/l A	20.3	8.5	28	2.8	8.7	27	1)	20.6	85	28	0	20, q	8.5	7.7	0	? <i>L.</i>	8.6	7.8	0
750 mg/l B	<i>w</i> .2	8.6	7.8	20.7	8.5	27	0	20.5	8.4	7.8	0	20.1	8.5	7.8	O	260	8.5	28	0
Comments:	Ext	ractio	n met	hod: N	Mecha	nical	shaki	ng _	<u>×</u> .		<u> </u>								

	CONT	ROL	HIGH CONC	ENTRATION
	Alkalinity	Hardness	Alkalinity	Hardness
Initial	37 mg/I CaCO,	46 mg/l CaCO <sub>3</sub>	40 mg/l CaCO <sub>3</sub>	49 mg/l CaCO <sub>3</sub>
Final	34 mg/l CaCO,	46 mg/I CaCO <sub>3</sub>	65 mg/I CaCO <sub>3</sub>	g/ mg/l CaCO,

Dissolved Oxygen (DO) readings in mg/l O2.

None (aqueous solution)

Total Nur	nber Dead
Control	C) /20
400 mg/l	<i>д</i> /20
750 mg/l	/20

	(1	RESULTS the checked result applies based on fish survival rates )
	PASSED	LC50 > 750 mg/l (<40% dead in 750 mg/l conc.)
NA	FAILED	≥40% dead in 750 mg/l (close to passing - definitive test recommended)
MA	FAILED	LC50 < 400 mg/l (>60% dead in 400 mg/l conc.)



# ABORATORIES, INC.

e, Tustin, California 92780

I RUESDAIL L	14201 Franklin Avenu	

ALERT!!	OV TIT JOVO

# 70 TTT 12/27

Address: 4350 Transport St. #107, Ph#:805-650-0546

City: Ventura State: CA Zip: 93003

Laboratory: Aquatic Testing Laboratories

Attention: Joe LeMay

Date: 06/21/10 Page: 1 of 1

# Laboratory Transmittal Form

Please sign, date & return this form with the results, to: TRUESDAIL LABORATORIES, INC.

14201 Franklin Avenue, Tustin, California 92780 Attn: Sean Condon

Please include Truesdail Sample ID on your invoice

•				Tests/Methods Required	Q			
Sample ID	Date	Time	Matrix	Acute Aquatic Toxicity, 96 hr Acute		Container Qty.	Comments/Container Type	· <del></del>
989586	6/2/10	14:00	Sludge	×		-	Glass /Jar 9 oz	_
							Level 3	_
						1	Containers Total	

Type of Service:	<b>`</b>	Sal
X Normal (5-10 day TAT)	Received on Ice? Yes/No Special Shipment/F	울필

Yes(No) andling or Storage Requirements: Sealed? nple Conditions:

Relinquished by:	Luda Shabunina	Luda Shabunina		06/21/10	15:30
	Signature	Printed Name	Company	Date	Time
Received by:	Las Martins	Loci Montona	ATL	10-22-10	0930
	Signature	Printed Name /	Company	Date	Time

Established 1931



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

June 23, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-260 PROJECT, GROUNDWATER MONITORING, TLI NO.: 989709

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-260 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 9, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run and the associated matrix spike for sample SC-700B-WDR-260 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi بر و م

Manager, Analytical Services

K. R. P. gyen

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989709

**Date:** June 23, 2010 **Collected:** June 9, 2010

Received: June 9, 2010

# **ANALYST LIST**

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Established 1931

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

Laboratory No.: 989709

Date Received: June 9, 2010

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

# **Analytical Results Summary**

Lab Sample ID Field ID	Field JD	Anatysis <b>M</b> ethod	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	R
989709-001	SC-700B-WDR-260 E120.1	E120.1	NONE	6/9/10	8:00	EC	7280	umhos/cm	2.00
989709-001	SC-700B-WDR-260	E200.8	NONE	6/9/10	8:00	Chromium	Q	ug/L	1.0
989709-001	SC-700B-WDR-260	£200.8	NONE	6/9/10	8:00	Manganese	<b>₽</b>	ng/L	10.0
989709-001	SC-700B-WDR-260	E218.6	LABFLT	6/9/10	8:00	Chromium, hexavalent	0.67	ng/L	0.20
989709-001	SC-700B-WDR-260	SM2130B	NONE	6/9/10	8:00	Turbidity	Q	Ē	0.100
989709-001	SC-700B-WDR-260	SM2540C	NONE	6/9/10	8:00	Total Dissolved Solids	4530	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Midigrams per liter.

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

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

# REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Neme: PG&E Topock Project

P.O. Number: 392895.AA.DM Project Number: 392895.AA.DM Laboratory No. 989709

Printed 6/23/10

Page 1 of 5

Samples Received on 6/9/10 9:30:00 PM

Field ID				Lab ID	Colle	ected	Mati	rix
SC-700B-WDR-260		·-		989709-001	06/09/2	2010 08:00	Wat	er
Specific Conductivity - E	PA 120.1		Batch	06EC10B			6/11/10	
Parameter		Unit	Ana	ilyzed	DF	MDL	RL	Result
989709-001 Specific Conduct	ivity	umhos/	cm 06/11	1/2010	1.00	0.0380	2.00	7280
Method Blank	"							
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	989709-001
Parameter	Unit	DF	Result	Expected	RF	סי	Accepta	ince Range
Specific Conductivity	umhos	1.00	7290	7280	(	0.137	0 - 10	oo . tange
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accenta	nce Range
Specific Conductivity	umhos	1.00	701.	706.		99.3	90 - 110	_
Lab Control Sample Do	uplicate							
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ince Range
Specific Conductivity	umhos	1.00	703.	706.		99.6	90 - 110	-
MRCCS - Secondary				•				
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Specific Conductivity	umhos	1.00	<b>704</b> .	706.		99.7	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ince Range
Specific Conductivity	umhos	1.00	986.	1000		98.6	90 - 110	-

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



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 2 of 5 Printed 6/23/10

Chrome VI by EPA 218.6

Batch 06Crm 0C

Cilibility at by EPA 218.6			Batch	1 08Cm.0C				
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989709-001 Chromium, Hexa	valent	ug/L	06/10	0/2010 11:54 1	.05	0.0190	0.20	0.67
Method Blank						• • • • • • • • • • • • • • • • • • • •		
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	D <b>F</b> 1.00	Result ND				Lab ID =	989710-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 2.50	Expected 2.48		PD 0.803		nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.00	Expected 5.00		ecovery 100,	90 - 110	nce Range 989709-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.72	Expected/Adde 1.73(1,06)		ecovery 99,1	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.94	Expected 5.00		ecovery 98.8	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0		ecovery 104.	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0		ecovery 104,	Accepta 95 - 105	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 3 of 5 Printed 6/23/10

Metals by EPA 200.8, Total

Batch 061410A

INGCAIS BY LFA 200.0, 100	.aı		Bater	1 061410A				
Parameter		Unit	Ana	lyzed	DF	MDL.	RL	Result
989709-001 Chromium		ug/L	06/14	1/2010 14:50 5	5.00	0.0750	1.0	ND
Manganese		ug/L	06/14	4/2010 14:50	5.00	0.0600	10.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	989 <b>709-</b> 001
Parameter	Unit	DF	Result	Expected	R	PD	Accents	ince Range
Chromium	ug/L	5.00	ND	0		0	0 - 20	ince italige
Manganese	ug/L	5.00	ND	0		0	0 - 20	
Lab Control Sample							V _V	
Parameter	Unit	DF	Result	Expected	R	ecovery	Acconte	nce Range
Chromium	ug/L	1.00	49.7	50.0		99.4	90 - 110	_
Manganese	ug/L	1.00	52.8	50.0		106	90 - 110	
Matrix Spike								<b>989</b> 709-001
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery		nce Range
Chromium	ug/L	5.00	234.	250.(250)		93.6	75 - 125	~
Manganese	ug/L	5.00	233.	250.(250)		93.2	75 - 125	
Matrix Spike Duplicate				• • • • • • • • • • • • • • • • • • • •				, 989709-001
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery		
Chromium	ug/L	5.00	234.	250.(250)		93.6	75 - 125	ince Range :
Manganese	ug/L	5.00	229.	250.(250)		91.6	75 - 125	
MRCCS - Secondary				,		•	.0 - 120	•
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Chromium	ug/L	1.00	49.6	50.0		99.2	90 - 110	
Manganese	ug/L	1.00	52.6	50.0		105	90 - 110	
MRCVS - Primary			4					
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Chromium	ug/L	1.00	47.5	50.0		95.0	90 - 110	_
Manganese	ug/L	1.00	47.5	50.0	!	95.0	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Chromium	ug/L	1.00	48.8	50.0		97.6	90 - 110	_
Manganese	ug/L	1.00	48.6	50.0	,	97.2	90 - 110	

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

009

Report Continued

Client: E2 Consulting E	ngineers, In	ıc.	Project Name: Project Number:	PG&E Topo 392895.AA.		ct	Printed 6	Page 4 of 5 6/23/10
Interference Check S	Standard A							
Parameter	Unit	ĎF	Result	Expected	F	Recovery	Accort	anno Deses
Chromium	ug/L	1.00	ND	0	•	recovery	Accept	ance Range
Manganese	ug/L	1.00	ND	0				
Interference Check S	Standard A							
Parameter	Unit	DF	Result	Expected	_	) A COLUMN	A	
Chromium	ug/L	1.00	ND	0		Recovery	Accepta	ance Range
Manganese	ug/L	1.00	ND	0				
Interference Check S	_	-		•				
Parameter	Unit	DF	Result	Expected	_	<b>.</b>		_
Chromium	ug/L	1.00	46.6	50.0	17	lecovery 93.2	80 - 120	ince Range
Manganese	ug/L	1.00	46.5	50.0		93.0		
Interference Check S	_		40.0	00.0		8Q.U	80 - 120	,
Parameter	Unit	DF	Result	Expected		ecovery	<b>A . .</b>	
Chromium	ug/L	1.00	48.7	50.0	, ,	97.4	80 - 120	ince Range
Manganese	ug/L	1.00	51,6	50.0		103	80 - 120	•
Total Dissolved Solids I	bv SM 254	0 C	Batch (	06TD\$10D			CIACIAO	
Parameter		Unit	Analy		D.E.	NATSI	6/15/10	
989709-001 Total Dissolved	Solide	rng/L	06/15/2		DF	MDL	RL	Result
Method Blank	CONQS	ing/L	06/15/2	010	1.00	0.434	250.	4530
Parameter	1.1:4	0.5	<b>.</b>					
Total Dissolved Solids	Unit mg/L	DF 1.00	Result					
Duplicate	mg/L	1.00	ND					
•							Lab ID =	989709-001
Parameter Total Dissolved Solids	Unit	DF	Result	Expected	R	PD	Accepta	nce Range
	mg/L	1.00	4310	4530		4.98	0 - 5	-
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	494.	500.		98.8	90 - 110	

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

010



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 5 of 5 Printed 6/23/10

Project Number: 392895.AA.DM

Turbidity by SM 2130 B			Batch	06TUC10K			6/10/10	
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
989709-001 Turbidity		NTU	06/10	0/2010	1.00	0.0140	0.100	
Method Blank				<u> </u>		0.0140	0.100	ND
Parameter Turbidity Duplicate	Unit NTU	DF 1.00	Result ND					
,							Lab ID = 9	989709-001
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0	RF (	_	Acceptar 0 - 20	nce Range
Lab Control Sample								
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.90	Expected 8.00		covery 98.8	Acceptar	nce Range
Lab Control Sample D	uplicate				•		00 - 110	
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.83	Expected 8.00		covery 97.9	Acceptar	nce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

TRUESDAL LABORATORIES, INC. 14201 Frankin Avenue, Tustin, CA 92788-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-260]

PAGE 1 NO TIME 24 COC Number

능

10 Days

TURNAROU	DATE <b>06/1</b>	
502	<b>5</b> 2	
200	763	
	Ī	

COMPANY	Į.						~	_	•	•			•	_		•	-	_		COMMENTS	
PROJECT NAME	PG&E Topock					_	•	•			_	_	_	_	-	-	-	_	_		
PHONE	(530) 229-3303		FAX (530)	FAX (530) 339-3303			•				~~	Rec'd	9	/60/9	01.		_	_	_	•	
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 4612	ı				UW:	1501)			<i></i>	20 -	60 /	8970 ///	Ö >	6		TAINER			
P,O. NUMBER	392895.AA.DM	ا ا_	TEAN	-		O (7.00%	(2) (X'00)	) equesor (3)	-	(OE H								NOO J			
SAMPLERS (SIGNATURE	TURE ME	Jack Comments			(9.812	SIEIGH	S, CCOO	ONZENO.		NS) AUG							0:18)	O Vis			
SAMPLE 10.	7	DATE	<b>#</b> E	DESCRIPTION	285	1401	Deas	sal			/	/					V7N				
SC-7008-WDR-260	₹-260	06/09/10	080	Water	×	×	×	×	×								3		ŊΜ	ナニ	
					!		<u>.</u>	] 			<u>.</u> !				ļ		8	TOT	I NUMB	OTAL NUMBER OF CONTAINERS	

evel III QC

Authus 0809 0810

\$180

0826

For Sample Condition: See Form Attached

		ایر					
	SAMPLE CONDITIONS	RECEIVED COOL   WARM   F	CUSTODY SEALED YES \  \cap \ \n0 \  \n	SPECIAL REQUIREMENTS:		a	
	RE RECORD	OW, Date 6-6-10	7. L. I Time 15:30	. L. F Time 2/230	7 Date, JUN 09 2010	Date, Al. 30 Time	Date/ Time
	IGNATURE R	Company/ C	Company! Agency	Company/	Company! 7	Company/ Agency	Company/ Agency
6080	CHAIN OF CUSTODY SIGNATU	+ Printed C. KANGHT	Dillowing Rafall.	Javnam Kafer	GUMM ng Name Lugge	Printed Mame	Printed Name
TONP 82.2		Signature (Relinquished) C. (Lung lut	Signature (Received) A. A.	Signeture (Refinquished)	$\sim$	Signature (Relinquished)	Signature (Received)

# Sample Integrity & Analysis Discrepancy Form

Client	t: <u>E 2</u>	Lab # 989709
Date l	Delivered: <u>06 / 09 /</u> 10	Service
1.	Was a Chain of Custody received and signed?	XAYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÆN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ÆN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ⋈N/A
<i>5</i> .	Were all requested analyses understood and acceptable?	Mayes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4_°</u> <b>C</b>	⊠(Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, et 4)	dyes ono on/A
8.	Were sample custody seals intact?	□Yes □No ⊠N/A
9.	Were sample custody seals intact?  Does the number of samples received agree with 40c.	⊠Yes □No □N/A
10.	Did sample labels correspond with the client ID's?	G(Yes □No □N/A
11.	Did sample labels indicate proper preservation?  Preserved (if yes) by: □ <b>Truesdail</b> □Client	□Yes □No MN/A
12.	Were samples pH checked? pH = <u>See</u> C. O. C.	√DYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	AYes □No □N/A
14,	Have Project due dates been checked and accepted?  Turn Around Time (TAT): □ RUSH	ØYes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa	
16.	Comments:	
17.	Sample Check-In completed by <b>Truesdail</b> Log-In/Receiving:	· Shabunouse

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

June 25, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-261 PROJECT, GROUNDWATER

MONITORING, TEJ No.: 989819

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-261 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 17, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The matrix spike for sample SC-700B-WDR-261 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

K. R. P. gyer

K.R.P. Iyer

Quality Assurance/Quality Control Officer

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989819

Date: June 25, 2010 Collected: June 17, 2010

Received: June 17, 2010

## **ANALYST LIST**

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

\*2

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

Oakland, CA 94612

Attention: Shawn Duffy



Established 1931

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

Laboratory No.: 989819

Date Received: June 17, 2010

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

# Analytical Results Summary

Lab Sample ID Field ID	Fiefd ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	귍
989819-001	SC-700B-WDR-261 E120.1	E120.1	NONE	6/17/10	8:00	EC	7530	umhos/cm	2.00
989819-001	SC-700B-WDR-261	E200.7	NONE	6/17/10	8:00	Chromium	2	nov!L	1.0
989819-001	SC-700B-WDR-261	E200.7	NONE	6/17/10	8:00	Manganese	2	no/L	10.0
989819-001	SC-700B-WDR-261	E218.6	LABFLT	6/17/10	8:00	Chromium, hexavalent	2	no/L	0.20
989819-001	SC-700B-WDR-261	SM2130B	NONE	6/17/10	8:00	Turbidity	Q	, DI	0.100
989819-001	SC-700B-WDR-261	SM2540C	NONE	6/17/10	8:00	Total Dissolved Solids	4350	mg/L	250
								,	

ND: Non Detected (below reporting limit)

mg/L: Milligrams per ster.

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

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

# REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number; 392895,AA.DM

Project Number: 392895,AA,DM

Laboratory No. 989819

Page 1 of 5

Printed 6/25/10

## Samples Received on 6/17/10 10:00:00 PM

Field ID				Lab ID	Colle	ected	Matr	ix
SC-700B-WDR-261				989819-001	06/17/2	010 08:00	Wat	er
Specific Conductivity - E	PA 120.1		Batch	06EC10D			6/21/10	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989819-001 Specific Conducti	vity	umhos/	/cm 06/21	/2010	1.00	0.0380	2.00	7530
Method Blank				""				
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	989819-001
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 7540	Expected 7530	. RF	PD 0.133	Accepta 0 - 10	ince Range
Lab Control Sample								
Parameter Specific Conductivity Lab Control Sample Do	Unit umhos uplicate	<b>DF</b> 1.00	Result 712.	Expected 706.		ecovery 101	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 713.	Expected 706.		ecovery 101	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 717,	Expected 706.		ecovery 102	Accepta 90 - 110	ince Range )
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 978.	Expected 1000		ecovery 97.8	Accepts 90 - 110	ince Range

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

007

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA,DM

Page 2 of 5 Printed 6/25/10

Chrome VI by EPA 218.6

Batch 06CrH10E

Parameter		Unit	Ana	ilyzed [	)F	MDL	RL	Result
989819-001 Chromium, Hexa	avalent	ug/L	06/22	2/2010 08:36 1	.05	0.0190	0.20	ND ND
Method Blank					-			
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	989820-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 3.43	Expected 3.40		PD 0.878		ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.05	Expected 5.00		ecovery 101.	90 - 110	nce Range ) 989819-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1,06	Result 1.25	Expected/Added 1.25(1.06)		ecovery 100	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.74	Expected/Added 5.85(5.25)		ecovery 98.0		nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.06	Expected 5.00		ecovery 101	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.96	Expected 10.0		ecovery 99.6	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0		ecovery 104.	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0		ecovery 101.	Acceptar 95 - 105	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 3 of 5 Printed 6/25/10

Metals by EPA 200.8, Total

Batch 062110B

metals by EFA 200.0, 10	lai		Batci	n 062110B				
Parameter		Unit	Ana	alyzed [	)F	MDL	RL	Result
989819-001 Chromium		ug/L	06/2	1/2010 17:22 5	.00	0.0960	1.0	ND
<u>Manganese</u>		ug/L	06/2		.00	0.210	10.0	ND
Method Blank		<u> </u>						
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	989819-001
Parameter	Unit	DF	Result	Expected	RPC	)		nce Range
Chromium	ug/L	5.00	ND	0	0	•	0 - 20	nce range
Manganese	ug/L	5.00	ND	0	0		0 - 20	
Lab Control Sample					·		0 - 20	
Parameter	Unit	DF	Result	Expected	Reco	overy	Accepto	nce Range
Chromium	ug/L	1.00	51.5	50.0	10	-	90 - 110	
Manganese	ug/L	1.00	51.9	50.0	10		90 - 110	
Matrix Spike						•	_	989819-001
Parameter	Unit	DF	Result	Expected/Added	d Reco	overy		nce Range
Chromium	ug/L	5.00	236.	250.(250)	94.	*	75 - 125	_
Manganese	ug/L	5.00	234.	250.(250)	93		75 - 125	
Matrix Spike Duplicate				- ( 7		. •		989819-001
Parameter	Unit	DF	Result	Expected/Added	d Deca	overy		
Chromium	ug/L	5.00	235.	250.(250)	94.	•	75 - 125	nce Range
Manganese	ug/L	5.00	230.	250.(250)	92.	-	75 - 125 75 - 125	
MRCCS - Secondary	-				<b>.</b>	.0	70 - 123	
Parameter	Unit	DĖ	Result	Expected	Reco	Werv	Accepta	nce Range
Chromium	ug/L	1.00	51.5	50.0	100	*	90 - 110	nce Kange
Manganese	u <b>g</b> /L	1.00	51.6	50.0	103		90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Reco	verv	Accepta	nce Range
Chromium	ug/L	1.00	48.3	50.0	96.	*	90 - 110	ice ixange
Manganese	ug/L	1.00	<b>48</b> .4	50.0	96.	8	90 - 110	
Interference Check Sta	indard A				- **		•	
Parameter	Unit	DF	Result	Expected	Reco	verv	Acceptor	nce Range
Chromium	ug/L	1.00	ND	0			~coepial	ive Range
Manganese	ug/L	1.00	ND	0	:			

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

009



Report Continued

Client: E2 Consulting E	ngineers, In		Project Name; Project Numbe	PG&E Topo er: 392895.AA.		ct .	F Printed 6	Page 4 of 5 5/25/10
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	ND	0		,		
Manganese	ug/L	1.00	ND	0				
Interference Check S	Standard AB							
Parameter	Unit	DF	Result	Expected	F	ecovery	Accepts	nce Range
Chromium	ug/L	1.00	49.3	50.0		98.6	80 - 120	
Manganese	ug/L	1.00	49.1	50.0		98.2	80 - 120	_
Interference Check 5	Standard AB							,
Parameter	Unit	DF	Result	Expected	R	ecovery	Accents	ince Range
Chromium	ug/L	1.00	49.6	50.0		99.2	80 - 120	_
Manganese	ug/L	1.00	49.5	50.0		99.0	80 - 120	
Total Dissolved Solids Parameter	by SM 254	0 C Unit		06TDS10€ tyzed	ŌΕ		6/22/10	
989819-001 Total Dissolved	L Solide			<del>·                                      </del>		MDL	RL	Result
Method Blank	Johas	mg/L		/2010	1.00	0.434	250.	4350
Parameter	114	5.5	<b>.</b>					
Total Dissolved Solids	Unit	DF	Result					
Duplicate Duplicate	mg/L	1.00	ND					
,							Lab ID =	989819-001
Parameter	Unit	DF	Result	Expected	R	₽D	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	4390	4350		0.915	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Total Dissolved Solids	mg/L	1.00	498.	500.		99.6	90 - 110	<b>U</b> -



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 5 of 5

Project Number: 392895,AA.DM

Printed 6/25/10

Turbidity by SM 2130 B			Batch	06TUC100			6/18/10	
Parameter		Unit	Ana	ilyzed	DF	MDL	RL	Result
989819-001 Turbidity		NTU	06/18	3/2010	1.00	0.0140	0.100	ND
Method Blank						0.0110	0.100	
Parameter Turbidity Duplicate	Unit NTU	DF 1.00	Result ND					
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0		PĎ D		989819-001 nce Range
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1.00	Result 7.44	Expected 8.00		ecovery 93.0	Acceptar 90 - 110	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.40	Expected 8.00		covery 92.5	Acceptar 90 - 110	nce Range

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

TRUESDAL LABORATORIES, INC. 1420f Franklin Averue, Tustin, CA 92780-7008 {714}730-6239 FAX: (714) 730-6462 www.truesdail.com

CHAIN OF CUSTODY RECORD [M3Plant-WDR-26/]

PAGE 1 TURNAROUND TIME COC Number

10 Days

÷

DATE 06/17/10

COMPANY	E2							•		_	•	•	•	_		_	_	•	-	-		
PROJECT NAME	PG&E Topock		_										-	•			_					
PHONE	(530) 229-3303		3	(230)	FAX (530) 339-3303		-	•				_	Rec'd		01/21/90							
ADORESS	155 Grand Ave Ste 1000	Ste 1000	ا_					-	-4	-		₹ -		<b>တ</b> တ	98	6			93/	- L		
	Oakland, CA 94612	612					Α	W 35	021)	_	_	•	•			_	****	•	INTV	_		
P.O. NUMBER	392895.AA.DM		1	TEAN	-		(1.00%)	(100	C) (200	-	(OC)		_	_		_		_	k cov	•		
SAMPLERS (SIGNATURE	KTURE /	B	. ^		!		77 (0)	) syn	UFS 24		MS)			*****	*****	•		-	0 20			
,						(54)	W/E	Ciff	16/5		(i/pig	-	•		_		<u> </u>	AM				
SAMPLE 1.D.	2	DATE	-	TIME	DESCRIPTION	<b>မ</b> ာ	101	δĈ	ğ	_	101	$\overline{}$		/ /		/	_	×				
SC-7008-WDR-261	R-261	0WZW90	Š	C800	Water	x	x	x	×	_	×							3		DU	1 = 6	
	AMMYSIS						]						!			 		<u>ي</u>	TOTAL	AL NUM	NUMBER OF CONTAINERS	· s
01 Hg	J080	\ <u>\</u>																			ı	
EC 7.88	8080 8	۸.,			L_			lì			Γ											
Crb .002	5 0819	( %			1		<u> </u>	I	THE													
					_			,		(	-											

Level III QC ALERT !!

0826

76mp 19.5 0809

		200	CHAIN DF CUSTODY SIGNATU	ISTODY SIC		RE RECORD	6/1/10	SAMPLE CONDITIONS	TIONS	
	Signature (Refinquished)	Both	Printed Name	1,300	Company/ Agency	SME	Date 153.)	RECEIVED COOL   WAR	WARM	ĥ-
·-·····I	Signature (Received)	B	Printed Name	1. July 1	Company/ Agency	12	\ \b\ <b>Y</b> .	CUSTODY SEALED YES	□ 9	. '
	Signature (/ (Relinquished)	No. of the second	Printed Name	July 1	Company/	721	Time 22,00	SPECIAL REQUIREMENTS:		
0;	Signature (Received)	u Buning	Printed Name	lida	Company/ Agency	I71	Date/UN 17 2010 22:00	23:60		
33	Signeture (Refinquished)		Printed Name		Company/ Agency		Deta/ Time			
	Signeture (Received)		Printed Name		Company/ Agency		Date/ Time			

# Sample Integrity & Analysis Discrepancy Form

Client	t: <i>E_2</i>	Lab # 98	98 1
Date I	Delivered: <u>06 / [7</u> /10   Time: <u>&amp;&amp;:00</u> By: □Mail	Service 🗀	Client
1.	Was a Chain of Custody received and signed?	⊠Yes □No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	ØN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	⊠N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	<b>⊠</b> N/A
<b>5</b> .	Were all requested analyses understood and acceptable?	<b>¤</b> Yes □No	□N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>Y ° C</u>	Ø(Yes □No	□N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	γ <b>ά</b> Yes ⊡No	□N/A
8.	Were sample custody seals intact?	□Yes □No	₽{N/A
9.	Does the number of samples received agree with COC?	⊠Yes □No	□N/A
10.	Did sample labels correspond with the client ID's?	X/Yes □No	□N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ <b>Truesdail</b> □Client	□Yes □No	<b>∑</b> N/A
12.	Were samples pH checked? pH = $\underline{Sel}(e, \omega, e)$ .	J⊉Yes □No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	∰Yes □No	□N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT); □ <b>RUSH</b> □ <b>Q</b> Std	ZiYes □No	□N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Wa□Sludge □Soil □Wipe □Paint □Solid ▼Oth	ter □Waste ner <u>Wate</u>	
16.	Comments:		E 110
17.	Sample Check-In completed by <b>Truesdail</b> Log-In/Receiving:	. Shaku	wwe





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

July 1, 2010

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

Dear Mr. Duffy;

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-262 PROJECT, GROUNDWATER

MONITORING, TLI No.: 989902

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-262 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 23, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The result from the straight run and associated matrix spike for sample SC-700B-WDR-262 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi\_

Manager, Analytical Services

K. R. P. Gya

K.R.P. Iyer

Quality Assurance/Quality Control Officer

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931



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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM

Laboratory No.: 989902

Date: June 30, 2010

www.truesdail.com

Collected: June 23, 2010 Received: June 23, 2010

### **ANALYST LIST**

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

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 Date Received: June 23, 2010

Laboratory No.: 989902

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

Project Name: PG&E Topock Project

P.O. No.: 392895.AA.DM

Project No.: 392895.AA.DM

# Analytical Results Summary

Units RL	ug/L 1.0 ug/L 1.0 ug/L 10.0 ug/L 0.20 NTU 0.100 mg/L 250
Result	7250 un ND ND 0.22 ND 4530
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	003888888888888888888888888888888888888
Sample Date	623/10 6/23/10 6/23/10 6/23/10 6/23/10
Extraction Method	NONE NONE NONE LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C
ab Sample ID Field ID	SC-700B-WDR-262 E120.1 SC-700B-WDR-262 E200.8 SC-700B-WDR-262 E200.8 SC-700B-WDR-262 E218.6 SC-700B-WDR-262 SM2130B
elan Samole	989902-001 989902-001 989902-001 989902-001 989902-001

ND: Non Detected (below reporting limit)

mg/L: Milligrams par liter.

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

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

## TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 392895.AA.DM Project Number: 392895.AA.DM Laboratory No. 989902

Page 1 of 5 Printed 7/1/10

Samples Received on 6/23/10 8:45:00 PM

Field 1D					Lab ID	Colle	ected	Mati	rix
SC-700B-WDR-262			"-"		989902-001	06/23/2	2010 08:00	Wat	er
Specific Conductivity - E	PA 120.1			Batch	06EC10F			6/24/10	
Parameter		Unit		Anal	lyzed	DF	MDL	RL	Result
989902-001 Specific Conduct	tivity	umhos	/cm	06/24	/2010	1.00	0.0380	2.00	7250
Method Blank								<u>_</u>	
Parameter Specific Conductivity	Unit umhos	DF 1.00	Res ND						
Duplicate								Lab ID =	989902-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Resi 727		Expected 7250		PD 0.275	Accepta 0 - 10	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Res 701		Expected 706.		ecovery 99.3	Accepta 90 - 110	ance Range )
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Res 701		Expected 706.		ecovery 99.3	Accepta 90 - 110	ance Range )
Parameter Specific Conductivity	Unit umhos	DF 1.00	Resi 967		Expected 1000		ecovery 96.7	Accepts 90 - 110	ince Range )

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 2 of 5

Printed 7/1/10

٠,	L	<u></u>		 <b>\ J</b> ii	L	EP.			-
	. п	ГΠ	m	vı	nu		Λ	7 N (	ā.
			4				~ •	10.5	

### Batch 06CrH10F

amount to by El A E 10.0			Datci	i vocinior			
Parameter		Unit	Ana	lyzed [	F MDL	RL	Result
989902-001 Chromium, Hexa	valent	ug/L	06/24	1/2010 08:40 1	.05 0.019		0.22
Method Blank	<u> </u>					0.20	<u> </u>
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			Lab ID =	989879-002
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 26.2	Result 301.	Expected 303.	RPD 0.662		nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	D <b>F</b> 1.00	Result 4.86	Expected 5.00	Recovery 97.2	90 - 110	nce Range 989902-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	D <b>F</b> 1.06	Result 1.22	Expected/Added 1.28(1.06)	d Recovery 94.3	90 - 110	nce Range 989902-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.18	Expected/Added 5.25(5.25)	f Recovery 98.7		nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	D <b>F</b> 1.00	Result 4.99	Expected 5.00	Recovery 99.8	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.0	Expected 10.0	Recovery 100.	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	ÐF 1.00	Result 9.78	Expected 10.0	Recovery 97.8	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104.	Acceptar 95 - 105	nce Range

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 laboratorics, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

Page 3 of 5 Printed 7/1/10

Metals by EPA 200.8, 1	otai		Batch	n 062510A				
Parameter	<del>-</del>	Unit	Ana	alyzed	DF	MDL	RL	Result
989902-001 Chromium		ug/L	06/2	5/2010 14:37	5.00	0.0750	1.0	ND
Manganese		ug/L	06/2	5/2010 14:37	5.00	0.0600	10.0	ND
Method Blank				-		·		
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	989902-001
Parameter	Unit	DF	Resuit	Expected		RPD		
Chromium	ug/L	5.00	ND	0	•	0	0 - 20	nce Range
Manganese	ug/L	5.00	ND	Ō		0	0 - 20	
Lab Control Sample				-		v	0-20	
Parameter	Unit	DF	Result	Expected		2000	A4-	
Chromium	ug/L	1.00	50.8	50.0	r	Recovery 102	90 - 110	nce Range
Manganese	ug/L	1.00	50.7	50.0		101	90 - 110	
Matrix Spike	•					101		, 989902-001
Parameter	Unit	DF	Result	Expected/Add	lad E	Recovery		
Chromium	ug/L	5.00	245.	250.(250)	ieu r	98.0	75 - 125	nce Range
Manganese	ug/L	5.00	242.	250.(250)		96.6	75 - 125 75 - 125	
MRCCS - Secondar	у .					00.0	75 - 125	
Parameter	Unit	DF	Result	Expected	_	Recovery	A t -	D
Chromium	ug/L	1.00	50.7	50.0		101	90 - 110	nce Range
Manganese	ug/L	1.00	50.7	50.0		101	90 - 110	
MRCVS - Primary	-					. • .	30 - 110	
Parameter	Unit	DF	Result	Expected	_	Recovery	A4-	D
Chromium	ug/L	1.00	48.6	50.0		97.2	90 - 110	nce Range
Manganese	ug/L	1.00	48.9	50.0		97.8	90 - 110	
Interference Check S	Standard A					<b>U</b> 1, <b>U</b>	<b>30</b> - 110	
Parameter	Unit	DF	Result	Expected	Б	Recovery	A 000 mag	D
Chromium	ug/L	1.00	ND	0	,	OCCIVETY	Accepta	nce Range
Manganese	ug/L	1.00	ND	0				
Interference Check 8	Standard A			_				
Parameter	Unit	DF	Result	Expected	P	ecovery	A	O··
Chromium	ug/L	1.00	ND	0	^	COUVELY	Acceptal	nce Range

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 advortising or publicity matter without prior written authorization from Truesdail Laboratories.

0

ND

ug/L

Manganese

1.00

009



Client: E2 Consulting En	gineers, Inc		Project Name: Project Number:	PG&E Topo 392895.AA.		t	F Printed 7	Page 4 of 5 /1/10
Interference Check S	tandard AB							
Parameter	Ųnit	DF	Result	Expected	R	ecovery	Accenta	ence Range
Chromium	ug/L	1.00	49,4	50.0		98.8	80 - 120	
Manganese	ug/L	1.00	49.3	50.0		98.6	80 - 120	
Interference Check S	tandard AB							
Parameter	Ųnit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Chromium	ug/L	1.00	50.1	50.0		100	80 - 120	-
Manganese	ug/L	1.00	50.7	50.0		101	80 - 120	
Total Dissolved Solids between		Unit		06TDS10G zed	DF	MDL	6/24/10 RL	Result
		Unit	. Analy	zed	DF	MDL	RL	Result
989902-001 Total Dissolved	Solids	mg/L	06/24/2	010	1.00	0.434	250.	4530
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	989902-001
Parameter	Ųnit	DF	Result	Expected	RI	PD	Accents	nce Range
Total Dissolved Solids	mg/L	1.00	4340	4530		4.28	0 - 5	ince mange
Lab Control Sample							• •	
Parameter	Ųnit	DF	Result	Expected	Ré	ecovery	Accenta	ince Range
Total Dissolved Solids	mg/L	1.00	505.	500.		101.	90 - 110	-

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

O10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895,AA,DM

Page 5 of 5

Printed 7/1/10

Turbidity by SM 2130 B			Batch	06TUC10R			6/24/10	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989902-001 Turbidity		NTU	06/24	1/2010	1.00	0.0140	0.100	ND
Method Blank				· · · · · · · · · · · · · · · · · · ·		<del></del>	<u>.</u>	<del></del> -
Parameter	Unit	ĎF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID =	989902-001
Parameter	Unit	DF	Result	Expected	RF	PD 0	Accepta	nce Range
Turbidity	NTU	1.00	ND	0		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range
Turbidity	NTU	1.00	7.80	8.00		97.5	90 - 110	_
Lab Control Sample Di	uplicate					•		
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range
Turbidity	NTU	1.00	7.82	8.00		97.8	90 - 110	•

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 laboratorics, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

O11

Rec'd 06/23/19 2

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

LHAIN OF CUSTODY RECORD

JM3Plant-WDR-262]

10 Days PAGE 1 TURNAROUND TIME DATE 08/23/10 COC Number

6

706 685

COMMENTS ナニカの NUMBER OF CONTAINERS  $\mathcal{U}$ (DETSME) VAIDARIUT × Cr6 (218.6) Leb Filler DESCRIPTION Water FAX (530) 339-3303 TEAM ¥ 06/23/10 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 392895.AA.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-262 舀 PROJECT NAME P.O. NUMBER SAMPLE 10. COMPANY ADDRESS PHONE

PH-7.0 11ME-805 EC-7.73 Crb-1001 18mp-19.7

Level III QC

TOTAL NUMBER OF CONTAINERS

3	CHAIN OF CUSTODY SIGNATU	SIGNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Name Koulfell	Company/ A Agency OM/	Date 6-23-10 Time 1600	RECEIVED COOL   WARM   *F
Signature (Ref. 11)	Printed HOSIIF	Company! ///	Date 6-23-10 Time 16:00	CUSTODY SEALED YES   NO
Signeture (Relimquished)	Printed HAME	Company!	Date 0-22-7-0	SPECIAL REQUIREMENTS:
Signature Shabyning (Received)	Printed Luda	Company 77 Z	Time 6/13/10	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

# Sample Integrity & Analysis Discrepancy Form

Client	t:	. Lab#08990
Date l	Delivered:06 / 23/10 Time: 20/45 By: □Mail 🖄	Field Service
1.	Was a Chain of Custody received and signed?	⊠(Yes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No \$\frac{1}{2}N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ⊠(N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ໘N/A
<b>5</b> .	Were all requested analyses underslood and acceptable?	ÆjYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)?వ <u>ి.8 ° C</u>	⊠(Yes □No □N/A
<b>7</b> .	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.) ?	∯Yes □No □N/A
8.	Were sample custody seals intact	Yes ONO NA
9.	Does the number of samples received agree with CDC2	Yes ONO ON/A
10.	Did sample labels correspond with the client ID's?	Yes \Quad No \Quad \Quad N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdall □Client	□Yes □No <b>bd</b> N/A
12.	Were samples pH checked? pH = <u>Sel_C</u> , o. C.	⊘dYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	50 Yes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ <b>RUSH</b> Æ Std	AYes □No □N/A
15.		nd Water □Waste Water
	□Sludge □Soil □Wipe □Paint □Solid	Dother Water
16.	Comments:	
17	Samole Check-In completed by Truesdail Log-In/Receiving	. Shabuning



Established 1931

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

July 6, 2010

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-263 PROJECT, GROUNDWATER

MONITORING, TLI NO.: 989981

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-263 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 30, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The result from the straight run and associated matrix spike for sample SC-700B-WDR-263 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Ali Khangs

For Mona Nassimi

Manager, Analytical Services

K. R. P. gyl~

K.R.P. Iver

Quality Assurance/Quality Control Officer

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

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

Project No.: 392895.AA.DM

Laboratory No.: 989981

Date: July 6, 2010

Collected: June 30, 2010 Received: June 30, 2010

### **ANALYST LIST**

	Alberta Carlo Carl	
EPA 120.1	Specific Conductivity	lordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Gautam Savani
EPA 200,8	Total Metals	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 392895.AA.DM P.O. No.: 392895.AA.DM

Established 1931

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

Laboratory No.: 989981

Date Received: June 30, 2010

# Analytical Results Summary

ab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	귐
89981-001	SC-700B-WDR-263 E120.1	E120.1	NONE	6/30/10	8:00	EC	77.10	umhos/cm	2.00
389981-001	SC-700B-WDR-263 E200.8	E200.8	NONE	6/30/10		Chromium	2	υg/L	1.0
989981-001	SC-700B-WDR-263 E200.8	E200.8	NONE	6/30/10		Manganese	문	ug/L	10.0
989981-001	SC-700B-WDR-263 E218.6	E218.6	LABFLT	6/30/10	8:00	Chromium, hexavalent	0.31	ug/L	0.20
989981-001	SC-700B-WDR-263 SM2130B	SM2130B	NON	6/30/10		Turbidity	2	NTO	0.100
89981-001	SC-700B-WDR-263 SM2540C	SM2540C	NON	6/30/10		Total Dissolved Solids	4580	mg/L	250

mg/L: Milligrams per liter.

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

ND: Non Defected (below reporting limit)

# TRUESDAIL LABORATORIES, INC.

**EXCELLENCE IN INDEPENDENT TESTING** 



Established 1931

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

### REPORT

Client: CH2MHIII

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG & E Topock

P.O. Number: 55685

Project Number: 184004.PS.02

Samples Received on 6/30/10 8:00:00 PM

Laboratory No. 989981

Page 1 of 6

Printed 7/6/10

Field ID				Lab ID	Colle	ected	Mati	ix
SC-700B-WDR-263		"		989981-001	06/30/2010 08:00		Water	
Specific Conductivity -	EPA 120.1		Batci	1 07EC10A			7/1/10	
Parameter	ek (12,694) (1770-2-1) kuz m	Unit	Ana	ılyzed	DF	MDL	RL	Result
989981-001 Specific Conduc	tivity	umhos/cm 07/01/2010		1/2010	1.00	0.0380	2.00	7710
Method Blank		'		"				
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate	and the state of t	e de la servición de la composición de La composición de la	m. Pri		:	•	Lab ID =	989981-001
Parameter	Ųnit	DF	Result	Expected	RPD Acceptanc		nce Range	
Specific Conductivity	umhos	1.00	7730	7710	(	0.259	0 - 10	
Lab Control Sample								•
Parameter	Ųnit	DF	Result	Expected	Re	ecovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	691.	706.	•	97.9	90 - 110	~
MRCCS - Secondary	4						•	
Parameter	Ųnit	DF	Result	Expected	Re	ecovery	Accepta	nce Range
Specific Conductivity	umhos	1.00	697.	706.		98.7	90 - 110	_
MRCVS - Primary	7. 1	1.27	•					
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	990.	1000	,	99.0	90 - 110	_



Client: CH2MHIII

Project Name:

PG & E Topock

Page 2 of 6

Printed 7/6/10

Project Number: 184004.PS.02

Chrome VI by EPA 218.6 Batch 07CrH10A **Parameter** Unit Analyzed DF MDL RLResult 989981-001 Chromium, Hexavalent ug/L 07/01/2010 11:13 1.05 0.0190 0.20 0.31 Method Blank Parameter Unit DF Result Chromium, Hexavalent ug/L 1,00 ND Duplicate Lab ID = 989899-001 Parameter Unit DF Result Expected RPD Acceptance Range Chromium, Hexavalent ug/L 5.25 58.4 57.8 1.03 0 - 20Lab Control Sample Parameter. Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 4.79 5.00 95.8 90 - 110 Matrix Spike Lab ID = 989981-001Parameter DF Unit Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.06 1.33 1.37(1.06) 96.2 90 - 110 Matrix Spike Lab ID = 989901-004 Parameter Unit DF Result Expected/Added Acceptance Range Recovery Chromium, Hexavalent ug/L 1.06 1.84 1.85(1.06) 99.1 90 - 110 Matrix Spike Lab ID = 989901-005 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent 1.06 98.1 ug/L 1.85 1.87(1.06) 90 - 110 Matrix Spike Lab ID = 989901-003Parameter DF Unit Resuit Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.06 1.82 1.91(1.06) 91.5 90 - 110 Matrix Spike Lab ID = 989981-001 Parameter DF Unit Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 5.25 5.56 5.61(5.25) 99.0 90 - 110 MRCCS - Secondary **Parameter** Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 4.73 5.00 94.6 90 - 110 MRCVS - Primary Parameter 1 4 1 Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent 1.00 10.3 10.0

103.

95 - 105

ug/L



Client: CH2MHill

Project Name: PG & E Topock

Project Number: 184004.PS.02

Page 3 of 6

Printed 7/6/10

MRCVS Primary		er tres est			. •	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit	DF	Result	Expected	Recovery	Acceptance Range
	ug/L	1.00	9.98	10.0	99.8	95 - 105
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.88	10.0	98.8	95 - 105



Client: CH2MHill

Project Name: PG & E Topock

Project Number: 184004.PS.02

Page 4 of 6 Printed 7/6/10

Parameter		Unit	Ana	Analyzed DF		MDL	RL	Result
989981-001 Chromium		ug/L	07/02	/2010 14:36	5.00	0.0750	1,0	ND
Manganese		ug/L	07/02	/2010 14:36	5.00	0.0600	10.0	ND
Method Blank				-				
Parameter	Ųnit	DF	Result					
Chromium	u <b>g/</b> L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate	ARRIVE BART						Lab ID =	989981-001
Parameter	Ųnit	DF	Result	Expected		RPD	Accepta	ince Range
Chromium	ug/L	5.00	ND	0		0	0 - 20	ince range
Manganese	ug/L	5.00	ND	0		0	0 - 20	
Lab Control Sampl	le	6 a						$r_{\perp}$
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	51.3	50.0		103	90 - 110	_
Manganese	ug/L	1.00	51.7	50.0		103	90 - 110	)
Matrix Spike	ı						Lab ID = 989981-00	
Parameter	Ųnit	DF	Result	Expected/Ad	ded	Recovery	Recovery Acceptan	
Chromium	ug/L	5.00	238.	250.(250)		95.2	75 - 125	
Manganese	ug/L	5.00	240.	250.(250)		96.0	75 - 125	;
Matrix Spike Duplic	cate	100				the second	Lab ID =	989981-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	236.	250.(250)		94.4	75 - 125	_
Manganese	ug/L	5.00	240.	250.(250)		96.0	75 - 125	<b>i</b>
MRCCS - Seconda	ary							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	u <b>g/L</b>	1.00	51.1	50.0		102	90 - 110	
Manganese	ug/L	1.00	52.1	50.0		104	90 - 110	)
MRCVS - Primary	'							
Parameter	Ųnit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	47.4	50.0		94.8	90 - 110	-
Manganese	ug/L	1.00	48.3	50.0		96.6	90 - 110	1
Interference Check	Standard A			•				•
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	ND	0		•	•	<b>J</b>
Manganese	ug/L	1.00	ND	0				

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



ug/L

1.00

Report Continued

Client: CH2MHill

Manganese

Project Name: PG & E Topock

Project Number: 184004.PS.02

Page 5 of 6 Printed 7/6/10

80 - 120

Interference Check	Standard A					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	u <b>g</b> /L	1.00	ND	0		, _
Manganese	u <b>g/</b> L	1.00	ND	0		
Interference Check	Standard AB		1 1 m			
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.4	80 - 120
Manganese	ug/L	1.00	50.8	50.0	102	80 - 120
Interference Check	Standard AB			•		
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.0	50.0	106.	80 - 120

53.7

50.0

107

Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
989981-001 Total Dissolved	Solids	mg/L	L 07/01/2010		1.00	0.434	250.	4580
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	989981-001
Parameter	Unit	DF	Result	Expected	RF	סי	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	4660	4580	•	1.73	0 - 5	_
Lab Control Sample							* .	
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	490.	500.	9	98.0	90 - 110	) •



Client: CH2MHill

Project Name: PG & E Topock

Page 6 of 6

Project Number: 184004.PS.02

Printed 7/6/10

Turbidity by SM 2130	В		Batch	O7TUCOA			7/1/10	
Parameter		Unit	Ana	Analyzed		MDL	RL	Result
989981-001 Turbidity		NTU	07/01	/2010	1.00	0.0140	0.100	ND
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate	•						Lab ID =	989981-001
Parameter	Unit	DF	Result	Expected	R	PD Acceptance		nce Range
Turbidity	NTU	1.00	ND	0		0	0 - 20	
Lab Control Samp	le							
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range
Turbidity	NTU	1.00	7.63	8.00		95.4	90 - 110	_
Lab Control Samp	le Duplicate	•					:	. :
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range
Turbidity	NTU	1.00	7.70	8.00	9	96.2	90 - 110	_

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

For Sean Condon

Assistant Project Manager

TRUESDAL LABORATORIES, INC. 14201 Frankin Avenue, Tustin, CA 92780-7068 (714)730-8239 FAX: (714) 730-4462 www.truendeil.com

**999 93/** CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-263]

COC Number
TURNAROUND TIME 5 Days
DATE 06/30/10 PAGE 1 OF

TOTAL NUMBER OF CONTAINERS COMMENTS tono NUMBER OF CONTAINERS W) (CAN) 82.9 (OE ISMS) WHOMINT 503 7874C TOS (SURSSIOC)  $c_{c}6$ 200-× EC. 8.03 DESCRIPTION Water FAX (530) 339-3303 TEAN # G.C. 00%0 00000 0000 黑 \$55 Grand Ave Ste 1000 DATE AMALYSIS Oakland, CA 94612 080 (530) 229-3303 392885.AA.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-263 E2 Trace 0880 PROJECT NAME P.O. NUMBER SAMPLE 1D. COMPANY ADDRESS FIONE

# RUSH

ALERT !! Level III QC

For Sample Condition: See Form Attached

7	10 / C	CHAIN OF CUSIOUT SIGNALUKE	GNATURE RECORD	6-30-10	SAMPLE CONDITIONS
Signature (Relinquished)	Mil	Printed // 106	Company! On the Agency On the	Detai 1505	RECEIVED COOL IN WARM IN 1.72 T
Signature Received! Som	Bonefaces Dayon	Printed B. DHYAG	Company! Agency 72.1	Date 6-30-10 Time 6-30-10	CUSTODY SEALED YES   NO
Signature (Relinquished) &	onifacio pa	ignature Bong facu Daysteme B. DAYAG	Company! Agency 7 c./	Date! C - 30 - 10 Fime 2000	2 0 0 0 SPECIAL REQUIREMENTS:
Signature Received) A 5	Shely mag	Primed Hallum's a	Company! 77.2	Date 6/30/10 Time	
Signature (Relinquished)		Printed Name	Company/ Agency	Detec Time	
Signature (Received)		Printed Name	Companyi Agency	Date/ Time	

# Sample Integrity & Analysis Discrepancy Form

Client	:: <u>E</u>	Lab #	3998
Date l	Delivered: <u>06/30</u> /10 Time: <u>∂0'00</u> By: □Mail ⊠Field	Service 🗅	Client
1.	Was a Chain of Custody received and signed?	Matyes □No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	<b>⊠</b> N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	KDN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	NIA
<b>5</b> .	Were all requested analyses understood and acceptable?	Mayes □No	□N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4. 子。C</u>	MaYes □No	□N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	<b>∆</b> Yes □No	□ <i>N/A</i>
8.	Were sample custody seals intact? Level III QC	□Yes □No	<b>M</b> N/A
9.	Does the number of samples received agree with COC?	Mayes □No	□N/A
10.	Did sample labels correspond with the client ID's?	valYes □No	□N/A
11.	Did sample labels indicate proper preservation?  Preserved (if yes) by: □Truesdail □Client	□Yes □No	<b>₽</b> IN/A
12.	Were samples pH checked? pH = $\_$ SeC $\_$ C. $\bigcirc$ C.	ØYes □No	□N/A
13.	Were all analyses within hear grime at time of receipt? If not, notify Project Manager	¥ Yes □No	□N/A
14.	Have Project due dates been checked and ccepted? Turn Around Time (TAT): <b>▼ RUSH</b> □ Std	Yes ONo	□ <i>N/A</i>
15.	Sample Matrix:		e Water
	□Sludge □Soil □Wipe □Paint □Solid 氣Oth	ner <u>Wal</u>	ce_
16.	Comments:	<i>7</i>	
17.	Sample Check-In completed by Truesdall Log-In/Receiving:	Luabue	illa