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July 15, 2009

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: Second Quarter 2009 Monitoring and Semiannual Jan-June 2009 Operation and Maintenance Report – Board Order R7-2006-0060 PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System Discharge to Injection Wells

Dear Mr. Perdue:

Enclosed is the Second Quarter 2009 Monitoring and Semiannual January 1 through June 30, 2009 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 (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, 2008. 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:

Second Quarter 2009 Monitoring and Semiannual Jan-June 2009 Operation and Maintenance Report for the IM No. 3 Groundwater Treatment System

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

Second Quarter 2009 Monitoring and Semiannual January-June Operation and Maintenance Report

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

July 15, 2009

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155 Grand Avenue, Suite 1000
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Second Quarter 2009 Monitoring and Semiannual January-June 2009 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060 PG&E Topock Compressor Station Needles, California

Prepared for
Pacific Gas and Electric Company

July 15, 2009

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

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

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Acronyms and Abbreviations

IM	Interim Measure
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
Truesdail	Truesdail Laboratories, Inc.
Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
WDR	Waste Discharge Requirements

1.0 Introduction

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

California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) Board Order No. R7-2006-0060 authorizes PG&E to inject treated groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. Order No. R7-2006-0060 was issued September 20, 2006 and is the successor to Order No. R7-2004-0103. The revised Monitoring and Reporting Program (MRP) under the Order, issued August 28, 2008, requires quarterly monitoring reports to be submitted by the fifteenth day of the month following the end of the quarter.

This report covers IM No. 3 groundwater treatment system monitoring activities during the Second Quarter 2009, and operation and maintenance activities during the January 1 through June 30, 2009 semiannual reporting period. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

2.0 Sampling Station Locations

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

3.0 Description of Monitoring Activities

This report describes second quarter 2009 monitoring activities, and the January 1, 2009 through June 30, 2009 operation and maintenance activities related to the IM No. 3 groundwater treatment system. IM No. 3 monitoring activities from January 1, 2009 through April 31, 2009 (first quarter) were reported in the *First Quarter 2009 Monitoring Report for IM No. 3 Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060,* submitted to the Water Board April 15, 2009.

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 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.

3.2 Groundwater Treatment System Flow Rates for Second Quarter 2009

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 11.6

percent downtime during Second Quarter 2009) are summarized in the 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.

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 2009, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gallons per minute, excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during Second Quarter 2009.

The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 75.7 percent during April 2009
- 92.1 percent during May 2009
- 97.3 percent during June 2009

The Second Quarter 2009 treatment system monthly average flow rates (influent, effluent, and reverse osmosis concentrate) are presented in Table 2. The system influent flow rate was measured by flow meters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-PR-10-10-03).

The IM No. 3 facility treated approximately 15,613,405 gallons of extracted groundwater during Second Quarter 2009.

In addition to extracted groundwater, during Second Quarter 2009 the IM No. 3 facility treated 14,380 gallons of water generated from the groundwater monitoring program and 33,150 gallons of injection well development water.

3.2.2 Effluent Streams

The treatment system effluent flow rate was measured by flow meters in the piping leading to injection wells IW-2 and IW-3 (Figure TP-PRR-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 15,269,504 gallons of treatment system effluent during Second Quarter 2009. The monthly average flow rate to injection wells is shown in Table 2.

The reverse osmosis concentrate flow rate was measured by a flow meter at the piping carrying water from reverse osmosis concentrate tank T-701 to the truck load-out station (Figure TP-PR-10-10-08). The IM No. 3 facility generated 263,602 gallons of reverse osmosis concentrate during Second Quarter 2009. The monthly average reverse osmosis concentrate flow rate is shown in Table 2.

The sludge flow rate is measured by the size and weight of containers shipped offsite. Six sludge containers were shipped offsite from the IM No. 3 facility during Second Quarter 2009. The shipment dates and approximate weights are provided in Section 5.3.

3.3 Sampling and Analytical Procedures

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

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

Truesdail is certified by the California Department of Health Services (Certification No. 1237) under the State of California's Environmental Laboratory Accreditation Program. California-certified laboratory analyses were performed in accordance with the latest edition of the *Guidelines Establishing Test Procedures for Analysis of Pollutants* (40 Code of Federal Regulations Part 136), promulgated by the United States Environmental Protection Agency.

During the First and Second Quarters 2009, analysis of pH was conducted by field method pursuant to the Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements) authorizing pH measurements to be conducted in the field. The field method pH samples were field tested within 15 minutes of sampling.

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

Influent, effluent, reverse osmosis concentrate, and sludge sampling frequency was conducted in accordance with the revised MRP, issued August 28, 2008.

Groundwater quality is being monitored in observation and compliance wells according to Order R7-2006-0060, the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Water Board on June 17, 2005, and the revised Monitoring and Reporting Program (MRP) under Order R7-2006-0060 issued August 28, 2008. 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.

4.0 Analytical Results

Laboratory reports for samples collected in First Quarter 2009 were prepared by certified analytical laboratories, and are presented in the First Quarter 2009 Report. Laboratory reports for samples collected in Second Quarter 2009 were prepared by certified analytical laboratories, and are presented in Appendix D.

Samples were collected in accordance with the WDR sampling frequency requirements. See Table 3 for sample collection dates.

The influent sampling analytical results are presented in Table 4. The effluent sampling analytical results are presented in Table 5. The reverse osmosis concentrate sampling analytical results are presented in Table 6. The sludge sampling analytical results are presented in Table 7.

Table 8 identifies the laboratory that performed each analysis and lists the following required information:

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

5.0 Semiannual Operation and Maintenance

Pursuant to the WDRs 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, 2009 through June 30, 2009.

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 following sections 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 Most Recent Re-Calibrated Meter Installation	Previous Flowmeter Serial No.
Extraction well PE-1	FIT-103	6C036F16000	January 4, 2007	6A022216000
Extraction well TW-3D	FIT-102	6C037016000	January 25, 2008	6A022116000
Extraction well TW-2D[a]	FIT-101	6A021F16000	July 28, 2005	---
Extraction well TW-2S[b]	FIT-100	6A022016000	July 28, 2005	---
Injection well IW-02	FIT-1202	6A022116000	February 2, 2007	6C037016000
Injection well IW-03	FIT-1203	6C037216000	April 9, 2008	7700F216000
Combined IW-02 and IW-03	FIT-700	7700C616000	February 13, 2008	7700F316000
Reverse osmosis concentrate	FIT-701	6C022216000	February 2, 2007	6C037316000

Notes:
[a] TW-2D is a backup extraction well only operated for brief testing and sampling periods since January 2006.
[b] 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, 2009 and June 30, 2009 are provided in Appendix B.

Approximately 32,314,228 gallons of groundwater were extracted and treated between January 1, 2009 and June 30, 2009. 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 28,324 gallons of well purge water (generated during well development, monitoring well sampling, and/or aquifer testing) and 84,950 gallons of injection well re-development water were treated at the IM No. 3 facility during the January 1, 2009 to June 30, 2009 semiannual period.

A total of approximately 31,708,294 gallons of treated groundwater was injected back into the Alluvial Aquifer between January 1, 2009 and June 30, 2009.

5.3 Residual Solids Generated (Sludge)

During the January 1, 2009 to June 30, 2009 reporting period, nine 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 January 1, 2009 to June 30, 2009 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
1/13/09	10	15,240	non-RCRA hazardous waste
1/20/09	9	15,680	non-RCRA hazardous waste
2/24/09	9	12,240	non-RCRA hazardous waste
3/19/09	8	11,720	non-RCRA hazardous waste
4/07/09	9	12,640	non-RCRA hazardous waste
4/16/09	9	14,700	non-RCRA hazardous waste
4/22/09	9	13,180	non-RCRA hazardous waste
5/12/09	6	13,300	non-RCRA hazardous waste
6/01/09	10	13,080	non-RCRA hazardous waste
6/23/09	7	10,420	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 (Figure TP-PR-10-10-08). From January 1, 2009 to June 30, 2009, approximately 616,019 gallons of reverse osmosis concentrate were transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal.

5.5 Summary of WDR Compliance

No WDR violations were identified during the January 1, 2009 to June 30, 2009 semiannual reporting period.

Two release events were reported by telephone to Cliff Raley of the Water Board during the January 1, 2009 to June 30, 2009 semiannual period. Mr. Raley indicated by telephone that no further actions would be required.

- On January 29, 2009 at approximately 8:00 a.m., the plant operator observed the microfilter No. 5 module on the west bank leaking water. This release was partially inside and partially outside of containment. It is estimated that the release started at approximately 5:00 a.m. The estimated quantity of release (based on 1 liter per minute times three hours) is 48 gallons. Of this 48 gallons, PG&E estimates that 24 gallons fell outside of containment onto the adjacent gravel surface. PG&E removed the wetted portion of the gravel surface adjacent to the containment. The gravel was placed in a phase separator so all of the released liquid was returned to the IM No. 3 treatment system or disposed of along with sludge. PG&E replaced all tubing on the microfilter and installed a splash guard around the modules on the microfilter to prevent potential future leakage from escaping containment.
- On May 5, 2009, at 12:40 p.m., a small leak developed in a piece of plastic tubing that was conveying treated water reverse osmosis (RO) concentrate (brine). Although most of the leaking water was captured within the containment structure, a small amount (estimated 2 gallons) of the brine escaped the containment structure and was released onto the adjacent gravel surface. The water in this part of the treatment plant is after the chromium removal process. PG&E removed the wetted portion of the gravel surface adjacent to the containment. The gravel was placed in a phase separator so all of the released liquid was returned to the IM No. 3 treatment system or disposed of along with sludge. PG&E installed a plastic barricade adjacent to the tubing to prevent potential future leakage from escaping containment.

5.6 Operation and Maintenance – Required Shutdowns

Appendix A contains a summary of the operation or maintenance issues that required the groundwater extraction system to be shut down during the January 1, 2009 to June 30, 2009 semiannual reporting period. Records of routine maintenance are kept onsite.

5.7 Treatment Plant Modifications

No major IM No. 3 treatment plant modifications were performed during the January 1, 2009 to June 30, 2009 semiannual reporting period that affected the quality or quantity of treated effluent. However, during this same time period, PG&E initiated the process to replace the aging original RO system with a modern RO system. The original RO system will stay in service until the installation of the new RO system is completed and the new system is operating effectively. The startup of the replacement RO system is planned for the third quarter of 2009, and the original RO system will be removed.

6.0 Conclusions

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

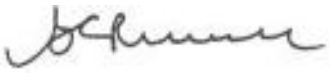
In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified during the reporting period.

7.0 Certification

On August 12, 2005, PG&E submitted a signature delegation letter to the Water Board, delegating PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2004-0103. Order R7-2006-0060 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: 

Name: Curt Russell

Company: Pacific Gas and Electric Company

Title: Topock Site Manager

Date: July 15, 2009

Tables

TABLE 1
Sampling Station Descriptions
Second Quarter 2009 Monitoring and Semiannual Jan-Jun 2009 O&M Report for Interim Measure No. 3 Groundwater Treatment System

Sample Station	Sample ID[a]	Location
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (see Figure TP-RP-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (see Figure TP-RP-10-10-04).
Sampling Station D[b]: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (see Figure TP-RP-10-10-08).
Sampling Station E: Groundwater Treatment System Sludge	SC-SLUDGE-WDR-###	Sample collected from sludge accumulated in the phase separator used this quarter (see Figure TP-RP-10-10-06).

Note:

= Sequential sample identification number at each sample station.

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

[b] The June 3, 2009 RO Concentrate (brine) sample was collected approximately 50 feet upstream from the RO Concentrate holding tank T-701 instead of the typical sample port just downstream from T-701.

TABLE 2
Flow Monitoring Results
Second Quarter 2009 Monitoring and Semiannual Jan-Jun 2009 O&M Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent[a,b] (gpm)	System Effluent[b,c] (gpm)	Reverse Osmosis Concentrate[b] (gpm)
April 2009 Average Monthly Flowrate	102.3	101.2	1.8
May 2009 Average Monthly Flowrate	123.9	122.8	2.0
June 2009 Average Monthly Flowrate	131.1	125.3	2.2

Notes:

gpm: gallons per minute.

[a] Extraction wells TW-3D and PE-1 were operated during the Second Quarter 2009. Extraction wells TW-2S and TW-2D were not operated during the Second Quarter 2009.

[b] The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the Second Quarter 2009 is approximately 1.4 percent.

[c] Effluent was discharged into injection wells IW-02 and IW-03 during the Second Quarter 2009.

TABLE 3
Sample Collection Dates
Second Quarter 2009 Monitoring and Semiannual Jan-Jun 2009 O&M Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent[a]	April 1, 2009	See Table 4
	May 6, 2009	
	June 3, 2009	
Effluent[b]	April 1, 2009	See Table 5
	April 8, 2009	
	April 16, 2009	
	April 27, 2009	
	April 30, 2009	
	May 6, 2009	
	May 13, 2009	
	May 19, 2009	
	May 27, 2009	
	June 3, 2009	
	June 10, 2009	
	June 16, 2009	
	June 24, 2009	
Reverse Osmosis Concentrate[c]	June 3, 2009	See Table 6
Sludge[d]	April 7, 2009	See Table 7
	April 16, 2009	
	April 22, 2009	
	May 12, 2009	
	June 1, 2009	
	June 23, 2009	

Notes:

[a] Influent sampling is required monthly.

[b] Effluent sampling is required weekly for six constituents and monthly for sixteen constituents.

[c] Reverse Osmosis Concentrate sampling is required quarterly.

[d] Sludge sampling is required quarterly by composite.

TABLE 4
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Influent Monitoring Results [a]
Second Quarter 2009 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																					
Analytes		TDS	Turbidity	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units [b]		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
MDL		50.4	0.0070	0.0220	---	0.266	1.52	1.28	0.0090	0.112	0.0750	0.0810	0.0048	0.650	0.0250	0.0910	0.0805	0.0840	0.635	0.0350	0.0010	1.20	2.40	0.575
Sample ID	**Date**																							
SC-100B-WDR-197	**4/1/2009**	**5700**	**ND (0.100)**	**7840**	**7.7**	**1270**	**1180**	**ND (50.0)**	**ND (0.500)**	**17.2**	**6.45**	**27.5**	**1.18**	**ND (5.00)**	**2.51**	**ND (10.0)**	**ND (10.0)**	**35.2**	**ND (10.0)**	**2.96**	**ND (0.0050)**	**588**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	10.5	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	25.0	20.0	10.0
SC-100B-WDR-202	**5/6/2009**	**4650**	**0.101**	**7740**	**7.3**	**1130**	**1150**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**3.50**	**26.1**	**1.11**	**ND (5.00)**	**2.74**	**ND (10.0)**	**ND (10.0)**	**30.5**	**ND (10.0)**	**3.01**	**ND (0.0050)**	**574**	**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	25.0	20.0	10.0
SC-100B-WDR-206	**6/3/2009**	**4890**	**ND (0.100)**	**7940**	**7.2**	**1140**	**1110**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**2.27**	**25.0**	**1.00**	**ND (5.00)**	**2.89**	**ND (10.0)**	**ND (10.0)**	**21.4**	**ND (10.0)**	**3.11**	**ND (0.0050)**	**575**	**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	50.0	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

a 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[a]
Second Quarter 2009 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

WDRs Effluent Limits[b]	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
	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
Required Sampling Frequency		**Weekly**						**Monthly**															
Analytes		TDS	Turbidity	Specific Conductance	Field pH[e]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units[c]		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
MDL[d]		25.2	0.0070	0.0220	---	0.0532	0.0304	1.28	0.0090	0.112	0.0750	0.0810	0.0048	0.650	0.0250	0.0910	0.0805	0.0840	0.635	0.0350	0.0010	1.20	2.40	0.575
Sample ID	**Date**																						
SC-700B-WDR-197	**4/1/2009**	**3850**	**ND (0.100)**	**6710**	**7.10**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**14.3**	**1.12**	**11.1**	**2.01**	**ND (10.0)**	**53.8**	**19.6**	**ND (10.0)**	**2.48**	**ND (0.0050)**	**500**	**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	25.0	20.0	10.0
SC-700B-WDR-198	**4/8/2009**	**4140**	**ND (0.100)**	**6860**	**7.10**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-199	**4/16/2009**	**4100**	**ND (0.100)**	**7220**	**7.10**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-200	**4/27/2009**	**3060**	**ND (0.100)**	**5020**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-201	**4/30/2009**	**3980**	**ND (0.100)**	**6780**	**7.10**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-202	**5/6/2009**	**4360**	**ND (0.100)**	**6770**	**7.00**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**4.24**	**12.3**	**1.02**	**ND (5.00)**	**2.38**	**ND (10.0)**	**13.2**	**20.0**	**ND (10.0)**	**2.71**	**ND (0.0050)**	**486**	**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	25.0	20.0	10.0
SC-700B-WDR-203	**5/13/2009**	**4280**	**ND (0.100)**	**6870**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		125	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-204	**5/19/2009**	**4460**	**ND (0.100)**	**7020**	**6.90**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-205	**5/27/2009**	**4390**	**ND (0.100)**	**6750**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-206	**6/3/2009**	**4370**	**ND (0.100)**	**7150**	**7.10**	**ND (1.00)**	**ND (0.200)**	**65.4**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**13.9**	**0.966**	**ND (5.00)**	**2.45**	**ND (10.0)**	**30.3**	**17.3**	**ND (10.0)**	**2.76**	**ND (0.0050)**	**511**	**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	50.0	20.0	10.0
SC-700B-WDR-207	**6/10/2009**	**4340**	**ND (0.100)**	**7290**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-208	**6/16/2009**	**4790**	**ND (0.100)**	**7080**	**6.90**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-209	**6/24/2009**	**3460**	**ND (0.100)**	**6050**	**7.30**	**2.62**	**2.46**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		125	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results [a]
Second Quarter 2009 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

a 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.

c 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.

TABLE 6
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Reverse Osmosis Concentrate Monitoring Results [a]
Second Quarter 2009 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																				
Analytes		TDS	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units [b]		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
MDL		252	0.153	---	0.0011	0.00076	0.00045	0.00030	0.00032	0.00077	0.00023	0.00050	0.0026	0.0250	0.00036	0.00034	0.000030	0.0025	0.00032	0.00042	0.00036	0.00025	0.0023
Sample ID	**Date**																						
SC-701-WDR-206	**6/3/2009**	**51400**	**61800**	**7.4 [d]**	**0.00742**	**ND (0.0052)**	**ND (0.0100)**	**ND (0.0040)**	**0.190**	**ND (0.0040)**	**ND (0.0040)**	**ND (0.0050)**	**0.0947**	**23.2**	**ND (0.0100)**	**0.224**	**ND (0.00020)**	**0.0192**	**0.0260**	**0.00656**	**ND (0.0040)**	**ND (0.0050)**	**ND (0.0200)**
RL		1250	2.00	---	0.0040	0.0052	0.0100	0.0040	0.0100	0.0040	0.0040	0.0050	0.0050	0.500	0.0100	0.0100	0.00020	0.0100	0.0100	0.0050	0.0040	0.0050	0.0200

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

a 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.

d Sample collected 6/3/09 at 6:00 a.m. from operational sample port upstream of RO Concentrate holding tank 701 rather than normal SC-701 sample port downstream from tank 701.

TABLE 7
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Sludge Monitoring Results[a]
Second Quarter 2009 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
MDL		0.0270	2.21	0.00082	0.00056	0.0032	0.0026	0.0020	0.0032	0.0049	0.0187	0.0131	0.00064	0.00011	0.0056	0.00060	0.0018	0.0090	0.0029	0.0071
Sample ID	**Date**																			
SC-Sludge-WDR-206	**6/3/2009**	**12900**	**188**	**ND (2.00)**	**31.7**	**127**	**217**	**48.2**	**3.95**	**110**	**56.1**	**ND (3.74)**	**69.8**	**0.204**	**ND (1.87)**	**ND (1.87)**	**ND (3.74)**	**12.6**	**347**	**691**
RL		18.7	15.0	2.00	1.87	1.87	1.87	3.74	1.87	1.87	15.0	3.74	1.87	0.147	1.87	1.87	3.74	3.74	1.87	9.35

NOTES:

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

[a] 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 2009 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-197	J. Aide	4/1/2009	8:25:00 AM	TLI	EPA 120.1	SC	4/2/2009	Tina Acquiat
					TLI	EPA 200.7	B	4/7/2009	Kris Collins
					TLI	EPA 200.7	FE	4/22/2009	Kris Collins
					TLI	EPA 200.8	AL	4/3/2009	Linda Saetern
					TLI	EPA 200.8	AS	4/3/2009	Linda Saetern
					TLI	EPA 200.8	BA	4/3/2009	Linda Saetern
					TLI	EPA 200.8	CR	4/3/2009	Linda Saetern
					TLI	EPA 200.8	CU	4/3/2009	Linda Saetern
					TLI	EPA 200.8	MN	4/3/2009	Linda Saetern
					TLI	EPA 200.8	MO	4/3/2009	Linda Saetern
					TLI	EPA 200.8	NI	4/3/2009	Linda Saetern
					TLI	EPA 200.8	PB	4/3/2009	Linda Saetern
					TLI	EPA 200.8	SB	4/3/2009	Linda Saetern
					TLI	EPA 200.8	ZN	4/3/2009	Linda Saetern
					TLI	EPA 218.6	CR6	4/2/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	4/2/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	4/2/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	4/2/2009	Giawad Ghenniwa
					FIELD	HACH	PH	4/1/2009	J. Aide
					TLI	SM2130B	TRB	4/2/2009	Gautam Savani
					TLI	SM2540C	TDS	4/2/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	4/6/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	4/2/2009	Tina Acquiat
SC-100B	SC-100B-WDR-202	C.Knight	5/6/2009	1:11:00 PM	TLI	EPA 120.1	SC	5/7/2009	Tina Acquiat
					TLI	EPA 200.7	B	5/12/2009	Kris Collins
					TLI	EPA 200.7	FE	5/27/2009	Kris Collins
					TLI	EPA 200.8	AL	5/14/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	AS	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BA	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CR	5/22/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CU	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MN	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MO	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	NI	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	PB	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SB	5/7/2009	Daniel Kang/Romuel Chavez

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-202	C.Knight	5/6/2009	1:11:00 PM	TLI	EPA 200.8	ZN	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 218.6	CR6	5/7/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	5/7/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	5/7/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	5/7/2009	Giawad Ghenniwa
					FIELD	HACH	PH	5/6/2009	C.Knight
					TLI	SM2130B	TRB	5/7/2009	Gautam Savani
					TLI	SM2540C	TDS	5/8/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	5/11/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	5/7/2009	Tina Acquiat
SC-100B	SC-100B-WDR-206	C.Knight	6/3/2009	8:58:00 AM	TLI	EPA 120.1	SC	6/4/2009	Tina Acquiat
					TLI	EPA 200.7	B	6/5/2009	Kris Collins
					TLI	EPA 200.7	FE	6/10/2009	Kris Collins
					TLI	EPA 200.7	MN	6/5/2009	Kris Collins
					TLI	EPA 200.8	AL	6/10/2009	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2009	Daniel Kang
					TLI	EPA 200.8	BA	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CR	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CU	6/10/2009	Daniel Kang
					TLI	EPA 200.8	MO	6/10/2009	Daniel Kang
					TLI	EPA 200.8	NI	6/10/2009	Daniel Kang
					TLI	EPA 200.8	PB	6/10/2009	Daniel Kang
					TLI	EPA 200.8	SB	6/17/2009	Daniel Kang
					TLI	EPA 200.8	ZN	6/10/2009	Daniel Kang
					TLI	EPA 218.6	CR6	6/4/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	6/4/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	6/4/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	6/4/2009	Giawad Ghenniwa
					FIELD	HACH	PH	6/3/2009	C. Knight
					TLI	SM2130B	TRB	6/4/2009	Gautam Savani
					TLI	SM2540C	TDS	6/4/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	6/4/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	6/4/2009	Tina Acquiat
SC-700B	SC-700B-WDR-197	J. Aide	4/1/2009	8:25:00 AM	TLI	EPA 120.1	SC	4/2/2009	Tina Acquiat
					TLI	EPA 200.7	B	4/7/2009	Kris Collins
					TLI	EPA 200.7	FE	4/21/2009	Kris Collins

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-197	J. Aide	4/1/2009	8:25:00 AM	TLI	EPA 200.8	AL	4/3/2009	Linda Saetern
					TLI	EPA 200.8	AS	4/3/2009	Linda Saetern
					TLI	EPA 200.8	BA	4/3/2009	Linda Saetern
					TLI	EPA 200.8	CR	4/3/2009	Linda Saetern
					TLI	EPA 200.8	CU	4/3/2009	Linda Saetern
					TLI	EPA 200.8	MN	4/3/2009	Linda Saetern
					TLI	EPA 200.8	MO	4/3/2009	Linda Saetern
					TLI	EPA 200.8	NI	4/3/2009	Linda Saetern
					TLI	EPA 200.8	PB	4/3/2009	Linda Saetern
					TLI	EPA 200.8	SB	4/3/2009	Linda Saetern
					TLI	EPA 200.8	ZN	4/3/2009	Linda Saetern
					TLI	EPA 218.6	CR6	4/2/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	4/2/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	4/2/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	4/2/2009	Giawad Ghenniwa
					FIELD	HACH	PH	4/1/2009	J. Aide
					TLI	SM2130B	TRB	4/2/2009	Gautam Savani
					TLI	SM2540C	TDS	4/2/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	4/6/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	4/2/2009	Tina Acquiat
SC-700B	SC-700B-WDR-198	J. Aide	4/8/2009	8:05:00 AM	TLI	EPA 120.1	SC	4/9/2009	Tina Acquiat
					TLI	EPA 200.8	CR	4/13/2009	Linda Saetern
					TLI	EPA 218.6	CR6	4/9/2009	Michael Nonezyan
					FIELD	HACH	PH	4/8/2009	J. Aide
					TLI	SM2130B	TRB	4/9/2009	Gautam Savani
					TLI	SM2540C	TDS	4/13/2009	Tina Acquiat
SC-700B	SC-700B-WDR-199	C. Knight	4/16/2009	11:00:00 AM	TLI	EPA 120.1	SC	4/20/2009	Tina Acquiat
					TLI	EPA 200.8	CR	4/17/2009	Linda Saetern
					TLI	EPA 218.6	CR6	4/17/2009	Michael Nonezyan
					FIELD	HACH	PH	4/16/2009	C. Knight
					TLI	SM2130B	TRB	4/17/2009	Gautam Savani
					TLI	SM2540C	TDS	4/20/2009	Tina Acquiat
SC-700B	SC-700B-WDR-200	J. Aide	4/27/2009	2:30:00 PM	TLI	EPA 120.1	SC	4/28/2009	Tina Acquiat
					TLI	EPA 200.8	CR	4/29/2009	Daniel Kang
					TLI	EPA 218.6	CR6	4/28/2009	Michael Nonezyan
					FIELD	HACH	PH	4/27/2009	J. Aide

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-200	J. Aide	4/27/2009	2:30:00 PM	TLI	SM2130B	TRB	4/28/2009	Gautam Savani
					TLI	SM2540C	TDS	4/28/2009	Tina Acquiat
SC-700B	SC-700B-WDR-201	C. Knight	4/30/2009	10:02:00 AM	TLI	EPA 120.1	SC	5/1/2009	Tina Acquiat
					TLI	EPA 200.8	CR	5/1/2009	Romuel Chavez
					TLI	EPA 218.6	CR6	5/1/2009	Michael Nonezyan
					FIELD	HACH	PH	4/30/2009	C. Knight
					TLI	SM2130B	TRB	5/1/2009	Gautam Savani
					TLI	SM2540C	TDS	5/4/2009	Tina Acquiat
SC-700B	SC-700B-WDR-202	C.Knight	5/6/2009	1:00:00 PM	TLI	EPA 120.1	SC	5/7/2009	Tina Acquiat
					TLI	EPA 200.7	B	5/12/2009	Kris Collins
					TLI	EPA 200.7	FE	5/12/2009	Kris Collins
					TLI	EPA 200.8	AL	5/14/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	AS	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BA	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CR	5/22/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CU	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MN	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MO	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	NI	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	PB	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SB	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	ZN	5/7/2009	Daniel Kang/Romuel Chavez
					TLI	EPA 218.6	CR6	5/7/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	5/7/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	5/7/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	5/7/2009	Giawad Ghenniwa
					FIELD	HACH	PH	5/6/2009	C.Knight
					TLI	SM2130B	TRB	5/7/2009	Gautam Savani
					TLI	SM2540C	TDS	5/8/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	5/11/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	5/7/2009	Tina Acquiat
SC-700B	SC-700B-WDR-203	J. Aide	5/13/2009	7:50:00 AM	TLI	EPA 120.1	SC	5/14/2009	Tina Acquiat
					TLI	EPA 200.8	CR	5/15/2009	Linda Saetern
					TLI	EPA 218.6	CR6	5/14/2009	Michael Nonezyan
					FIELD	HACH	PH	5/13/2009	J. Aide
					TLI	SM2130B	TRB	5/14/2009	Gautam Savani

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-203	J. Aide	5/13/2009	7:50:00 AM	TLI	SM2540C	TDS	5/18/2009	Tina Acquiat
SC-700B	SC-700B-WDR-204	J. Aide	5/19/2009	8:00:00 AM	TLI	EPA 120.1	SC	5/21/2009	Tina Acquiat
					TLI	EPA 200.8	CR	5/20/2009	Daniel Kang
					TLI	EPA 218.6	CR6	5/21/2009	Michael Nonezyan
					FIELD	HACH	PH	5/19/2009	J. Aide
					TLI	SM2130B	TRB	5/19/2009	Gautam Savani
					TLI	SM2540C	TDS	5/21/2009	Tina Acquiat
SC-700B	SC-700B-WDR-205	C. Knight	5/27/2009	9:08:00 AM	TLI	EPA 120.1	SC	5/28/2009	Tina Acquiat
					TLI	EPA 200.8	CR	5/28/2009	Linda Saetern
					TLI	EPA 218.6	CR6	5/28/2009	Michael Nonezyan
					FIELD	HACH	PH	5/27/2009	C. Knight
					TLI	SM2130B	TRB	5/28/2009	Gautam Savani
					TLI	SM2540C	TDS	5/28/2009	Tina Acquiat
SC-700B	SC-700B-WDR-206	C.Knight	6/3/2009	9:03:00 AM	TLI	EPA 120.1	SC	6/4/2009	Tina Acquiat
					TLI	EPA 200.7	B	6/5/2009	Kris Collins
					TLI	EPA 200.7	FE	6/10/2009	Kris Collins
					TLI	EPA 200.7	MN	6/5/2009	Kris Collins
					TLI	EPA 200.8	AL	6/10/2009	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2009	Daniel Kang
					TLI	EPA 200.8	BA	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CR	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CU	6/10/2009	Daniel Kang
					TLI	EPA 200.8	MO	6/10/2009	Daniel Kang
					TLI	EPA 200.8	NI	6/10/2009	Daniel Kang
					TLI	EPA 200.8	PB	6/10/2009	Daniel Kang
					TLI	EPA 200.8	SB	6/17/2009	Daniel Kang
					TLI	EPA 200.8	ZN	6/10/2009	Daniel Kang
					TLI	EPA 218.6	CR6	6/4/2009	Michael Nonezyan
					TLI	EPA 300.0	FL	6/4/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	6/4/2009	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	6/8/2009	Giawad Ghenniwa
					FIELD	HACH	PH	6/3/2009	C. Knight
					TLI	SM2130B	TRB	6/4/2009	Gautam Savani
					TLI	SM2540C	TDS	6/4/2009	Tina Acquiat
					TLI	SM4500NH3D	NH3N	6/4/2009	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	6/4/2009	Tina Acquiat

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-207	J. Aide	6/10/2009		TLI	EPA 120.1	SC	6/11/2009	Tina Acquiat
					TLI	EPA 200.8	CR	6/11/2009	Romuel Chaves
					TLI	EPA 218.6	CR6	6/11/2009	Michael Nonezyan
					FIELD	HACH	PH	6/10/2009	J. Aide
					TLI	SM2130B	TRB	6/11/2009	Gautam Savani
					TLI	SM2540C	TDS	6/11/2009	Tina Acquiat
SC-700B	SC-700B-WDR-208	Ron Phelps	6/16/2009	8:00:00 AM	TLI	EPA 120.1	SC	6/17/2009	Tina Acquiat
					TLI	EPA 200.8	CR	6/18/2009	Romuel Chaves
					TLI	EPA 218.6	CR6	6/18/2009	Michael Nonezyan
					FIELD	HACH	PH	6/16/2009	Ron Phelps
					TLI	SM2130B	TRB	6/17/2009	Gautam Savani
					TLI	SM2540C	TDS	6/17/2009	Tina Acquiat
SC-700B	SC-700B-WDR-209	C. Knight	6/24/2009	8:00:00 AM	TLI	EPA 120.1	SC	6/25/2009	Tina Acquiat
					TLI	EPA 200.8	CR	6/25/2009	Romuel Chaves
					TLI	EPA 218.6	CR6	6/25/2009	Michael Nonezyan
					FIELD	HACH	PH	6/24/2009	C. Knight
					TLI	SM2130B	TRB	6/25/2009	Gautam Savani
					TLI	SM2540C	TDS	6/25/2009	Tina Acquiat
SC-701	SC-701-WDR-206	C.Knight	6/3/2009	9:09:00 AM	TLI	EPA 120.1	SC	6/4/2009	Tina Acquiat
					TLI	EPA 200.8	AG	6/10/2009	Daniel Kang
					TLI	EPA 200.8	AS	6/10/2009	Daniel Kang
					TLI	EPA 200.8	BA	6/10/2009	Daniel Kang
					TLI	EPA 200.8	BE	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CD	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CO	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CR	6/10/2009	Daniel Kang
					TLI	EPA 200.8	CU	6/10/2009	Daniel Kang
					TLI	EPA 200.8	MO	6/10/2009	Daniel Kang
					TLI	EPA 200.8	NI	6/10/2009	Daniel Kang
					TLI	EPA 200.8	PB	6/10/2009	Daniel Kang
					TLI	EPA 200.8	SB	6/17/2009	Daniel Kang
					TLI	EPA 200.8	SE	6/10/2009	Daniel Kang
					TLI	EPA 200.8	TL	6/10/2009	Daniel Kang
					TLI	EPA 200.8	V	6/10/2009	Daniel Kang
					TLI	EPA 200.8	ZN	6/10/2009	Daniel Kang

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
Second Quarter 2009 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-701	SC-701-WDR-206	C.Knight	6/3/2009	9:09:00 AM	TLI	EPA 218.6	CR6	6/4/2009	Michael Nonezyan
					TLI	EPA 245.1	HG	6/5/2009	Kris Collins
					TLI	EPA 300.0	FL	6/4/2009	Giawad Ghenniwa
					TLI	SM2540C	TDS	6/4/2009	Tina Acquiat
Phase Seperator	SC-Sludge-WDR-206	C. Knight	6/3/2009	9:29:00 AM	TLI	EPA 300.0	FL	6/4/2009	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	6/4/2009	Giawad Ghenniwa
					TLI	EPA 6010B	AG	6/19/2009	Kris Collins
					TLI	EPA 6010B	BA	6/19/2009	Kris Collins
					TLI	EPA 6010B	BE	6/19/2009	Kris Collins
					TLI	EPA 6010B	CD	6/19/2009	Kris Collins
					TLI	EPA 6010B	CO	6/19/2009	Kris Collins
					TLI	EPA 6010B	CR	6/19/2009	Kris Collins
					TLI	EPA 6010B	MN	6/15/2009	Kris Collins
					TLI	EPA 6010B	NI	6/19/2009	Kris Collins
					TLI	EPA 6010B	PB	6/19/2009	Kris Collins
					TLI	EPA 6010B	TL	6/19/2009	Kris Collins
					TLI	EPA 6010B	V	6/19/2009	Kris Collins
					TLI	EPA 6010B	ZN	6/19/2009	Kris Collins
					TLI	EPA 7471A	HG	6/12/2009	Kris Collins
					TLI	SW 6020A	AS	6/10/2009	Daniel Kang / Romuel Chaves
					TLI	SW 6020A	CU	6/10/2009	Daniel Kang / Romuel Chaves
					TLI	SW 6020A	MO	6/10/2009	Daniel Kang / Romuel Chaves
					TLI	SW 6020A	SB	6/11/2009	Daniel Kang / Romuel Chaves
					TLI	SW 6020A	SE	6/10/2009	Daniel Kang / Romuel Chaves
					TLI	SW 7199	CR6	6/5/2009	Michael Nonezyan

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 =	pH
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

Figures

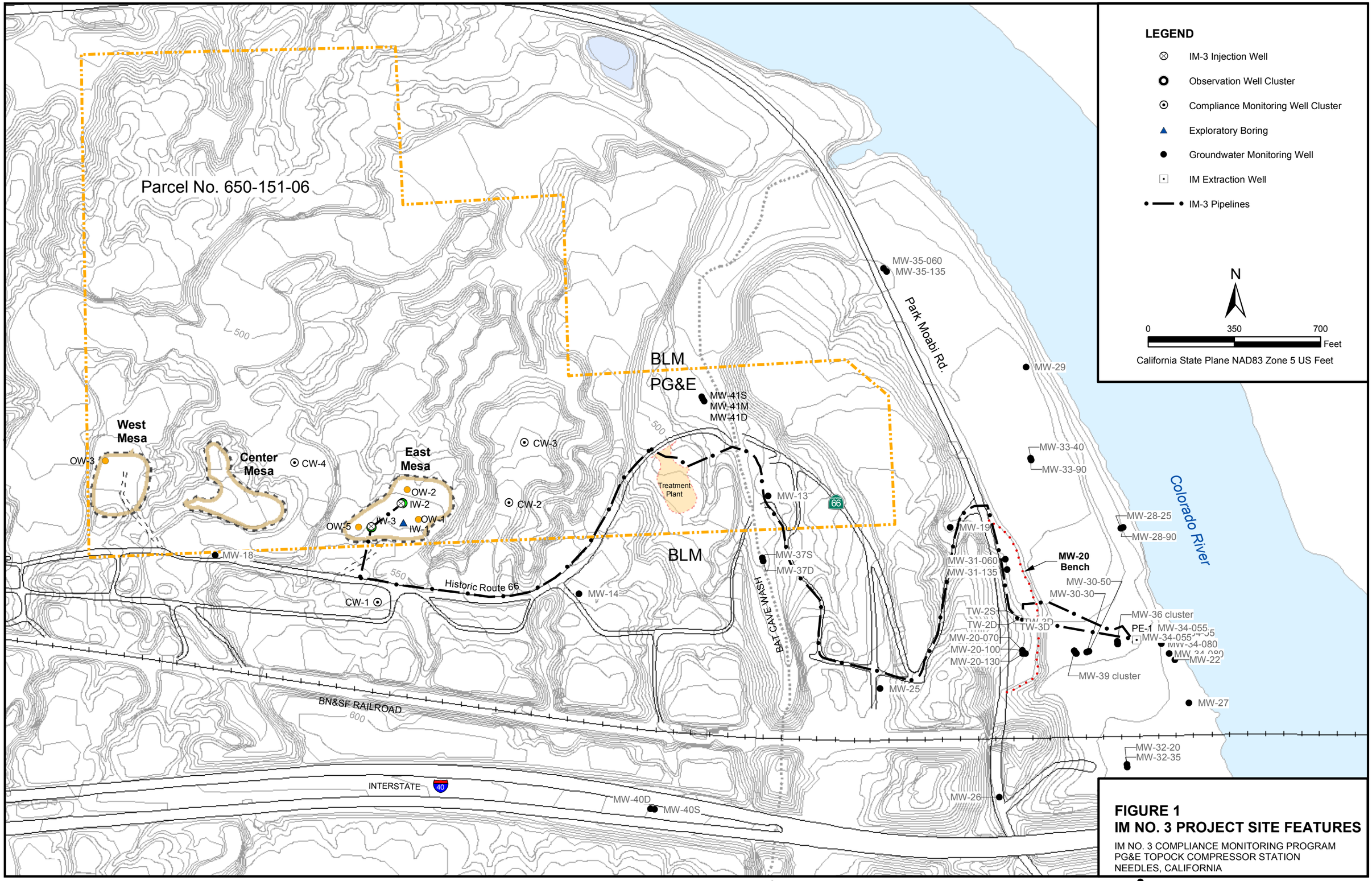


FIGURE 1
IM NO. 3 PROJECT SITE FEATURES

IM NO. 3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2006\IM3_PROJECT_AREA_MAY06.MXD IM3_PROJECT_AREA_MAY06.PDF 1/14/2008 14:59:14

CONTROL PANEL LCP-100

WELL TW-3D CONTROL

WELL TW-2S CONTROL

WELL TW-2D CONTROL

WELL PE-1 CONTROL

LEAK DETECTION PANEL - 003

ALM

120V

LSH LVL RUN ON RM PRESS FLOW

LSHH

HOA

HS 102

HS 100

HS 101

HS 103

HOLD

LSH 002

LSHH 002

FUTURE

4"-RW-140-1HB

V-RW-140-01

VALVE VAULT No. 2

4"-RW-139-1HB

V-RW-139-01

4" IN 8"-RW-141-1KB

4" IN 8"-RW-142-1KB

NOTE 1

3"-RW-138-1HB

V-RW-138-01

3" IN 6"-RW-137-1KB

4"-RW-105-1HB

V-RW-105-05

4" IN 8"-FUTURE

4" IN 8"-RW-135-1KB

LSH 102A

NOTE 1

FI 102

LSH 001

LSHH 001

1" V-1390

4" x 3"

EJ-RW-105-01

4"-RW-105-1HB

Well TW-2S Flowmeter

Well TW-2D Flowmeter

Well PE-1 Flowmeter

FE 100

FIT 100

PIT 100

PE 100

LT 100

VENT

3"x2"

V-RW-105-02

MAG

3"-RW-105-1HB THROTTLING

V-RW-105-01

V-1390

VALVE VAULT No. 1

LT 101

FE 101

FIT 101

PIT 101

PE 101

V-RW-102-02

3"-RW-102-1HB THROTTLING

V-RW-102-01

LT 103

FE 103

FIT 103

PIT 103

PE 103

V-RW-108-02 THROTTLING

V-RW-108-1HB

V-RW-108-01

V-RW-130-02

V-RW-130-01

4"-RW-130-1HB

V-RW-105-06 THROTTLING

V-RW-105-03

V-RW-105-04

4" IN 8" RW-127-1KB SPARE

4" IN 8" RW-127-1KB

TP-PR-10-10-04 [C1]

SPARE TO VALVE VAULT 4

NOTES 1 & 2

4" IN 8" RW-107-1KB

TP-PR-10-10-04 [C1]

TO RAW WATER STORAGE

4" IN 8"-RW-131-1KB

TO BAKER TANKS V-RW-131-01

V-RW-131-01

LSH 100A

LSH 101A

LSH 103A

3" IN 6"-RW-104-1KB

3" IN 6"-RW-101-1KB

4" IN 8"-RW-133-1KB

NOTE 1

Well TW-3D Flowmeter

VENT

LT 102

PI 102

PIT 102

PRV 102

PE 102

FE 102

FIT 102

LSH 102

SET AT 120 PSI

V-1390

3"x2"

3"-RW-134-1HB

V-RW-134-01

MAG

4"x3"

V-RW-134-02

WELL VAULT No. 4

PI 100

LSH 100

3"-RW-103-1HB

V-RW-103-01

V-RW-103-02

WELL VAULT No. 2

PI 101

PRV 101

LSH 101

3"-RW-100-1HB

V-RW-100-01

V-RW-100-02

WELL VAULT No. 1

PI 103

PRV 103

LSH 103

4"x3"

3"-RW-132-1HB

V-RW-132-01

V-RW-132-02

WELL VAULT No. 3

LE 102

P-102

EXTRACTION WELL TW-3D

135 GPM x 248 FT. H20

LE 100

P-100

EXTRACTION WELL TW-2S

40 GPM x 180 FT. H20

LE 101

P-101

EXTRACTION WELL TW-2D

90 GPM x 245 FT. H20

LE 103

P-103

EXTRACTION WELL PE-1

40 GPM x 235 FT. H20

NOTES

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

NO.	DATE	REVISION	BY	CHK
8	12/07/05	REMOVED PE-1 HOLDS	JBW	SDH
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
3	03/16/05	DELETED NOTES. APPROVED FOR CONSTRUCTION	EFC	AJ
4	07/20/05	RELIEF VALVE SETTINGS. WELL PE-1 LINE TAGS. HOLDS REMOVED. APPROVED FOR CONSTRUCTION	EFC	AJ
5	09/27/05	FINAL RECORD ISSUE	EFC	AJ
6	10/06/05	REVISED FINAL RECORD – ADDED TW-3D	EFC	AJ
7	10/19/05	REVISED AS NOTED	EFC	AJ

REVISION APPROVAL		REV 8 DATE 12/06/05	
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	—	ELECTRICAL	—
STRUCTURAL	—	INST & CONTROL	—
MECHANICAL	AJ	ARCHITECTURAL	—
PROCESS	—	ENVIRONMENTAL	—
PIPING	SDH	GEN. ARRANG.	—

PRINT DISTRIBUTION

DATE	
STATUS	
REV.	
CLIENT	
FIELD	
INTRA CO.	

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

SCALE NONE

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4876 Exp. 6-30-06

REGISTERED PROFESSIONAL ENGINEER KENNETH L. MARTINS No. CH4876 Exp. 6-30-06 CIVIL STATE OF CALIFORNIA

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

PROJ NO. 315994

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 03
EXTRACTION WELLS
PE-1, TW-2D, TW-2S AND TW-3D

DWG. NO. TP-PR-10-10-03 REV. 8

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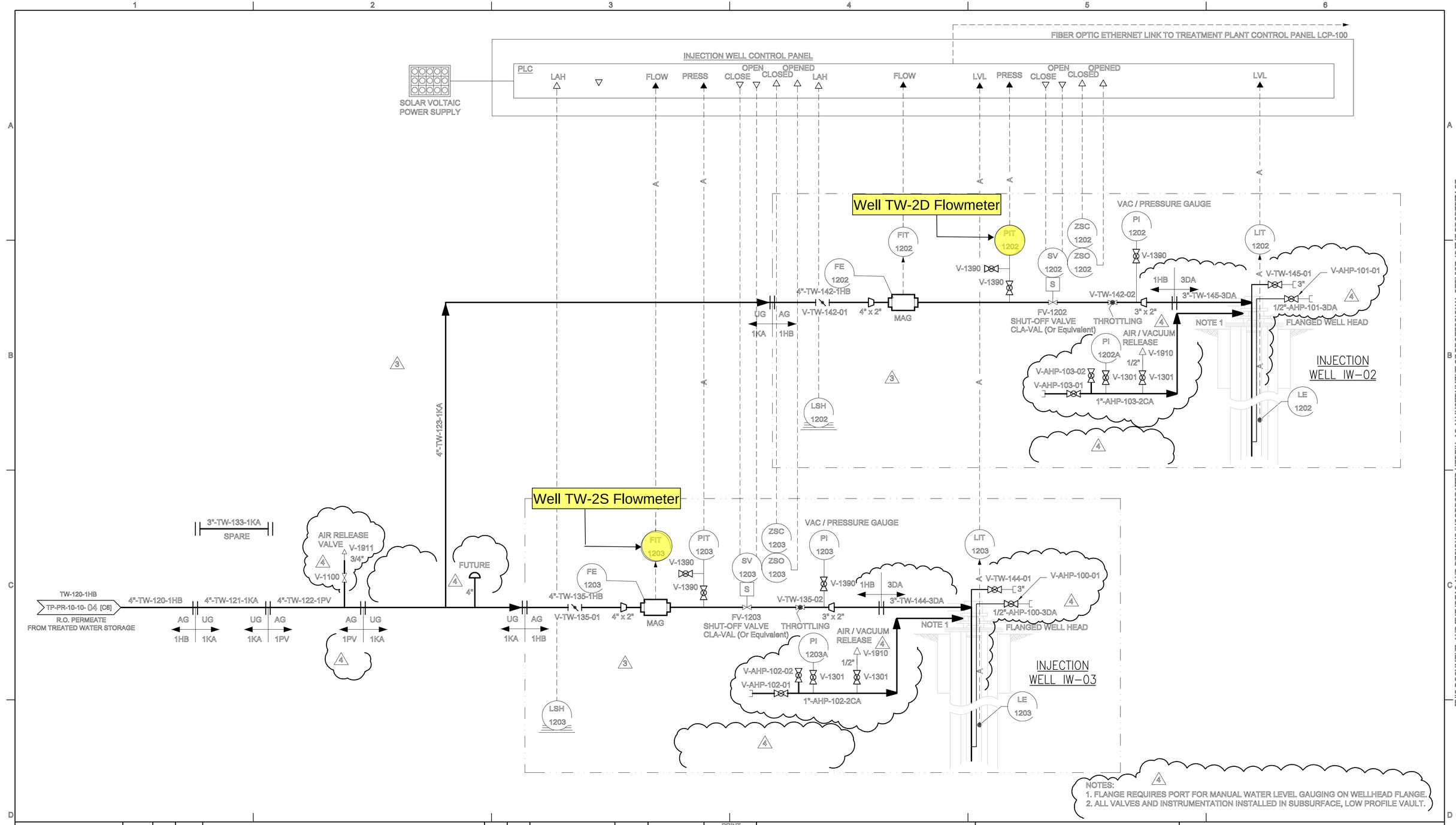

NO.	DATE	REVISION	BY	CHK
A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ

REVISION APPROVAL	REVIEWED	REV 4	DATE 03/10/05	REVIEWED
DISCIPLINE		DISCIPLINE		
CIVIL		ELECTRICAL		
STRUCTURAL		INST & CONTROL		
MECHANICAL		ARCHITECTURAL		
PROCESS		ENVIRONMENTAL		
PIPING		GEN. ARRANG.		

PRINT DISTRIBUTION	
DATE	
STATUS	
REV.	
CLIENT	
FIELD	
INTRA CO.	

RESPONSIBLE ENGINEER: Kenneth L. Martine CH4876 Exp. 6-30-05 PE #

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	A	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	4	/ /		

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 11
INJECTION WELLS

DWG. NO. TP-PR-10-10-11 REV. 4

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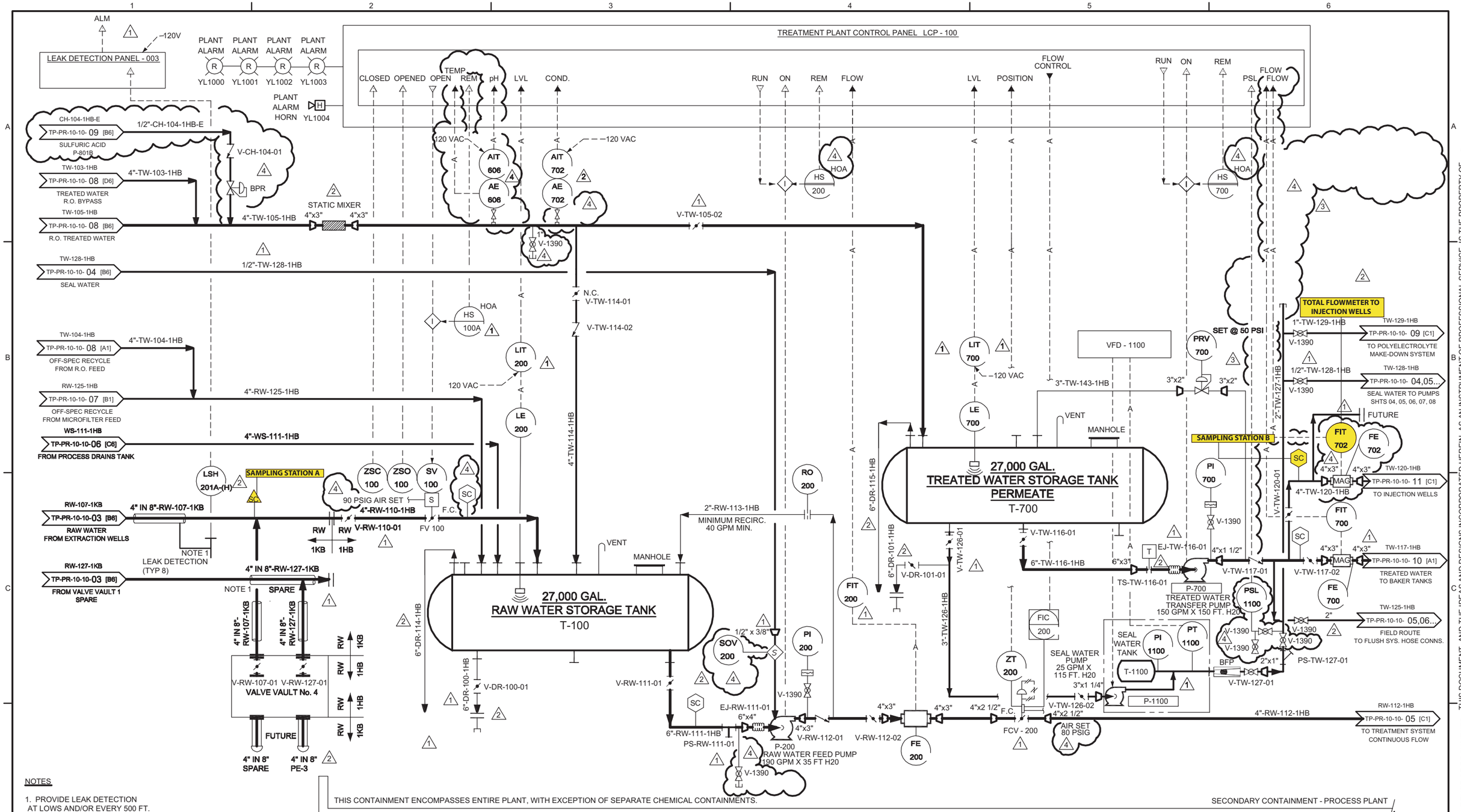


NOTES

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

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

SECONDARY CONTAINMENT - PROCESS PLANT

NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 4	DATE 09/21/05	PRINT DISTRIBUTION
0	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT
3	02/14/05	ADDED RECIRC. LINE AND PRV VALVE TO T-700 - APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD
4	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.

RESPONSIBLE ENGINEER: Kenneth L. Martins Exp. 6-30-05 CH4876 PE #

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	4	/ /		

SCALE NONE

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

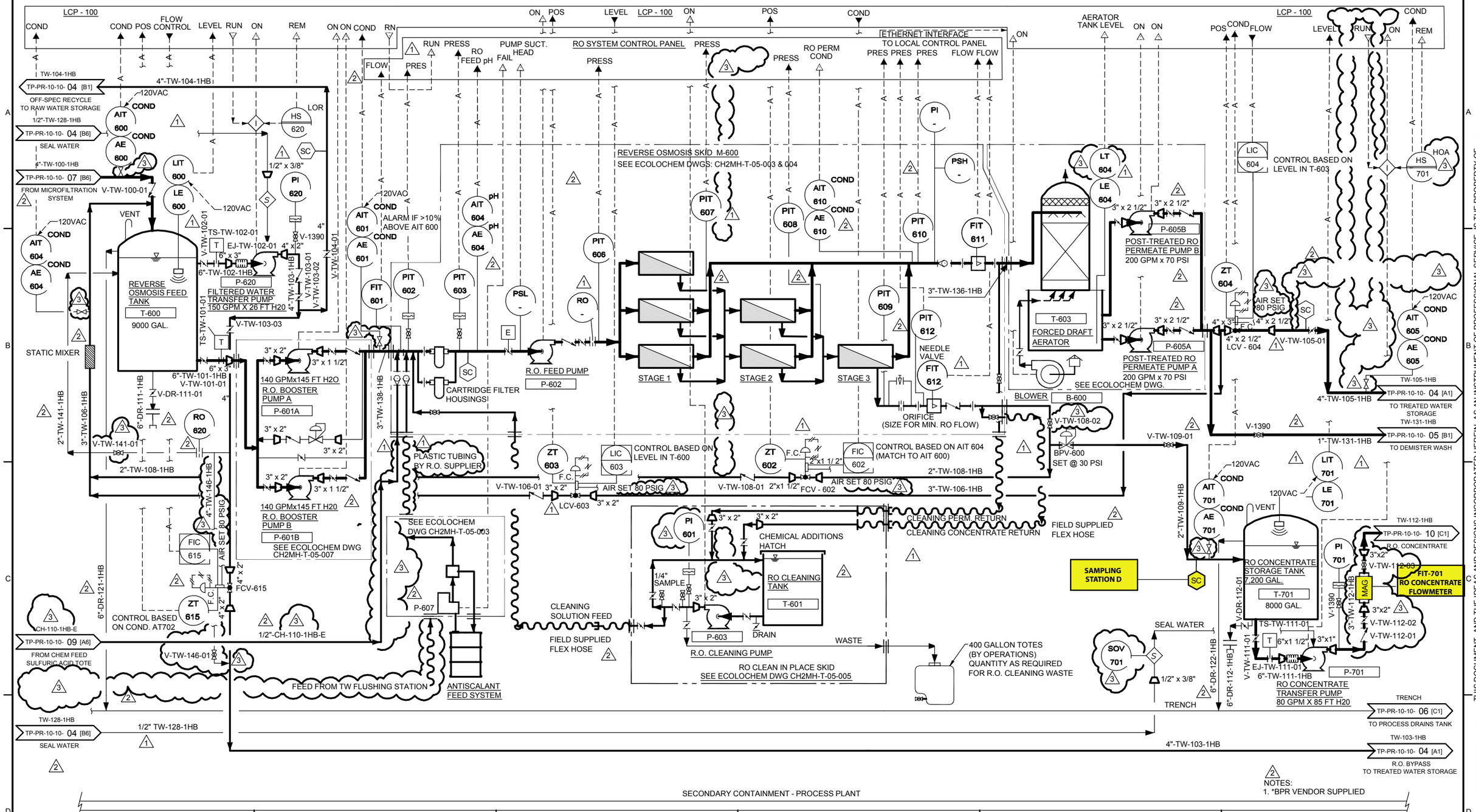
CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 04
STORAGE AREA

DWG. NO. TP-PR-10-10-04 REV. 4

BAR IS ONE INCH ON ORIGINAL DRAWING

FILENAME: tppr101004.dwg PLOT DATE: 21-SEP-2005 PLOT TIME:



NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 3	DATE 09/21/05		PRINT DISTRIBUTION
0	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS	
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.	
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT	
3	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD	
					PIPING		GEN. ARRANG.		INTRA CO.	

RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4876 Exp. 6-30-06

STATUS	REV	DATE	SDE	PEM
ISSUED				
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	3	/ /		

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 08
REVERSE OSMOSIS SYSTEM

DWG. NO. TP-PR-10-10-08 REV. 3

BAR IS ONE INCH ON ORIGINAL DRAWING

FILENAME: tppr101008.dwg PLOT DATE: 21-SEP-2005 PLOT TIME:

CONTROL PANEL

PLC

REM ON RUN REM ON RUN HI TORQUE REM ON RUN CLOSE OPEN CLOSE OPEN REM REM OPEN OPEN LAH TURB OPEN REM RUN LVL ON REM REM LT ON RUNOPEN LAH RM OPEN REM LAH LAH

HS 400A LOR · HS 400B LOR · HS 400C LOR · HS 401 HOA · HS 402 LOR · HS 404 HOA

HS 400 HOA · HS 410 HOA · HS 900 LOR

CH-109-1HB-E
TP-PR-10-10- 09 [C6]
POLYELECTROLYTE FEED
1/2"-CH-109-1HB-E
V-CH-109-01

CH-108-1HB-E
TP-PR-10-10- 09 [C6]
POLYELECTROLYTE FEED
1/2"-CH-108-1HB-E
V-CH-108-01

TORQUE NSH 400

RW-121-1HB
TP-PR-10-10- 05 [C6]
FROM CHEM REDUCTION AND COAGULATION SYSTEM IA-104-3DV
4"-RW-121-1HB

TP-PR-10-10- 09 [D6]
90 PSIG AIR
1"-IA-104-3DV

M-400-A · M-400-B · M-400-C

CL-400 CLARIFIER

6"-DR-107-1HB

SEE PARKSON DRAWING 10066701-01

120VAC AIT 400 TURB

1/4" / 1" SLOPE TO PRE-TREATED WATER TANK

6"-RW-122-1HB
RW-122-1HB
TP-PR-10-10- 07 [B1]
MICROFILTRATION SYSTEM

120VAC LIT 402

SV 400 · SV 401 · SV 403 · SV 404 · SV 410

ZSC 400 · ZSO 400 · AE 400 TURB · ZSC 410 · ZSO 410

AIR SET 120 PSIG · F. C.

FV - 400 · FV - 410

4"-WS-102-1HB · 4"-WS-100-1HB

120 PSIG AIR SET · 1/2"

PI 401 · PE 401 · LE 402 · M-402

HS 403 HOA · PI 404 · PE 404

4" x 1" · 2" x 1"

V-WS-103-01 · V-WS-103-02

WS-103-1HB
TP-PR-10-10- 05 [B1]
SLUDGE RECYCLE

P-404
SLUDGE RECYCLE PUMP
20 GPM X 30 FT. H2O

2"-WS-109-1HB

V-WS-109-01

V-WS-104-01

2"-WS-101-1HB · V-WS-101-01 · 4" x 2"

P-401
SLUDGE WITHDRAWAL PUMP
20 GPM X 30 FT. H2O

SLUDGE HOLDING TANK
6000 GAL
T-402

VENT · DECANT

2" V-1790 (TYP 5)

4" (TYP 5) AIR/SIGHT GAP · 4"

PI 403 · PE 403

3% - 5% SOLIDS

2"-WS-105-1HB · V-WS-105-01 · V-WS-108-01 · 4"-WS-108-1HB

2"-WS-107-1HB · V-WS-107-01

P-403
SEPARATOR FEED PUMP
20 GPM X 30 FT. H2O

2"-WS-106-1HB · V-WS-106-01 · 4"-WS-110-1HB

TRUCK FILL FOR OFF-SITE DISPOSAL

TRENCH
TP-PR-10-10- 08 [D6]
R.O. GRAVITY DRAINS

DR-109-1HB
TP-PR-10-10- 07 [C6]
FROM M.F. SYSTEM GRAVITY DRAIN
3"-DR-109-1HB

TRENCH
TP-PR-10-10- 07 [D6]
FROM M.F. SYSTEM PRETREATED WATER TANK

4"-WS-104-1HB

DR-110-1HB
TP-PR-10-10- 07 [C6]
FILTER BACKWASH FROM MICROFILTRATION SYSTEM
4"-DR-110-1HB

TRENCH
TP-PR-10-10- 05 [D6]
GRAVITY DRAIN

TW-128-1HB
TP-PR-10-10- 04 [B6]
SEAL WATER
1/2"-TW-128-1HB

120VAC LIT 900 · LE 900 · 1/2" x 3/8" · VENT

V-WS-110-01 · V-WS-111-02 · V-WS-111-03 · 4"-WS-111-1HB

V-WS-111-01 · PS-WS-111-01 · V-1390 · 1"-DR-106-1HB

V-WS-113-01 · 2"-WS-113-1HB · 4" x 2"

WS-111-1HB
TP-PR-10-10- 04 [B1]
TO RAW WATER STORAGE TANK

LSH 405B · FH-WS-106-01 · LSH 405A

SAMPLING STATION E

UNIT 2 CAKE CAKE · UNIT 1 CAKE CAKE

FH-WS-112-02 · 2"-WS-112-1HB · FH-WS-112-01

LSHH 405

480 VAC · LCP - 405

P-405
PHASE SEPARATOR SUMP PUMP PACKAGE
25 GPM x 25 FT. H2O

PUMPOUT VAULT

PS-405
PHASE SEPARATORS ALTERNATING DURING OPERATION

PROCESS DRAIN TANK
5,000 GAL.
T-900

P-900
PROCESS DRAIN PUMP

V-DR-113-01 · 6"-DR-113-1HB

VERTICAL WET PIT
175 GPM x 37 FT. H2O

LSH 900

T-900A
PROCESS SUMP

NOTE 1

SECONDARY CONTAINMENT - PROCESS PLANT

NOTES:

1. USE PORTABLE SUMP PUMP (OPERATIONS SUPPLIED) FOR PUMP OUT

NO.	DATE	REVISION	BY	CHK
0	07/28/04	FOR INTERNAL REVIEW	EFC	AJ
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ

REVISION APPROVAL		REV 2	DATE 01/23/05
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL		ELECTRICAL	
STRUCTURAL		INST & CONTROL	
MECHANICAL		ARCHITECTURAL	
PROCESS		ENVIRONMENTAL	
PIPING		GEN. ARRANG.	

PRINT DISTRIBUTION: DATE · STATUS · FIELD · CLIENT · INTRA CO.

RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4876 Exp. 6-30-05

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	2	01/23/05		

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 06
CLARIFICATION AND SLUDGE REMOVAL

DWG. NO. TP-PR-10-10-06 REV. 2

FILENAME: tppr101006.dwg PLOT DATE: 23-JAN-2005 PLOT TIME:

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

Appendix A
Operations and Maintenance Log

APPENDIX A

Semiannual Operations and Maintenance Log

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 2009

- **January 8, 2009 (planned):** The extraction well system was offline from 1:29 p.m. to 1:30 p.m. and from 1:46 p.m. to 1:47 p.m. when the extraction wells were shut down temporarily for testing of leak detection system. Extraction well downtime was 2 minutes.
- **January 10, 2009 (unplanned):** The extraction well system was offline from approximately 3:10 p.m. to 3:23 p.m. due to a power outage. The data historian battery backup failed during this outage and did not come back online until January 12, 2009 at 9:54 a.m. Extraction system downtime was 13 minutes.
- **January 15, 2009 (planned):** The extraction well system was offline from 11:54 a.m. to 11:59 a.m. for inspection of leak detection system. Extraction system downtime was 5 minutes.
- **January 19, 2009 (unplanned):** The extraction well system was offline from 11:49 a.m. to 12:09 p.m., due to plugging of the low flow switch on the chemical mixing loop. Extraction system downtime was 20 minutes.
- **January 19, 2009 (unplanned):** The extraction well system was offline from 12:26 p.m. to 1:35 p.m., when the system shut down due to low flow. Extraction system downtime was 69 minutes.
- **January 20, 2009 (planned):** The extraction well system was offline from 7:40 a.m. to 8:20 a.m. to perform plant maintenance. Extraction system downtime was 40 minutes.
- **January 20, 2009 – January 21, 2009 (planned):** The extraction well system was offline from 8:37 a.m. on January 20 to January 21, 2009 at 5:27 p.m. during the scheduled monthly maintenance outage. Extraction system downtime was 32 hours and 50 minutes.
- **January 21, 2009 (unplanned):** The extraction well system was offline from 7:07 p.m. to 8:44 p.m., and again from 9:11 p.m. to 11:25 p.m., because the plant staff was managing water inventory during the plant start-up after the maintenance outage. Extraction system downtime was 3 hours and 51 minutes.
- **January 23, 2009 (planned):** The extraction well system was offline from 11:05 a.m. to 3:56 p.m. for plant maintenance. Extraction well system downtime was 4 hours and 51 minutes.

- **January 29, 2009 (unplanned):** The extraction well system was offline from 8:23 a.m. to 10:53 a.m., and again from 7:00 p.m. to 7:10 p.m. due to a leak in the microfiltration system. Extraction well system downtime was 2 hours and 40 minutes.
- **January 29, 2009 (unplanned):** The extraction well system was offline from 10:05 p.m. to 10:15 p.m. due to low level in extraction well PE-1. Extraction well system downtime was 10 minutes.
- **January30, 2009 (planned):** The extraction well system was offline from 8:55 a.m. to 9:16 a.m. for microfiltration system maintenance. Extraction well system downtime was 21 minutes.
- **January 31, 2009 (unplanned):** The extraction well system was offline from 12:19 p.m. to 12:34 p.m. due to problems associated with the microfiltration system. Extraction well system downtime was 15 minutes.

February 2009

- **February 18, 2009 (planned):** The extraction well system was offline from 9:24 a.m. to 5:23 p.m. during the scheduled monthly maintenance outage. Extraction well downtime was 7 hours and 59 minutes.
- **February 18, 2009 (planned):** The extraction well system was offline from approximately 5:41 p.m. to 6:25 p.m. due to switching from the emergency generator to City of Needles power. Extraction system downtime was 44 minutes.
- **February 23, 2009 (unplanned):** The extraction well system was offline from 6:47 a.m. to 7:00 a.m. and again from 7:53 a.m. to 8:48 a.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 1 hour and 8 minutes.
- **February 23, 2009 (planned):** The extraction well system was offline from 11:53 a.m. to 11:55 a.m., 12:02 p.m. to 12:05 p.m., and again from 12:10 p.m. to 12:11 p.m., due to testing of extraction well piping leak detection system. Extraction system downtime was 4 minutes.
- **February 24, 2009 (planned):** The extraction well system was offline from 4:06 p.m. to 4:08 p.m., and again from 4:18 p.m. to 4:23 p.m., when the system was shut down for the annual change out of the emergency generator. Extraction system downtime was 7 minutes.
- **February 27, 2009 (planned):** The extraction well system was offline from 12:30 p.m. to 12:31 p.m. to test leak detection system in valve vault 1. Extraction system downtime was 1 minute.

March 2009

- **March 4, 2009 (planned):** The extraction well system was offline from 8:20 a.m. to 8:36 a.m. when the extraction wells were shutdown temporarily to measure the level of each extraction well. Extraction well downtime was 16 minutes.

- **March 13-14, 2009 (unplanned):** The extraction well system was offline from 10:01 p.m. on March 13 to 1:38 a.m. on March 14 due to a pump flow sensor failure in the raw water feed pump. Extraction system downtime was 3 hours and 37 minutes.
- **March 16, 2009 (unplanned):** The extraction well system was offline from 5:38 p.m. to 6:58 p.m. due to a hose disconnection at the microfilter. Extraction system downtime was 1 hour and 20 minutes.
- **March 18, 2009 (planned):** The extraction well system was offline from 6:51 a.m. to 4:59 p.m. and again from 5:20 p.m. to 7:21 p.m. during the scheduled monthly maintenance outage. Extraction system downtime was 12 hours and 9 minutes.
- **March 20, 2009 (planned):** The extraction well system was offline from 8:21 a.m. to 8:23 a.m., 11:01 a.m. to 11:02 a.m., 11:09 a.m. to 11:10 a.m., 11:17 a.m. to 11:18 a.m., 11:25 a.m. to 11:26 a.m., 11:33 a.m. to 11:34 a.m., 11:40 a.m. to 11:41 a.m., and 12:00 p.m. to 12:01p.m when the system was shut down for testing of the leak detection system. Extraction system downtime was 9 minutes.
- **March 22, 2009 (unplanned):** The extraction well system was offline from 8:49 a.m. to 9:03 a.m. due to a leak at the microfilter. Extraction system downtime was 14 minutes.
- **March 23, 2009 (planned):** The extraction well system was offline from 7:48 a.m. to 8:43 p.m. due to plant testing. Extraction system downtime was 55 minutes.
- **March 27, 2009 (unplanned):** The extraction well system was offline from 5:01 a.m. to 6:51 a.m., 7:03 a.m. to 7:54 a.m., 9:08 a.m. to 9:41 a.m., 12:28 p.m. to 12:44 p.m., and 12:45 p.m. to 1:52 p.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 4 hours and 37 minutes.
- **March 28, 2009 (unplanned):** The extraction well system was offline from 1:12 a.m. to 4:54 a.m. and again from 6:56 a.m. to 7:37 a.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 4 hours and 23 minutes.
- **March 28, 2009 (unplanned):** The extraction well system was offline from 10:28 a.m. to 12:36 p.m. due to high pH at AIT606. Extraction system downtime was 2 hours and 8 minutes.
- **March 29, 2009 (unplanned):** The extraction well system was offline from 5:40 a.m. to 6:23 a.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 42 minutes.
- **March 29-30, 2009 (unplanned):** The extraction well system was offline from 11:15 p.m. on March 29 to 2:50 a.m. on March 30 due to a power outage. Extraction system downtime was 3 hours and 55 minutes.
- **March 30, 2009 (unplanned):** The extraction well system was offline from 5:12 a.m. to 7:22 a.m. and 9:21 a.m. to 9:23 a.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 2 hours and 12 minutes.

- **March 31, 2009 (unplanned):** The extraction well system was offline from 1:23 a.m. to 1:42 a.m., from 3:49 a.m. to 5:19 a.m. and 6:29 a.m. to 7:53 a.m. due to maintenance on the ferrous chloride system. Extraction system downtime was 2 hours and 53 minutes.

April 2009

April 2, 2009 (unplanned): The extraction well system was offline from 7:42 a.m. to 7:59 a.m. due to low ferrous chloride flow. Extraction system downtime was 17 minutes.

April 8, 2009 (planned): The extraction well system was offline from 7:52 a.m. to 8:27 a.m. and again from 8:33 a.m. to 9:07 a.m. for RO system maintenance. Extraction system downtime was 1 hour and 9 minutes.

April 8, 2009 (planned): The extraction well system was offline from 11:31 a.m. to 11:32 a.m., 11:47 a.m. to 11:48 a.m., 11:53 a.m. to 11:54 a.m., 11:59 a.m. to 12:00 p.m., and 12:11 p.m. to 12:12 p.m. when the system was shut down for testing of the leak detection system. Extraction system downtime was 5 minutes.

April 19, 2009 (unplanned): The extraction well system was offline from 6:17 a.m. to 6:33 a.m. due to primary RO permeate hose failure. Extraction system downtime was 16 minutes.

April 19, 2009 (unplanned): The extraction well system was offline from 7:29 p.m. to 8:57 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 1 hour and 28 minutes.

April 20-27, 2009 (planned): The extraction well system was offline from 7:01 a.m. on April 20 to 6:46 a.m. on April 26 and again from 7:32 a.m. on April 26 to 11:43 a.m. on April 27/09 to perform annual preventative maintenance. Extraction system downtime was 7 days, 3 hours and 56 minutes.

May 2009

May 5, 2009 (unplanned): The extraction well system was offline from 11:40 a.m. to 6:17 p.m. due to a leak outside the containment area of reverse osmosis system. Extraction system downtime was 6 hours and 37 minutes.

May 7, 2009 (planned): The extraction well system was offline from 11:35 a.m. to 12:05 p.m. for a pipeline leak investigation. Extraction system downtime was 30 minutes.

May 7, 2009 (planned): The extraction well system was offline from 12:22 p.m. to 12:23 p.m., 12:36 p.m. to 12:37 p.m., 12:56 a.m. to 12:57 p.m., and 1:03 p.m. to 1:04 p.m. when the system was shut down for testing of the leak detection system. Extraction system downtime was 4 minutes.

May 9, 2009 (unplanned): The extraction well system was offline from 2:36 p.m. to 2:44 p.m. and from 7:58 p.m. to 8:06 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 16 minutes.

May 10, 2009 (unplanned): The extraction well system was offline from 8:40 a.m. to 8:53 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 13 minutes.

May 11, 2009 (planned): The extraction well system was offline from 8:40 a.m. to 8:53 a.m. when plant power was switched from generator power to City of Needles power. Extraction system downtime was 13 minutes.

May 13 – 14, 2009 (planned): The extraction well system was offline from 7:40 a.m. on May 13 to 1:20 p.m. on May 14 to construct temporary RO permeate system as a part of the RO Enhancement project. Extraction system downtime was 1 day, 5 hours and 40 minutes.

May 18, 2009 (planned): The extraction well system was offline from 1:32 p.m. to 1:58 p.m. for hose replacement on the permeate tank. Extraction system downtime was 26 minutes.

May 19, 2009 (planned): The extraction well system was offline from 5:57 a.m. to 6:34 p.m. for planned maintenance. Extraction system downtime was 37 minutes.

May 20, 2009 (planned): The extraction well system was offline from 7:49 a.m. to 3:05 p.m. and from 3:06 p.m. to 9:57 p.m. for planned maintenance. Extraction system downtime was 14 hours and 7 minutes.

May 26, 2009 (planned): The extraction well system was offline from 10:44 a.m. to 4:02 p.m. for permeate tank repair. Extraction system downtime was 5 hours and 18 minutes.

May 30, 2009 (unplanned): The extraction well system was offline from 4:13 a.m. to 4:53 a.m. and 1:35 p.m. to 1:40 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 45 minutes.

May 30, 2009 (planned): The extraction well system was offline from 10:19 a.m. to 10:31 a.m. when plant power was switched from generator power to City of Needles power. Extraction system downtime was 12 minutes.

June 2009

June 3, 2009 (planned): The extraction well system was offline from 12:52 p.m. to 12:53 p.m., 1:10 p.m. to 1:11 p.m., 1:16 p.m. to 1:19 p.m., 1:24 p.m. to 1:28 p.m., 1:31 p.m. to 1:32 p.m., and 1:36 p.m. to 1:38 p.m. when the system was shut down for testing of the leak detection system. Extraction system downtime was 12 minutes.

June 16, 2009 (planned): The extraction well system was offline from 2:18 p.m. to 3:18 p.m. for a permeate tank connection. Extraction system downtime was 1 hour.

June 17-18, 2009 (unplanned): The extraction well system was offline from 10:35 p.m. to 10:44 p.m. on June 17; 1:05 a.m. to 1:12 a.m., and 10:35 a.m. to 11:12 a.m. on June 18 when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 53 minutes.

June 18, 2009 (planned): The extraction well system was offline from 8:25 p.m. to 8:31 p.m. when plant power was switched from generator power to City of Needles power. Extraction system downtime was 6 minutes.

June 22, 2009 (planned): The extraction well system was offline from 2:01 p.m. to 2:23 p.m. for repair of the micro filter system. Extraction system downtime was 22 minutes.

June 23 - 24, 2009 (planned): The extraction well system was offline from 5:55 a.m. to 7:11 p.m., 7:53 p.m. to 9:37 p.m. and 10:33 p.m. to 12:24 a.m. on June 24, 2009 for microfilter bank switch, plant maintenance, sampling routine to bring plant back online after microfilter bank switch. Extraction system downtime was 16 hours and 51 minutes.

Appendix B
Daily Volumes of Groundwater Treated

January 2009 Operational Data
IM-3 Groundwater Extraction and Treatment System
PG&E Topock Compressor Station, Needles California

			Extraction Well System[a]					Injection Well System[a]			RO Brine[a]
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	2009	0	--	153,948	39,539	193,487	189,215	15	189,230	6,364
January	2	2009	0	--	153,887	39,751	193,638	189,318	6,014	195,332	3,140
January	3	2009	0	--	154,049	39,629	193,678	196,148	18	196,166	3,150
January	4	2009	0	--	154,449	39,326	193,775	191,782	15	191,797	3,125
January	5	2009	0	--	154,566	39,317	193,882	191,446	15	191,461	5,177
January	6	2009	0	--	154,542	39,387	193,930	186,706	6,745	193,451	4,270
January	7	2009	0	--	154,623	39,394	194,018	186,384	7,805	194,188	3,140
January	8	2009	0	--	153,506	38,750	192,255	196,388	19	196,407	3,204
January	9	2009	0	--	151,824	38,330	190,153	186,829	18	186,847	3,146
January	10	2009	--	--	159,405	39,965	199,370	182,382	0	182,382	3,093
January	11	2009	--	--	156,296	33,496	189,792	184,032	0	184,032	3,132
January	12	2009	--	--	161,280	34,112	195,392	187,560	0	187,560	3,104
January	13	2009	0	--	159,581	31,511	191,092	111,745	79,396	191,141	3,166
January	14	2009	0	--	167,126	25,484	192,611	8	184,044	184,053	3,175
January	15	2009	0	--	154,751	35,952	190,703	2,008	181,484	183,493	6,295
January	16	2009	0	--	154,515	37,159	191,674	960	189,586	190,547	3,126
January	17	2009	0	--	153,374	39,427	192,801	11	188,535	188,546	3,008
January	18	2009	0	--	153,581	39,268	192,848	12	186,090	186,102	3,145
January	19	2009	0	--	142,684	37,234	179,919	10	178,497	178,507	3,150
January	20	2009	0	--	50,513	13,074	63,586	15	64,542	64,557	3,157
January	21	2009	0	--	15,714	4,786	20,500	14	13	27	10,759
January	22	2009	0	--	153,418	38,649	192,067	1,377	195,916	197,293	3,140
January	23	2009	0	--	122,257	31,765	154,022	19	148,581	148,600	3,142
January	24	2009	0	--	155,967	39,138	195,105	13	193,625	193,638	3,007
January	25	2009	0	--	156,066	39,085	195,151	16	195,355	195,371	3,138
January	26	2009	0	--	156,791	38,377	195,168	16	190,971	190,987	3,144
January	27	2009	0	--	156,857	38,514	195,371	5,384	184,170	189,555	6,328
January	28	2009	0	--	155,178	38,735	193,913	38,572	151,700	190,272	3,004
January	29	2009	0	--	136,819	34,356	171,176	13	177,394	177,407	3,175
January	30	2009	0	--	153,612	38,565	192,177	11	188,789	188,800	3,129
January	31	2009	0	--	154,409	38,428	192,837	12	189,498	189,510	352
Total Monthly Volumes (gal)			**0**	**0**	**4,515,589**	**1,100,502**	**5,616,091**	**2,428,406**	**3,088,851**	**5,517,257**	**114,585**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**101.2**	**24.7**	**125.8**	**54.4**	**69.2**	**123.6**	**2.6**

NOTES:
--- : Not in operation during reporting period.
gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis
[a]Flow Readings tabulated from the data historian at the IM-3 Facility.

February 2009 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			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	2009	--	10	156,442	38,858	195,310	14	193,107	193,121	8,739
February	2	2009	--	5	156,621	38,865	195,491	11	190,415	190,426	3,113
February	3	2009	--	11	157,104	38,414	195,530	826	194,140	194,966	3,182
February	4	2009	--	9	157,190	38,405	195,604	14	187,112	187,126	2,997
February	5	2009	--	7	157,058	38,332	195,397	12	199,805	199,817	3,178
February	6	2009	--	9	157,110	38,035	195,155	12	186,874	186,886	6,130
February	7	2009	--	7	157,174	38,164	195,345	11	193,340	193,351	3,081
February	8	2009	--	5	157,192	38,242	195,439	11	190,281	190,292	3,153
February	9	2009	--	7	157,169	38,526	195,702	9	195,900	195,910	3,192
February	10	2009	--	9	156,264	38,039	194,312	3,257	190,783	194,040	3,197
February	11	2009	--	611	155,663	38,383	194,658	24,367	166,710	191,077	6,082
February	12	2009	--	10	156,436	38,727	195,172	33,587	158,996	192,582	3,137
February	13	2009	--	8	156,849	38,377	195,234	10	199,880	199,890	3,140
February	14	2009	--	10	157,007	38,337	195,354	11	190,239	190,249	3,147
February	15	2009	--	8	157,359	38,079	195,446	12	191,834	191,846	3,145
February	16	2009	--	10	157,697	37,782	195,488	9	192,441	192,450	3,194
February	17	2009	--	12	157,788	37,823	195,623	2,254	189,876	192,129	6,277
February	18	2009	--	7	99,298	24,211	123,516	19	124,595	124,614	3,159
February	19	2009	--	9	156,749	38,033	194,791	18	189,088	189,105	3,123
February	20	2009	--	9	156,980	38,029	195,018	17	191,200	191,217	3,182
February	21	2009	--	8	157,215	37,938	195,161	13	190,829	190,842	3,142
February	22	2009	--	7	157,349	37,846	195,202	8	191,083	191,091	3,136
February	23	2009	--	6	147,215	36,501	183,722	13	182,237	182,249	3,135
February	24	2009	--	11	155,248	38,219	193,478	7,737	185,839	193,575	6,403
February	25	2009	--	5	156,626	38,327	194,959	19	189,019	189,038	3,138
February	26	2009	--	9	156,546	38,521	195,076	10	188,117	188,128	3,211
February	27	2009	--	5	156,624	38,133	194,762	10	192,941	192,951	3,167
February	28	2009	--	5	156,844	38,142	194,991	11	194,447	194,458	3,215
Total Monthly Volumes (gal)			**0**	**829**	**4,324,820**	**1,055,287**	**5,380,936**	**72,302**	**5,231,128**	**5,303,429**	**106,095**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**107.3**	**26.2**	**133.5**	**1.8**	**129.7**	**131.5**	**2.6**

NOTES: gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis

March 2009 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			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	2009	--	--	156,868	38,260	195,128	8	191,301	191,309	6,619
March	2	2009	--	--	156,932	38,296	195,228	17	187,332	187,349	6,746
March	3	2009	--	--	156,880	38,491	195,371	12	198,773	198,785	6,290
March	4	2009	--	--	140,599	34,858	175,458	13,438	154,079	167,517	1,857
March	5	2009	--	--	156,416	38,876	195,292	23	191,452	191,475	3,209
March	6	2009	--	--	156,607	38,754	195,361	27,493	164,208	191,700	3,221
March	7	2009	--	--	156,868	38,513	195,381	181,491	3,664	185,155	3,816
March	8	2009	--	--	156,966	38,569	195,536	69,868	123,848	193,715	5,713
March	9	2009	--	--	157,331	38,160	195,491	19	198,227	198,246	3,142
March	10	2009	--	--	157,301	38,446	195,747	99,915	95,579	195,494	3,166
March	11	2009	--	--	157,423	38,402	195,825	117,109	76,902	194,011	6,407
March	12	2009	--	--	157,430	38,425	195,855	8	193,973	193,982	3,127
March	13	2009	--	--	144,499	35,101	179,600	80,567	97,437	178,003	3,209
March	14	2009	--	--	145,560	35,854	181,414	17	181,795	181,812	3,156
March	15	2009	--	--	156,585	38,751	195,335	7	191,960	191,967	6,193
March	16	2009	--	--	147,648	36,205	183,854	13	179,006	179,019	3,256
March	17	2009	--	--	156,673	38,162	194,835	39,701	149,038	188,740	3,171
March	18	2009	--	--	76,138	19,394	95,532	12	87,156	87,168	11,756
March	19	2009	--	--	156,354	38,426	194,781	15,496	185,970	201,466	3,149
March	20	2009	--	--	155,152	38,120	193,273	14	190,389	190,403	3,171
March	21	2009	--	--	156,935	37,866	194,802	19	187,715	187,734	3,211
March	22	2009	--	--	154,225	38,643	192,868	28	192,409	192,438	5,311
March	23	2009	--	--	150,018	37,337	187,355	37,219	140,878	178,096	3,976
March	24	2009	--	--	156,585	38,331	194,917	33,194	165,232	198,425	3,226
March	25	2009	--	--	154,940	38,075	193,015	15,611	177,031	192,643	3,158
March	26	2009	--	--	152,983	37,823	190,806	15,862	183,941	199,803	3,169
March	27	2009	--	--	124,894	31,514	156,408	20	151,761	151,781	3,172
March	28	2009	--	--	113,144	28,317	141,461	15	130,950	130,964	6,558
March	29	2009	--	--	147,218	36,222	183,440	17	183,807	183,824	3,179
March	30	2009	--	--	122,947	30,635	153,582	9	150,164	150,173	3,167
March	31	2009	--	--	136,675	34,233	170,908	15	164,890	164,905	3,235
Total Monthly Volumes (gal)			**0**	**0**	**4,576,794**	**1,127,062**	**5,703,856**	**747,237**	**4,870,866**	**5,618,103**	**131,737**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**102.5**	**25.2**	**127.8**	**16.7**	**109.1**	**125.9**	**3.0**

NOTES: gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis

April 2009 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			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	2009	--	--	157,169	38,715	195,885	22,041	177,090	199,131	6,390
April	2	2009	--	--	154,819	38,449	193,268	14	191,094	191,108	3,201
April	3	2009	--	--	157,078	38,957	196,036	8	194,354	194,362	3,237
April	4	2009	--	--	157,108	39,136	196,245	8	195,723	195,731	3,174
April	5	2009	--	--	157,426	38,825	196,251	8	190,359	190,367	3,149
April	6	2009	--	--	157,337	38,992	196,329	17	194,287	194,303	3,168
April	7	2009	--	--	157,704	38,562	196,265	14	197,556	197,569	3,216
April	8	2009	--	--	146,673	36,834	183,507	1,489	180,249	181,738	3,164
April	9	2009	--	--	157,189	38,490	195,680	17	190,730	190,746	3,143
April	10	2009	--	--	155,518	39,198	194,716	10	192,017	192,027	3,210
April	11	2009	--	--	155,379	38,596	193,974	8	193,658	193,666	3,209
April	12	2009	--	--	155,621	38,531	194,153	10	189,603	189,613	2,940
April	13	2009	--	--	155,953	38,210	194,163	12	189,797	189,809	3,244
April	14	2009	--	--	155,848	38,525	194,373	2,275	193,248	195,523	3,193
April	15	2009	--	--	155,589	38,960	194,549	14	189,215	189,229	3,186
April	16	2009	--	--	155,827	38,748	194,575	13	190,961	190,974	2,973
April	17	2009	--	--	155,902	38,797	194,699	12	194,233	194,245	3,234
April	18	2009	--	--	156,005	38,722	194,727	14	193,430	193,444	3,228
April	19	2009	--	--	139,629	34,680	174,309	11	164,992	165,003	3,212
April	20	2009	--	--	45,376	11,330	56,706	19	58,054	58,072	4
April	21	2009	--	--	9	12	21	12	8	21	3
April	22	2009	--	--	14	12	26	13	10	24	2
April	23	2009	--	--	17	24	41	17	17	35	4
April	24	2009	--	--	16	13	29	10	17	27	3
April	25	2009	--	--	12	13	25	21	14	34	5
April	26	2009	--	--	4,402	1,345	5,747	15	17	33	4
April	27	2009	--	--	78,982	19,962	98,944	14	99,901	99,915	9,161
April	28	2009	--	--	155,466	38,667	194,133	12	189,961	189,973	3,144
April	29	2009	--	--	155,734	38,370	194,104	26,534	172,626	199,160	3,191
April	30	2009	--	--	155,862	38,501	194,364	11	196,868	196,879	6
Total Monthly Volumes (gal)			**0**	**0**	**3,539,665**	**878,175**	**4,417,840**	**52,672**	**4,320,086**	**4,372,758**	**78,997**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**81.9**	**20.3**	**102.3**	**1.2**	**100.0**	**101.2**	**1.8**

NOTES: gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis

May 2009 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			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	2009	--	--	156,245	38,055	194,300	14	193,763	193,776	3,231
May	2	2009	--	--	156,540	37,709	194,249	13	192,990	193,003	3,203
May	3	2009	--	--	156,205	38,343	194,548	13	190,139	190,152	3,192
May	4	2009	--	--	156,385	38,298	194,683	18	195,223	195,240	2,664
May	5	2009	--	--	112,199	28,293	140,492	12	135,362	135,374	3,497
May	6	2009	--	--	155,352	38,281	193,634	22,064	175,370	197,434	3,072
May	7	2009	--	--	148,667	37,882	186,548	16	186,980	186,996	1,460
May	8	2009	--	--	155,360	38,100	193,460	14	194,718	194,732	3,171
May	9	2009	--	--	152,295	38,822	191,117	19	185,799	185,817	2,813
May	10	2009	--	--	152,524	39,069	191,593	17	193,823	193,840	398
May	11	2009	--	--	151,929	39,494	191,423	19	188,714	188,733	3,157
May	12	2009	--	--	153,990	40,243	194,233	14	193,426	193,441	3,136
May	13	2009	--	--	48,910	13,127	62,037	19	62,642	62,661	3,239
May	14	2009	--	--	67,988	18,177	86,165	20	81,125	81,145	1,886
May	15	2009	--	--	154,721	39,827	194,547	20	190,458	190,478	2,102
May	16	2009	--	--	154,848	39,764	194,612	12	198,265	198,277	1,068
May	17	2009	--	--	154,815	39,888	194,704	17	192,831	192,848	3,145
May	18	2009	--	--	151,022	39,867	190,890	12	187,154	187,166	3,154
May	19	2009	--	--	149,479	39,722	189,201	4,305	182,402	186,707	3,101
May	20	2009	--	--	64,748	13,918	78,666	20	62,107	62,128	10,840
May	21	2009	--	--	166,094	22,268	188,362	9,937	183,979	193,916	3,137
May	22	2009	--	--	156,223	37,941	194,164	17	198,709	198,726	3,191
May	23	2009	--	--	156,105	38,159	194,264	15	188,932	188,947	3,182
May	24	2009	--	--	156,134	38,298	194,431	23	193,480	193,502	3,130
May	25	2009	--	--	156,064	38,558	194,623	14	185,063	185,077	3,197
May	26	2009	--	--	120,702	30,589	151,291	111,699	43,117	154,817	4
May	27	2009	--	--	155,581	38,720	194,301	201,451	16	201,468	3,174
May	28	2009	--	--	155,814	38,444	194,258	198,385	13	198,399	3,725
May	29	2009	--	--	155,884	38,363	194,247	190,448	18	190,466	3,196
May	30	2009	--	--	148,052	37,431	185,482	184,483	25	184,509	3,042
May	31	2009	--	--	154,703	40,104	194,808	182,564	11	182,576	3
Total Monthly Volumes (gal)			**0**	**0**	**4,435,577**	**1,095,753**	**5,531,330**	**1,105,695**	**4,376,654**	**5,482,349**	**90,511**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**99.4**	**24.5**	**123.9**	**24.8**	**98.0**	**122.8**	**2.0**

NOTES: gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis

June 2009 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			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	2009	--	--	154,915	39,887	194,802	197,559	19	197,578	3,027
June	2	2009	--	--	154,708	40,196	194,903	191,841	14	191,855	3,180
June	3	2009	--	--	151,272	39,003	190,274	194,521	1,387	195,908	3,036
June	4	2009	--	--	155,344	38,330	193,674	185,922	15	185,937	3,149
June	5	2009	--	--	155,532	38,134	193,666	202,043	12	202,055	2
June	6	2009	--	--	155,674	37,996	193,670	193,141	15	193,156	3,121
June	7	2009	--	--	155,764	37,933	193,697	192,402	16	192,418	3,173
June	8	2009	--	--	155,936	37,999	193,934	195,869	265	196,134	3,227
June	9	2009	--	--	156,233	37,958	194,190	95,184	95,030	190,215	3,147
June	10	2009	--	--	156,476	37,803	194,279	8,440	188,590	197,030	3,203
June	11	2009	--	--	155,117	37,162	192,279	8	194,177	194,185	3
June	12	2009	--	--	156,970	37,359	194,329	18	189,222	189,240	3,219
June	13	2009	--	--	156,947	37,454	194,401	22	191,734	191,756	3,183
June	14	2009	--	--	156,843	37,703	194,546	16	192,662	192,678	3,178
June	15	2009	--	--	156,936	37,629	194,565	19	192,470	192,489	3,135
June	16	2009	--	--	149,148	36,697	185,844	11	181,106	181,118	3,134
June	17	2009	--	--	154,211	38,542	192,752	11,812	90,679	102,491	3,124
June	18	2009	--	--	149,444	37,470	186,914	14,427	88,335	102,763	3,166
June	19	2009	--	--	156,382	37,841	194,222	10	193,048	193,058	3
June	20	2009	--	--	156,551	37,682	194,233	13	189,202	189,214	3,172
June	21	2009	--	--	156,529	37,885	194,414	13	187,558	187,571	3,143
June	22	2009	--	--	153,366	37,620	190,985	4,654	175,694	180,347	3,025
June	23	2009	--	--	48,056	12,545	60,602	10	50,332	50,342	13,197
June	24	2009	--	--	151,982	38,838	190,819	191,531	16	191,547	2,264
June	25	2009	--	--	154,895	39,618	194,514	190,532	19	190,551	3,200
June	26	2009	--	--	155,020	39,335	194,355	186,718	22	186,740	3,195
June	27	2009	--	--	155,294	38,967	194,261	193,328	24	193,351	3,176
June	28	2009	--	--	155,244	39,105	194,349	185,896	20	185,916	3,056
June	29	2009	--	--	155,509	38,804	194,313	190,920	26	190,946	3,094
June	30	2009	--	--	155,356	39,089	194,445	178,066	7,742	185,808	3,164
Total Monthly Volumes (gal)			**0**	**0**	**4,541,652**	**1,122,582**	**5,664,235**	**3,004,947**	**2,409,450**	**5,414,397**	**94,095**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**105.1**	**26.0**	**131.1**	**69.6**	**55.8**	**125.3**	**2.2**

NOTES: gal: gallons
gpm: gallons per minute
RO: Reverse Osmosis

Appendix C
Flowmeter Calibration Records

Endress+Hauser
People for Process Automation

Flow Calibration without Adjustment

30092302-1304705

WWRA-000923-F
Purchase order number

US-19050353-30 / Endress+Hauser Flowtec
Order N°/Manufacturer

23P50-AL1A1AA022AW
Order code

PROMAG 23 P 2"
Transmitter/Sensor

6C036F16000
Serial N°

~~FIT-1201~~ FIT-103/PE-1/installed 1/4/07
Tag N°

FCP-6.F
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9148
Calibration factor

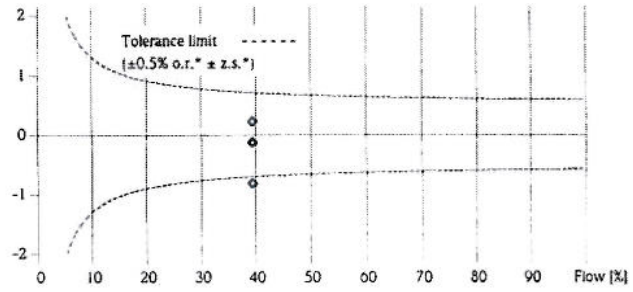
0
Zero point

72.3 °F
Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
39.5	61.5	30.1	30.816	30.002	-2.64	10.15
39.5	61.5	30.1	30.807	30.875	0.22	10.34
39.5	61.5	30.1	30.813	30.772	-0.13	10.31
39.5	61.5	30.1	30.812	30.561	-0.81	10.27
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*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.

Tim Swick

12-04-2006
Date of calibration

Tim Swick
Operator

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

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

30107893-1304706

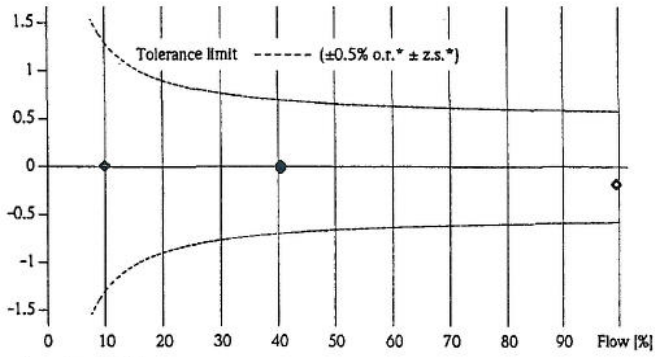
WWRA-002048-F Purchase order number	FCP-6.F Calibration rig
US-19054161-10 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 GPM (100%) Calibrated full scale
23P50-AL1A1AA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9154 Calibration factor
6C037016000 Serial N°	0 Zero point
~~FIT-1202~~ FIT-102/TW-3D/installed 1/25/08 Tag N°	76.2 °F Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	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
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*o.r.: of rate

**Calculated value (4 - 20 mA)

Measured error % o.r.



*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.

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

Tim Swick

09-12-2007
Date of calibration

Tim Swick
Operator

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

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Flow Calibration with Adjustment

Endress+Hauser
People for Process Automation

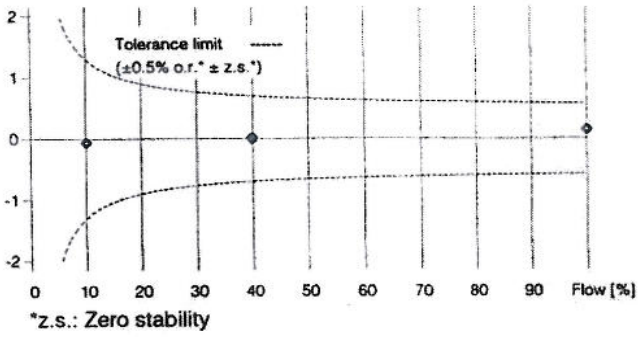
30057866-1275190

41724888 Purchase Order Number	FCP-6.C Calibration rig
USA-49310090-40 / Endress+Hauser Flowtec Order Nº/Manufacturer	155.6102 GPM (≙ 100%) Calibrated full scale
23P50-AL1A1RA022AW Order Code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9178 Calibration factor
6A021F16000 Serial Nº	0 Zero point
FIT ~~100~~ 101 / TW-20 / installed 7/28/05 Tag Nº	72.9 °F Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [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
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*z.s.: Zero stability

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

Endress+Hauser
People for Process Automation

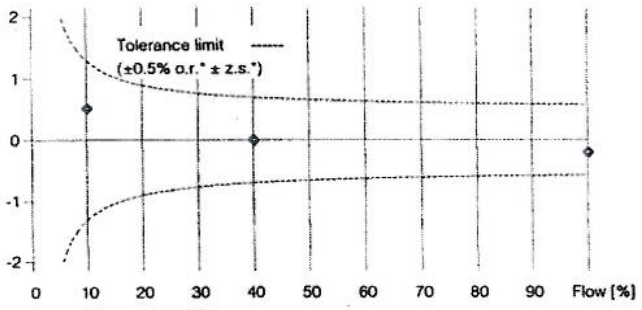
30057870-1275191

41724888 Purchase Order Number	FCP-6.C Calibration rig
USA-49310090-40 / Endress+Hauser Flowtec Order Nº/Manufacturer	155.6102 GPM (≙ 100%) Calibrated full scale
23P50-AL1A1RA022AW Order Code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9207 Calibration factor
6A022016000 Serial Nº	0 Zero point
FIT~~101~~ 100 / TW-25 / installed 7/28/05 Tag Nº	74.1 °F Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
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
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*z.s.: Zero stability

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.

Tim Swick

11-29-2004
Date of calibration

Tim Swick
Operator

Endress+Hauser
2350 Endress Place
Greenwood, IN 46143

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

Endress+Hauser
People for Process Automation

Flow Calibration without Adjustment

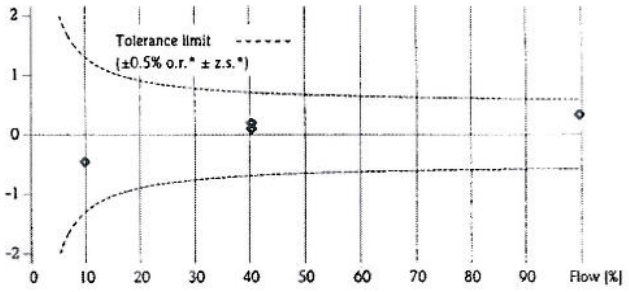
30094933-1275192

WWRA-001176-F Purchase order number	FCP-6.F Calibration rig
US-19051105-10 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 GPM (≙ 100%) Calibrated full scale
23P50-AL1A1RA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9214 Calibration factor
6A022116000 Serial N°	0 Zero point
~~FIT-102~~ FIT-1202 / IW-02 / installed 02/02/07 Tag N°	72.3 °F Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
9.9	15.5	30.1	7.7413	7.7054	-0.46	5.58
40.5	63.0	30.1	31.575	31.604	0.09	10.48
40.5	63.0	30.1	31.562	31.621	0.19	10.49
99.8	155.3	30.1	77.847	78.099	0.32	20.02
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*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.

Jim Baase

01-23-2007
Date of calibration

Jim Baase
Operator

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

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Endress+Hauser
People for Process Automation

Flow Calibration with Adjustment

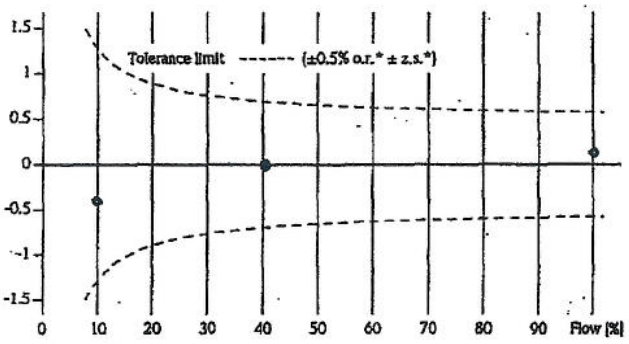
30116785-1304708

WWRA-002642-F Purchase order number	FCP-6.F Calibration rig
US-19056062-10 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 GPM (≙ 100%) Calibrated full scale
23P50-AL1A1AA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9312 Calibration factor
6C037216000 Serial N°	20 Zero point
~~FIT-1204~~ FIT-1203 / IW-03 / installed 4/9/08 Tag N°	71.1 °F Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
10.0	15.5	30.1	7.7698	7.7384	-0.40	5.59
40.5	63.0	30.1	31.589	31.594	0.02	10.48
40.5	63.1	30.1	31.617	31.612	-0.02	10.49
100.3	156.0	30.1	78.191	78.296	0.13	20.06
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*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.

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

02-18-2008
Date of calibration

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

Taylor Shepard
Operator

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Endress+Hauser
People for Process Automation

Flow Calibration with Adjustment

30094930-1385113

WWRA-001176-F
Purchase order number

US-19051105-20 / Endress+Hauser Flowtec
Order N°/Manufacturer

23P80-AL1A1AA022AW
Order code

PROMAG 23 P 3"
Transmitter/Sensor

7700C616000
Serial N°

- FIT-700/Combined Flow to IW-03&IW-02/ installed 2/13/08
Tag N°

FCP-20 MEDIUM
Calibration rig

398.3621 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

1.1466
Calibration factor

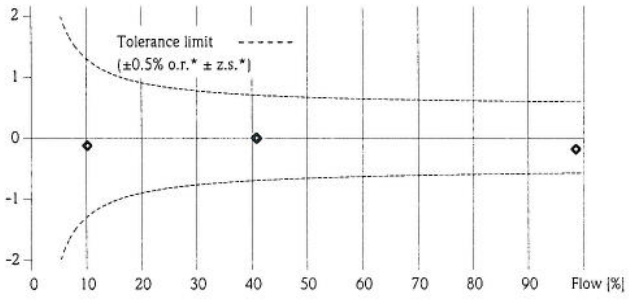
35
Zero point

72.2 °F
Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
10.3	40.8	60.5	41.188	41.136	-0.13	5.64
41.0	163.2	60.4	164.437	164.439	0.00	10.56
41.0	163.4	60.4	164.412	164.396	-0.01	10.56
98.8	393.5	60.8	398.925	398.170	-0.19	19.78
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*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.

M. E. Trueblood Jr.

01-23-2007
Date of calibration

Morris E. Trueblood Jr.
Operator

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

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Endress+Hauser
People for Process Automation

Flow Calibration with Adjustment

30094931-1275193

WWRA-001178-F
Purchase order number

US-19051105-30 / Endress+Hauser Flowtec
Order N°/Manufacturer

23P50-AL1A1RA022AW
Order code

PROMAG 23 P 2"
Transmitter/Sensor

6A022216000
Serial N°

~~FIT-103~~ FIT-701 / RO Concentrate / installed 02/02/07
Tag N°

FCP-6.F
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9235
Calibration factor

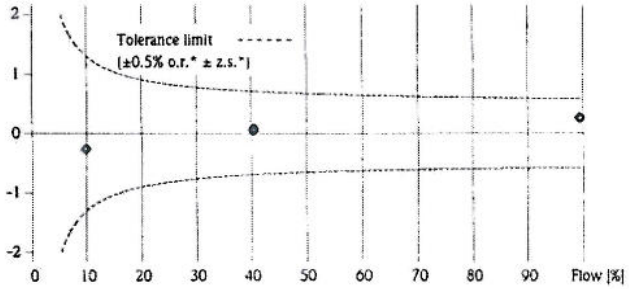
0
Zero point

72.2 °F
Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
10.0	15.5	30.1	7.7833	7.7628	-0.26	5.59
40.5	63.1	30.1	31.600	31.613	0.04	10.49
40.6	63.1	30.1	31.650	31.674	0.07	10.50
99.7	155.1	30.1	77.720	77.919	0.26	19.98
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

Measured error % o.r.



*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.

Jim Baase

01-23-2007
Date of calibration

Jim Baase
Operator

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

Certified acc. to
MIL-STD-45662A
ISO 9001, Reg.-N° 030502.2

Appendix D
Second Quarter 2009
Laboratory Analytical Reports

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

April 22, 2009

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-197 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 982576

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-197 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 1, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01

Laboratory No.: 982576
Date: May 5, 2009
Collected: April 1, 2009
Received: April 1, 2009
Revision 1

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	Iordan 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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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 Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 982576

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04EC09A

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
982576-1	SC-700B-WDR-197	µmhos/cm	EPA 120.1	1.00	2.00	6710
982576-2	SC-100B-WDR-197	µmhos/cm	EPA 120.1	1.00	2.00	7840

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982576-2	7840	7850	0.13%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	—	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	978	1000	97.8%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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 Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04TDS09A

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
982576-1	SC-700B-WDR-197	mg/L	SM 2540C	250	3850
982576-2	SC-100B-WDR-197	mg/L	SM 2540C	250	5700

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	982574-2	5700	5650	0.44%	≤ 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	502	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sam Cook

f.- Mona Nassimi, Manager
Analytical Services

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 Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04TUC09C

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	NTU	1.00	0.100	ND
982576-2	SC-100B-WDR-197	08:25	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	982565-26	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.27	8.00	103%	90% - 110%	Yes
LCS	7.93	8.00	99.1%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Cook
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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TUSTIN, CALIFORNIA 92780-7008
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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Prep. Batch: 04CrH09B

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04CrH09B

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	09:01	µg/L	1.05	0.20	ND
982576-2	SC-100B-WDR-197	08:25	09:11	µg/L	52.5	10.5	1180

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982573	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982576-1	0.136	1.06	1.00	1.06	1.19	1.20	99.4%	90-110%	Yes
MS	982576-2	1180	52.5	25.0	1313	2460	2493	97.5%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.10	5.00	102%	90% - 110%	Yes
MRCVS#1	9.99	10.0	99.9%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
LCS	5.10	5.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 6, 2009
Analytical Batch: 04NH3-E09B

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

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	SM 4500-NH3 D	mg/L	1.00	0.500	ND
982576-2	SC-100B-WDR-197	08:25	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982576-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982576-2	0.00	1.00	6.00	6.00	6.00	6.00	100%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	6.04	6.00	101%	90% - 110%	Yes
MRCVS#1	6.06	6.00	101%	90% - 110%	Yes
LCS	10.5	10.0	105%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Canul
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04AN09B

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

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	10:25	mg/L	5.00	0.500	2.01
982576-2	SC-100B-WDR-197	08:25	10:37	mg/L	5.00	0.500	2.51

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982576-2	2.51	2.50	0.40%	≤ 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	982576-2	2.51	5.00	4.00	20.0	23.6	22.5	105%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.03	4.00	101%	90% - 110%	Yes
MRCVS#1	3.10	3.00	103%	90% - 110%	Yes
MRCVS#2	3.10	3.00	103%	90% - 110%	Yes
MRCVS#3	3.10	3.00	103%	90% - 110%	Yes
LCS	4.06	4.00	102%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04AN09B

Investigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	12:54	mg/L	50.0	25.0	500
982576-2	SC-100B-WDR-197	08:25	13:28	mg/L	50.0	25.0	588

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982576-1	500	497	0.60%	≤ 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	982576-1	500	50.00	10.0	500	1010	1000	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	20.5	20.0	103%	90% - 110%	Yes
MRCVS#1	15.0	15.0	100%	90% - 110%	Yes
MRCVS#2	15.2	15.0	101%	90% - 110%	Yes
LCS	20.5	20.0	103%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04AN09B

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

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	10:25	mg/L	5.00	1.00	2.48
982576-2	SC-100B-WDR-197	08:25	10:37	mg/L	5.00	1.00	2.96

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982564-2	13.6	13.2	2.99%	≤ 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	982564-2	13.6	5.00	4.00	20.0	33.6	33.6	100%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	3.98	4.00	99.5%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.7%	90% - 110%	Yes
MRCVS#2	2.99	3.00	99.7%	90% - 110%	Yes
LCS	4.00	4.00	100%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 982576
Date: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Prep/ Analyzed: April 2, 2009
Analytical Batch: 04NO209C

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

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982576-1	SC-700B-WDR-197	08:25	13:37	mg/L	1.00	0.0050	ND
982576-2	SC-100B-WDR-197	08:25	13:38	mg/L	1.00	0.0050	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982576-1	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982576-1	0.00	1.00	0.0200	0.0200	0.0192	0.0200	96.0%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	---	<0.0050	Yes
MRCCS	0.0202	0.0200	101%	90% - 110%	Yes
MRCVS#1	0.0204	0.0200	102%	90% - 110%	Yes
LCS	0.0406	0.0400	102%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

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REPORT

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

Attention: Shawn Duffy

Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Investigation: Total Metal Analyses as Requested

Laboratory No.: 982576
Reported: April 23, 2009
Collected: April 1, 2009
Received: April 1, 2009
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-700B-WDR-197 **Time Collected:** 08:25 **LAB ID:** 982576-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	040309A	04/03/09	15:27
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:27
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	040309A	04/03/09	15:27
Barium	EPA 200.8	14.3	5.00	µg/L	10.0	040309A	04/03/09	15:27
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	040309A	04/03/09	15:27
Copper	EPA 200.8	11.1	5.00	µg/L	5.00	040309A	04/03/09	15:27
Lead	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:27
Manganese	EPA 200.8	53.8	5.00	µg/L	10.0	040309A	04/03/09	15:27
Molybdenum	EPA 200.8	19.6	5.00	µg/L	10.0	040309A	04/03/09	15:27
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:27
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:27
Boron	EPA 200.7	1120	1.00	µg/L	200	040709A	04/07/09	12:38
Iron	EPA 200.7	ND	1.00	µg/L	20.0	042109A	04/21/09	10:18

SAMPLE ID: SC-100B-WDR-197 **Time Collected:** 08:25 **LAB ID:** 982576-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	040309A	04/03/09	15:33
Antimony	EPA 200.8	17.2	5.00	µg/L	10.0	040309A	04/03/09	15:33
Arsenic	EPA 200.8	6.45	5.00	µg/L	1.00	040309A	04/03/09	15:33
Barium	EPA 200.8	27.5	5.00	µg/L	10.0	040309A	04/03/09	15:33
Chromium	EPA 200.8	1270	5.00	µg/L	1.00	040309A	04/03/09	15:33
Copper	EPA 200.8	ND	5.00	µg/L	5.00	040309A	04/03/09	15:33
Lead	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:33
Manganese	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:33
Molybdenum	EPA 200.8	35.2	5.00	µg/L	10.0	040309A	04/03/09	15:33
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:33
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	040309A	04/03/09	15:33
Boron	EPA 200.7	1180	1.00	µg/L	200	040709A	04/07/09	12:50
Iron	EPA 200.7	ND	1.00	µg/L	20.0	042209A	04/22/09	13:42

ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-197] 982576

COC Number IM3Plant-WDR-197
TURNAROUND TIME 10 Days
DATE 04/01/09 PAGE 1 OF 1

COMPANY	CH2M HILL /E2
PROJECT NAME	PG&E Topock IM3
PHONE	530-229-3303 FAX 530-339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.03.01
SAMPLERS (SIGNATURE	

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NUMBER OF CONTAINERS	COMMENTS
1	SC-700B-WDR-197	04/01/09	0825		X		X	X	X	X	X		X				3	pH=7
2	SC-100B-WDR-197	04/01/09	0825		X		X	X	X	X	X		X				3	pH=7

ALERT!! Level III QC

For Sample Conditions See Form Attached

6 TOTAL NUMBER OF CONTAINERS

SC 700B. pH-7.1 Cr6-.003
SAMPLE-0825 EC-7.38 TOTAL-.002
RESULTS-0832 TEMP-79.5

SC 100B pH-7.7
SAMPLE-0825 EC 8.72
RESULTS-0839 TEMP 77.3 Cr6-.252 / 1.260

CHAIN OF CUSTODY SIGNATURE RECORD

4-1-09

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	AIDE	ONE	10:06
Signature (Received)	Fahar	TLF	4/1/09 15:35
Signature (Relinquished)	Fahar	TLF	4/1/09 21:25
Signature (Received)	L Studenmund	TLI	4/1/09 21:25
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

073

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April 24, 2009

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-198 PROJECT, GROUNDWATER MONITORING, TLI NO.: 982697

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-198 project groundwater monitoring for Hexavalent and Total Chromium, 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 8, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Canl

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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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.: 379209.01.02

Laboratory No.: 982697
Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009

ANALYST LIST

METHOD	ANALYTE	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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 041309A

Laboratory No.: 982697
Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009
Prep/ Analyzed: April 13, 2009
Analytical Batch: 041309A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
982697	SC-700B-WDR-198	µg/L	EPA 200.8	11:59	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
Duplicate	982697	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982697	0.00	5.00	50.0	250	261	250	104%	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	50.5	50.0	101%	90% - 110%	Yes
MRCVS#1	49.6	50.0	99.2%	90% - 110%	Yes
MRCVS#2	50.6	50.0	101%	90% - 110%	Yes
MRCVS#3	50.6	50.0	101%	90% - 110%	Yes
ICS	49.9	50.0	99.8%	80% - 120%	Yes
LCS	50.5	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

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 Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982697

Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009
Prep/ Analyzed: April 9, 2009
Analytical Batch: 04CrH09D

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982697	SC-700B-WDR-198	08:05	08:29	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982696-4	11.6	11.6	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982697	0.00	1.06	1.00	1.06	1.03	1.06	97.2%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.10	5.00	102%	90% - 110%	Yes
MRCVS#1	10.10	10.0	101%	95% - 105%	Yes
MRCVS#2	9.91	10.0	99.1%	95% - 105%	Yes
MRCVS#3	9.80	10.0	98.0%	95% - 105%	Yes
MRCVS#4	9.96	10.0	99.6%	95% - 105%	Yes
LCS	5.09	5.00	102%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982697
Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009
Prep/ Analyzed: April 9, 2009
Analytical Batch: 04TUC09F

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
982697	SC-700B-WDR-198	08:05	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	982687	0.147	0.149	1.35%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.15	8.00	102%	90% - 110%	Yes
LCS	8.02	8.00	100%	90% - 110%	Yes
LCS	7.79	8.00	97.4%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982697
Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009
Prep/ Analyzed: April 9, 2009
Analytical Batch: 04EC09E

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
982697	SC-700B-WDR-198	µmhos/cm	EPA 120.1	1.00	2.00	6860

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982697	6860	6870	0.15%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	978	1000	97.8%	90% - 110%	Yes
CVS#2	979	1000	97.9%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982697
Date: April 23, 2009
Collected: April 8, 2009
Received: April 8, 2009
Prep/ Analyzed: April 13, 2009
Analytical Batch: 04TDS09D

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
982697	SC-700B-WDR-198	mg/L	SM 2540C	250	4140

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	982697	4140	4230	1.08%	≤ 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	496	500	99.2%	90% - 110%	Yes
LCS 2	500	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sen Canh

for Mona Nassimi, Manager
Analytical Services

982697

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-198]

COC Number
TURNAROUND TIME 10 Days
DATE 04/08/09 PAGE 1 OF 1

COMPANY E2
PROJECT NAME PG&E Topock
PHONE (530) 229-3303 FAX (530) 339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 379209.01.02 TEAM 1
SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-196	04/08/09		Water	X	X	X	X		X								3	pH < 7
																	3	TOTAL NUMBER OF CONTAINERS

Temp 78.2
EC 7.47
pH 7.1
Cr6 .001
TOTAL .001

SAMPLE
0805

TEST
0809
0817
0814
0826
0836

For Sample Condition
See Form Attached

ALERT !!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)		J Alde	OMI	4/8/09 0900
Signature (Received)	Rafael Davila	Rafael	T.L.I.	4-8-09 15:30
Signature (Relinquished)	Rafael Davila	Rafael	T.L.I.	4-8-09 21:30
Signature (Received)		Hashem	T.L.I.	4-8-09
Signature (Relinquished)		Printed Name	Company/ Agency	Date/ Time 21:33
Signature (Received)		Printed Name	Company/ Agency	Date/ Time

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

034

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May 5, 2009

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-199 PROJECT, GROUNDWATER MONITORING, TLI NO.: 982870

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-199 project groundwater monitoring for Hexavalent and Total Chromium, 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 16, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 982870
Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009

ANALYST LIST

METHOD	[illegible]	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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 041709A

Laboratory No.: 982870
Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009
Prep/ Analyzed: April 17, 2009
Analytical Batch: 041709A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
982870	SC-700B-WDR-199	µg/L	EPA 200.8	11:23	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
Duplicate	982870	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982870	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	46.7	50.0	93.4%	90% - 110%	Yes
MRCVS#1	52.8	50.0	106%	90% - 110%	Yes
MRCVS#2	52.6	50.0	105%	90% - 110%	Yes
MRCVS#3	52.8	50.0	106%	90% - 110%	Yes
ICS	40.3	50.0	80.6%	80% - 120%	Yes
LCS	46.6	50.0	93.2%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Candela
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Laboratory No.: 982870

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009
Prep/ Analyzed: April 17, 2009
Analytical Batch: 04CrH09K

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
982870	SC-700B-WDR-199	11:00	07:53	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982809-3	8.28	8.21	0.85%	≤ 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	982870	0.00	1.06	1.00	1.06	1.15	1.06	108%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.04	5.00	101%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	9.88	10.0	98.8%	95% - 105%	Yes
MRCVS#3	9.77	10.0	97.7%	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.

for Sen Cand
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982870
Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009
Prep/ Analyzed: April 17, 2009
Analytical Batch: 04TUC09N

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
982870	SC-700B-WDR-199	11:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982870	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	7.80	8.00	97.5%	90% - 110%	Yes
LCS	7.68	8.00	96.0%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Cank
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982870
Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009
Prep/ Analyzed: April 20, 2009
Analytical Batch: 04EC09J

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
982870	SC-700B-WDR-199	µmhos/cm	EPA 120.1	1.00	2.00	7220

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982870	7220	7230	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	977	1000	97.7%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cand
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 982870
Date: May 5, 2009
Collected: April 16, 2009
Received: April 16, 2009
Prep/ Analyzed: April 20, 2009
Analytical Batch: 04TDS09G

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
982870	SC-700B-WDR-199	mg/L	SM 2540C	250	4100

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	982870	4100	4020	0.99%	≤ 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	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
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(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-199]

982870

COC Number

TURNAROUND TIME 10 Days

DATE 04/16/09 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02 TEAM 1
SAMPLERS (SIGNATURE	C. Knight

Rec'd 04/16/09
982870

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-199	04/16/09		Water	x	x	x	x		x							3	pH=7
																3	TOTAL NUMBER OF CONTAINERS

SAMPLE TIME 11:00

		TIME
TEMP -	80.7	11:03
EC -	7.49	11:03
pH -	7.1	11:09
$Cr^{(6)}$	.001	11:14
$Cr^{(T)}$	.002	11:32

ALERT !!
Level III QC

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	C. Knight	C. KNIGHT	OMI	4-16-09 15:30
Signature (Received)	Rafael Davila	Rafael	T.L.I	4-16-09 15:30
Signature (Relinquished)	Rafael Davila	Rafael	T.L.I	4-16-09 21:00
Signature (Received)	L. Shakemure	Shakemure	T L I	4/16/09 21:00
Signature (Relinquished)				
Signature (Received)				

03

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

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

May 5, 2009

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-200 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983013

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-199 project groundwater monitoring for Hexavalent and Total Chromium, 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 27, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983013
Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009

ANALYST LIST

METHOD		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	Daniel Kang
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 042909A

Laboratory No.: 983013
Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009
Prep/ Analyzed: April 29, 2009
Analytical Batch: 042909A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983013	SC-700B-WDR-200	µg/L	EPA 200.8	16:34	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
Duplicate	982991-1	1.22	1.16	5.04%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	982991-1	1.22	5.00	50.0	250	241	251	95.9%	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	49.4	50.0	98.8%	90% - 110%	Yes
MRCVS#1	49.8	50.0	99.6%	90% - 110%	Yes
MRCVS#2	50.1	50.0	100%	90% - 110%	Yes
MRCVS#3	48.8	50.0	97.6%	90% - 110%	Yes
ICS	42.5	50.0	85.0%	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.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Laboratory No.: 983013

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009
Prep/ Analyzed: April 28, 2009
Analytical Batch: 04CrH09M

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983013	SC-700B-WDR-200	14:30	10:40	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	982991-2	1.37	1.38	0.73%	< 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	983013	0.19	1.06	1.00	1.06	1.29	1.25	104%	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	5.03	5.00	101%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	10.1	10.0	101%	95% - 105%	Yes
MRCVS#3	10.3	10.0	103%	95% - 105%	Yes
MRCVS#4	10.2	10.0	102%	95% - 105%	Yes
LCS	4.99	5.00	99.8%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for - Mona Nassimi, Manager
Analytical Services

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REPORT

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.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983013
Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009
Prep/ Analyzed: April 28, 2009
Analytical Batch: 04TUC09Q

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983013	SC-700B-WDR-200	14:30	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983007-16	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	7.89	8.00	98.6%	90% - 110%	Yes
LCS	8.05	8.00	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983013
Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009
Prep/ Analyzed: April 28, 2009
Analytical Batch: 04EC09M

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983013	SC-700B-WDR-200	µmhos/cm	EPA 120.1	1.00	2.00	5020

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983013	5020	5030	0.20%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	978	1000	97.8%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983013
Date: May 5, 2009
Collected: April 27, 2009
Received: April 27, 2009
Prep/ Analyzed: April 28, 2009
Analytical Batch: 04TDS09L

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983013	SC-700B-WDR-200	mg/L	SM 2540C	250	3060

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983013	3060	3080	0.33%	≤ 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	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-200] 983013

COC Number
TURNAROUND TIME 10 Days
DATE 04/27/09 PAGE 1 OF 1

COMPANY: E2
PROJECT NAME: PG&E Topock
PHONE: (530) 229-3303 FAX: (530) 339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 379209.01.02 TEAM: 1
SAMPLERS (SIGNATURE:

ALERT !! Level III QC

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-200	04/27/09	1430	Water	x	x	x	x		x	3	pH=7
										3	TOTAL NUMBER OF CONTAINERS

Rec'd 04/27/09 983013

	Time	Anay.
PH 7.0	1430	1440
EC 5.40	1430	1438
Temp 82.4	1430	14:35
Cr6 .001	1430	1445
TOTAL	1430	1455

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

Signature	Printed Name	Company/Agency	Date/Time
Signature (Relinquished) [signature]	A. Ide	OMI	4/27/09 1500
Signature (Received) [signature]	Falpa R	TLI	4/27/09 18:20
Signature (Relinquished) [signature]	Falpa R	TLI	4/27/09 21:55
Signature (Received) L. Shakumu	Shakumu	TLI	APR 27 2009 21:55
Signature (Relinquished)			
Signature (Received)			

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

TRUESDAIL LABORATORIES, INC.
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www.truesdail.com

May 6, 2009

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-201 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983073

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-201 project groundwater monitoring for Hexavalent and Total Chromium, 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 30, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereaftet it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Canol

f.r. Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983073
Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009

ANALYST LIST

METHOD	ANALYTE	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 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 050109A

Laboratory No.: 983073

Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009
Prep/ Analyzed: May 1, 2009
Analytical Batch: 050109A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983073	SC-700B-WDR-201	µg/L	EPA 200.8	15:06	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
Duplicate	983073	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983073	0.00	5.00	50.0	250	238	250	95.2%	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	49.3	50.0	98.6%	90% - 110%	Yes
MRCVS#1	47.8	50.0	95.6%	90% - 110%	Yes
MRCVS#2	47.3	50.0	94.6%	90% - 110%	Yes
MRCVS#3	48.4	50.0	96.8%	90% - 110%	Yes
ICS	48.1	50.0	96.2%	80% - 120%	Yes
LCS	48.4	50.0	96.8%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cal
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Laboratory No.: 983073

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009
Prep/ Analyzed: May 1, 2009
Analytical Batch: 05CrH09A

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983073	SC-700B-WDR-201	10:02	12:52	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983034	2.63	2.63	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983073	0.00	1.06	1.00	1.06	1.08	1.06	102%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.02	5.00	100%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	10.1	10.0	101%	95% - 105%	Yes
LCS	5.02	5.00	100%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
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Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983073
Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009
Prep/ Analyzed: May 1, 2009
Analytical Batch: 05TUC09A

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983073	SC-700B-WDR-201	10:02	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	983073	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	7.72	8.00	96.5%	90% - 110%	Yes
LCS	7.80	8.00	97.5%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983073
Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009
Prep/ Analyzed: May 1, 2009
Analytical Batch: 05EC09A

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983073	SC-700B-WDR-201	µmhos/cm	EPA 120.1	1.00	2.00	6780

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983073	6780	6790	0.15%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	977	1000	97.7%	90% - 110%	Yes
CVS#2	977	1000	97.7%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983073
Date: May 6, 2009
Collected: April 30, 2009
Received: April 30, 2009
Prep/ Analyzed: May 4, 2009
Analytical Batch: 05TDS09A

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983073	SC-700B-WDR-201	mg/L	SM 2540C	250	3980

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983071	395	392	0.38%	≤ 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	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-201] 983073

COC Number
TURNAROUND TIME 10 Days
DATE 04/30/09 PAGE 1 OF 1

COMPANY: E2
PROJECT NAME: PG&E Topock
PHONE: (530) 229-3303 FAX: (530) 339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 379209.01.02 TEAM: 1
SAMPLERS (SIGNATURE: C. Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-201	04/30/09	10:02	Water	x	x	x	x		x	3	pH = 7
											TOTAL NUMBER OF CONTAINERS

COMMENTS:

	TIME
EC - 7.53	10:10
pH - 7.1	10:08
Temp - 79.5	10:08
$Cr^{(6)}$ - .001	10:21
$Cr^{(T)}$ - .002	10:33

For Sample Conditions See Form Attached

ALERT !!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

Signature	Printed Name	Company/ Agency	Date/ Time
(Relinquished) C. Knight	C. KNIGHT	OMI	4-30-09 11:00
(Received) Bonifacio Dayag	B. DAYAG	TLI	4-30-09 1510
(Relinquished) Bonifacio Dayag	B. DAYAG	TLI	4-30-09 2045
(Received) L. Shakeeeww	Shakeeeww	TLI	4/30/09 2014
(Relinquished)			
(Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☐ WARM ☐ ____ °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

May 28, 2009

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-202 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 983164

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-202 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 6, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Conde

fo- Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009

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	Iordan 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	Daniel Kang / Romuel Chavez
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Laboratory No.: 983164

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05EC09C

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983164-1	SC-700B-WDR-202	µmhos/cm	EPA 120.1	1.00	2.00	6770
983164-2	SC-100B-WDR-202	µmhos/cm	EPA 120.1	1.00	2.00	7740

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983165-2	8260	8270	0.12%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	—	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	976	1000	97.6%	90% - 110%	Yes
CVS#2	977	1000	97.7%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

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Analytical Services

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 8, 2009
Analytical Batch: 05TDS09C

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983164-1	SC-700B-WDR-202	mg/L	SM 2540C	250	4360
983164-2	SC-100B-WDR-202	mg/L	SM 2540C	250	4650

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983165-2	5020	4950	0.70%	≤ 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	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05TUC09F

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	NTU	1.00	0.100	ND
983164-2	SC-100B-WDR-202	13:11	NTU	1.00	0.100	0.101

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983164-2	0.101	0.102	0.99%	≤ 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	7.80	8.00	97.5%	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,
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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Prep. Batch: 05CrH09E

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05CrH09E

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	09:48	µg/L	1.05	0.20	ND
983164-2	SC-100B-WDR-202	13:11	09:58	µg/L	105	21.0	1150

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983164-2	1150	1140	0.87%	≤ 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	983164-1	0.00	1.06	1.00	1.06	1.00	1.06	94.3%	90-110%	Yes
MS	983164-2	1150	105	15.0	1575	2680	2725	97.1%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	—	<0.200	Yes
MRCCS	5.07	5.00	101%	90% - 110%	Yes
MRCVS#1	10.3	10.0	103%	95% - 105%	Yes
MRCVS#2	9.84	10.0	98.4%	95% - 105%	Yes
MRCVS#3	10.0	10.0	100%	95% - 105%	Yes
MRCVS#4	10.0	10.0	100%	95% - 105%	Yes
LCS	5.01	5.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 11, 2009
Analytical Batch: 05NH3-E09C

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

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	SM 4500-NH3 D	mg/L	1.00	0.500	ND
983164-2	SC-100B-WDR-202	13:11	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983164-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983164-2	0.00	1.00	6.00	6.00	6.22	6.00	104%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	6.22	6.00	104%	90% - 110%	Yes
MRCVS#1	6.07	6.00	101%	90% - 110%	Yes
MRCVS#2	6.18	6.00	103%	90% - 110%	Yes
LCS	10.2	10.0	102%	90% - 110%	Yes

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

Respectfully submitted,
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for Sen Gard
Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05AN09E

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

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	10:34	mg/L	5.00	0.500	2.38
983164-2	SC-100B-WDR-202	13:11	10:45	mg/L	5.00	0.500	2.74

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983148-1	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983148-1	0.360	1.00	4.00	4.00	4.50	4.36	104%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.04	4.00	101%	90% - 110%	Yes
MRCVS#1	3.08	3.00	103%	90% - 110%	Yes
MRCVS#2	3.16	3.00	105%	90% - 110%	Yes
LCS	4.08	4.00	102%	90% - 110%	Yes

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

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05AN09E

Investigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	12:50	mg/L	50.0	25.0	486
983164-2	SC-100B-WDR-202	13:11	13:02	mg/L	50.0	25.0	574

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983155-1	238	240	0.84%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983155-1	238	100	4.00	400	644	638	102%	85-115%	Yes

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

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05AN09E

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

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	10:34	mg/L	5.00	1.00	2.71
983164-2	SC-100B-WDR-202	13:11	10:45	mg/L	5.00	1.00	3.01

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983155-3	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983155-3	0.00	1.00	2.00	2.00	2.12	2.00	106%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.04	4.00	101%	90% - 110%	Yes
MRCVS#1	3.01	3.00	100%	90% - 110%	Yes
MRCVS#2	3.01	3.00	100%	90% - 110%	Yes
MRCVS#3	3.03	3.00	101%	90% - 110%	Yes
MRCVS#4	3.04	3.00	101%	90% - 110%	Yes
LCS	4.04	4.00	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Cand
Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983164
Date: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Prep/ Analyzed: May 7, 2009
Analytical Batch: 05NO209C

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

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983164-1	SC-700B-WDR-202	13:00	16:02	mg/L	1.00	0.0050	ND
983164-2	SC-100B-WDR-202	13:11	16:03	mg/L	1.00	0.0050	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983164-1	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983164-1	0.00	1.00	0.0200	0.0200	0.0192	0.0200	96.0%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	---	<0.0050	Yes
MRCCS	0.0277	0.0270	103%	90% - 110%	Yes
MRCVS#1	0.0200	0.0200	100%	90% - 110%	Yes
MRCVS#2	0.0197	0.0200	98.5%	90% - 110%	Yes
LCS	0.0458	0.0450	102%	90% - 110%	Yes
LCSD	0.0455	0.0450	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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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.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Investigation: Total Metal Analyses as Requested

Laboratory No.: 983164
Reported: May 28, 2009
Collected: May 6, 2009
Received: May 6, 2009
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-700B-WDR-202 **Time Collected:** 13:00 **LAB ID:** 983164-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	051409A	05/14/09	13:18
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	14:46
Arsenic	EPA 200.8	4.24	5.00	µg/L	1.00	050709A	05/07/09	14:46
Barium	EPA 200.8	12.3	5.00	µg/L	10.0	050709A	05/07/09	14:46
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	052209A	05/22/09	12:44
Copper	EPA 200.8	ND	5.00	µg/L	5.00	050709A	05/07/09	14:46
Lead	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	14:46
Manganese	EPA 200.8	13.2	5.00	µg/L	10.0	050709A	05/07/09	14:46
Molybdenum	EPA 200.8	20.0	5.00	µg/L	10.0	050709A	05/07/09	14:46
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	14:46
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	14:46
Boron	EPA 200.7	1020	1.00	µg/L	200	051209A	05/12/09	15:20
Iron	EPA 200.7	ND	1.00	µg/L	20.0	051209A	05/12/09	15:20

SAMPLE ID: SC-100B-WDR-202 **Time Collected:** 13:11 **LAB ID:** 983164-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	051409A	05/14/09	13:25
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	15:12
Arsenic	EPA 200.8	3.50	5.00	µg/L	1.00	050709A	05/07/09	15:12
Barium	EPA 200.8	26.1	5.00	µg/L	10.0	050709A	05/07/09	15:12
Chromium	EPA 200.8	1130	5.00	µg/L	1.00	052209A	05/22/09	12:50
Copper	EPA 200.8	ND	5.00	µg/L	5.00	050709A	05/07/09	15:12
Lead	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	15:12
Manganese	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	15:12
Molybdenum	EPA 200.8	30.5	5.00	µg/L	10.0	050709A	05/07/09	15:12
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	15:12
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	050709A	05/07/09	15:12
Boron	EPA 200.7	1110	1.00	µg/L	200	051209A	05/12/09	15:37
Iron	EPA 200.7	ND	1.00	µg/L	20.0	052709A	05/27/09	14:47

ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Canul
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-202] 983164

COC Number IM3Plant-WDR - 202
TURNAROUND TIME 10 Days
DATE 05/06/09 PAGE 1 OF 1

COMPANY CH2M HILL /E2
PROJECT NAME PG&E Topock IM3
PHONE 530-229-3303 FAX 530-339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 379209.01.03.01
SAMPLERS (SIGNATURE C. Knight

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NUMBER OF CONTAINERS	COMMENTS
1	SC-700B-WDR-202	05/06/09	13:00		X		X	X	X	X	X		X			4	pH=2
2	SC-100B-WDR-202	05/06/09	13:11		X		X	X	X	X	X		X			4	pH=7

TOTAL NUMBER OF CONTAINERS 8

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

COMMENTS:

	700B	TIME
TEMP	80.4	13:19
pH	7.0	13:15
EC	7.48	13:19
Cr(6)	.001	1333
Cr (T)	.002	1346

SC-100B	TEMP	EC	pH	Cr (6)	Cr (T)
	78.8°	8.43	7.3	1.20	X
TIME	13:20	13:20	13:26	1333	

CHAIN OF CUSTODY SIGNATURE RECORD

Signature	Printed Name	Company/Agency	Date/Time
Signature (Relinquished) C. Knight	C. Knight	OMI	5-6-09 14:04
Signature (Received) [signature]	Al Boodee	TLI	5.6.09 3:22 pm
Signature (Relinquished) [signature]	Al Boodee	TLI	5/6/09 8:45 pm
Signature (Received) [signature]	Shaku [illegible]	TLI	5/6/09 8:45 pm
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
Signature (Received)	Printed Name	Company/Agency	Date/Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ ____ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:
The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

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May 26, 2009

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-203 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983307

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-203 project groundwater monitoring for Hexavalent and Total Chromium, 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 13, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983307
Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009

ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 051509A

Laboratory No.: 983307
Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009
Prep/ Analyzed: May 15, 2009
Analytical Batch: 051509A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983307	SC-700B-WDR-203	µg/L	EPA 200.8	14:20	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
Duplicate	983108-12	22.8	22.8	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983108-12	22.8	5.00	50.0	250	269	273	98.5%	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	51.1	50.0	102%	90% - 110%	Yes
MRCVS#1	51.1	50.0	102%	90% - 110%	Yes
MRCVS#2	50.9	50.0	102%	90% - 110%	Yes
ICS	44.4	50.0	88.8%	80% - 120%	Yes
LCS	50.9	50.0	102%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Laboratory No.: 983307

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009
Prep/ Analyzed: May 14, 2009
Analytical Batch: 05CrH09L

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983307	SC-700B-WDR-203	07:50	07:21	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983308-1	2330	2300	1.30%	< 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	983307	0.00	1.06	1.00	1.06	1.08	1.06	102%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	—	<0.200	Yes
MRCCS	5.08	5.00	102%	90% - 110%	Yes
MRCVS#1	9.91	10.0	99.1%	95% - 105%	Yes
MRCVS#2	9.82	10.0	98.2%	95% - 105%	Yes
MRCVS#3	9.74	10.0	97.4%	95% - 105%	Yes
LCS	5.06	5.00	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983307
Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009
Prep/ Analyzed: May 14, 2009
Analytical Batch: 05TUC09L

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983307	SC-700B-WDR-203	07:50	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983307	ND	ND	0.00%	≤ 20%	Yes

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

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cand
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983307
Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009
Prep/ Analyzed: May 14, 2009
Analytical Batch: 05EC09F

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983307	SC-700B-WDR-203	µmhos/cm	EPA 120.1	1.00	2.00	6870

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983307	6870	6880	0.15%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	977	1000	97.7%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes
LCSD	695	706	98.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cand
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983307
Date: May 26, 2009
Collected: May 13, 2009
Received: May 13, 2009
Prep/ Analyzed: May 18, 2009
Analytical Batch: 05TDS09G

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983307	SC-700B-WDR-203 JL	mg/L	SM 2540C	125	4280

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983307	4280	4340	0.70%	≤ 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	499	500	99.8%	90% - 110%	Yes
LCS 2	502	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

983307

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-203]

COC Number
TURNAROUND TIME 10 Days
DATE 05/13/09 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02 TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-203	05/13/09	0750	Water	X	X	X	X	X	3	pH = 7
									3	TOTAL NUMBER OF CONTAINERS

TIME
0750
pH - 7.0
EC - 7.53
TEMP - 80
Cr6 - .001
TOTAL - .001

TIME
0802
0759
0755
0810
0816

ALERT !!
Level III QC
For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

5-13-09

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	JAIDE	OMI	0800
Signature (Received)	Felipe Reyes	TLI	5/13/09 15:15
Signature (Relinquished)	Felipe R	TLI	5/13/09 2133
Signature (Received)	L. Shakeman	TLI	5/13/09 21:30
Signature (Relinquished)			
Signature (Received)			

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

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

June 1, 2009

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-204 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983419

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-204 project groundwater monitoring for Hexavalent and Total Chromium, 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 19, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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(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.: 379209.01.02

Laboratory No.: 983419
Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009

ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 052009A

Laboratory No.: 983419

Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009
Prep/ Analyzed: May 20, 2009
Analytical Batch: 052009A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983419	SC-700B-WDR-204	µg/L	EPA 200.8	17:16	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
Duplicate	983286-8	22.3	22.3	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983286-8	22.3	5.00	50.0	250	268	272	98.3%	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	50.2	50.0	100%	90% - 110%	Yes
MRCVS#1	50.4	50.0	101%	90% - 110%	Yes
MRCVS#2	49.9	50.0	99.8%	90% - 110%	Yes
ICS	50.4	50.0	101%	80% - 120%	Yes
LCS	52.3	50.0	105%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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 Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 983419

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009
Prep/ Analyzed: May 21, 2009
Analytical Batch: 05CrH09Q

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983419	SC-700B-WDR-204	08:00	06:38	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983418-4	852	853	0.12%	≤ 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	983419	0.00	1.06	1.00	1.06	1.04	1.06	98.1%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.06	5.00	101%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
LCS	5.08	5.00	102%	90% - 110%	Yes

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

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983419
Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009
Prep/ Analyzed: May 19, 2009
Analytical Batch: 05TUC09M

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983419	SC-700B-WDR-204	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	983369-16	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.23	8.00	103%	90% - 110%	Yes

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

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983419
Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009
Prep/ Analyzed: May 21, 2009
Analytical Batch: 05EC09I

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983419	SC-700B-WDR-204	µmhos/cm	EPA 120.1	1.00	2.00	7020

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983419	7020	7030	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	696	706	98.6%	90% - 110%	Yes
CVS#1	978	1000	97.8%	90% - 110%	Yes
LCS	696	706	98.6%	90% - 110%	Yes
LCSD	696	706	98.6%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983419
Date: June 1, 2009
Collected: May 19, 2009
Received: May 19, 2009
Prep/ Analyzed: May 21, 2009
Analytical Batch: 05TDS09K

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983419	SC-700B-WDR-204	mg/L	SM 2540C	250	4460

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983419	4460	4330	1.48%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	497	500	99.4%	90% - 110%	Yes
LCS 2	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

Rec'd 05/19/09

~~5200~~ 983419

983419

CHAIN OF COUSTODY RECORD

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[IM3Plant-WDR-204]

COC Number 983419

TURNAROUND TIME 10 Days

DATE 05/19/09 PAGE 1 OF 1

COMPANY: E2

PROJECT NAME: PG&E Topock

PHONE: (530) 229-3303 FAX: (530) 339-3303

ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612

P.O. NUMBER: 379209.01.02 TEAM: 1

SAMPLERS (SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-204	05/19/09	0800	Water	X	X	X	X		X	3	PH-7
										3	TOTAL NUMBER OF CONTAINERS

pH -0812 6.9
EC -0820 7.48
Cr6 -0846 .001
TOTAl -0836 .005
Temp 80°

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

Signature	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) [signature]	J AIDE	ONI	5/19/09 0800
Signature (Received) [signature]	Hipolito	TLI	5/19/09 1533
Signature (Relinquished) [signature]	Hipolito	TLI	5/19/09 2145
Signature (Received) Rafael David	Rafael	T.L.I	5-19-09 2145
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ ______ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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June 2, 2009

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-205 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983539

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-205 project groundwater monitoring for Hexavalent and Total Chromium, 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 27, 2009, 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 the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was 3 seconds 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.

Sam Cand

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983539
Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009

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 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 052809A

Laboratory No.: 983539
Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009
Prep/ Analyzed: May 28, 2009
Analytical Batch: 052809A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983539	SC-700B-WDR-205	µg/L	EPA 200.8	12:59	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
Duplicate	983539	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983539	0.00	5.00	50.0	250	244	250	97.6%	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	48.3	50.0	96.6%	90% - 110%	Yes
MRCVS#1	48.5	50.0	97.0%	90% - 110%	Yes
ICS	49.5	50.0	99.0%	80% - 120%	Yes
LCS	49.6	50.0	99.2%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Laboratory No.: 983539

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009
Prep/ Analyzed: May 28, 2009
Analytical Batch: 05CrH09S

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983539	SC-700B-WDR-205	09:08	13:33	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983539 5x	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983539	0.00	1.06	1.00	1.06	1.03	1.06	97%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.04	5.00	101%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	9.98	10.0	99.8%	95% - 105%	Yes
MRCVS#3	9.86	10.0	98.6%	95% - 105%	Yes
MRCVS#4	9.79	10.0	97.9%	95% - 105%	Yes
LCS	5.04	5.00	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983539
Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009
Prep/ Analyzed: May 28, 2009
Analytical Batch: 05TUC09Q

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983539	SC-700B-WDR-205	09:08	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	983539	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	7.72	8.00	96.5%	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,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983539
Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009
Prep/ Analyzed: May 28, 2009
Analytical Batch: 05EC09K

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983539	SC-700B-WDR-205	µmhos/cm	EPA 120.1	1.00	2.00	6750

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983539	6750	6760	0.15%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	696	706	98.6%	90% - 110%	Yes
CVS#1	977	1000	97.7%	90% - 110%	Yes
LCS	696	706	98.6%	90% - 110%	Yes
LCSD	696	706	98.6%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983539
Date: June 2, 2009
Collected: May 27, 2009
Received: May 27, 2009
Prep/ Analyzed: May 28, 2009
Analytical Batch: 05TDS09N

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983539	SC-700B-WDR-205	mg/L	SM 2540C	250	4390

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983539	4390	4290	1.15%	≤ 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	499	500	99.8%	90% - 110%	Yes
LCS 2	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for - Mona Nassimi, Manager
Analytical Services

RUSH

Rec'd 05/27/09
983539

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983539

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-205]

COC Number

TURNAROUND TIME 5 Days

DATE 05/27/09 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02 TEAM 1
SAMPLERS (SIGNATURE	C Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-205	05/27/09	0908	Water	x	x	x	x	x	3	PH-7
									3	TOTAL NUMBER OF CONTAINERS

TIME
EC 7.44 -0910
pH 7.0 0914
TEMP 83.1 - 0910
$Cr^{(6)}$ .001 -0927
$Cr^{(Ti)}$ .001 - 0934

For Sample Condition
See Form Attached

ALERT !!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	C. Knight	Printed Name C. KNIGHT	Company/ Agency QUI	Date/ Time 5-27-09 15:00
Signature (Received)	Rafael Davila	Printed Name Rafael	Company/ Agency T.L.I	Date/ Time 5-27-09 15:00
Signature (Relinquished)	Rafael Davila	Printed Name Rafael	Company/ Agency T.L.I	Date/ Time 5-27-09 21:30
Signature (Received)	Rafael Davila	Printed Name Rafael	Company/ Agency T.L.I	Date/ Time 5-27-09 21:30
Signature (Relinquished)		Printed Name	Company/ Agency	Date/ Time
Signature (Received)		Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

230

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www.truesdail.com

June 19, 2009

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-206 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 983651

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-206 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 3, 2009, 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.

Sample SC-701-WDR-206 for metals by EPA 200.8 were analyzed at a dilution of 20x due to interference from high cation concentrations. Therefore, some metals are reported as non-detect at reporting limits that exceed the contract required detection limits.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

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(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.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009

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	Iordan 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	Daniel Kang
EPA 245.1	Mercury	Kris Collins
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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www.truesdail.com

REPORT

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

Laboratory No.: 983651

Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06EC09D

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983651-1	SC-700B-WDR-206	µmhos/cm	EPA 120.1	1.00	2.00	7150
983651-2	SC-100B-WDR-206	µmhos/cm	EPA 120.1	1.00	2.00	7940
983651-3	SC-701-WDR-206	µmhos/cm	EPA 120.1	1.00	2.00	61800

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-3	61800	61900	0.16%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	696	706	98.6%	90% - 110%	Yes
CVS#1	978	1000	97.8%	90% - 110%	Yes
LCS	696	706	98.6%	90% - 110%	Yes
LCSD	696	706	98.6%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cook
Mona Nassimi, Manager
Analytical Services

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REPORT

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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06TDS09B

Investigation: Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983651-1	SC-700B-WDR-206	mg/L	SM 2540C	250	4370
983651-2	SC-100B-WDR-206	mg/L	SM 2540C	250	4890
983651-3	SC-701-WDR-206	mg/L	SM 2540C	1250	51400

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-2	4890	4960	0.71%	≤ 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,
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Attention: Shawn Duffy

Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06TUC09E

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	NTU	1.00	0.100	ND
983651-2	SC-100B-WDR-206	08:58	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	983651-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.58	8.00	94.8%	90% - 110%	Yes
LCS	7.63	8.00	95.4%	90% - 110%	Yes

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

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Prep. Batch: 06CrH09A

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06CrH09A

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	10:07	µg/L	1.05	0.20	ND
983651-2	SC-100B-WDR-206	08:58	10:18	µg/L	105	21.0	1110
983651-3	SC-701-WDR-206	09:09	13:36	µg/L	26.2	5.24	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983650-1	18.7	18.6	0.54%	< 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	983651-1	0.00	1.06	1.00	1.06	1.14	1.06	108%	90-110%	Yes
MS	983651-2	1110	105	15.0	1575	2680	2685	99.7%	90-110%	Yes
MS	983651-3	0.00	26.2	1.00	26.2	27.6	26.2	105%	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	5.09	5.00	102%	90% - 110%	Yes
MRCVS#1	9.87	10.0	98.7%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	9.95	10.0	99.5%	95% - 105%	Yes
LCS	5.06	5.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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REPORT

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155 Grand Ave. Suite 1000
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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06NH3-E09A

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

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	SM 4500-NH3 D	mg/L	1.00	0.500	ND
983651-2	SC-100B-WDR-206	08:58	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-1	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-2	0.00	1.00	6.00	6.00	6.00	6.00	100%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	5.68	6.00	94.7%	90% - 110%	Yes
MRCVS#1	5.91	6.00	98.5%	90% - 110%	Yes
MRCVS#2	5.98	6.00	99.7%	90% - 110%	Yes
LCS	10.2	10.0	102%	90% - 110%	Yes

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DF: Dilution Factor.

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Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06AN09D

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

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	10:18	mg/L	5.00	0.500	2.45
983651-2	SC-100B-WDR-206	08:58	10:29	mg/L	5.00	0.500	2.89
983651-3	SC-701-WDR-206	09:09	10:41	mg/L	5.00	0.500	23.2

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-1	2.45	2.42	1.23%	≤ 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	983651-1	2.45	5.00	4.00	20.0	23.2	22.5	104%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.05	4.00	101%	90% - 110%	Yes
MRCVS#1	3.11	3.00	104%	90% - 110%	Yes
MRCVS#2	3.15	3.00	105%	90% - 110%	Yes
LCS	4.06	4.00	102%	90% - 110%	Yes

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DF: Dilution Factor.

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REPORT

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155 Grand Ave. Suite 1000
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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 8, 2009
Analytical Batch: 06AN09F

Investigation:

Sulfate by Method EPA 300.0

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	12:11	mg/L	100	50.0	511

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-1	511	501	1.98%	≤ 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	983651-1	511	100	10.0	1000	1530	1511	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	19.9	20.0	99.5%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.4	15.0	103%	90% - 110%	Yes
MRCVS#3	15.3	15.0	102%	90% - 110%	Yes
LCS	20.1	20.0	101%	90% - 110%	Yes

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

Respectfully submitted,
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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06AN09D

Investigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-2	SC-100B-WDR-206	08:58	11:26	mg/L	100	50.0	575

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-2	575	575	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-2	575	100	5.00	500	1060	1075	97.0%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	19.8	20.0	99.0%	90% - 110%	Yes
MRCVS#1	15.2	15.0	101%	90% - 110%	Yes
MRCVS#2	15.3	15.0	102%	90% - 110%	Yes
LCS	19.8	20.0	99.0%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Card
Mona Nassimi, Manager
Analytical Services

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REPORT

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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06AN09D

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

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	10:18	mg/L	5.00	1.00	2.76
983651-2	SC-100B-WDR-206	08:58	10:29	mg/L	5.00	1.00	3.11

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-2	3.11	3.11	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-2	3.11	5.00	4.00	20.0	23.6	23.1	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	3.97	4.00	99.3%	90% - 110%	Yes
MRCVS#1	3.00	3.00	100%	90% - 110%	Yes
MRCVS#2	3.02	3.00	101%	90% - 110%	Yes
LCS	3.97	4.00	99.3%	90% - 110%	Yes

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

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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983651
Date: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06NO209D

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

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983651-1	SC-700B-WDR-206	09:03	14:45	mg/L	1.00	0.0050	ND
983651-2	SC-100B-WDR-206	08:58	14:46	mg/L	1.00	0.0050	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-1	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-1	0.00	1.00	0.0200	0.0200	0.0195	0.0200	97.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	---	<0.0050	Yes
MRCCS	0.0267	0.0270	98.9%	90% - 110%	Yes
MRCVS#1	0.0199	0.0200	99.5%	90% - 110%	Yes
LCS	0.0456	0.0450	101%	90% - 110%	Yes

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

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REPORT

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

Attention: Shawn Duffy

Samples: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Investigation: Total Metal Analyses as Requested

Laboratory No.: 983651
Reported: June 19, 2009
Collected: June 3, 2009
Received: June 3, 2009
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-700B-WDR-206 **Time Collected:** 09:03 **LAB ID:** 983651-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	65.4	5.00	µg/L	50.0	061009A	06/10/09	17:06
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	061709A	06/17/09	17:12
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	061009A	06/10/09	17:06
Barium	EPA 200.8	13.9	5.00	µg/L	10.0	061009A	06/10/09	17:06
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	061009A	06/10/09	17:06
Copper	EPA 200.8	ND	5.00	µg/L	5.00	061009A	06/10/09	17:06
Lead	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:06
Manganese	EPA 200.7	30.3	1.00	µg/L	10.0	060509A	06/05/09	11:35
Molybdenum	EPA 200.8	17.3	5.00	µg/L	10.0	061009A	06/10/09	17:06
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:06
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:06
Boron	EPA 200.7	966	1.00	µg/L	200	060509A	06/05/09	11:35
Iron	EPA 200.7	ND	1.00	µg/L	20.0	061009A	06/10/09	10:29

SAMPLE ID: SC-100B-WDR-206 **Time Collected:** 08:58 **LAB ID:** 983651-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	061009A	06/10/09	17:14
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	061709A	06/17/09	17:37
Arsenic	EPA 200.8	2.27	5.00	µg/L	1.00	061009A	06/10/09	17:14
Barium	EPA 200.8	25.0	5.00	µg/L	10.0	061009A	06/10/09	17:14
Chromium	EPA 200.8	1140	5.00	µg/L	1.00	061009A	06/10/09	17:14
Copper	EPA 200.8	ND	5.00	µg/L	5.00	061009A	06/10/09	17:14
Lead	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:14
Manganese	EPA 200.7	ND	5.00	µg/L	10.0	060509A	06/05/09	11:41
Molybdenum	EPA 200.8	21.4	5.00	µg/L	10.0	061009A	06/10/09	17:14
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:14
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	061009A	06/10/09	17:14
Boron	EPA 200.7	1000	1.00	µg/L	200	060509A	06/05/09	11:41
Iron	EPA 200.7	ND	1.00	µg/L	20.0	061009A	06/10/09	10:35

SAMPLE ID: SC-701-WDR-206 **Time Collected:** 09:09 **LAB ID:** 983651-3

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	20.0	µg/L	10.0	061709A	06/17/09	17:44
Arsenic	EPA 200.8	ND	20.0	µg/L	4.00	061009A	06/10/09	17:21
Barium	EPA 200.8	190	20.0	µg/L	10.0	061009A	06/10/09	17:21
Beryllium	EPA 200.8	ND	20.0	µg/L	4.00	061009A	06/10/09	17:21
Cadmium	EPA 200.8	ND	20.0	µg/L	4.00	061009A	06/10/09	17:21
Chromium	EPA 200.8	7.42	20.0	µg/L	4.00	061009A	06/10/09	17:21
Cobalt	EPA 200.8	ND	20.0	µg/L	5.00	061009A	06/10/09	17:21
Copper	EPA 200.8	94.7	20.0	µg/L	5.00	061009A	06/10/09	17:21
Lead	EPA 200.8	ND	20.0	µg/L	10.0	061009A	06/10/09	17:21
Mercury	EPA 245.1	ND	1.00	µg/L	0.20	06Hg09B	06/05/09	N/A
Molybdenum	EPA 200.8	224	20.0	µg/L	10.0	061009A	06/10/09	17:21
Nickel	EPA 200.8	19.2	20.0	µg/L	10.0	061009A	06/10/09	17:21
Selenium	EPA 200.8	26.0	20.0	µg/L	10.0	061009A	06/10/09	17:21
Silver	EPA 200.8	6.56	20.0	µg/L	5.00	061009A	06/10/09	17:21
Thallium	EPA 200.8	ND	20.0	µg/L	4.00	061009A	06/10/09	17:21
Vanadium	EPA 200.8	ND	20.0	µg/L	5.00	061009A	06/10/09	17:21
Zinc	EPA 200.8	ND	20.0	µg/L	20.0	061009A	06/10/09	17:21

ND: Not detected,or below limit of detection.

DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sen Cank

Mona Nassimi, Manager
Analytical Services

Rec'd 06/03/09
~~Lab~~ 983651

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

[IM3Plant-WDR-206]

983651

COC Number IM3Plant-WDR-206
TURNAROUND TIME 10 Days
DATE 06/03/09 PAGE 1 OF 1

COMPANY CH2M HILL /E2
PROJECT NAME PG&E Topock IM3
PHONE 530-229-3303 FAX 530-339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 379209.01.03.01
SAMPLERS (SIGNATURE C Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NUMBER OF CONTAINERS
1 SC-700B-WDR-206	06/03/09	0907		X		X	X	X	X	X		X			4
2 SC-100B-WDR-206	06/03/09	~~0905~~ 0858		X		X	X	X	X	X		X			4
3 SC-701-WDR-206	06/03/09	0909		X	X	X	X				X				4

ALERT !!
Level III QC

For Sample Conditions See Form Attached

	TEMP	EC	pH	Cr(6)		
SC 100B	77.3°F	8.38	7.2	1.19	[redacted]	CK
TIME	0916	0916	0922	0934		

COMMENTS	700B	TIME
TEMP	79.7	0916
EC	7.58	0916
pH	7.1	0924
Cr(6)	.001	0934
Cr (T)	[illegible]	0942

1 pH=2
2 pH=2
3 pH=7

12 TOTAL NUMBER OF CONTAINERS

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) C Knight	C. KNIGHT	OAU	Date/ Time 6-3-09
Signature (Received) [signature]	Al Rocco	T.L.I.	Date/ Time 6/3/09 15:25
Signature (Relinquished) [signature]	Al Rocco	T.L.I.	Date/ Time 6/3/09 21:05
Signature (Received) [signature]	[signature]	TLI	Date/ Time JUN 03 2009 21 05
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

089

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INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

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June 25, 2009

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-206 PROJECT, SLUDGE MONITORING,

TLI NO.: 983652

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-206 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 3, 2009, 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.

Mr. Shawn Duffy of CH2M Hill added Nitrate as N by EPA 300.0 and Manganese by SW 6010B to the list of requested analytes.

Zinc by SW 6010B was detected in the method blank. Because the sample result was more than ten times greater than the blank detection, the data is accepted.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01

Laboratory No.: 983652
Date: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009

ANALYST LIST

EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Kris Collins
SW 6020	Metals by ICP/MS	Daniel Kang / Romuel Chaves
SW 7471A	Mercury	Kris Collins
SW 7199	Hexavalent Chromium	Michael Nonezyan

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Prep. Batch: 06CrH09B

Laboratory No.: 983652
Date: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 5, 2009
Analytical Batch: 06CrH09B

Investigation: **Hexavalent Chromium by IC Using Method SW 7199**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983652	SC-Sludge-WDR-206	09:28	14:28	mg/kg	10.0	15.0	188

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983471-8	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983471-8	0.00	10.0	8.62	86.2	84.9	86.2	98.4%	75-125%	Yes
MS	983471-8	0.00	50.0	17.4	872	809	872	92.7%	75-125%	Yes
PDMS	983471-8	0.00	25.0	6.90	173	177	173	102%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	---	<0.400	Yes
MRCCS	2.04	2.00	102%	90% - 110%	Yes
MRCVS#1	2.04	2.00	102%	90% - 110%	Yes
MRCVS#2	2.06	2.00	103%	80% - 120%	Yes
MRCVS#3	2.07	2.00	104%	80% - 120%	Yes
LCS	2.05	2.00	103%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983652
Date: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 9, 2009
Analytical Batch: 06SOLID09A

Investigation: **Total Solids by SM 2540 B**

Analytical Results % Moisture

TLI I.D.	Field I.D.	Sample Time	Units	Results
983652	SC-Sludge-WDR-206	09:28	%	73.3

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983652-1	73.3	73.7	0.54%	< 20%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983652
Date: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06AN09D

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

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983652	SC-Sludge-WDR-206	09:28	12:23	mg/kg	1.00	15.0	56.1

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-1	2.45	2.42	1.23%	≤ 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	983651-1	2.45	5.00	4.00	20.0	23.2	22.5	104%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.05	4.00	101%	90% - 110%	Yes
MRCVS#1	3.11	3.00	104%	90% - 110%	Yes
MRCVS#2	3.15	3.00	105%	90% - 110%	Yes
LCS	4.06	4.00	102%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01

Laboratory No.: 983652
Date: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009
Prep/ Analyzed: June 4, 2009
Analytical Batch: 06AN09D

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

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983652	SC-Sludge-WDR-206	09:28	12:23	mg/kg	1.00	15.0	21.3

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983651-2	3.11	3.11	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-2	3.11	5.00	4.00	20.0	23.6	23.1	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	3.97	4.00	99.3%	90% - 110%	Yes
MRCVS#1	3.00	3.00	100%	90% - 110%	Yes
MRCVS#2	3.02	3.00	101%	90% - 110%	Yes
LCS	3.97	4.00	99.3%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Attention: Shawn Duffy

Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.03.01
P.O. No.: 379209.01.03.01
Investigation: Total Metal Analyses as Requested

Laboratory No.: 983652
Reported: June 25, 2009
Collected: June 3, 2009
Received: June 3, 2009
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-Sludge-WDR-206 **Time Collected:** 09:28 **LAB ID:** 983652

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6020	ND	10.0	mg/kg	2.00	061109B	06/11/09	15:42
Arsenic	SW 6020	31.7	10.0	mg/kg	1.87	061009A	06/10/09	18:12
Barium	SW 6010B	127	1.00	mg/kg	1.87	061909A	06/19/09	10:26
Beryllium	SW 6010B	217	1.00	mg/kg	1.87	061909A	06/19/09	10:26
Cadmium	SW 6010B	48.2	1.00	mg/kg	3.74	061909A	06/19/09	10:26
Chromium	SW 6010B	12900	10.0	mg/kg	18.7	061909A	06/19/09	10:43
Cobalt	SW 6010B	3.95	1.00	mg/kg	1.87	061909A	06/19/09	10:26
Copper	SW 6020	110	10.0	mg/kg	1.87	061009A	06/10/09	18:12
Lead	SW 6010B	ND	1.00	mg/kg	3.74	061909A	06/19/09	10:26
Manganese	SW 6010B	367	1.00	mg/kg	1.87	061509A	06/15/09	14:35
Mercury	SW 7471A	0.204	1.00	mg/kg	0.147	06HG09E	06/12/09	N/A
Molybdenum	SW 6020	69.8	10.0	mg/kg	1.87	061009A	06/10/09	18:12
Nickel	SW 6010B	ND	1.00	mg/kg	1.87	061909A	06/19/09	10:26
Selenium	SW 6020	ND	10.0	mg/kg	1.87	061009A	06/10/09	18:12
Silver	SW 6010B	ND	1.00	mg/kg	3.74	061909A	06/19/09	10:26
Thallium	SW 6010B	12.6	1.00	mg/kg	3.74	061909A	06/19/09	10:26
Vanadium	SW 6010B	347	1.00	mg/kg	1.87	061909A	06/19/09	10:26
Zinc	SW 6010B	691	1.00	mg/kg	9.35	061909A	06/19/09	10:26

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.

for Mona Nassimi, Manager
Analytical Services

983652

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3plant-WDR-206]

COC Number IM3Plant-WDR
TURNAROUND TIME 10 Days
DATE 06/03/09 PAGE 1 OF 1

COMPANY CH2M HILL
PROJECT NAME PG&E Topock IM3
PHONE 530-229-3303 FAX 530-339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 379209.01.03.01
SAMPLERS (SIGNATURE C. Knight

For Sample Condition See Form Attached

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Anions (300.0) F	Manganese (6010)	Metals (6010B) Title 22, (includes Mercury)	Cr6 (7199)	NUMBER OF CONTAINERS	COMMENTS
SC-Sludge-WDR-206	06/03/09	0929	Sludge	X		X	X	4	
								4	TOTAL NUMBER OF CONTAINERS

ALERT !! Level III QC

Rec'd 06/03/09
983652

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	C Knight	C. KNIGHT	CH2M	6-3-09
Received		M. Bowers	T-E	6/3/09 13:35
Relinquished		M. Bowers	T-E	6/3/09 21:05
Received			TLI	JUN 03 2009 04 05
Relinquished				
Received				

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

061

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June 18, 2009

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-207 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983769

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-207 project groundwater monitoring for Hexavalent and Total Chromium, 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 10, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Conk

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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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.: 379209.01.02

Laboratory No.: 983769
Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009

ANALYST LIST

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 Chaves
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Laboratory No.: 983769

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 061109A

Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009
Prep/ Analyzed: June 11, 2009
Analytical Batch: 061109A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983769	SC-700B-WDR-207	µg/L	EPA 200.8	11:58	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
Duplicate	983769	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983769	0.00	5.00	50.0	250	234	250	93.6%	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	49.3	50.0	98.6%	90% - 110%	Yes
MRCVS#1	51.4	50.0	103%	90% - 110%	Yes
MRCVS#2	48.6	50.0	97.2%	90% - 110%	Yes
MRCVS#3	48.2	50.0	96.4%	90% - 110%	Yes
ICS	49.3	50.0	98.6%	80% - 120%	Yes
LCS	49.4	50.0	98.8%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sean Comstock
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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REPORT

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

Laboratory No.: 983769

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009
Prep/ Analyzed: June 11, 2009
Analytical Batch: 06CrH09F

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983769	SC-700B-WDR-207	08:00	07:35	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983770-1	348	346	0.58%	≤ 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	983769	0.00	1.06	1.00	1.06	1.00	1.06	94.3%	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	5.03	5.00	101%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	9.84	10.0	98.4%	95% - 105%	Yes
MRCVS#4	10.0	10.0	100%	95% - 105%	Yes
LCS	5.03	5.00	101%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983769
Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009
Prep/ Analyzed: June 11, 2009
Analytical Batch: 06TUC09J

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983769	SC-700B-WDR-207	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	983756-27	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	7.70	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.

for Mona Nassimi, Manager
Analytical Services

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983769
Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009
Prep/ Analyzed: June 11, 2009
Analytical Batch: 06EC09F

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983769	SC-700B-WDR-207	µmhos/cm	EPA 120.1	1.00	2.00	7290

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983769	7290	7300	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	696	706	98.6%	90% - 110%	Yes
CVS#1	977	1000	97.7%	90% - 110%	Yes
LCS	696	706	98.6%	90% - 110%	Yes
LCSD	696	706	98.6%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983769
Date: June 18, 2009
Collected: June 10, 2009
Received: June 10, 2009
Prep/ Analyzed: June 11, 2009
Analytical Batch: 06TDS09G

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983769	SC-700B-WDR-207	mg/L	SM 2540C	250	4340

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983769	4340	4370	0.34%	≤ 5%	Yes

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

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for - Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
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(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-207] 983769

COC Number

TURNAROUND TIME 10 Days

DATE 06/10/09 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02 TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS
SC-700B-WDR-207	06/10/09		Water	x	x	x	x	x	3
									3

ALERT Level II QC

COMMENTS

Rec'd 06/10/09
~~223c~~ 983769

PM-7

TOTAL NUMBER OF CONTAINERS

SAMPLE	SAMPLING TIME	TIME OF ANALYSIS	RESULT
SC-700B-	0800	0811	pH-7.0
	0800	0810	EC-7.63
	0800	0810	TEMP-18.5
	0800	0818	Cr6-.001
	0800	0826	TOTAL-.002

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	J AIDE	OMI	6/10/09 0930
Signature (Received) Rafael Davila	Rafael	T.L.I	6-10-09 3:40
Signature (Relinquished) Rafael Davila	Rafael	T.L.I	6-10-09 22:00
Signature (Received) L. Shakespeare	Shakespeare	TLI	6/10/09 22:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

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June 24, 2009

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-208 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983863

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-208 project groundwater monitoring for Hexavalent and Total Chromium, 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 16, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983863
Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009

ANALYST LIST

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 Chaves
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 061809A

Laboratory No.: 983863
Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009
Prep/ Analyzed: June 18, 2009
Analytical Batch: 061809A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983863	SC-700B-WDR-208	µg/L	EPA 200.8	12:28	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
Duplicate	983863	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983863	0.00	5.00	50.0	250	242	250	96.8%	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	49.6	50.0	99.2%	90% - 110%	Yes
MRCVS#1	49.7	50.0	99.4%	90% - 110%	Yes
ICS	48.8	50.0	97.6%	80% - 120%	Yes
LCS	49.9	50.0	99.8%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Cook
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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TUSTIN, CALIFORNIA 92780-7008
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REPORT

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

Laboratory No.: 983863

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009
Prep/ Analyzed: June 18, 2009
Analytical Batch: 06CrH09I

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983863	SC-700B-WDR-208	08:00	15:32	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983863	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983863	0.00	1.06	1.00	1.06	1.13	1.06	107%	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	5.24	5.00	105%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
LCS	5.24	5.00	105%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983863
Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009
Prep/ Analyzed: June 17, 2009
Analytical Batch: 06TUC09L

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983863	SC-700B-WDR-208	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	983841-17	0.119	0.121	1.67%	≤ 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	7.90	8.00	98.8%	90% - 110%	Yes
LCS	8.03	8.00	100%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983863
Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009
Prep/ Analyzed: June 17, 2009
Analytical Batch: 06EC09G

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983863	SC-700B-WDR-208	µmhos/cm	EPA 120.1	1.00	2.00	7080

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983863	7080	7090	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	700	706	99.2%	90% - 110%	Yes
CVS#1	979	1000	97.9%	90% - 110%	Yes
LCS	700	706	99.2%	90% - 110%	Yes
LCSD	700	706	99.2%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983863
Date: June 24, 2009
Collected: June 16, 2009
Received: June 16, 2009
Prep/ Analyzed: June 17, 2009
Analytical Batch: 06TDS09I

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983863	SC-700B-WDR-208	mg/L	SM 2540C	250	4790

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983863	4790	4850	0.62%	≤ 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	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

983863

RUSH

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

CHAIN OF CUSTODY RECORD

(IM3Plant-WDR-208]

COC Number -
TURNAROUND TIME 10 Days
DATE 06/16/09 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02 TEAM 1
SAMPLERS (SIGNATURE	

Rec'd 06/16/09 ~~3246~~ 983863

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-208	06/16/09	0800	Water	X	X	X	X	X	3	
									3	TOTAL NUMBER OF CONTAINERS

Sample	Time	~~Analysis~~ Time	pH	EC	Cr6	TOTAL	TEMP
SC-700B	0800		6.9	741	.004	.002	81.1
ANALYSIS TIME			0806	0805	0813	0822	0808
SAMPLING TIME	0800						

PH, 7

ALERT !!
Level III QC

RUSH

For Sample Condition
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	[signature]	ONT	6/16-09 1540
Signature (Received)	[signature]	TL	6-16-09 1540
Signature (Relinquished)	[signature]	TL	6-16-09 2100
Signature (Received)			
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

030

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

July 1, 2009

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-209 PROJECT, GROUNDWATER MONITORING, TLI NO.: 983986

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-209 project groundwater monitoring for Hexavalent and Total Chromium, 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 24, 2009, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02

Laboratory No.: 983986
Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009

ANALYST LIST

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 Chaves
EPA 218.6	Hexavalent Chromium	Michael Nonezyan

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REPORT

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

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 062509A

Laboratory No.: 983986
Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009
Prep/ Analyzed: June 25, 2009
Analytical Batch: 062509A

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

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
983986	SC-700B-WDR-209	µg/L	EPA 200.8	12:12	1.00	1.00	2.62

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983986	2.62	2.57	1.93%	≤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	983986	2.62	1.00	50.0	50.0	49.8	52.6	94.4%	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	49.8	50.0	99.6%	90% - 110%	Yes
MRCVS#1	47.1	50.0	94.2%	90% - 110%	Yes
ICS	46.2	50.0	92.4%	80% - 120%	Yes
LCS	49.7	50.0	99.4%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

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

Laboratory No.: 983986

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009
Prep/ Analyzed: June 25, 2009
Analytical Batch: 06CrH09J

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
983986	SC-700B-WDR-209	08:00	09:12	µg/L	1.05	0.20	2.46

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983986	2.46	2.46	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983986	2.46	1.06	5.00	5.30	7.92	7.76	103%	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	5.08	5.00	102%	90% - 110%	Yes
MRCVS#1	10.2	10.0	102%	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.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983986
Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009
Prep/ Analyzed: June 25, 2009
Analytical Batch: 06TUC09P

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
983986	SC-700B-WDR-209	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	983986	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	7.79	8.00	97.4%	90% - 110%	Yes
LCS	8.00	8.00	100%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983986
Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009
Prep/ Analyzed: June 25, 2009
Analytical Batch: 06EC09J

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
983986	SC-700B-WDR-209	µmhos/cm	EPA 120.1	1.00	2.00	6050

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	983986	6050	6060	0.17%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	998	999	99.9%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 983986
Date: July 1, 2009
Collected: June 24, 2009
Received: June 24, 2009
Prep/ Analyzed: June 25, 2009
Analytical Batch: 06TDS09M

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
983986	SC-700B-WDR-209	mg/L	SM 2540C	125	3460

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	983986	3460	3420	0.58%	≤ 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	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sean Card

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

(IM3Plant-WDR-209)

983986

COC Number

TURNAROUND TIME 5 Days

DATE 06/24/09 PAGE 1 OF 1

COMPANY E2

PROJECT NAME PG&E Topock

PHONE (530) 229-3303 FAX (530) 339-3303

ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 379209.01.02 TEAM 1

SAMPLERS (SIGNATURE C Knight

Rec'd 06/24/09
983986

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-209	06/24/09	0800	Water	X	X	X	X	X	3	pH = 7
									3	TOTAL NUMBER OF CONTAINERS

pH 7.3 0809
EC 6.42 0811
TEMP 80°F 0811
Cr(6) .003 0822
Cr(T) .004 0829

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

RUSH

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	C. Knight	C. KNIGHT	CMI	6-24-09
Received	Bonifacio Dayag	B. DAYAG	TLI	6-24-09 1600
Relinquished	Bonifacio Dayag	B. DAYAG	TLI	6-24-09 2030
Received	Shabunina	Shabunina	TLI	JUN 24 2009 2030
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

032