



**Pacific Gas and
Electric Company**

Curt Russell
Topock Site Manager
Chromium Remediation
Gas Transmission & Distribution

Topock Compressor Station
145453 National Trails Hwy
Needles, CA 92363

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

760.326.5582
Fax: 760.326.5542
Email: gcr4@pge.com

July 15, 2008

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

Subject: Board Order R7-2006-0060; WDID No. 7B 36 2033 001
PG&E Topock Compressor Station, Needles, California
Interim Measure No. 3 Groundwater Treatment System
Discharge to Injection Wells
June 2008 and Second Quarter 2008 Monitoring Report / Semiannual
January 1 – June 30, 2008 Operation and Maintenance Report

Dear Mr. Perdue:

Enclosed is the combined *June 2008 and Second Quarter 2008 Monitoring Report / Semiannual January 1 – June 30, 2008 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 on September 20, 2006 by the California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) under Order R7-2006-0060. 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:

Robert Perdue
Page 2
July 15, 2008

Combined report: *June 2008 and Second Quarter 2008 Monitoring Report / Semiannual January 1 – June 30, 2008 Operation and Maintenance Report* for IM No. 3 Groundwater Treatment System.

cc: Abdi Haile, Water Board
Cliff Raley, Water Board
Tom Vandenberg, State Water Resources Control Board
Aaron Yue, California Department of Toxic Substances Control

Combined Report

**June 2008 and Second Quarter 2008
Monitoring Report/January 1–June 30, 2008
Operation and Maintenance Report**

**Waste Discharge Requirements Board Order
No. R7-2006-0060
WDID No. 7B 36 2033 001**

**Interim Measure No. 3 Groundwater
Treatment System
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, 2008

CH2MHILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

**Combined Report:
June 2008 and Second Quarter 2008 Monitoring Report /
Semi-Annual January 1 – June 30, 2008 Operation and Maintenance
Report**

**Interim Measure No. 3 Groundwater Treatment System
Waste Discharge Requirements Order No. R7-2006-0060
WDID No. 7B 36 2033 001
PG&E Topock Compressor Station
Needles, California**

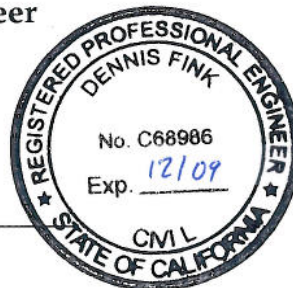
Prepared for
Pacific Gas and Electric Company

July 15, 2008

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



Dennis Fink, P.E.
Project Engineer



Contents

	Page
Acronyms and Abbreviations	v
1.0 Introduction.....	1-1
2.0 Sampling Station Locations.....	2-1
3.0 June 2008 and Second Quarter 2008 Monitoring Activities.....	3-1
3.1 Groundwater Treatment System.....	3-1
3.2 Groundwater Treatment System Flow Rates for June 2008.....	3-2
3.2.1 Treatment System Influent.....	3-2
3.2.2 Effluent Streams.....	3-2
3.3 Sampling and Analytical Procedures	3-3
4.0 Monitoring Analytical Results.....	4-1
5.0 Semi-Annual Operation and Maintenance	5-1
5.1 Flowmeter Calibration Records.....	5-1
5.2 Volumes of Groundwater Treated	5-2
5.3 Residual Solids Generated (Sludge).....	5-2
5.4 Reverse Osmosis Concentrate Generated	5-2
5.5 Summary of WDR Violations	5-3
5.6 Operation and Maintenance – Required Shutdowns	5-3
5.7 Treatment Plant Modifications	5-3
6.0 Conclusions	6-1
7.0 Certification.....	7-1

Tables

1	Sampling Station Descriptions
2	Flow Monitoring Results
3	Board Order No. R7-2006-0060 Waste Discharge Requirements Influent Monitoring Results
4	Board Order No. R7-2006-0060 Waste Discharge Requirements Effluent Monitoring Results
5	Board Order No. R7-2006-0060 Waste Discharge Requirements Reverse Osmosis Concentrate Results
6	Board Order No. R7-2006-0060 Waste Discharge Requirements Sludge Monitoring Results
7	Board Order No. R7-2006-0060 Waste Discharge Requirements Monitoring Information

Figures

- 1 IM No. 3 Project Site Features
- TP-PR-10-10-03 Effluent Metering Locations
- TP-PR-10-10-11 Influent Metering Locations
- TP-PR-10-10-04 Raw Water Storage and Treated Water Storage Tanks and Sampling Locations
- TP-PR-10-10-08 Reverse Osmosis Storage Tank Sampling and Metering Locations
- TP-PR-10-10-06 Sludge Storage Tanks Sampling Locations

Appendixes

- A Operations and Maintenance Log
- B Daily Volumes of Groundwater Treated
- C Flowmeter Calibration Records
- D June 2008 Laboratory Analytical Reports

Acronyms and Abbreviations

IM	Interim Measure
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
USEPA	United States Environmental Protection Agency
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 Monitoring and Reporting Program (MRP) under the Order requires monthly monitoring reports to be submitted by the fifteenth day of the following month.

This combined report covers June 2008 and Second Quarter 2008 monitoring activities, and January 1, 2008 through June 30, 2008 Semiannual operation and maintenance activities related to operation of the IM No. 3 groundwater treatment system. 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). The locations of the sampling stations are shown on process and instrumentation diagrams TP-PR-10-10-04, TP-PR-10-10-08, and TP-PR-10-10-06, which were previously provided in PG&E's Sampling Locations letter to the Water Board Executive Officer, dated June 29, 2005. These diagrams are attached after Figure 1.

3.0 June 2008 and Second Quarter 2008 Monitoring Activities

This combined report covers June 2008 monitoring activities, the second quarter 2008 monitoring activities, and the January 1, 2008 through June 30, 2008 operation and maintenance activities related to the IM No. 3 groundwater treatment system. IM No. 3 monitoring activities between January 1, 2008 and May 31, 2008 were reported in the following monitoring reports:

- *January 2008 Monitoring Report*, submitted to the Water Board February 15, 2008.
- *February 2008 Monitoring Report*, submitted to the Water Board March 14, 2008.
- *March 2008 / 1st Quarter 2008 Monitoring Report*, submitted to the Water Board April 15, 2008.
- *April 2008 Monitoring Report*, submitted to the Water Board May 15, 2008.
- *May 2008 Monitoring Report*, submitted to the Water Board June 13, 2008.

3.1 Groundwater Treatment System

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

- Groundwater from extraction wells.
- 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 June 2008

Periods of planned and unplanned extraction system downtime are summarized in the Operations and Maintenance Log provided in Appendix A. 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

3.2.1.1 Groundwater Extraction Wells Flow Rate

During June 2008, extraction wells TW-2D, TW-3D, and PE-1 operated at a target pump rate of at 135 gallons per minute, excluding periods of planned and unplanned downtime. Extraction well TW-2S did not operate during June 2008. The IM No. 3 facility treated approximately 5,719,841 gallons of extracted groundwater during June 2008. The June 2008 monthly average influent flow rate from extraction wells is shown in Table 2.

The operational run time for the IM No. 3 groundwater extraction system (combined or individual pumping from TW-2D, TW-3D, and PE-1) was approximately 99 percent during the June 2008 reporting period.

3.2.1.2 Groundwater Monitoring Program Generated Water

During June 2008, approximately 1,065 gallons of water were generated from the groundwater monitoring program and were pumped into the IM No. 3 treatment system.

3.2.1.3 Injection Wells Maintenance Program Treated Water

Approximately 15,300 gallons of water were generated from injection well redevelopment during June 2008.

3.2.2 Effluent Streams

3.2.2.1 Treatment System Effluent (Injection Wells)

The treatment system effluent flow rate was measured by flow meters mounted in the piping leading to injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11) and in the piping running from the treated water tank T-700 to the injection wells (Figure TP-PR-10-10-04). The IM No. 3 facility injected 5,553,857 gallons of treatment system effluent during June 2008. The June 2008 monthly average effluent flow rate to injection wells is shown in Table 2.

3.2.2.2 Reverse Osmosis Concentrate

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 218,548 gallons of reverse osmosis concentrate during June 2008. The June 2008 monthly average reverse osmosis concentrate flow rate is shown in Table 2.

3.2.2.3 Sludge

The sludge flow rate is measured by the size and weight of containers shipped offsite. No sludge containers were shipped offsite from the IM No. 3 facility during June 2008. The shipment dates and approximate weights are provided in Section 5.3.

3.3 Sampling and Analytical Procedures

Samples were collected at the designated sampling locations and were placed directly into containers provided by Truesdail Laboratories, Inc. 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 service under chain-of-custody documentation. The laboratory 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.

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 (USEPA).

Between January 1, 2008 and June 30, 2008, analysis of pH was conducted at Truesdail for each sample. Analysis of pH was also conducted by field method pursuant to the Water Board letter dated October 16, 2008 (Clarification of Monitoring and Reporting Program Requirements) authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and 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 was conducted in accordance with the sampling frequency required by the MRP (see Section 4.0). The June 2008 sampling analytical results are shown in Tables 3, 4, 5, and 6.

Groundwater quality is being monitored in observation and compliance wells according to Order R7-2006-0060 and the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area*, which was submitted to the Water Board June 17, 2005. Groundwater monitoring analytical results and groundwater levels 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.

4.0 Monitoring Analytical Results

The analytical results and laboratory reports for the IM No. 3 groundwater treatment system monitoring program between January 1, 2008 and May 31, 2008 were included in previous monthly reports submitted to the Water Board (see Section 3.0 for a complete listing of reports).

The June 2008 analytical results from groundwater treatment system influent, effluent, reverse osmosis concentrate, and sludge samples are shown on Tables 3, 4, 5, and 6, respectively. The June 2008 laboratory reports prepared by the certified analytical laboratories are included in Appendix D.

In accordance with the WDR reporting requirements, the following sampling frequency schedule was followed during June 2008:

- The influent was sampled monthly; sample date was June 4, 2008. Results are presented in Table 3.
- The effluent was sampled weekly; sample dates were June 4, 11, 17, and 26, 2008. Results are presented in Table 4.
- The reverse osmosis concentrate was sampled monthly; sample date was June 4, 2008. Results are presented in Table 5.
- The sludge was sampled monthly; sample date was June 4, 2008. In accordance with WDRs, sludge is to be sampled each time it is transported offsite (unless sludge is transported offsite more frequently than monthly, in which case, the sampling frequency is monthly). Results are presented in Table 6.
- The sludge is required to have an aquatic bioassay test quarterly; the second quarter 2008 aquatic bioassay test was performed on a sludge sample collected April 9, 2008. The results were presented in the *April 2008 WDR Monitoring Report* submitted to the Water Board on May 15, 2008.

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

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

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, 2008 through June 30, 2008. 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
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 are provided in Appendix B. Approximately 32,934,702 gallons of groundwater were extracted and treated between January 1, 2008 and June 30, 2008. Additionally, approximately 41,515 gallons of well purge water (generated during well development, monitoring well sampling, and/or aquifer testing) and 331,600 gallons of injection well re-development water were treated at the IM No. 3 facility during the January 1, 2008 through June 30, 2008 semiannual period. Treatment of this water at the IM No. 3 facility is being performed in accordance with the conditions of Order No. R7-2006-0060. A total of 31,464,892 gallons of treated groundwater was injected back into the Alluvial Aquifer.

5.3 Residual Solids Generated (Sludge)

During the January 1, 2008 through June 30, 2008 reporting period, eight containers of sludge were shipped offsite for disposal. The sludge was shipped to Chemical Waste Management at Kettleman Hills for disposal. A listing of each shipment during this period is provided below.

Date Sludge Bin Removed from Site	Approximate Quantity from Waste Manifests (cubic yards)	Approximate Wet Weight (lbs)	Type of Shipment
1/11/2008	10	15,000	non-RCRA hazardous waste
1/25/2008	9	14,400	non-RCRA hazardous waste
2/1/2008	8	12,240	non-RCRA hazardous waste
3/26/2008	10	15,100	non-RCRA hazardous waste
3/31/2008	9	12,160	non-RCRA hazardous waste
4/17/2008	9	14,400	non-RCRA hazardous waste
5/14/2008	9	12,580	non-RCRA hazardous waste
5/20/2008	8	14,340	non-RCRA hazardous waste

Note: 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, 2008 through June 30, 2008, approximately 1,787,821 gallons of reverse osmosis concentrate were transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal.

5.5 Summary of WDR Violations

No WDR violations were identified during the January 1, 2008 through June 30, 2008 semiannual reporting period. No corrective actions were required.

5.6 Operation and Maintenance – Required Shutdowns

Appendix A contains a summary of the operation or maintenance issues that required shut down of the groundwater extraction system during this semiannual reporting period. Records of routine maintenance are kept onsite.

5.7 Treatment Plant Modifications

In addition to the planned and unplanned extraction system downtime Operations and Maintenance Log provided in Appendix A, the following treatment plant activities were conducted during the January 1, 2008 through June 30, 2008 reporting period:

- During February 2008, PG&E conducted well rehabilitation activities on injection well IW-2 in an attempt to restore the specific injectivity of the injection well to acceptable levels. The well rehabilitation work was conducted while IW-2 was offline and IW-3 was in service. The well rehabilitation efforts included pumping tests, wire brushing, and well surging to remove sediments. The water produced during these activities was trucked to the IM No. 3 treatment plant for processing. The initial result of this maintenance work on IW-2 is some improvement in performance, but additional well rehabilitation work will continue to further improve the well performance.
- During March 2008, PG&E continued well rehabilitation activities on IW-2 to improve the specific injectivity of the injection well to effective levels. The well rehabilitation work was conducted while IW-2 was offline and IW-3 was in service. The well rehabilitation efforts included well purging, back-washing, and surging to remove sediments. The water produced during these activities was treated at the IM No. 3 treatment plant for processing. The initial result of this maintenance work on IW-2 is some improvement in performance; however, additional well rehabilitation work will continue to improve the well performance.
- During April 2008, PG&E conducted annual preventative maintenance on equipment, tanks, and pipes during a week-long planned extraction system outage from April 21-28, 2008. The annual maintenance included cleaning the process tanks, the clarifier, and the pipe reactor.
- During May 2008, PG&E conducted aquifer testing of monitoring and extraction wells during a two-day planned extraction system outage from May 29-30, 2008.

6.0 Conclusions

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

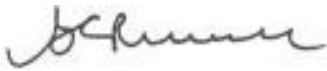
In addition, no incidents of non-compliance were identified during the reporting period, and no events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified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

7.0 Certification

PG&E submitted a signature delegation letter to the Water Board on August 12, 2005. The letter delegated PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2004-0103. Order R7-2006-0600 is the successor to Order R7-2004-0103; an additional signature authority delegation is not required, as confirmed in an email from Jose Cortez dated October 12, 2006.

Certification Statement:

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

Signature:  _____

Name: _____ Curt Russell

Company: _____ Pacific Gas and Electric Company

Title: _____ Topock Onsite Project Manager

Date: _____ July 15, 2008

Tables

TABLE 1
 Sampling Station Descriptions
June 2008 Monthly 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-PR-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (see Figure TP-PR-10-10-04).
Sampling Station D: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (see Figure TP-PR-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-PR-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).

TABLE 2
Flow Monitoring Results
June 2008 Monthly Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent ^{a,b}	System Effluent ^{b,c}	Reverse Osmosis Concentrate ^{b,d}
Average Monthly Flowrate (gpm)	132.4	128.6	5.1

Notes:

gpm: gallons per minute.

^a Extraction wells TW-2D, TW-3D, and PE-1 were operated during June 2008.

^b The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during June 2008 is less than 1 percent, which is within the range of acceptable accuracy (considering the margin of error for onsite instrumentation, the water contained within the sludge, purge water, and injection well development water treated at the IM No. 3 facility; in addition to the water from extraction wells and differences in the inventory of water in the treatment system between the beginning and end of the reporting period).

^c Effluent was discharged into injection well IW-03 during June 2008.

TABLE 3
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Influent Monitoring Results ^a
June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																							
<div><div></div><div>Analytes Units ^b</div><div>MDL</div></div>	<div><div></div><div>Sample ID</div><div>Date</div></div>	TDS	Turbidity	Specific Conductance	Lab ^c pH	Field ^d pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
		mg/L	NTU	µmhos/cm	pHunits	pHunits	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
		50.4	0.0070	0.153	0.0700	---	0.266	3.04	0.256	0.0090	0.0225	0.0150	0.0162	0.0048	0.130	0.0250	0.0182	0.0161	0.0168	0.127	0.0350	0.0010	1.20	2.40	0.115
SC-100B-WDR-154	6/4/2008	5100	ND (0.100)	7970	7.38 J	7.40	1250	1250	ND (50.0)	ND (0.500)	ND (3.00)	ND (5.00)	ND (300)	1.07	ND (10.0)	2.79	ND (2.00)	ND (20.0)	21.1	ND (20.0)	2.84	ND (0.0050)	592	ND (20.0)	ND (20.0)
RL		250	0.100	2.00	2.00	---	1.00	21.0	50.0	0.500	3.00	5.00	300	0.200	10.0	0.500	2.00	20.0	5.00	20.0	1.00	0.0050	25.0	20.0	20.0

NOTES:

(---) = not required by the WDR Monitoring and Reporting Program
µg/L = micrograms per liter
mg/L = milligrams per liter
NTU = nephelometric turbidity units
µmhos/cm = micromhos per centimeter
ND = parameter not detected at the listed value
J = concentration or reporting limits estimated by laboratory or validation
MDL = method detection limit
RL = project reporting limit
N = nitrogen

^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 pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.
^d 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 4
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results^a
June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

WDRs Effluent Limits ^b	Ave. Monthly Max Daily	NA	NA	NA	6.5-8.4	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		NA	NA	NA	6.5-8.4	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Required Sampling Frequency		Weekly							Monthly																	
<div><div></div></div>	Analytes Units ^c	TDS	Turbidity	Specific Conductance	Lab ^e pH	Field ^f pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc	
	MDL ^d	mg/L	NTU	µmhos/cm	pHunits	pHunits	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	
		50.4	0.0070	0.153	0.0700	---	0.0532	0.0304	0.256	0.0090	0.0225	0.0150	0.0162	0.0048	0.130	0.0250	0.0182	0.0161	0.0168	0.127	0.0350	0.0010	1.20	2.40	0.115	
Sample ID	Date																									
SC-700B-WDR-154	6/4/2008	4090	ND (0.100)	7010	8.12 J	8.20	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.500)	ND (3.00)	ND (5.00)	ND (300)	1.33	ND (10.0)	2.37	ND (2.00)	105	15.1	ND (20.0)	2.61	ND (0.0050)	508	ND (20.0)	ND (20.0)	
RL		250	0.100	2.00	2.00	---	1.00	0.200	50.0	0.500	3.00	5.00	300	0.200	10.0	0.500	2.00	20.0	5.00	20.0	1.00	0.0050	25.0	20.0	20.0	
SC-700B-WDR-155	6/11/2008	4520	ND (0.100)	6970	8.09 J	8.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-156	6/17/2008	4680	ND (0.100)	6940	8.10 J	8.00	ND (1.00)	ND (0.200)J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		125	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-157	6/26/2008	4730	ND (0.100)	6990	8.02 J	8.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

NOTES:

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

NA = not applicable

µg/L = micrograms per liter

mg/L = milligrams per liter

NTU = nephelometric turbidity units

µmhos/cm = micromhos per centimeter

ND = parameter not detected at the listed value

J = concentration or reporting limits estimated by laboratory or validation

RL = project reporting limit

MDL = method detection limit

N = nitrogen

^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 pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.

^f 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)
Reverse Osmosis Concentrate Results ^a
June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																						
<div>Sample ID</div> <div>Date</div>	<div>Analytes Units ^b MDL</div>	TDS	Specific Conductance	Lab ^c pH	Field ^d pH	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		mg/L	µmhos/cm	pHunits	pHunits	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		126	0.153	0.0700	---	0.00027	0.00015	0.00011	0.000075	0.000081	0.00019	0.000058	0.00013	0.00065	0.0250	0.000091	0.000084	0.000030	0.00064	0.000081	0.00011	0.000090	0.000062	0.00058
SC-701-WDR-154	6/4/2008	20500	29700	7.92 J	7.90	0.00102	ND (0.0010)	ND (0.0030)	ND (0.0050)	ND (0.300)	ND (0.0010)	ND (0.0020)	0.00613	0.0111	10.5	ND (0.0020)	0.0855	ND (0.00020)	ND (0.0200)	0.0170	ND (0.0050)	ND (0.0010)	ND (0.0050)	ND (0.0200)
RL		625	2.00	2.00	---	0.0010	0.0010	0.0030	0.0050	0.300	0.0010	0.0020	0.0050	0.0100	0.500	0.0020	0.0050	0.00020	0.0200	0.0050	0.0050	0.0010	0.0050	0.0200

NOTES:

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

^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 pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.
^d 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)
Sludge Monitoring Results^a
June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly ^c																		
<div><div></div><div>Analytes</div><div>Units ^b</div><div>MDL</div></div>	<div><div></div><div>Sample ID</div><div>Date</div></div>	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.0821	2.85	0.0285	0.0435	0.0126	0.0145	0.0246	0.0097	0.0164	0.0242	0.0271	0.0130	0.0145	0.0164	0.0072	0.0082	0.0353	0.0164	0.0150
SC-Sludge-WDR-154	6/4/2008	16700	263	221	69.9	104	309	33.3	ND (2.50)	110	92.9	ND (4.79)	ND (2.50)	ND (0.0963)	ND (2.50)	236	ND (4.79)	ND (4.79)	169	183
RL		24.0	19.3	4.79	2.50	2.50	2.50	4.79	2.50	2.50	19.3	4.79	2.50	0.0963	2.50	12.0	4.79	4.79	2.50	12.0

NOTES:
(---) = not required by the WDR Monitoring and Reporting Program
ND = parameter not detected at the listed value
J = concentration or reporting limits estimated by laboratory or validation
mg/kg = milligrams per killogram
mg/L = milligrams per liter
MDL = method detection 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 WDR
^c Sludge shall be tested for the listed constituents each time sludge is transported offsite, unless transport is more frequent than monthly, in which case the sampling frequency shall be monthly

TABLE 7

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

Monitoring Information

June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-154	John Deetz	6/4/2008	9:25:00 AM	TLI	EPA 120.1	SC	6/5/2008	Tina Acquiat/Gautam Savani
					TLI	EPA 200.7	FE	6/10/2008	Hao Ton
					TLI	EPA 200.7	B	6/10/2008	Hao Ton
					TLI	EPA 200.8	ZN	6/9/2008	Linda Saetern
					TLI	EPA 200.8	SB	6/12/2008	Linda Saetern
					TLI	EPA 200.8	PB	6/6/2008	Linda Saetern
					TLI	EPA 200.8	NI	6/6/2008	Linda Saetern
					TLI	EPA 200.8	MO	6/6/2008	Linda Saetern
					TLI	EPA 200.8	MN	6/6/2008	Linda Saetern
					TLI	EPA 200.8	CU	6/9/2008	Linda Saetern
					TLI	EPA 200.8	CR	6/6/2008	Linda Saetern
					TLI	EPA 200.8	BA	6/6/2008	Linda Saetern
					TLI	EPA 200.8	AS	6/6/2008	Linda Saetern
					TLI	EPA 200.8	AL	6/6/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/5/2008	Jean Paul Gleeson
					TLI	EPA 300.0	FL	6/5/2008	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	6/5/2008	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	6/5/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	6/5/2008	Gautam Savani
					TLI	SM2540C	TDS	6/5/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/5/2008	Tina Acquiat
					TLI	SM4500NH3D	NH3N	6/9/2008	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	6/6/2008	Tina Acquiat
SC-700B	SC-700B-WDR-154	John Deetz	6/4/2008	9:45:00 AM	TLI	EPA 120.1	SC	6/5/2008	Tina Acquiat/Gautam Savani
					TLI	EPA 200.7	B	6/10/2008	Hao Ton
					TLI	EPA 200.7	FE	6/10/2008	Hao Ton
					TLI	EPA 200.8	AS	6/6/2008	Linda Saetern
					TLI	EPA 200.8	ZN	6/9/2008	Linda Saetern
					TLI	EPA 200.8	SB	6/12/2008	Linda Saetern
					TLI	EPA 200.8	PB	6/6/2008	Linda Saetern
					TLI	EPA 200.8	NI	6/6/2008	Linda Saetern
					TLI	EPA 200.8	MO	6/6/2008	Linda Saetern
					TLI	EPA 200.8	MN	6/6/2008	Linda Saetern
					TLI	EPA 200.8	CU	6/9/2008	Linda Saetern
					TLI	EPA 200.8	CR	6/6/2008	Linda Saetern

TABLE 7

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

Monitoring Information

June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-154	John Deetz	6/4/2008	9:45:00 AM	TLI	EPA 200.8	AL	6/6/2008	Linda Saetern
					TLI	EPA 200.8	BA	6/6/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/5/2008	Jean Paul Gleeson
					TLI	EPA 300.0	NO3N	6/5/2008	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	6/5/2008	Giawad Ghenniwa
					TLI	EPA 300.0	FL	6/5/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	6/5/2008	Gautam Savani
					TLI	SM2540C	TDS	6/5/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/5/2008	Tina Acquiat
					TLI	SM4500NH3D	NH3N	6/9/2008	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	6/6/2008	Tina Acquiat
SC-700B	SC-700B-WDR-155	John Deetz	6/11/2008	8:45:00 AM	TLI	EPA 120.1	SC	6/12/2008	Tina Acquiat
					TLI	EPA 200.8	CR	6/13/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/11/2008	Jean Paul Gleeson
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	6/12/2008	Iordan Stavrev
					TLI	SM2540C	TDS	6/12/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/12/2008	Tina Acquiat
SC-700B	SC-700B-WDR-156	John Deetz	6/17/2008	3:00:00 PM	TLI	EPA 120.1	SC	6/20/2008	Tina Acquiat
					TLI	EPA 200.8	CR	6/25/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/19/2008	Jean Paul Gleeson
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	6/19/2008	Gautam Savani
					TLI	SM2540C	TDS	6/20/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/19/2008	Tina Acquiat
SC-700B	SC-700B-WDR-157	Ron Phelps	6/26/2008	1:30:00 PM	TLI	EPA 120.1	SC	6/27/2008	Tina Acquiat
					TLI	EPA 200.8	CR	6/27/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/27/2008	Jean Paul Gleeson
					FIELD	HACH	PH		Ron Phelps
					TLI	SM2130B	TRB	6/27/2008	Gautam Savani
					TLI	SM2540C	TDS	6/27/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/27/2008	Tina Acquiat
SC-701	SC-701-WDR-154	John Deetz	6/4/2008	9:35:00 AM	TLI	EPA 120.1	SC	6/5/2008	Tina Acquiat/Gautam Savani
					TLI	EPA 200.8	CR	6/6/2008	Linda Saetern

TABLE 7

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

Monitoring Information

June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-701	SC-701-WDR-154	John Deetz	6/4/2008	9:35:00 AM	TLI	EPA 200.8	PB	6/6/2008	Linda Saetern
					TLI	EPA 200.8	ZN	6/9/2008	Linda Saetern
					TLI	EPA 200.8	V	6/6/2008	Linda Saetern
					TLI	EPA 200.8	TL	6/6/2008	Linda Saetern
					TLI	EPA 200.8	CD	6/6/2008	Linda Saetern
					TLI	EPA 200.8	SB	6/12/2008	Linda Saetern
					TLI	EPA 200.8	NI	6/6/2008	Linda Saetern
					TLI	EPA 200.8	MO	6/6/2008	Linda Saetern
					TLI	EPA 200.8	CU	6/9/2008	Linda Saetern
					TLI	EPA 200.8	CO	6/6/2008	Linda Saetern
					TLI	EPA 200.8	BE	6/10/2008	Linda Saetern
					TLI	EPA 200.8	BA	6/6/2008	Linda Saetern
					TLI	EPA 200.8	AS	6/6/2008	Linda Saetern
					TLI	EPA 200.8	AG	6/12/2008	Linda Saetern
					TLI	EPA 200.8	SE	6/6/2008	Linda Saetern
					TLI	EPA 218.6	CR6	6/5/2008	Jean Paul Gleeson
					TLI	EPA 245.1	HG	6/10/2008	Michel Mendoza
					TLI	EPA 300.0	FL	6/5/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2540C	TDS	6/5/2008	Tina Acquiat
					TLI	SM4500-HB	PH	6/5/2008	Tina Acquiat
Phase Seperator	SC-Sludge-WDR-154	John Deetz	6/4/2008	8:04:00 AM	TLI	EPA 300.0	FL	6/6/2008	Giawad Ghenniwa
					TLI	EPA 6010B	MO	6/19/2008	Hao Ton
					TLI	EPA 6010B	ZN	6/16/2008	Hao Ton
					TLI	EPA 6010B	V	6/16/2008	Hao Ton
					TLI	EPA 6010B	TL	6/16/2008	Hao Ton
					TLI	EPA 6010B	SE	6/19/2008	Hao Ton
					TLI	EPA 6010B	SB	6/19/2008	Hao Ton
					TLI	EPA 6010B	AG	6/19/2008	Hao Ton
					TLI	EPA 6010B	NI	6/16/2008	Hao Ton
					TLI	EPA 6010B	CU	6/16/2008	Hao Ton
					TLI	EPA 6010B	CR	6/16/2008	Hao Ton
					TLI	EPA 6010B	CO	6/16/2008	Hao Ton
					TLI	EPA 6010B	CD	6/16/2008	Hao Ton
					TLI	EPA 6010B	BE	6/16/2008	Hao Ton
					TLI	EPA 6010B	BA	6/16/2008	Hao Ton

TABLE 7

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

Monitoring Information

June 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-154	John Deetz	6/4/2008	8:04:00 AM	TLI	EPA 6010B	AS	6/16/2008	Hao Ton
					TLI	EPA 6010B	PB	6/16/2008	Hao Ton
					TLI	EPA 7471A	HG	6/10/2008	Michel Mendoza
					TLI	SW 7199	CR6	6/12/2008	David Blackburn

NOTES:

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

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

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

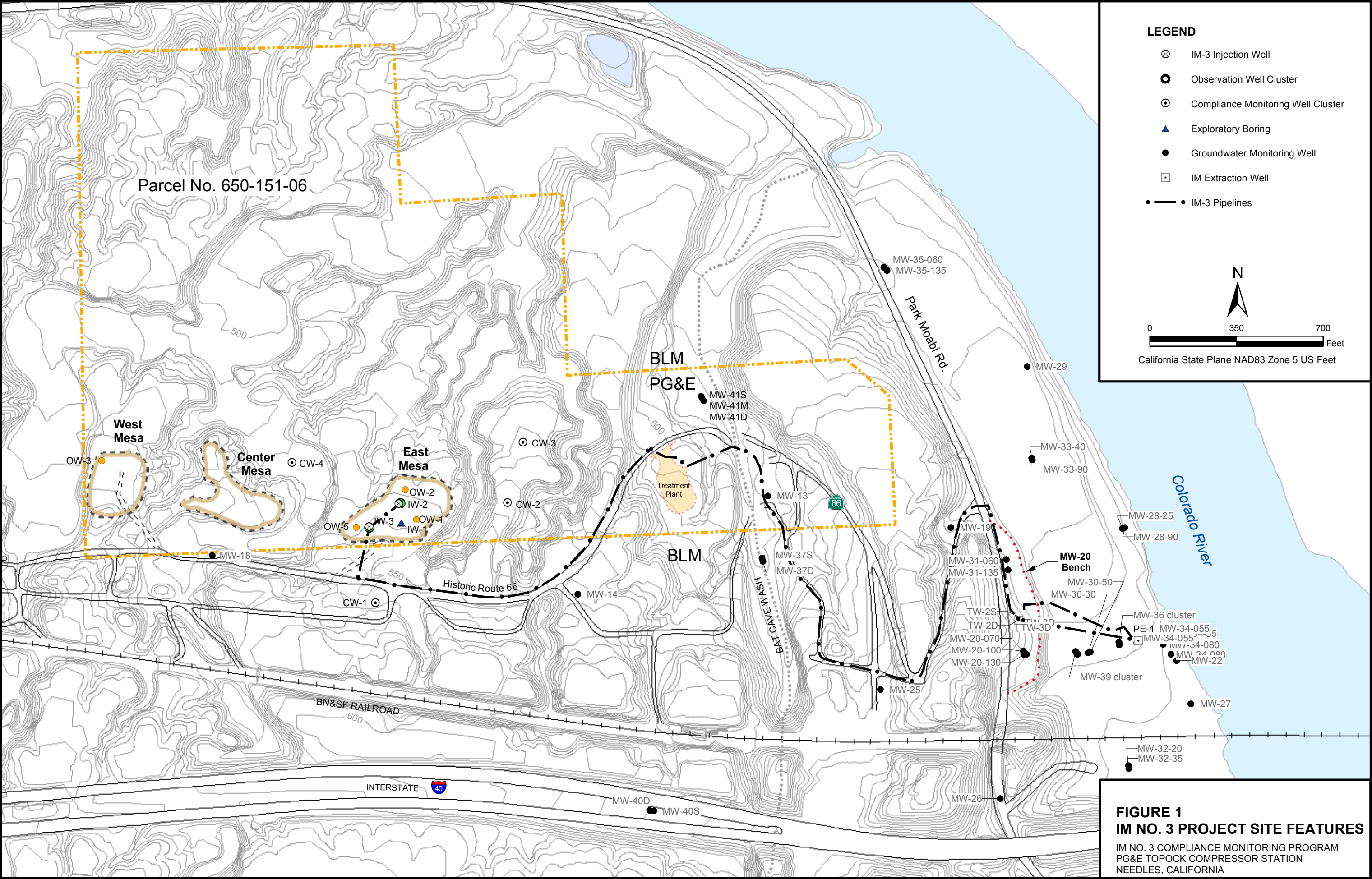
Prior to April 11, 2007 the analytical methods listed in the 40 CFR Part 136 for pH and TDS were E150.1 and E160.1, respectively. Per EPA and Department of Health Services guidelines, the analytical methods listed in the current 40 CFR Part 136 have changed to SM4500-H B and SM2540C as shown on the table.

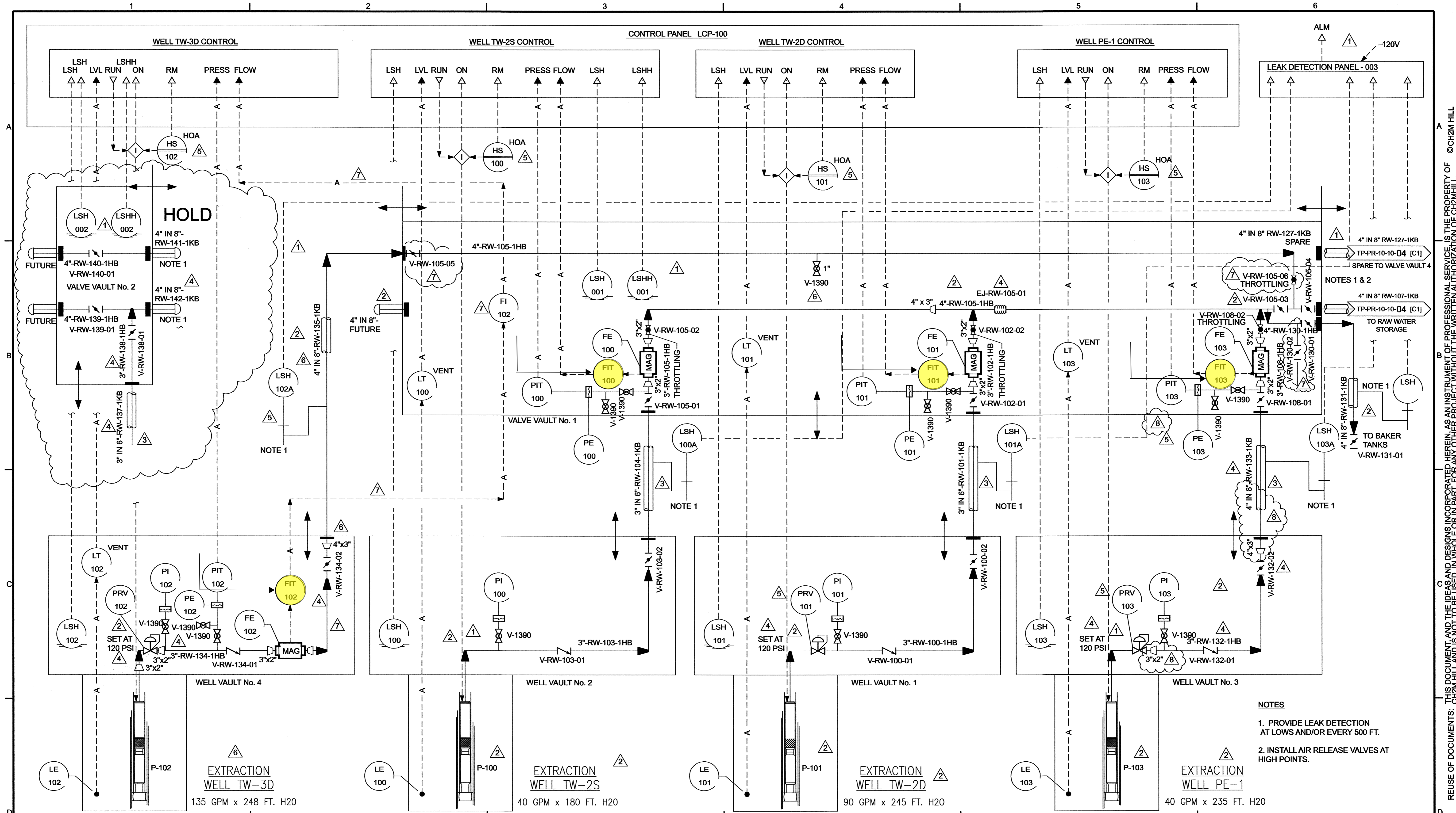
TLI = Truesdail Laboratories, Inc.

ATL = Aquatic Testing Laboratories

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

Figures





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



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

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

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

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

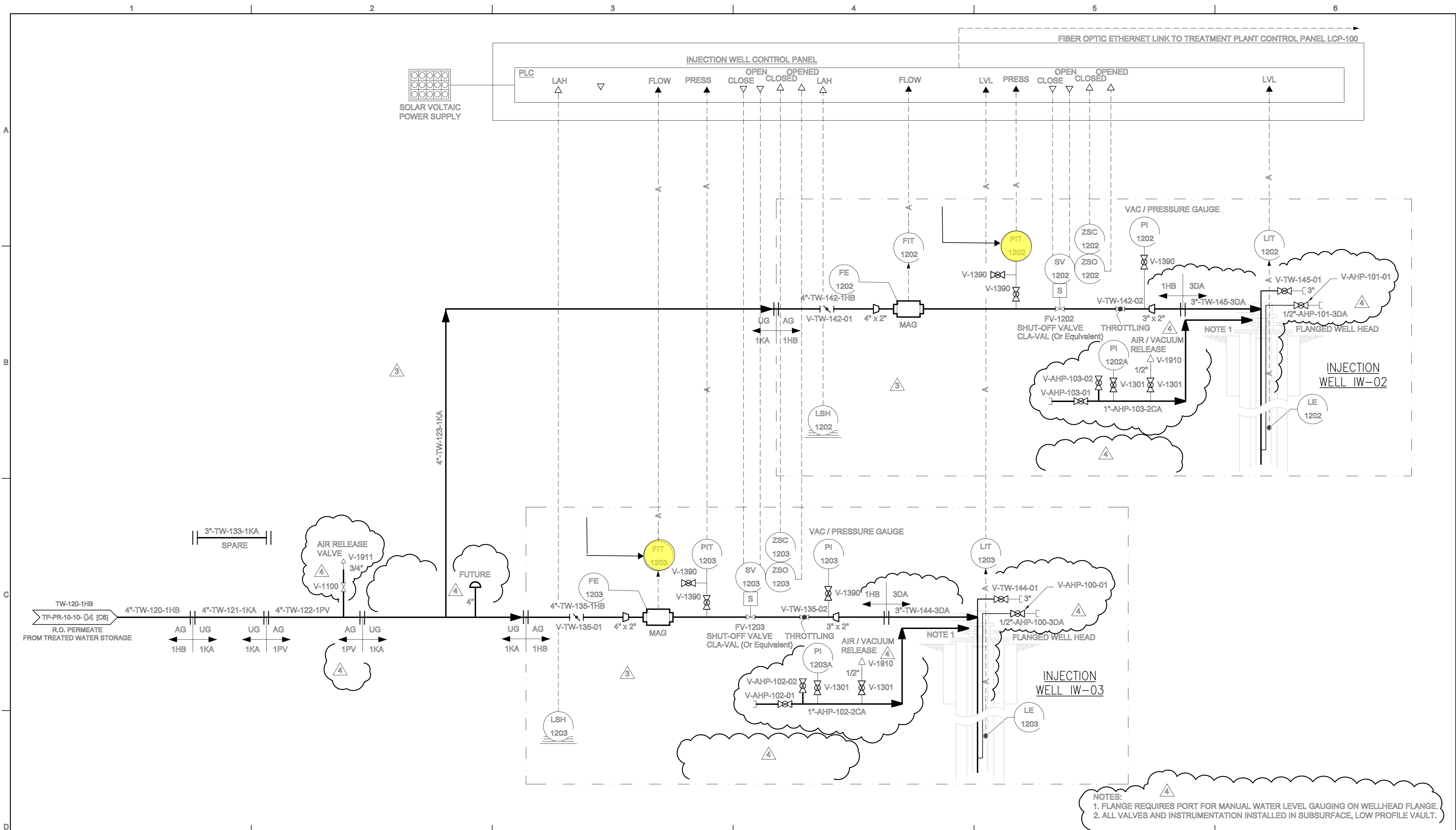
SCALE NONE

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

CH2MHILL

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

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



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

Appendix A

Operations and Maintenance Log

Semiannual Operations and Maintenance Log

January 1, 2008 through June 30, 2008

Interim Measures No. 3 Groundwater Treatment System

Records of IM No. 3 operations and maintenance activities are maintained onsite using operations software. Periods of planned and unplanned treatment system and resulting extraction system downtime from January 1, 2008 through June 30, 2008 attributed to system operations and maintenance are listed below. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site.

January 2008

- **January 2, 2008 (planned):** The extraction well system was temporarily offline from 8:41 am until 1:25 p.m. and from 1:28 p.m. until 1:53 p.m. to complete reverse osmosis unit maintenance and replace two valves within the IM No. 3 facility process piping. Extraction system downtime was 5 hours 9 minutes.
- **January 9, 2008 (planned):** The extraction well system was temporarily offline from 11:34 a.m. until 11:39 a.m., 11:40 a.m. until 11:45 a.m., and 12:10 p.m. until 1:34 p.m. to clean the iron oxidation tank piping. Extraction system downtime was 1 hour 34 minutes.
- **January 16, 2008 (planned):** The extraction well system was temporarily offline from 7:34 a.m. until 1:46 p.m. and from 2:42 p.m. until 2:44 p.m. to repair two joints of the treated water pipeline between the IM No. 3 treatment plant and injection well field. The repairs were accomplished at the flanged ends between the pipe sections and were identified during routine pipeline inspections when droplets were identified on the two joints. Only a few fluid ounces of treated water leaked from each location. Extraction system downtime was 6 hours 14 minutes.
- **January 23, 2008 (planned):** The extraction well system was temporarily offline from 9:34 a.m. until 12:34 p.m. and 2:36 p.m. until 4:34 p.m. to switch to a clean bank of microfilter modules. Extraction system downtime was 4 hours 58 minutes.
- **January 25, 2008 (unplanned):** The extraction well system was temporarily offline from 7:21 a.m. until 8:10 a.m. for microfilter repairs. Extraction system downtime was 49 minutes.
- **January 28, 2008 (unplanned):** The extraction well system was temporarily offline from 8:15 p.m. until 8:23 p.m. to re-start the facility after an in-line pH probe failure and repair. Extraction system downtime was 8 minutes.

February 2008

- **February 13, 2008 (planned):** The extraction well system was offline from 9:15 a.m. until 3:54 p.m. to complete electrical testing, maintenance on the microfilter unit, servicing the air compressor, and replacing/cleaning select inline instrumentation. Extraction system downtime was 6 hours 39 minutes.
- **February 20, 2008 (unplanned):** The extraction well system was offline from 2:59 p.m. until 3:08 p.m. and 3:21 p.m. to until 3:28 p.m. due to temporary loss of City of Needles power. Extraction system downtime was 16 minutes.
- **February 21, 2008 (unplanned):** The extraction well system was offline from 9:49 a.m. until 9:50 a.m. while transferring operations to generator power and 12:15 p.m. until 12:21 p.m. to return operations to City of Needles power. Extraction system downtime was 7 minutes.
- **February 24, 2008 (unplanned):** The extraction well system was offline from 7:03 a.m. until 7:09 a.m. to transfer operations to generator power and 8:14 a.m. to until 8:20 a.m. to return operations to City of Needles power. Extraction system downtime was 12 minutes.

March 2008

- **March 2, 2008 (unplanned):** The extraction well system was offline from 5:41 a.m. until 7:25 a.m., 7:38 a.m. until 8:04 a.m., 8:12 a.m. until 8:26 a.m., 8:41 a.m. until 8:45 a.m., 4:24 p.m. until 4:26 p.m., and 4:41 p.m. until 5:05 p.m. to repair a microfilter feed tank valve. Extraction system downtime was 2 hours 54 minutes.
- **March 8, 2008 (planned):** The extraction well system was offline from 7:42 p.m. until 8:51 p.m., while replacing a valve on the microfilter feed tank, and 11:22 p.m. until 11:29 p.m. to switch brine tanks. Extraction system downtime was 1 hour 17 minutes.
- **March 9, 2008 (planned):** The extraction well system was offline from 5:30 a.m. until 8:54 a.m. and 8:55 a.m. until 11:36 a.m. to replace a polymer system pump. Extraction system downtime was 6 hours 6 minutes.
- **March 11, 2008 (unplanned):** The extraction well system was offline from 7:48 a.m. until 8:13 a.m. to repair a microfilter feed tank valve. Extraction system downtime was 25 minutes.
- **March 12, 2008 (unplanned):** The extraction well system was offline from 7:43 a.m. until 8:24 a.m. to install backup control air compressor. Extraction system downtime was 41 minutes.
- **March 12, 2008 (unplanned):** The extraction well system was offline from 2:15 p.m. until 3:33 p.m. for continued work on control air compressor installation. Extraction system downtime was 1 hour 18 minutes.
- **March 18 – 25, 2008 (planned):** The extraction well system was offline periodically (typically individual 1-hour periods) during this time to allow for treatment of

approximately 290,080 gallons of injection well backwash/re-development water. Daily extraction system downtimes are summarized below:

- March 18 – 1 hour 35 minutes
 - March 19 – 2 hours 9 minutes
 - March 20 – 5 hours 33 minutes
 - March 21 – 4 hours 18 minutes
 - March 22 – 5 hours 31 minutes
 - March 23 – 3 hours 58 minutes
 - March 24 – 4 hours 37 minutes
 - March 25 – 3 hours 19 minutes
- **March 28, 2008 (unplanned):** The extraction well system was offline from 2:58 a.m. until 1:58 p.m. to replace the flocculator rake drive on the clarifier. Extraction system downtime was 11 hours.

April 2008

- **April 8, 2008 (unplanned):** The extraction well system was offline from 9:07 p.m. until 9:09 p.m. when a City of Needles power supply imbalance alarm shut down the extraction wells. Extraction system downtime was 2 minutes.
- **April 9, 2008 (unplanned):** The extraction well system was offline from 2:57 p.m. until 3:53 p.m. due to backwash operation for Injection Well IW-03. Extraction system downtime was 56 minutes.
- **April 19, 2008 (unplanned):** The extraction well system was offline from 4:59 a.m. to 5:56 a.m. due to low seal water pump pressure alarm. Extraction system downtime was 57 minutes.
- **April 21 - 28, 2008 (planned):** The extraction well system was offline for a total of 7 days and 52 minutes between April 21st at 6:56 a.m. and April 28th at 9:07 a.m. to perform annual preventative maintenance.
 - April 21: 6:56 a.m. - April 27:11:19 a.m. Extraction downtime during this period was 6 days, 4 hours, and 23 minutes.
 - April 27 - Extraction wells were intermittently operated April 27 for a total of 2 hours and 52 minutes to bring extraction well water to the plant for startup. The extraction well system was offline for the following times on April 27:
 - from 0:00 to 11:19 a.m. (11 hours, 19 minutes)
 - from 11:50 a.m. to 11:54 a.m. (4 minutes)
 - from 1:25 p.m. to 2:09 p.m. (44 minutes)
 - from 2:59 p.m. to 11:59 p.m. (9 hours)
 - April 28, - The extraction well system was offline on April 28:
 - from 0:00 until 9:07 a.m. (9 hours, 7 minutes)

- IM No. 3 facility startup began on April 28 at 9:07 a.m. April 28th - Two outage periods following facility startup were due to the adjustment of unit processes as the plant came online:
 - from 10:13 a.m. to 11:46 a.m. (1 hour, 33 minutes)
 - from 11:50 a.m. to 11:51 a.m. (0 hours, 1 minute)

May 2008

- **May 1, 2008 (unplanned):** The extraction well system was offline from 12:10 a.m. to 12:13 a.m. when a City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 3 minutes.
- **May 8, 2008 (planned):** The extraction well system was offline from 9:06 a.m. to 1:53 p.m. while switching the microfilter from the east bank to the west bank. Extraction system downtime was 4 hours and 47 minutes.
- **May 20, 2008 (unplanned):** The extraction well system was offline from 5:41 p.m. to 6:34 p.m. when a programming error caused the microfilter to shut down. Extraction system downtime was 53 minutes.
- **May 23, 2008 (unplanned):** The extraction well system was offline from 12:18 a.m. to 12:35 a.m., from 6:20 a.m. to 6:30 a.m., from 1:23 a.m. to 1:38 p.m., and from 7:56 p.m. to 8:02 p.m. when City of Needles power supply imbalances alarmed and shut down the extraction wells. Extraction system downtime was 48 minutes.
- **May 29-30, 2008 (planned):** The extraction well system was offline from 3:00 p.m. to 11:59 p.m. on May 29, and it was offline from 12:00 a.m. to 7:10 a.m. and from 10:03 a.m. to 10:04 a.m. on May 30 due to aquifer testing. Extraction system downtime was 16 hours and 10 minutes.

June 2008

- **June 11, 2008 (planned):** The extraction well system was offline from 1:55 p.m. to 2:03 p.m. and from 3:19 p.m. to 3:27 p.m. when emergency generator checks were performed. Extraction system downtime was 17 minutes.
- **June 18, 2008 (planned):** The extraction well system was offline from 7:02 a.m. to 2:34 p.m. and from 3:54 p.m. to 4:30 p.m. for scheduled monthly maintenance. Extraction system downtime was 8 hours and 8 minutes.
- **June 21, 2008 (unplanned):** The extraction well system was offline from 9:42 a.m. to 9:48 a.m. and from 8:05 p.m. to 8:17 p.m. when emergency generator was brought online due to storm events. Extraction system downtime was 18 minutes.
- **June 23, 2008 (planned):** The extraction well system was offline from 6:42 a.m. to 6:43 a.m. and from 7:40 a.m. to 9:22 a.m. when the City of Needles installed taps to onsite transformer. Extraction system downtime was 1 hour and 43 minutes.

Appendix B
Daily Volumes of Groundwater Treated

January 2008 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles California

Month	Day	Year	Extraction Well System ^{a,b}					Injection Well System ^a			RO Brine ^a
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
January	1	2008	---	21	149,541	45,786	195,347	---	183,539	183,539	11,554
January	2	2008	---	21	115,968	36,129	152,117	---	127,448	127,448	6,068
January	3	2008	---	25	148,979	45,861	194,865	---	195,018	195,018	13,388
January	4	2008	---	17	149,192	45,710	194,918	---	184,817	184,817	11,934
January	5	2008	---	18	149,233	45,574	194,826	---	181,946	181,946	10,292
January	6	2008	---	17	149,416	45,391	194,824	---	180,356	180,356	10,131
January	7	2008	---	17	149,370	45,430	194,817	---	180,968	180,968	13,579
January	8	2008	---	20	149,486	45,428	194,933	---	182,752	182,752	10,306
January	9	2008	---	20	137,572	42,874	180,466	---	160,988	160,988	10,265
January	10	2008	---	17	148,609	45,618	194,245	---	188,419	188,419	15,813
January	11	2008	---	18	148,769	45,539	194,326	---	181,498	181,498	10,348
January	12	2008	---	12	149,008	45,241	194,261	---	184,596	184,596	13,609
January	13	2008	---	22	149,037	45,349	194,408	---	178,466	178,466	10,176
January	14	2008	---	17	149,078	45,432	194,528	---	179,827	179,827	10,173
January	15	2008	---	20	149,171	45,375	194,566	---	184,659	184,659	13,720
January	16	2008	---	15	108,668	33,771	142,454	---	127,112	127,112	6,780
January	17	2008	---	13	148,349	45,672	194,034	---	187,970	187,970	13,706
January	18	2008	---	16	148,317	45,863	194,195	---	187,329	187,329	12,352
January	19	2008	---	20	148,281	45,910	194,211	---	180,217	180,217	10,280
January	20	2008	---	15	148,247	45,903	194,165	---	183,452	183,452	10,205
January	21	2008	---	19	148,060	46,051	194,130	---	180,421	180,421	13,562
January	22	2008	---	19	147,878	46,056	193,954	---	183,864	183,864	10,197
January	23	2008	---	18	117,167	33,122	150,307	---	118,478	118,478	16,187
January	24	2008	---	19	147,942	46,030	193,992	---	191,022	191,022	10,104
January	25	2008	---	2,650	139,344	44,766	186,760	---	177,837	177,837	13,564
January	26	2008	---	16	148,029	46,284	194,330	---	181,310	181,310	10,308
January	27	2008	---	17	148,185	46,086	194,288	---	183,475	183,475	10,205
January	28	2008	---	19	147,041	45,605	192,664	---	180,489	180,489	11,673
January	29	2008	---	17	148,622	45,387	194,026	---	186,109	186,109	12,673
January	30	2008	---	18	148,796	45,204	194,018	---	182,823	182,823	10,943
January	31	2008	---	18	148,860	45,181	194,058	---	185,753	185,753	11,929
Total Monthly Volumes (gal)			0	3,193	4,484,216	1,377,627	5,865,036	0	5,492,958	5,492,958	356,024
Average Pump/Injection Rates (gpm)			0.0	0.1	100.5	30.9	131.4	0.0	123.1	123.1	8.0

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the data historian at the IM-3 Facility.

^bSmall readings from TW-2D are associated with flowmeter margin of error. However, the data is included in the monthly record to be consistent with the data historian.

February 2008 Operational Data

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

Month	Day	Year	Extraction Well System ^a					Injection Well System ^a			RO Brine ^a
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
February	1	2008	---	---	148,843	45,227	194,071	---	179,538	179,538	11,859
February	2	2008	---	---	148,675	45,382	194,057	---	184,438	184,438	10,350
February	3	2008	---	---	148,515	45,501	194,017	---	177,634	177,634	13,604
February	4	2008	---	---	148,297	45,698	193,995	---	187,494	187,494	10,130
February	5	2008	---	---	148,353	45,519	193,872	---	185,987	185,987	10,177
February	6	2008	---	---	148,454	45,464	193,918	---	189,810	189,810	13,657
February	7	2008	---	---	148,444	45,574	194,018	---	186,747	186,747	10,415
February	8	2008	---	---	148,862	45,277	194,140	---	184,978	184,978	12,116
February	9	2008	---	---	149,410	45,150	194,561	---	188,690	188,690	10,229
February	10	2008	---	---	149,300	45,218	194,518	---	181,038	181,038	13,765
February	11	2008	---	---	149,337	45,106	194,443	---	180,279	180,279	10,514
February	12	2008	---	---	149,219	45,056	194,275	---	184,005	184,005	11,268
February	13	2008	---	---	106,335	33,100	139,434	---	124,377	124,377	9,442
February	14	2008	---	---	148,049	46,164	194,214	---	199,008	199,008	10,068
February	15	2008	---	---	148,449	45,720	194,168	---	184,425	184,425	12,862
February	16	2008	---	---	148,685	45,361	194,046	---	181,865	181,865	10,292
February	17	2008	---	---	148,633	45,169	193,802	---	190,847	190,847	13,727
February	18	2008	---	---	148,514	45,386	193,899	---	179,679	179,679	10,218
February	19	2008	---	---	148,388	45,342	193,730	---	183,969	183,969	11,076
February	20	2008	---	---	145,203	44,864	190,068	---	177,502	177,502	13,179
February	21	2008	---	---	146,618	45,317	191,935	---	181,955	181,955	11,563
February	22	2008	---	---	148,081	45,637	193,718	---	183,763	183,763	11,305
February	23	2008	---	---	148,408	45,408	193,816	---	180,862	180,862	10,150
February	24	2008	---	---	146,550	44,785	191,335	---	176,487	176,487	10,253
February	25	2008	---	---	149,065	45,917	194,982	---	189,135	189,135	13,635
February	26	2008	---	---	149,202	45,838	195,040	---	180,672	180,672	10,184
February	27	2008	---	---	149,196	45,932	195,128	---	188,514	188,514	10,138
February	28	2008	---	---	149,203	46,028	195,231	---	183,122	183,122	13,612
February	29	2008	---	---	149,054	46,104	195,158	---	186,853	186,853	10,084
Total Monthly Volumes (gal)			0	0	4,263,341	1,306,246	5,569,588	0	5,283,674	5,283,674	329,872
Average Pump/Injection Rates (gpm)			0.0	0.0	102.1	31.3	133.4	0.0	126.5	126.5	7.9

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the data historian at the IM-3 Facility.

March 2008 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles California

Month	Day	Year	Extraction Well System ^a					Injection Well System ^a			RO Brine ^a
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
March	1	2008	---	---	148,925	46,045	194,970	---	182,857	182,857	10,321
March	2	2008	---	---	127,056	40,792	167,849	---	147,603	147,603	10,161
March	3	2008	---	---	147,691	46,153	193,844	---	192,327	192,327	13,568
March	4	2008	---	---	147,781	46,161	193,942	---	179,105	179,105	10,114
March	5	2008	---	---	147,094	45,529	192,623	---	180,707	180,707	10,731
March	6	2008	---	---	147,803	46,065	193,867	---	186,797	186,797	12,531
March	7	2008	---	---	147,928	46,016	193,944	---	187,522	187,522	11,336
March	8	2008	---	---	138,153	43,834	181,988	---	153,663	153,663	10,293
March	9	2008	---	---	108,678	34,912	143,590	---	141,745	141,745	6,869
March	10	2008	---	---	147,279	46,500	193,779	---	186,747	186,747	13,907
March	11	2008	---	---	144,070	45,672	189,742	---	176,432	176,432	10,209
March	12	2008	---	---	133,639	42,718	176,356	---	174,378	174,378	10,156
March	13	2008	---	---	147,851	46,342	194,194	---	186,402	186,402	13,130
March	14	2008	---	---	148,295	46,068	194,363	---	190,131	190,131	10,244
March	15	2008	---	---	148,296	46,175	194,471	---	181,052	181,052	13,640
March	16	2008	---	---	148,319	46,249	194,569	---	187,927	187,927	10,204
March	17	2008	---	---	148,508	46,015	194,524	---	185,257	185,257	10,125
March	18	2008	---	---	137,615	43,197	180,812	---	168,941	168,941	10,979
March	19	2008	---	---	132,774	42,528	175,302	---	194,205	194,205	10,125
March	20	2008	---	---	110,614	36,191	146,804	---	187,834	187,834	11,215
March	21	2008	---	---	118,083	38,629	156,712	---	193,045	193,045	12,319
March	22	2008	---	---	107,619	36,400	144,019	---	197,143	197,143	10,241
March	23	2008	---	---	120,078	39,443	159,521	---	187,951	187,951	10,071
March	24	2008	---	---	115,885	38,180	154,065	---	181,205	181,205	10,041
March	25	2008	---	---	126,110	40,498	166,608	---	190,652	190,652	10,256
March	26	2008	---	---	148,007	46,722	194,729	---	192,069	192,069	13,411
March	27	2008	---	---	147,901	46,924	194,825	---	184,350	184,350	10,073
March	28	2008	---	---	79,506	25,359	104,865	---	96,658	96,658	6,785
March	29	2008	---	---	148,007	46,705	194,713	---	188,442	188,442	10,144
March	30	2008	---	---	148,077	46,619	194,697	---	183,655	183,655	10,166
March	31	2008	---	---	148,151	46,551	194,703	---	183,782	183,782	10,024
Total Monthly Volumes (gal)			0	0	4,215,795	1,335,196	5,550,991	0	5,550,583	5,550,583	333,389
Average Pump/Injection Rates (gpm)			0.0	0.0	94.4	29.9	124.4	0.0	124.3	124.3	7.5

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the data historian at the IM-3 Facility.

April 2008 Operational Data

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

Month	Day	Year	Extraction Well System ^{a,b}					Injection Well System ^a			RO Brine ^{a,b}
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
April	1	2008	---	---	147,085	46,685	193,769	---	183,851	183,851	10,010
April	2	2008	---	---	147,846	46,832	194,677	---	186,759	186,759	13,413
April	3	2008	---	---	147,685	47,061	194,746	---	181,389	181,389	10,059
April	4	2008	---	---	147,871	46,754	194,625	---	185,880	185,880	10,068
April	5	2008	---	---	148,161	46,412	194,573	---	185,365	185,365	10,130
April	6	2008	---	---	148,114	46,559	194,673	---	181,462	181,462	10,589
April	7	2008	---	---	148,236	46,419	194,655	---	185,099	185,099	9,963
April	8	2008	---	---	147,773	46,576	194,349	---	180,105	180,105	10,072
April	9	2008	---	---	141,176	44,974	186,150	---	90,804	90,804	10,370
April	10	2008	---	---	147,843	46,321	194,164	---	107,845	107,845	13,473
April	11	2008	---	---	148,435	46,131	194,566	---	188,867	188,867	10,129
April	12	2008	---	---	148,877	46,009	194,886	---	190,220	190,220	10,085
April	13	2008	---	---	148,915	46,087	195,002	---	186,045	186,045	10,195
April	14	2008	---	---	149,073	45,992	195,065	---	180,833	180,833	9,988
April	15	2008	---	---	149,168	45,867	195,035	---	183,165	183,165	11,502
April	16	2008	---	---	149,147	46,140	195,288	---	185,808	185,808	11,971
April	17	2008	---	---	149,268	46,086	195,354	---	191,922	191,922	10,145
April	18	2008	---	---	149,331	46,055	195,386	---	177,050	177,050	11,069
April	19	2008	---	---	142,030	44,362	186,392	---	180,724	180,724	10,220
April	20	2008	---	---	148,483	46,161	194,645	---	176,530	176,530	11,497
April	21	2008	---	---	42,822	13,456	56,278	---	66,910	66,910	6,606
April	22	2008	---	---	14	16	30	---	0	0	5
April	23	2008	---	---	15	19	34	---	0	0	4
April	24	2008	---	---	15	18	34	---	0	0	6
April	25	2008	---	---	15	21	36	---	0	0	7
April	26	2008	---	---	13	23	36	---	0	0	6
April	27	2008	---	---	16,056	5,738	21,794	---	0	0	6,594
April	28	2008	---	---	83,738	21,418	105,156	---	76,555	76,555	5,293
April	29	2008	---	---	148,436	46,660	195,096	---	199,541	199,541	12,174
April	30	2008	---	---	149,769	44,201	193,970	---	188,243	188,243	10,405
Total Monthly Volumes (gal)			0	0	3,395,408	1,055,054	4,450,463	0	4,040,973	4,040,973	256,049
Average Pump/Injection Rates (gpm)			0.0	0.0	78.6	24.4	103.0	0.0	93.5	93.5	5.9

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the data historian at the IM-3 Facility.

^bSmall readings from April 22-26 are associated with flowmeters' margin of error. However, the data is included in the monthly record to be consistent with the data historian.

May 2008 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles California

Month	Day	Year	Extraction Well System ^a					Injection Well System ^a			RO Brine ^a
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
May	1	2008	---	---	148,849	46,459	195,308	---	187,885	187,885	10,362
May	2	2008	---	---	149,244	46,702	195,946	---	187,560	187,560	10,342
May	3	2008	---	---	149,459	46,385	195,844	---	183,353	183,353	10,434
May	4	2008	---	---	149,023	46,902	195,925	---	188,423	188,423	10,595
May	5	2008	---	---	148,947	46,940	195,887	---	185,430	185,430	10,214
May	6	2008	---	---	147,398	46,896	194,293	---	188,949	188,949	10,032
May	7	2008	---	---	148,455	46,488	194,943	---	180,043	180,043	9,968
May	8	2008	---	---	117,698	37,318	155,016	---	157,049	157,049	11,751
May	9	2008	---	---	147,369	46,074	193,443	---	191,617	191,617	9,887
May	10	2008	---	---	147,481	45,972	193,452	---	174,361	174,361	10,008
May	11	2008	---	---	147,580	45,980	193,560	---	186,273	186,273	7,839
May	12	2008	---	---	147,477	46,239	193,715	---	185,558	185,558	12,063
May	13	2008	---	---	147,260	46,694	193,955	---	186,993	186,993	10,011
May	14	2008	---	---	147,777	46,057	193,834	---	184,426	184,426	8,374
May	15	2008	---	---	147,983	45,827	193,809	---	180,153	180,153	8,263
May	16	2008	---	---	148,261	45,546	193,806	---	197,964	197,964	12,109
May	17	2008	---	---	148,534	45,313	193,848	---	185,015	185,015	9,898
May	18	2008	---	---	148,576	45,423	193,999	---	185,206	185,206	8,172
May	19	2008	---	---	148,655	45,421	194,076	---	185,959	185,959	8,338
May	20	2008	---	---	142,229	44,025	186,253	---	171,586	171,586	9,802
May	21	2008	---	---	146,871	46,326	193,197	---	193,512	193,512	9,109
May	22	2008	---	---	146,824	46,358	193,182	---	175,815	175,815	9,919
May	23	2008	---	---	149,994	27,242	177,236	---	183,249	183,249	10,127
May	24	2008	---	---	146,852	46,948	193,800	---	185,064	185,064	9,905
May	25	2008	---	---	146,917	46,780	193,697	---	186,411	186,411	9,952
May	26	2008	---	---	147,009	46,712	193,721	---	186,540	186,540	9,427
May	27	2008	---	---	146,996	46,784	193,779	---	173,730	173,730	7,137
May	28	2008	---	---	146,331	46,699	193,030	---	163,950	163,950	9,858
May	29	2008	---	---	91,246	13,565	104,811	---	141,899	141,899	3,315
May	30	2008	---	---	102,990	5,388	108,378	---	85,882	85,882	6,757
May	31	2008	---	---	146,919	46,120	193,039	---	192,993	192,993	9,974
Total Monthly Volumes (gal)			0	0	4,447,202	1,331,581	5,778,784	0	5,542,847	5,542,847	293,939
Average Pump/Injection Rates (gpm)			0.0	0.0	99.6	29.8	129.5	0.0	124.2	124.2	6.6

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the data historian at the IM-3 Facility.

June 2008 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles California

Month	Day	Year	Extraction Well System ^a					Injection Well System ^a			RO Brine ^a
			TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	
June	1	2008	--	--	147,808	46,178	193,986	--	179,021	179,021	9,913
June	2	2008	--	--	147,754	46,323	194,077	--	194,146	194,146	8,962
June	3	2008	--	--	146,436	46,328	192,764	--	179,734	179,734	9,762
June	4	2008	--	--	147,194	46,548	193,742	--	190,923	190,923	6,642
June	5	2008	--	1,067	146,398	46,253	193,718	--	199,099	199,099	6,477
June	6	2008	--	--	147,441	45,960	193,401	--	187,741	187,741	8,288
June	7	2008	--	--	147,708	45,791	193,500	--	188,847	188,847	9,675
June	8	2008	--	--	147,513	46,200	193,713	--	180,351	180,351	6,432
June	9	2008	--	--	147,584	46,218	193,803	--	191,662	191,662	9,626
June	10	2008	--	--	147,741	46,142	193,882	--	185,703	185,703	6,501
June	11	2008	--	--	145,098	45,312	190,410	--	178,442	178,442	6,880
June	12	2008	--	--	147,102	46,393	193,495	--	193,480	193,480	9,387
June	13	2008	--	--	147,534	45,979	193,513	--	184,717	184,717	6,416
June	14	2008	--	--	147,988	45,526	193,514	--	187,986	187,986	9,679
June	15	2008	--	--	148,114	45,430	193,544	--	185,462	185,462	6,643
June	16	2008	--	--	148,394	45,159	193,554	--	191,474	191,474	6,430
June	17	2008	--	--	148,513	45,095	193,608	--	187,697	187,697	9,633
June	18	2008	--	--	96,541	30,208	126,749	--	115,020	115,020	3,205
June	19	2008	--	--	147,561	45,482	193,043	--	196,075	196,075	9,688
June	20	2008	--	--	147,939	45,087	193,026	--	187,823	187,823	4,058
June	21	2008	--	--	144,130	45,843	189,973	--	184,844	184,844	6,376
June	22	2008	--	--	147,802	45,126	192,927	--	189,295	189,295	6,419
June	23	2008	--	--	136,420	42,500	178,919	--	168,054	168,054	6,811
June	24	2008	--	--	147,683	46,031	193,714	--	191,922	191,922	6,362
June	25	2008	--	--	147,821	45,949	193,770	--	193,106	193,106	6,354
June	26	2008	--	--	148,038	45,761	193,799	--	185,779	185,779	6,334
June	27	2008	--	--	148,127	45,715	193,842	--	185,583	185,583	6,491
June	28	2008	--	--	148,424	45,409	193,833	--	199,302	199,302	6,453
June	29	2008	--	--	148,484	45,447	193,931	--	187,971	187,971	6,332
June	30	2008	--	--	148,532	45,558	194,090	--	182,598	182,598	6,318
Total Monthly Volumes (gal)			0	1,067	4,363,823	1,354,951	5,719,841	0	5,553,857	5,553,857	218,548
Average Pump/Injection Rates (gpm)			0.0	0.0	101.0	31.4	132.4	0.0	128.6	128.6	5.1

NOTES:

--- : Not in operation during reporting period.

gal: gallons

gpm: gallons per minute

RO: Reverse Osmosis

^aFlow Readings tabulated from the date historian at the IM-3 Facility.

Appendix C

Flowmeter Calibration Records

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 ($\pm 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9148

Calibration factor

0

Zero point

72.3 °F

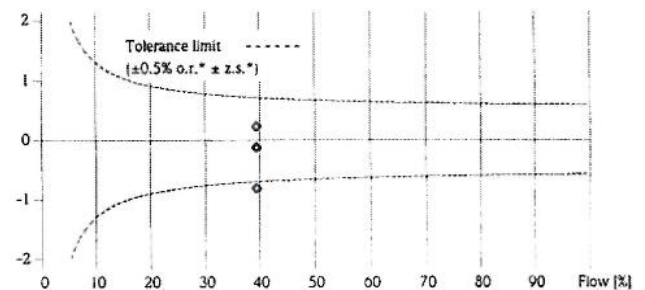
Water temperature

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

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

Tim Swick

Operator

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

Flow Calibration with Adjustment

30107893-1304706

WWRA-002048-F

Purchase order number

US-19054161-10 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1AA022AW

Order code

PROMAG 23 P 2"

Transmitter/Sensor

6C037016000

Serial N°

~~FIT-1202~~ FIT-102/TW-3D/installed 1/25/08

Tag N°

FCP-6.F

Calibration rig

155.6102 GPM (100%)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9154

Calibration factor

0

Zero point

76.2 °F

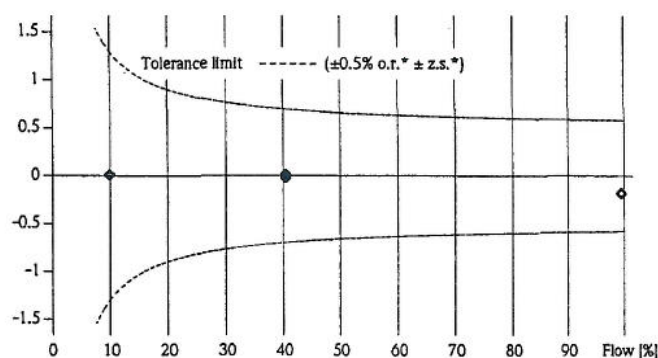
Water temperature

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

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

Tim Swick

Operator

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

Flow Calibration with Adjustment

30057866-1275190

41724888

Purchase Order Number

USA-49310090-40 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1RA022AW

Order Code

PROMAG 23 P 2"

Transmitter/Sensor

6A021F16000

Serial N°

FIT-100 / TW-20 / installed 7/28/05

Tag N°

FCP-6.C

Calibration rig

155.6102 GPM ($\pm 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9178

Calibration factor

0

Zero point

72.9 °F

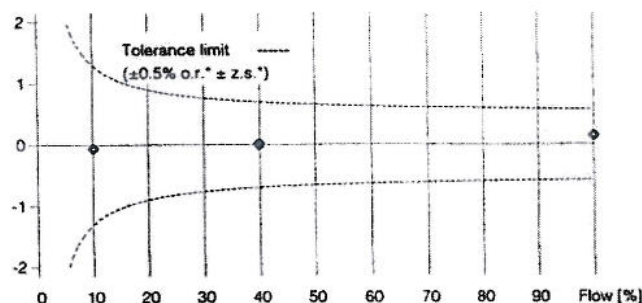
Water temperature

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.-N° 030502.2

Flow Calibration with Adjustment

30057870-1275191

41724888

Purchase Order Number

USA-49310090-40 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1RA022AW

Order Code

PROMAG 23 P 2"

Transmitter/Sensor

6A022016000

Serial N°

~~FIT-101~~ / TW-25 / installed 7/28/05

Tag N°

FCP-6.C

Calibration rig

155.6102 GPM ($\triangleq 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9207

Calibration factor

0

Zero point

74.1 °F

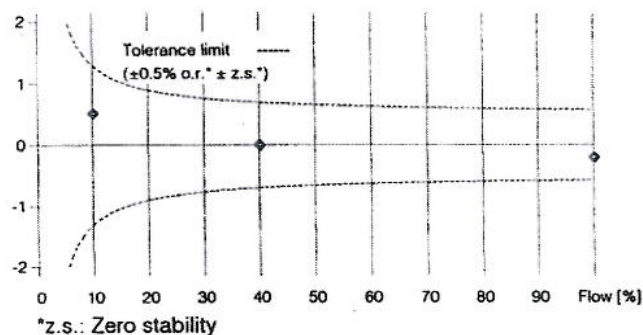
Water temperature

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.



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.-N° 030502.2

Flow Calibration without Adjustment

30094933-1275192

WWRA-001176-F

Purchase order number

US-19051105-10 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1RA022AW

Order code

PROMAG 23 P 2"

Transmitter/Sensor

6A022116000

Serial N°

FIT-102 / IW-02 / installed 02/02/07

Tag N°

FCP-6.F

Calibration rig

155.6102 GPM ($\pm 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9214

Calibration factor

0

Zero point

72.3 °F

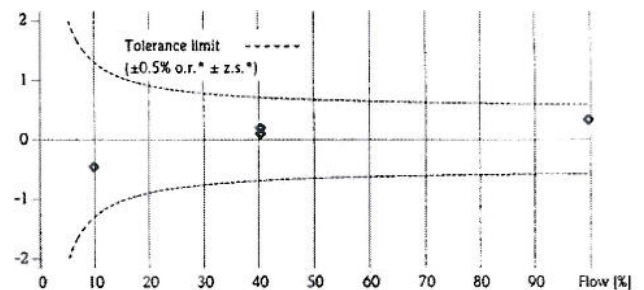
Water temperature

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

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

Jim Baase

Operator

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

Flow Calibration with Adjustment

30116785-1304708

WWRA-002642-F

Purchase order number

US-19056062-10 / Endress+Hauser Flowtec

Order N°/Manufacturer

23P50-AL1A1AA022AW

Order code

PROMAG 23 P 2"

Transmitter/Sensor

6C037216000

Serial N°

~~FIT-1204~~ FIT-1203 / IW-03 / installed 4/9/08

Tag N°

FCP-6.F

Calibration rig

155.6102 GPM ($\pm 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9312

Calibration factor

20

Zero point

71.1 °F

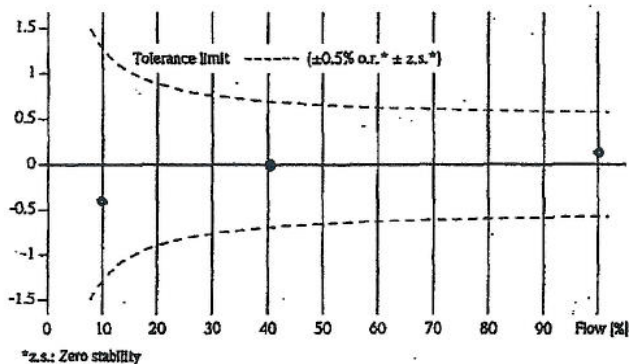
Water temperature

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.



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

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-701~~

~~FIT-103~~

Tag N°

/ R0 Concentrate / installed 02/02/07

FCP-6.F

Calibration rig

155.6102 GPM ($\pm 100\%$)

Calibrated full scale

Current 4 - 20 mA

Calibrated output

0.9235

Calibration factor

0

Zero point

72.2 °F

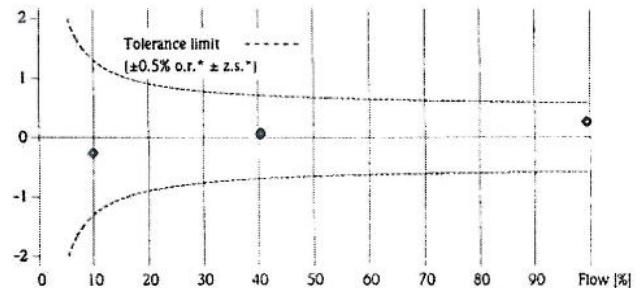
Water temperature

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.



01-23-2007

Date of calibration

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

Jim Baase

Operator

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

Appendix D
June 2008 Laboratory Analytical Reports

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

June 18, 2008

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-154 PROJECT, GROUNDWATER
MONITORING,
TLI No.: 976160

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-154 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 4, 2008, 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 sample SC-700B-WDR-154 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

The matrix spike run at a dilution of 5x for sample SC-701-WDR-154 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 10x dilution agree with those from the 5x run, the data from the 5x 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.

Sean Candan
for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

ANALYST LIST

PA 120.1	Specific Conductivity	Tina Acquiati / Gautam Savani
M 4500-H B	pH	Tina Acquiati
M 2540C	Total Dissolved Solids	Tina Acquiati
M 2130B	Turbidity	Gautam Savani
PA 300.0	Anions	Giawad Ghenniwa
M 4500-NH3 B	Ammonia	Iordan Stavrev
M 4500-NO2 B	Nitrite as N	Tina Acquiati
PA 200.7	Metals by ICP	Hao Ton
PA 200.8	Metals by ICP/MS	Linda Saetern
PA 245.1	Mercury	Michel Mendoza
PA 218.6	Hexavalent Chromium	Jean Paul Gleeson

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

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

Attention: Shawn Duffy

Laboratory No.: 976160

Sample: Three (3) Groundwaters

Date: June 18, 2008

Project Name: PG&E Topock Project

Collected: June 4, 2008

Project No.: 358342.TM.02.00

Received: June 4, 2008

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

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06PH08F

Investigation:

pH by SM 4500-H B

Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
976160-1	SC-100B-WDR-154	08:50	pH	0.0700	2.00	7.38
976160-2	SC-700B-WDR-154	08:52	pH	0.0700	2.00	8.12
976160-3	SC-701-WDR-154	08:55	pH	0.0700	2.00	7.92

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Duplicate	976161-2	7.35	7.36	0.01	+ 0.100 Units	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
LCS	7.08	7.00	0.08	+ 0.100 Units	Yes
LCS #1	7.08	7.00	0.08	+ 0.100 Units	Yes
LCS #2	7.06	7.00	0.06	+ 0.100 Units	Yes

ID: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sean Condor
for Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

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

Attention: Shawn Duffy

Laboratory No.: 976160

Sample: Three (3) Groundwaters

Date: June 18, 2008

Project Name: PG&E Topock Project

Collected: June 4, 2008

Project No.: 358342.TM.02.00

Received: June 4, 2008

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

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06EC08D

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976160-1	SC-100B-WDR-154	µmhos/cm	EPA 120.1	1.00	2.00	7970
976160-2	SC-700B-WDR-154	µmhos/cm	EPA 120.1	1.00	2.00	7010
976160-3	SC-701-WDR-154	µmhos/cm	EPA 120.1	1.00	2.00	29700

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976146	1070	1070	0.00%	≤ 10%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<2.00	—	<2.00	Yes
CCS	699	706	99.0%	90% - 110%	Yes
CVS#1	972	996	97.6%	90% - 110%	Yes
CVS#2	974	996	97.8%	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.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

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

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

Laboratory No.: 976160
Date: June 18, 2008
Collected: June 4, 2008
Received: June 4, 2008
Prep/ Analyzed: June 5, 2008
Analytical Batch: 06TDS08B

Investigation: Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
976160-1	SC-100B-WDR-154	mg/L	SM 2540C	250	5100
976160-2	SC-700B-WDR-154	mg/L	SM 2540C	250	4090
976160-3	SC-701-WDR-154	mg/L	SM 2540C	625	20500

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	976161-2	5220	5200	0.19%	≤ 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	497	500	99.4%	90% - 110%	Yes

ID: Below the reporting limit (Not Detected).
IL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Attention: Shawn Duffy

REPORT

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06TUC08E

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

Investigation:

Turbidity by Method SM 2130B

Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976160-1	SC-100B-WDR-154	09:25	NTU	1.00	0.100	ND
976160-2	SC-700B-WDR-154	09:45	NTU	1.00	0.100	ND

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976160-1	ND	ND	0.00%	< 20%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.20	8.00	103%	90% - 110%	Yes
LCS	8.10	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

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Prep. Batch: 06CrH08C

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06CrH08C

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
976160-1	SC-100B-WDR-154	09:25	08:26	µg/L	105	21.0	1250
976160-2	SC-700B-WDR-154	09:45	08:36	µg/L	1.05	0.20	ND
976160-3	SC-701-WDR-154	09:35	10:00	µg/L	5.25	1.05	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	976160-1	1250	1260	0.80%	< 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	976160-1	1250	105	15.0	1575	2750	2825	95.2%	90-110%	Yes
MS	976160-2	0.00	1.06	1.00	1.06	0.993	1.06	93.7%	90-110%	Yes
MS	976160-3	0.00	5.25	1.00	5.25	4.84	5.25	92.2%	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	4.79	5.00	95.8%	90% - 110%	Yes
MRCVS#1	9.75	10.0	97.5%	95% - 105%	Yes
MRCVS#2	9.69	10.0	96.9%	95% - 105%	Yes
MRCVS#3	9.77	10.0	97.7%	95% - 105%	Yes
MRCVS#4	9.68	10.0	96.8%	95% - 105%	Yes
MRCVS#5	9.65	10.0	96.5%	95% - 105%	Yes
LCS	4.77	5.00	95.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Seam Candan
for Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 9, 2008

Analytical Batch: 06NH3-E08A

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

Analytical Results Ammonia as N

<u>J.I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Method</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
6160-1	SC-100B-WDR-154	09:25	SM 4500-NH3 D	mg/L	1.00	0.500	ND
6160-2	SC-700B-WDR-154	09:45	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	976160-2	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	976160-2	0.00	1.00	6.00	6.00	5.96	6.00	99.3%	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	5.98	6.00	99.7%	90% - 110%	Yes
MRCVS#1	6.05	6.00	101%	90% - 110%	Yes
LCS	10.3	10.0	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Seam Candan
for Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06AN08D

Investigation: Fluoride by Ion Chromatography using EPA 300.0

Analytical Results Fluoride

<u>LI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
176160-1	SC-100B-WDR-154	09:25	10:50	mg/L	5.00	0.500	2.79
176160-2	SC-700B-WDR-154	09:45	11:01	mg/L	5.00	0.500	2.37
176160-3	SC-701-WDR-154	09:35	11:13	mg/L	5.00	0.500	10.5

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976149	0.455	0.452	0.66%	≤ 20%	Yes

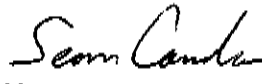
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	976149	0.455	1.00	2.00	2.00	2.39	2.46	96.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	4.07	4.00	102%	90% - 110%	Yes
MRCVS#1	3.11	3.00	104%	90% - 110%	Yes
MRCVS#2	3.11	3.00	104%	90% - 110%	Yes
LCS	4.17	4.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06AN08D

Investigation:

Sulfate by Method EPA 300.0

Analytical Results Sulfate

<u>LI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
76160-1	SC-100B-WDR-154	09:25	16:59	mg/L	50.0	25.0	592
76160-2	SC-700B-WDR-154	09:45	17:10	mg/L	50.0	25.0	508

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976148	319	316	0.94%	≤ 20%	Yes

<u>QC Std I.D.</u>	<u>Lab Number</u>	<u>Conc. of unspiked sample</u>	<u>Dilution Factor</u>	<u>Added Spike Conc.</u>	<u>MS Amount</u>	<u>Measured Conc. of spiked sample</u>	<u>Theoretical Conc. of spiked sample</u>	<u>MS% Recovery</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
MS	976148	319	100	4.00	400	712	719	98.3%	85-115%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	19.8	20.0	99.0%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.3	15.0	102%	90% - 110%	Yes
MRCVS#3	15.3	15.0	102%	90% - 110%	Yes
MRCVS#4	15.2	15.0	101%	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.

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

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

015

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 5, 2008

Analytical Batch: 06AN08D

Investigation: Nitrate as N by Ion Chromatography using EPA 300.0

Analytical Results Nitrate as N

<u>L.I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
76160-1	SC-100B-WDR-154	09:25	10:50	mg/L	5.00	1.00	2.84
76160-2	SC-700B-WDR-154	09:45	11:01	mg/L	5.00	1.00	2.61

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976149	1.73	1.72	0.58%	≤ 20%	Yes

<u>QC Std I.D.</u>	<u>Lab Number</u>	<u>Conc. of unspiked sample</u>	<u>Dilution Factor</u>	<u>Added Spike Conc.</u>	<u>MS Amount</u>	<u>Measured Conc. of spiked sample</u>	<u>Theoretical Conc. of spiked sample</u>	<u>MS% Recovery</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
MS	976149	1.73	1.00	2.00	2.00	3.73	3.73	100%	75-125%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<0.200	—	<0.200	Yes
MRCCS	3.95	4.00	98.8%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.7%	90% - 110%	Yes
MRCVS#2	2.98	3.00	99.3%	90% - 110%	Yes
MRCVS#3	2.98	3.00	99.3%	90% - 110%	Yes
LCS	4.00	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976160

Date: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 6, 2008

Analytical Batch: 06NO208C

Investigation:

Nitrite as N by Method SM 4500-NO2-B

Analytical Results for Nitrite as N

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976160-1	SC-100B-WDR-154	09:25	08:43	mg/L	1.00	0.0050	ND
976160-2	SC-700B-WDR-154	09:45	08:44	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	976160-2	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	976160-2	0.00	1.00	0.0200	0.0200	0.0198	0.0200	99.0%	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
MRCSS	0.0204	0.0200	102%	90% - 110%	Yes
MRCVS#1	0.0200	0.0200	100%	90% - 110%	Yes
LCS	0.0404	0.0400	101%	90% - 110%	Yes
LCSD	0.0405	0.0400	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sean Candan
for Mona Nassimi, Manager
Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

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

Investigation: Total Metal Analyses as Requested

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

Laboratory No.: 976160

Reported: June 18, 2008

Collected: June 4, 2008

Received: June 4, 2008

Analyzed: See Below

Analytical Results

SAMPLE ID: SC-100B-WDR-154		Time Collected: 09:25		LAB ID: 976160-1				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	1.00	µg/L	50.0	060608A	06/06/08	14:03
Antimony	EPA 200.8	ND	1.00	µg/L	3.00	061208A	06/12/08	14:51
Arsenic	EPA 200.8	ND	1.00	µg/L	5.00	060608A	06/06/08	14:03
Barium	EPA 200.8	ND	1.00	µg/L	300	060608A	06/06/08	14:03
Chromium	EPA 200.8	1250	5.00	µg/L	1.00	060608A	06/06/08	14:11
Copper	EPA 200.8	ND	1.00	µg/L	10.0	060908A	06/09/08	14:46
Lead	EPA 200.8	ND	1.00	µg/L	2.00	060608A	06/06/08	14:03
Manganese	EPA 200.8	ND	1.00	µg/L	20.0	060608A	06/06/08	14:03
Molybdenum	EPA 200.8	21.1	1.00	µg/L	5.00	060608A	06/06/08	14:03
Nickel	EPA 200.8	ND	1.00	µg/L	20.0	060608A	06/06/08	14:03
Zinc	EPA 200.8	ND	1.00	µg/L	20.0	060908A	06/09/08	14:46
Boron	EPA 200.7	1070	1.00	µg/L	200	061008A	06/10/08	11:44
Iron	EPA 200.7	ND	1.00	µg/L	20.0	061008A	06/10/08	11:44

SAMPLE ID: SC-700B-WDR-154		Time Collected: 09:45		LAB ID: 976160-2				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	1.00	µg/L	50.0	060608A	06/06/08	14:17
Antimony	EPA 200.8	ND	1.00	µg/L	3.00	061208A	06/12/08	14:57
Arsenic	EPA 200.8	ND	1.00	µg/L	5.00	060608A	06/06/08	14:17
Barium	EPA 200.8	ND	1.00	µg/L	300	060608A	06/06/08	14:17
Chromium	EPA 200.8	ND	1.00	µg/L	1.00	060608A	06/06/08	14:17
Copper	EPA 200.8	ND	1.00	µg/L	10.0	060908A	06/09/08	15:10
Lead	EPA 200.8	ND	1.00	µg/L	2.00	060608A	06/06/08	14:17
Manganese	EPA 200.8	105	1.00	µg/L	20.0	060608A	06/06/08	14:17
Molybdenum	EPA 200.8	15.1	1.00	µg/L	5.00	060608A	06/06/08	14:17
Nickel	EPA 200.8	ND	1.00	µg/L	20.0	060608A	06/06/08	14:17
Zinc	EPA 200.8	ND	1.00	µg/L	20.0	060908A	06/09/08	15:10
Boron	EPA 200.7	1330	1.00	µg/L	200	061008A	06/10/08	12:13
Iron	EPA 200.7	ND	1.00	µg/L	20.0	061008A	06/10/08	12:13

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



TRUESDAIL LABORATORIES, INC.

Report Continued

SAMPLE ID: SC-701-WDR-154		Time Collected: 09:35		LAB ID: 976160-3				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	5.00	µg/L	3.00	061208A	06/12/08	15:03
Arsenic	EPA 200.8	ND	5.00	µg/L	5.00	060608A	06/06/08	14:53
Barium	EPA 200.8	ND	5.00	µg/L	300	060608A	06/06/08	14:53
Beryllium	EPA 200.8	ND	5.00	µg/L	1.00	061008A	06/10/08	11:56
Cadmium	EPA 200.8	ND	5.00	µg/L	2.00	060608A	06/06/08	14:53
Chromium	EPA 200.8	1.02	5.00	µg/L	1.00	060608A	06/06/08	14:53
Cobalt	EPA 200.8	6.13	5.00	µg/L	5.00	060608A	06/06/08	14:53
Copper	EPA 200.8	11.1	5.00	µg/L	10.0	060908A	06/09/08	15:16
Lead	EPA 200.8	ND	5.00	µg/L	2.00	060608A	06/06/08	14:53
Mercury	EPA 245.1	ND	1.00	µg/L	0.20	0610HG08A	06/10/08	N/A
Molybdenum	EPA 200.8	85.5	5.00	µg/L	5.00	060608A	06/06/08	14:53
Nickel	EPA 200.8	ND	5.00	µg/L	20.0	060608A	06/06/08	14:53
Selenium	EPA 200.8	17.0	5.00	µg/L	5.00	060608A	06/06/08	14:53
Silver	EPA 200.8	ND	5.00	µg/L	5.00	061208A	06/12/08	15:03
Thallium	EPA 200.8	ND	5.00	µg/L	1.00	060608A	06/06/08	14:53
Vanadium	EPA 200.8	ND	5.00	µg/L	5.00	060608A	06/06/08	14:53
Zinc	EPA 200.8	ND	5.00	µg/L	20.0	060908A	06/09/08	15:16

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sean Condon
Mona Nassimi, Manager
Analytical Services

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

476160

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-154]

COC Number

10 Days

TURNAROUND TIME

PAGE OF

DATE

COMPANY E2
PROJECT NAME PG&E Topock
PHONE (530) 229-3303 FAX (530) 339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 358342.TM.02.00 TEAM 1
SAMPLERS (SIGNATURE)

Rec'd 06/04/08

976160

www.itube800.com

COMPANY	E2		
PROJECT NAME	PG&E Topock		
PHONE	(530) 229-3303	FAX	(530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612		
P.O. NUMBER	358342.TM.02.00	TEAM	1
SAMPLERS (SIGNATURE)			
SAMPLE ID.	DATE	TIME	DESCRIPTION
SC-100B-WDR-154	6-4-08	0925	Water
SC-700B-WDR-154	6-4-08	0945	Water
SC-701-WDR-154	6-4-08	0935	Water

Rec'd 06/04/08
976160

NUMBER OF CONTAINERS

100B 760B 761

74 8.2 7.9

EC-87B 7.84 33.5

Temp-78° 82.5° 84°

pH=2

pH=2

pH=2

TOTAL NUMBER OF CONTAINERS

14

Cd (218.6) Lab Filtered

Total Metals (200.7)

Al, As, Ba, B, Cr, Cu, Pb, Mn, Mo, Ni, Sb, Se, Zn

Total Metals (200.7) Title 22, Mercury

Specific Conductance (120.1)

TDS (SM2540C)

PH (SM4500HB)

Anions (300.0) FI

Anions (300.0) FI, SO4, NO2, NO3

Cd (7199)

Metals (6010B) Title 22, Mercury

Turbidity (SM2130)

Ammonia (SM4500NH3)

ALERT!!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	John Dettz	Printed Name	John Dettz	Company/ Agency	GMV	Date/ Time	6-4-08 10:00
Signature (Received)	Bonifacio Dayag	Printed Name	Bonifacio Dayag	Company/ Agency	TLI	Date/ Time	6-4-08 1530
Signature (Relinquished)	Bonifacio Dayag	Printed Name	Bonifacio Dayag	Company/ Agency	TLI	Date/ Time	6-4-08 2130
Signature (Received)	David S	Printed Name	David S	Company/ Agency	TLI	Date/ Time	6-4-08 2130
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time	
Signature (Received)		Printed Name		Company/ Agency		Date/ Time	

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

June 23, 2008

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-155 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 976375

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-155 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 11, 2008, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Candia
for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976375

Date: June 23, 2008

Collected: June 11, 2008

Received: June 11, 2008

ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Iordan Stavrev
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976375

Sample: One (1) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 358342.TM.02.00
P.O. No.: 358342.TM.02.00
Prep. Batch: 061308B

Date: June 23, 2008
Collected: June 11, 2008
Received: June 11, 2008
Prep/ Analyzed: June 13, 2008
Analytical Batch: 061308B

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

Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	µg/L	EPA 200.8	16:07	1.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	976404-7	2.38	2.45	2.90%	≤20%	Yes

QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance Limits	QC Within Control
MS	976404-7	2.38	1.00	50.0	50.0	44.3	52.4	83.8%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	47.7	50.0	95.4%	90% - 110%	Yes
MRCVS#1	47.3	50.0	94.6%	90% - 110%	Yes
MRCVS#2	47.4	50.0	94.8%	90% - 110%	Yes
ICS	47.0	50.0	94.0%	80% - 120%	Yes
LCS	46.8	50.0	93.6%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Seam Condon
for Mona Nassimi, Manager
Analytical Services

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

007

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976375

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

Date: June 23, 2008
Collected: June 11, 2008
Received: June 11, 2008
Prep/ Analyzed: June 11, 2008
Analytical Batch: 06CrH08H

Investigation:

Hexavalent Chromium by EPA 218.6

Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	08:45	22:09	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	976374-1	1270	1310	3.10%	< 20%	Yes

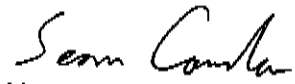
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	976375	0.00	1.06	1.00	1.06	1.03	1.06	97.2%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCSS	4.81	5.00	96.2%	90% - 110%	Yes
MRCVS#1	9.73	10.0	97.3%	95% - 105%	Yes
MRCVS#2	9.84	10.0	98.4%	95% - 105%	Yes
MRCVS#3	9.89	10.0	98.9%	95% - 105%	Yes
MRCVS#4	10.1	10.0	101%	95% - 105%	Yes
LCS	4.85	5.00	97.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

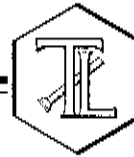
for 
Mona Nassimi, Manager
Analytical Services

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

008

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976375

Date: June 23, 2008

Collected: June 11, 2008

Received: June 11, 2008

Prep/ Analyzed: June 12, 2008

Analytical Batch: 06TUC08U

Investigation:

Turbidity by Method SM 2130B

Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	08:45	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	976375	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	8.40	8.00	105%	90% - 110%	Yes
LCS	8.39	8.00	105%	90% - 110%	Yes
LCS	8.20	8.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sean Conda
for **Mona Nassimi, Manager**
Analytical Services

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

009

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

Attention: Shawn Duffy

Laboratory No.: 976375

Date: June 23, 2008

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

Collected: June 11, 2008

Project No.: 358342.TM.02.00

Received: June 11, 2008

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

Prep/ Analyzed: June 12, 2008

Analytical Batch: 06PH080

Investigation:

pH by SM 4500-H B

Analytical Results pH


<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	08:45	08:20	pH	0.0700	2.00	8.09

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	976375	8.09	8.09	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.03	7.00	0.03	+ 0.100 Units	Yes
LCS #1	7.04	7.00	0.04	+ 0.100 Units	Yes
LCS #2	7.04	7.00	0.04	+ 0.100 Units	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976375

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

Date: June 23, 2008
Collected: June 11, 2008
Received: June 11, 2008
Prep/ Analyzed: June 12, 2008
Analytical Batch: 06EC08G

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	µmhos/cm	EPA 120.1	1.00	2.00	6970

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976375	6970	6970	0.00%	≤ 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	701	706	99.3%	90% - 110%	Yes	
CVS#1	974	996	97.8%	90% - 110%	Yes	
CVS#2	975	996	97.9%	90% - 110%	Yes	
LCS	701	706	99.3%	90% - 110%	Yes	
LCSD	701	706	99.3%	90% - 110%	Yes	

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for *Sean Canlan*
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976375

Date: June 23, 2008

Collected: June 11, 2008

Received: June 11, 2008

Prep/ Analyzed: June 12, 2008

Analytical Batch: 06TDS08F

Investigation:

Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
976375	SC-700B-WDR-155	mg/L	SM 2540C	250	4520

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance Limits	QC Within Control
Duplicate	976375	4520	4490	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	500	500	100%	90% - 110%	Yes
LCS 2	496	500	99.2%	90% - 110%	Yes

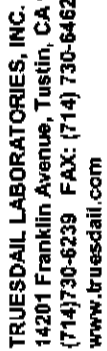
ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

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



CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-155]

COC Number

10 Days

TURNAROUND TIME

DATE _____

PAGE 1 OF 1

COMPANY	E2	
PROJECT NAME	PG&E Topock	
PHONE	(530) 229-3303	FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	
P.O. NUMBER	358342.TM.02.00	TEAM 1
SAMPLERS (SIGNATURE)		

[illegible]

PH-2

Ref

ALERT!!

Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>
<i>John Deetz</i>	John Deetz	OMI	6-11-08 0850			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<i>Bonifacio Deyag</i>	Bonifacio Deyag	TL7	6-11-08 1530			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:		
<i>Bonifacio Deyag</i>	B. Deyag	TL7	6-11-08 2130			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
<i>Rafael Davis</i>	Rafael Davis	TL7	6-11-08 2130			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

July 2, 2008

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-156 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 976565

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-156 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 18, 2008, 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 sample was received past the method specified holding time for pH by SM 4500H B. In addition, the sample for Hexavalent Chromium analysis by EPA 218.6 appeared to be either improperly preserved or not preserved with buffer in the field (pH of 6 or 7 in Hexavalent Chromium bottle). Therefore, this sample was received and preserved in the laboratory past the 24-hour method specified holding time.

Due to the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution (in analytical batch 06CrH08Q) 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.

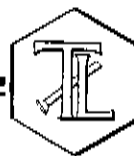
Sean Condon
for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, Inc.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976565

Date: July 2, 2008

Collected: June 17, 2008

Received: June 18, 2008

ANALYST LIST

TEST METHOD		ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976565

Sample: One (1) Groundwater Samples

Date: July 2, 2008

Project Name: PG&E Topock Project

Collected: June 17, 2008

Project No.: 358342.TM.02.00

Received: June 18, 2008

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

Prep/ Analyzed: June 25, 2008

Prep. Batch: 062508A

Analytical Batch: 062508A

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

Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	µg/L	EPA 200.8	11:01	1.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976519-1	55.8	57.4	2.83%	≤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	976519-1	55.8	1.00	50.0	50.0	102	106	92.4%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	50.1	50.0	100%	90% - 110%	Yes
MRCVS#1	48.6	50.0	97.2%	90% - 110%	Yes
MRCVS#2	47.7	50.0	95.4%	90% - 110%	Yes
MRCVS#3	50.5	50.0	101%	90% - 110%	Yes
ICS	49.5	50.0	99.0%	80% - 120%	Yes
LCS	50.4	50.0	101%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

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

007

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976565

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

Date: July 2, 2008
Collected: June 17, 2008
Received: June 18, 2008
Prep/ Analyzed: June 19, 2008
Analytical Batch: 06CrH08P

Investigation:

Hexavalent Chromium by EPA 218.6

Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	15:00	09:43	µg/L	1.05	0.20	ND J

QA/QC Summary

QC STD I.D.		Laboratory Number		Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control	
Duplicate		976566-1		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	976565	0.00	1.06	1.00	1.06	1.07	1.06	101%	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	5.18	5.00	104%	90% - 110%	Yes
MRCVS#1	9.97	10.0	99.7%	95% - 105%	Yes
MRCVS#2	9.80	10.0	98.0%	95% - 105%	Yes
MRCVS#3	9.66	10.0	96.6%	95% - 105%	Yes
LCS	5.16	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

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

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

008

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976565

Date: July 2, 2008

Collected: June 17, 2008

Received: June 18, 2008

Prep/ Analyzed: June 19, 2008

Analytical Batch: 06TUC08X

Investigation:

Turbidity by Method SM 2130B

Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	15:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976589-1	2.85	2.86	0.35%	≤ 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	7.94	8.00	99.3%	90% - 110%	Yes
LCS	8.05	8.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

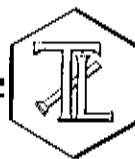
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976565

Date: July 2, 2008

Collected: June 17, 2008

Received: June 18, 2008

Prep/ Analyzed: June 19, 2008

Analytical Batch: 06PH08W

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Investigation:

pH by SM 4500-H B

Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	15:00	10:25	pH	0.0700	2.00	8.10 J

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance Limits	QC Within Control
Duplicate	976565	8.10	8.10	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.04	7.00	0.04	+ 0.100 Units	Yes
LCS #1	7.05	7.00	0.05	+ 0.100 Units	Yes
LCS #2	7.04	7.00	0.04	+ 0.100 Units	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

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

Laboratory No.: 976565

Date: July 2, 2008

Collected: June 17, 2008

Received: June 18, 2008

Prep/ Analyzed: June 20, 2008

Analytical Batch: 06EC08J

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

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	µmhos/cm	EPA 120.1	1.00	2.00	6940

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976534-1	1990	2000	0.50%	≤ 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	702	706	99.4%	90% - 110%	Yes	
CVS#1	977	996	98.1%	90% - 110%	Yes	
CVS#2	978	996	98.2%	90% - 110%	Yes	
LCS	702	706	99.4%	90% - 110%	Yes	
LCSD	702	706	99.4%	90% - 110%	Yes	

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976565

Date: July 2, 2008

Collected: June 17, 2008

Received: June 18, 2008

Prep/ Analyzed: June 20, 2008

Analytical Batch: 06TDS08N

Investigation:

Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
976565	SC-700B-WDR-156	mg/L	SM 2540C	125	4680

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	976519-3	1220	1190	1.24%	≤ 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	504	500	101%	90% - 110%	Yes
LCS 2	501	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sam Canale
Mona Nassimi, Manager
Analytical Services

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



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

CHAIN OF CUSTODY RECORD

[IM3P] Plant-WDR-156]

COC Number

TURNAROUND TIME 10 Days

DATE 6-17-08 PAGE 1 OF 1

COMPANY	E2	DATE	6-17-08	TIME	15:00	DESCRIPTION	Water
PROJECT NAME	PG&E Topock						
PHONE	(530) 229-3303	FAX	(530) 339-3303				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612						
P.O. NUMBER	358342.TM.02.00	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	SC-700B-WDR-156						
C6 (218.6) Lab Filtered		x	x	x	x	x	x
Total Metals (200.7) Total Chromium		x	x	x	x	x	x
Specific Conductance (120.1)		x	x	x	x	x	x
TDS (SM2540C)		x	x	x	x	x	x
PH (SM4500H8)		x	x	x	x	x	x
Turbidity (SM2130)		x	x	x	x	x	x
Rec'd 06/18/08 076565							
COMMENTS		ph - 8.0 EC - 7.65 Temp - 88.7 pH - 7					
NUMBER OF CONTAINERS		3					
TOTAL NUMBER OF CONTAINERS		3					

For Sample Conditions
See Form Attached

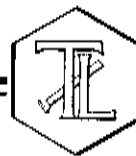
ALERT!!
Level III QC

ALERT!!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	°F
Signature (Received)	John Deetz	Omni	6-19-08 15:10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Rafael Davila	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	
Signature (Received)	Rafael Davila	T.L.T.	6-18-08 3:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Washem	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Washem	T.L.T.	6-18-08 10:45				
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time				
Signature (Received)	Printed Name	Company/Agency	Date/Time				
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time				
Signature (Received)	Printed Name	Company/Agency	Date/Time				

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

July 2, 2008

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-157 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 976734

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-157 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on June 26, 2008, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


Due to the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

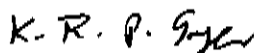
The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is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

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.

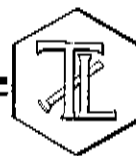
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


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

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976734

Date: July 2, 2008

Collected: June 26, 2008

Received: June 26, 2008

ANALYST LIST

ANALYST LIST		
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 358342.TM.02.00
P.O. No.: 358342.TM.02.00
Prep. Batch: 062708A

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

Laboratory No.: 976734

Date: July 2, 2008
Collected: June 26, 2008
Received: June 26, 2008
Prep/ Analyzed: June 27, 2008
Analytical Batch: 062708A

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

Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	µg/L	EPA 200.8	10:07	1.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	976734	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	976734	0.00	1.00	50.0	50.0	56.5	50.0	113%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	50.9	50.0	102%	90% - 110%	Yes
MRCVS#1	47.8	50.0	95.6%	90% - 110%	Yes
ICS	48.1	50.0	96.2%	80% - 120%	Yes
LCS	48.8	50.0	97.6%	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

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976734

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

Date: July 2, 2008
Collected: June 26, 2008
Received: June 26, 2008
Prep/ Analyzed: June 27, 2008
Analytical Batch: 06CrH08U

Investigation:

Hexavalent Chromium by EPA 218.6

Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	13:30	08:22	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	976733-4	3720	3480	6.67%	< 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	976734	0.00	1.06	1.00	1.06	0.992	1.06	93.6%	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
MRCSS	5.17	5.00	103%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	9.96	10.0	99.6%	95% - 105%	Yes
LCS	5.17	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

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

008

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976734

Date: July 2, 2008

Collected: June 26, 2008

Received: June 26, 2008

Prep/ Analyzed: June 27, 2008

Analytical Batch: 06TUC08AB

Investigation:

Turbidity by Method SM 2130B

Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	13:30	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	976729-1	3.41	3.43	0.58%	≤ 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	7.45	8.00	93.1%	90% - 110%	Yes
LCS	7.58	8.00	94.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

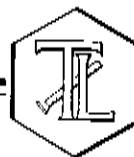
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sean Condon
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Laboratory No.: 976734

Date: July 2, 2008

Collected: June 26, 2008

Received: June 26, 2008

Prep/ Analyzed: June 27, 2008

Analytical Batch: 06PH08DD

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

Investigation:

pH by SM 4500-H B

Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	13:30	10:14	pH	0.0700	2.00	8.02

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	976734	8.02	8.02	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.00	7.00	0.00	+ 0.100 Units	Yes
LCS	7.03	7.00	0.03	+ 0.100 Units	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

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

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

Laboratory No.: 976734

Date: July 2, 2008
Collected: June 26, 2008
Received: June 26, 2008
Prep/ Analyzed: June 27, 2008
Analytical Batch: 06EC08P

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	µmhos/cm	EPA 120.1	1.00	2.00	6990

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976734	6990	6990	0.00%	≤ 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	702	706	99.4%	90% - 110%	Yes
CVS#1	977	996	98.1%	90% - 110%	Yes
LCS	702	706	99.4%	90% - 110%	Yes
LCSD	702	706	99.4%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

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

Laboratory No.: 976734

Date: July 2, 2008

Collected: June 26, 2008

Received: June 26, 2008

Prep/ Analyzed: June 27, 2008

Analytical Batch: 06TDS08S

Investigation:

Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
976734	SC-700B-WDR-157	mg/L	SM 2540C	250	4730

QA/QC Summary


QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	976734	4730	4840	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	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

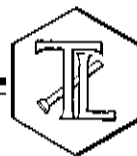
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

June 24, 2008

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

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-154 PROJECT, SLUDGE
MONITORING,

TLI No.: 976159

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-154 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 4, 2008, 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.

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

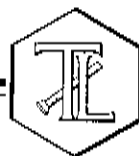
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sean Condon
for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, Inc.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Attention: Shawn Duffy

Sample: One (1) Soil Sample

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976159

Date: June 24, 2008

Collected: June 4, 2008

Received: June 4, 2008

ANALYST LIST

EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Hao Ton
SW 7471A	Mercury	Michel Mendoza
SW 7199	Hexavalent Chromium	David Blackburn

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

Attention: Shawn Duffy

Sample: One (1) Soil Sample

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Prep. Batch: 06CrH08N

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

Laboratory No.: 976159

Date: June 24, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 12, 2008

Analytical Batch: 06CrH08N

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
976159	SC-Sludge-WDR-154	08:04	13:57	mg/kg	10.0	19.3	263

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976159	263	226	15.3%	< 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	976159	263	10.0	38.6	386	633	649	95.8%	75-125%	Yes
IMS	976159	263	40.0	98.1	3924	3760	4187	89.1%	75-125%	Yes
PDMS	976159	263	25.0	30.9	773	1000	1036	95.4%	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	2.08	2.00	104%	80% - 120%	Yes
MRCVS#1	2.09	2.00	104%	80% - 120%	Yes
LCS	2.12	2.00	106%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sean Candan
Mona Nassimi, Manager
Analytical Services

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

008

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

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

Attention: Shawn Duffy

Laboratory No.: 976159

Sample: One (1) Soil Sample

Date: June 24, 2008

Project Name: PG&E Topock Project

Collected: June 4, 2008

Project No.: 358342.TM.02.00

Received: June 4, 2008

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

Prep/ Analyzed: June 9, 2008

Analytical Batch: 06SOLID08B

Investigation:

Total Solids by SM 2540 B

Analytical Results % Moisture

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>Results</u>
976159	SC-Sludge-WDR-154	08:04	%	79.3

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976159	79.3	78.3	1.27%	< 20%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Sean Candian
for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

REPORT

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

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

Attention: Shawn Duffy

Sample: One (1) Soil Sample

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

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

Laboratory No.: 976159

Date: June 24, 2008

Collected: June 4, 2008

Received: June 4, 2008

Prep/ Analyzed: June 6, 2008

Analytical Batch: 06AN08E

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
976159	SC-Sludge-WDR-154	08:04	16:46	mg/kg	1.00	19.3	92.9

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976222-2	0.223	0.222	0.45%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	976222-2	0.223	1.00	2.00	2.00	2.34	2.22	106%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	—	<0.200	Yes
MRCCS	4.07	4.00	102%	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	4.18	4.00	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

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Attention: Shawn Duffy

REPORT

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

Laboratory No.: 976159

Reported: June 24, 2008

Collected: June 4, 2008

Received: June 4, 2008

Analyzed: See Below

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

Investigation: Total Metal Analyses as Requested

Analytical Results

SAMPLE ID: SC-Sludge-WDR-154		Time Collected: 08:04		LAB ID: 976159				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6010B	221	1.00	mg/kg	4.79	061908A	06/19/08	11:00
Arsenic	SW 6010B	69.9	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Barium	SW 6010B	104	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Beryllium	SW 6010B	309	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Cadmium	SW 6010B	33.3	1.00	mg/kg	4.79	061608A	06/16/08	12:43
Chromium	SW 6010B	16700	10.0	mg/kg	24.0	061608A	06/16/08	12:26
Cobalt	SW 6010B	ND	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Copper	SW 6010B	110	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Lead	SW 6010B	ND	1.00	mg/kg	4.79	061608A	06/16/08	12:43
Mercury	SW 7471A	ND	100	mg/kg	0.0963	0610HG08C	06/10/08	N/A
Molybdenum	SW 6010B	ND	1.00	mg/kg	2.50	061908A	06/19/08	11:00
Nickel	SW 6010B	ND	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Selenium	SW 6010B	236	1.00	mg/kg	12.0	061908A	06/19/08	11:00
Silver	SW 6010B	ND	1.00	mg/kg	4.79	061908A	06/19/08	11:00
Thallium	SW 6010B	ND	1.00	mg/kg	4.79	061608A	06/16/08	12:53
Vanadium	SW 6010B	169	1.00	mg/kg	2.50	061608A	06/16/08	12:43
Zinc	SW 6010B	183	1.00	mg/kg	12.0	061608A	06/16/08	12:43

NOTES:

Sample results and reporting limits reported on a dry weight basis.

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

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



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-154]

COC Number

TURNAROUND TIME 10 Days

DATE PAGE OF

COMPANY E2
PROJECT NAME PG&E Topock
PHONE (530) 229-3303 FAX (530) 339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 358342.TM.02.00 TEAM 1
SAMPLERS (SIGNATURE)

Rec'd 06/04/08

976159

COMMENTS	NUMBER OF CONTAINERS	TOTAL NUMBER OF CONTAINERS
Ammonia (SM4500NH3)		1
Turbidity (SM2130)		1
Metals (60108) Title 22, Mercury		1
Cf6 (7199)		1
Anions (300.0) FI, SO4, NO2, NO3		1
Anions (300.0) FI		1
PH (SM4500HB)		1
TDS (SM2540C)		1
Specific Conductance (120.1)		1
Total Metals (200.7) Title 22, Mercury		1
ALAs Ba, B, C, Cu, Pb, Mn, Mo, Ni, Sb, Fe, Zn		1
Total Metals (200.7)		1
Cf6 (218.6) Lab Filtered		1

DATE TIME DESCRIPTION

6-4-08 8:04 Sludge

SC-Sludge-WDR-154

SAMPLE ID.

For Sample Confirmation
See Form Attached

ALERT!!

Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

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