Topock Project Executive Abstract

Document Title:

Topock IM No. 3 WDR Combined Fourth Quarter 2010 Monitoring, Jul-Dec 2010 Semiannual, and Jan-Dec 2010 Annual Operation and Maintenance Report

Submitting Agency/Authored by: RWQCB

Final Document? ☒ Yes ☐ No

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PG&E

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☐ Draft ☒ Report ☐ Letter ☐ Memo

☐ Other / Explain:

Action Required:
☒ Information Only ☐ Review & Comment
Return to: _____

By Date:_____
☐ Other / Explain:

What does this information pertain to?
☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)
☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)
☐ Corrective Measures Study (CMS)/Feasibility Study (FS)
☐ Corrective Measures Implementation (CMI)/Remedial Action
☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)
☒ Interim Measures
☐ Other / Explain:

Is this a Regulatory Requirement?
☒ Yes
☐ No
If no, why is the document needed?

What is the consequence of NOT doing this item? What is the consequence of DOING this item?

Submittal of this report is a compliance requirement of Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060

Other Justification/s:
☐ Permit ☐ Other / Explain:

Brief Summary of attached document:

This report covers the IM No. 3 groundwater treatment system (IM3) monitoring activities during the Fourth Quarter 2010 period. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program. This report also covers the IM3 operation and maintenance activities during the July - December 2010 semiannual and January – December annual periods.

Written by: PG&E

Recommendations:
This report is for your information only.

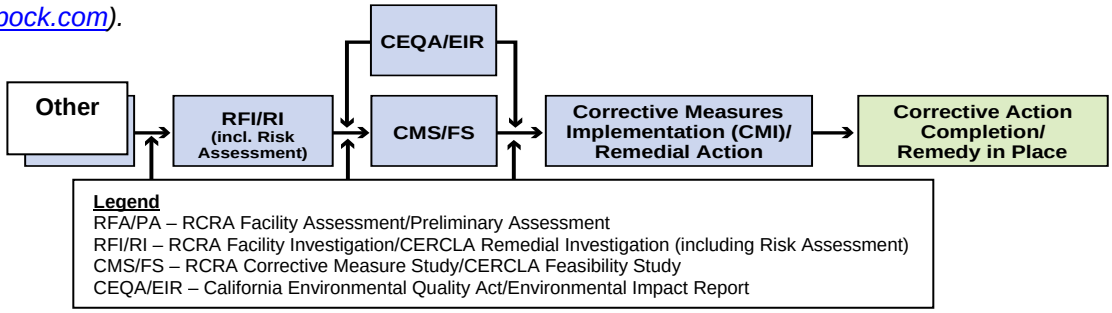
How is this information related to the Final Remedy or Regulatory Requirements:

The IM No. 3 WDR Fourth Quarter 2010 Monitoring, Jul-Dec 2010 Semiannual, and Jan-Dec 2010 Annual Operation and Maintenance Report is related to the Interim Measure, and is designed to monitor compliance with RWQCB Waste Discharge Requirements/Order No. R7-2006-0060.

Other requirements of this information?
None.

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).



Legend
RFA/PA – RCRA Facility Assessment/Preliminary Assessment
RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)
CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study
CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

Version 9

Pacific Gas and Electric Company

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January 14, 2011

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

Subject: **Board Order R7-2006-0060**
PG&E Topock Compressor Station, Needles, California
Interim Measure No. 3 Groundwater Treatment System Discharge to Injection Wells
Combined Fourth Quarter 2010 Monitoring and Semiannual July-December 2010/ Annual January-December 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System
(Document ID: PGE20101014B)

Dear Mr. Perdue:

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

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

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

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

Sincerely,

Curt Russell
Topock Site Manager

Enclosures:

Combined Fourth Quarter 2010 Monitoring and Semiannual July-December 2010/ Annual January-December 2010 Operation and Maintenance Report for IM No. 3 Groundwater Treatment System

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

Combined Fourth Quarter 2010 Monitoring and Semiannual July – December 2010 / Annual January – December 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20101014B

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

Prepared for

California Regional Water Quality Control Board Colorado River Basin Region

On behalf of

Pacific Gas and Electric Company

January 14, 2011

CH2MHILL
155 Grand Avenue, Suite 800
Oakland, CA 94612

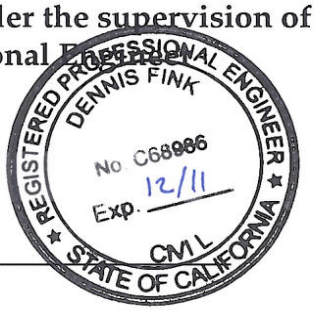
Combined Fourth Quarter 2010 Monitoring and Semiannual July – December 2010 / Annual January – December 2010 Operation and Maintenance Report for Interim Measure No. 3 Groundwater Treatment System

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

Prepared for
Pacific Gas and Electric Company

January 14, 2011

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



Dennis Fink, P.E.
Project Engineer

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A Semiannual Operations and Maintenance Log, July 1, 2010 through December 31, 2010

B Daily Volumes of Groundwater Treated

C Flowmeter Calibration Records

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Acronyms and Abbreviations

ATL	Advanced Technology Laboratories, Inc.
CIP	clean-in-place
gpm	gallons per minute
IM	Interim Measure
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
ppb	parts per billion
RCRA	Resource Conservation and Recovery Act
RO	reverse osmosis
Truesdail	Truesdail Laboratories, Inc.
Regional 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 (Regional Water Board) Board Order No. R7-2006-0060 authorizes PG&E to inject treated groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. Order No. R7-2006-0060 was issued September 20, 2006 and is the successor to Order No. R7-2004-0103. The revised Monitoring and Reporting Program (MRP) under the Order, issued August 28, 2009, requires quarterly monitoring reports to be submitted by the fifteenth day of the month following the end of the quarter.

This report covers the IM No. 3 groundwater treatment system monitoring activities during the Fourth Quarter 2010; the operation and maintenance activities during the July 1, 2010 to December 31, 2010 semiannual period (Third and Fourth Quarters 2010); and (by reference; see Section 3.0) the operation and maintenance activities during the January 1, 2010 to June 30, 2010 semiannual period (First and Second Quarters 2010). The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

2.0 Sampling Station Locations

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

- Figure TP-PR-10-10-04 – Raw Water Storage and Treated Water Storage Tanks
- Figures PR-10-03 and PR-10-04 – Reverse Osmosis System
- Figure TP-PR-10-10-06 – Sludge Storage Tanks
- Figure TP-PR-10-10-03 – Extraction Wells
- Figure TP-PR-10-10-11 – Injection Wells

3.0 Description of Monitoring Activities

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

- *IM No. 3 First Quarter 2010 Monitoring Report for Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060,* submitted to the Regional Water Board April 15, 2010.
- *IM No. 3 Second Quarter 2010 Monitoring / Semiannual January 1- June 30, 2010 Operation and Maintenance Report for Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060,* submitted to the Regional Water Board July 15, 2010.
- *IM No. 3 Third Quarter 2010 Monitoring Report for Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060,* submitted to the Regional Water Board October 15, 2010.

The IM No. 3 operation and maintenance activities from January 1, 2010 through June 30, 2010 (First and Second Quarter 2010 operation and maintenance) were reported in the Second Quarter 2010 Monitoring/Semiannual Operation and Maintenance Report listed above; these operation and maintenance data are incorporated in the present report by reference. The present report therefore also serves as the annual January through December 2010 Operation and Maintenance Report for IM No. 3.

3.1 Groundwater Treatment System

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

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

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

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

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

3.2 Groundwater Treatment System Flow Rates for Fourth Quarter 2010

Downtime is defined as any periods when all extraction wells are not operating so that no groundwater is being extracted and piped into IM No. 3 as influent. Periods of planned and unplanned extraction system downtime (that together resulted in approximately1.8 percent downtime during Fourth Quarter 2010) are summarized in the Semiannual Operations and Maintenance Log provided in Appendix A. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site. Periods of planned and unplanned extraction system downtime during the months July 2010 – September 2010 are reported in the *Third Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System Waste Discharge Requirements Order No. R7-2006-0060, PG&E Topock Compressor Station, Needles, CA*, published October 15, 2010.

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

3.2.1 Treatment System Influent

During the Fourth Quarter 2010, extraction wells TW-3D and PE-1 operated at a target pumping rate of 135 gallons per minute, excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D ran for a short period on December 10th and 15th for sampling activities during the Fourth Quarter 2010. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 96.5 percent during October 2010.
- 99.2 percent during November 2010.
- 99.8 percent during December 2010.

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

The IM No. 3 facility treated approximately 17,489,747 gallons of extracted groundwater during Fourth Quarter 2010.

In addition to extracted groundwater, during Fourth Quarter 2010 the IM No. 3 facility treated 5,825 gallons of water generated from the groundwater monitoring program and 12,000 gallons of injection well development water.

3.2.2 Effluent Streams

The treatment system effluent flow rate was measured by flow meters in the piping leading to injection wells IW-2 and IW-3 (Figure TP-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 17,063,673 gallons of treatment system effluent during Fourth Quarter 2010. The monthly average flow rate to injection wells is shown in Table 2.

The reverse osmosis concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure - PR-10-04). The IM No. 3 facility generated 281,174 gallons of RO concentrate during Fourth Quarter 2010. The monthly average RO concentrate flow rate is shown in Table 2.

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

3.3 Sampling and Analytical Procedures

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

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

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

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

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

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

Groundwater quality is being monitored in observation and compliance wells according to Order R7-2006-0060 and the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Regional Water Board on June 17, 2005. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.

4.0 Analytical Results

The analytical results and laboratory reports for the IM No. 3 groundwater treatment system monitoring program between January 1, 2010 and September 30, 2010 were included in the First Quarter, Second Quarter, and Third Quarter Monitoring Reports submitted to the Regional Water Board (see Section 3.0 for a complete listing of reports).

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

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

The sludge is required to have an aquatic bioassay test annually. The aquatic bioassay test was conducted on a September 2010 sample, and the results were presented in the Third Quarter Monitoring Report submitted to the Regional Water Board October 15, 2010.

Table 8 identifies the following information for each analysis:

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

The onsite IM No. 3 lab did not analyze two samples for pH during the Fourth Quarter 2010. In both instances (plant influent in December 2010 and RO concentrate in the Fourth Quarter 2010) the Truesdail offsite laboratory completed sample analysis for pH and reported the results summarized in Tables 4 and 6.

The RO concentrate sample that was collected September 1, 2010 from the approved sampling station D per standard sampling schedule was considerably less salty than typical RO concentrate. The reason is that this grab sample was collected during an automatic back-flushing procedure (the RO unit runs on/off, with several cycles per day, and each time it stops there is a back-flush to avoid corrosive salty water sitting stagnant in the metal pipes of the RO unit). The back-flushing uses permeate (i.e., water that has had most of the salinity removed by the RO unit). The back-flushing water and the RO concentrate both go to tank T-701, then to the RO concentrate (brine) holding tanks for offsite disposal; therefore

the sample is representative of the RO concentrate waste stream at certain times. PG&E proposed, in an October 27, 2010 letter request to the Regional Water Board, to modify the sample collection location to ensure the sample is representative of what is shipped offsite (i.e., a mixture of the back-flush water and the RO concentrate). The modified RO concentrate sample location was installed in November 2010 and is available for sample collection.

5.0 Semiannual Operation and Maintenance

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

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

This section includes the Semiannual Operation and Maintenance Report for the IM No. 3 groundwater treatment system for the period July 1, 2010 through December 31, 2010. The IM No. 3 operation and maintenance activities for January 1, 2010 through June 30, 2010 were reported in the Second Quarter 2010 Monitoring and Semiannual January 1- June 30, 2010 Operation and Maintenance Report, submitted July 15, 2010.

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

5.1 Flowmeter Calibration Records

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

Location	Flowmeter Location ID	Current Flowmeter Serial No.	Date of Calibration	Date of Installation
Extraction well PE-1	FIT-103	7700F216000	11/30/06	2/25/09
Extraction well TW-3D	FIT-102	6C037016000	9/12/07	1/25/09
Extraction well TW-2D[a]	FIT-101	6A021F16000	11/29/04	7/28/05
Extraction well TW-2S[b]	FIT-100	6A022016000	11/29/04	7/28/05
Injection well IW-02	FIT-1202	6C036F16000	8/6/10	1/5/11
Injection well IW-03	FIT-1203	6A022116000	8/6/10	12/15/10
Combined IW-02 and IW-03	FIT-700	6A022416000	11/29/04	4/9/10
Reverse osmosis concentrate	FIT-701	6C037116000	1/31/05	2/25/09

Notes:
[a] TW-2D is a backup extraction well only operated for brief testing and sampling periods since January 2006.
[b] TW-2S is a backup extraction well only operated for brief testing and sampling periods since October 2005.

5.2 Volumes of Groundwater Treated

Data regarding daily volumes of groundwater treated between July 1, 2010 and December 31, 2010 are provided in Appendix B. The daily volumes of groundwater treated from January 1, 2010 through June 30, 2010 were reported in the Second Quarter 2010 Monitoring and Semiannual January 1- June 30, 2010 Operation and Maintenance Report, submitted July 15, 2010.

Approximately 34,282,136 gallons of groundwater were extracted and treated between July 1, 2010 and December 31, 2010. Treatment of this water at the IM No. 3 facility is being performed in accordance with the conditions of Order No. R7-2006-0060.

Additionally, approximately 9,355 gallons of well purge water (generated during well development, monitoring well sampling, and/or aquifer testing) and 40,800 gallons of injection well re-development water were treated at the IM No. 3 facility during the July 1, 2010 through December 31, 2010 semiannual period.

A total of approximately 33,423,949 gallons of treated groundwater was injected back into the Alluvial Aquifer between July 1, 2010 and December 31, 2010.

5.3 Residual Solids Generated (Sludge)

During the July 1, 2010 through December 31, 2010 reporting period, seven containers of sludge were shipped offsite for disposal. The containers of sludge shipped offsite for disposal from January 1, 2010 through June 30, 2010 were reported in the Second Quarter 2010 Monitoring and Semiannual January 1- June 30, 2010 Operation and Maintenance Report, submitted July 15, 2010. The sludge was shipped to Chemical Waste Management at Kettleman Hills for disposal. A listing of each shipment during the July 1, 2010 through December 31, 2010 reporting period is provided below.

Date Sludge Bin Removed from Site	Approximate Quantity from Waste Manifests (cubic yards)	Approximate Wet Weight (lbs)	Type of Shipment
8/23/2010	8	29,800	non-RCRA hazardous waste
9/9/2010	8	39,560	non-RCRA hazardous waste
10/4/2010	8	29,480	non-RCRA hazardous waste
10/11/2010	9	30,300	non-RCRA hazardous waste
11/19/2010	8	39,640	non-RCRA hazardous waste
12/07/2010	8	16,120	non-RCRA hazardous waste
12/21/2010	9	14,100	non-RCRA hazardous waste

Notes:
The approximate wet weight is provided by the disposal facility based on full container weight less the empty container weight.
RCRA = Resource Conservation and Recovery Act.

5.4 Reverse Osmosis Concentrate Generated

Data regarding daily volumes of reverse osmosis concentrate generated are provided in Appendix B, as measured by flowmeter FIT-701 (Figures PR-10-03 and PR-10-04). From July 1, 2010 through December 31, 2010, approximately 664,152 gallons of RO concentrate were transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal. The daily volumes of RO concentrate generated from January 1, 2010 through June 30, 2010 were reported in the Semiannual January 1- June 30, 2010 Operation and Maintenance Report, submitted July 15, 2010.

5.5 Summary of WDR Compliance

No WDR violations were identified during the July 1, 2010 through December 31, 2010 semiannual reporting period, nor during the January 1, 2010 through June 30, 2010 semiannual reporting period.

5.6 Operation and Maintenance – Required Shutdowns

Records of routine maintenance are kept onsite. The summary of operation or maintenance issues that required the groundwater extraction system to be shut down during the January 1, 2010 through June 30, 2010 period was reported in the Second Quarter 2010 Monitoring and Semiannual January 1- June 30, 2010 Operation and Maintenance Report, submitted July 15, 2010.

Appendix A contains a summary of the operation or maintenance issues that required the groundwater extraction system to be shut down during the July 1, 2010 through December 31, 2010 semiannual reporting period.

No extended shutdowns of the IM No. 3 extraction system occurred during the Fourth Quarter 2010. Activities during the Third Quarter 2010 included one extended shutdown. The extended shutdown occurred in August 2010, due primarily to planned maintenance and planned biannual plant outage.

August Extended Shutdown

The IM No. 3 extraction system was shut down for 75.6 hours during August 2010, for both planned and unplanned events. The causes of the extraction system downtime included:

- Unplanned reduced microfilter performance;
- Planned microfilter maintenance;
- Unplanned power supply imbalance; and
- Planned plant biannual outage.

5.7 Treatment Plant Modifications

No major IM No. 3 treatment plant modifications that affected the quality or quantity of treated effluent were performed during the January 1, 2010 through December 31, 2010 annual period.

6.0 Conclusions

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

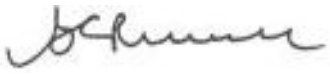
In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, and no new releases of hazardous waste or hazardous waste constituents, or new solid waste management units, were identified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

7.0 Certification

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

Certification Statement:

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

Signature: 

Name: Curt Russell

Company: Pacific Gas and Electric Company

Title: Topock Site Manager

Date: January 14, 2011

Tables

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

Sampling 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-700BWDR-###	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 PR-10-04).
Sampling Station E: Groundwater Treatment System Sludge	SC-SLUDGE-WDR-###	Sample collected from sludge accumulated in the phase separator used this quarter (see Figure TP-PR-10-10-06).

Note:

= Sequential sample identification number at each sample station.

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

Parameter	System Influent [a,b] (gpm)	System Effluent [b,c] (gpm)	Reverse Osmosis Concentrate [b] (gpm)
October 2010 Average Monthly Flowrate	129.7	126.8	3.0
November 2010 Average Monthly Flowrate	133.7	130.3	2.3
December 2010 Average Monthly Flowrate	132.7	129.4	1.1

Notes:

gpm: gallons per minute.

July, August, and September 2010 Average Monthly Flowrates were presented in the IM No. 3 Third Quarter 2010 Monitoring Report

[a] Extraction wells TW-3D and PE-1 were operated during the Fourth Quarter 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S ran for a short period on December 10, 2010 and December 15, 2010 for sampling activities. The TW-2S flow meter is broken and did not record the TW-2S flow on December 10, 2010 and December 15, 2010.

[b] The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the Fourth Quarter 2010 is approximately0.84 percent.

[c] Effluent was discharged into injection well IW-02 and IW-03 during the Fourth Quarter 2010.

TABLE 3
Sample Collection Dates
Fourth Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent[a]	October 5, 2010	See Table 4
	November 3, 2010	
	December 7, 2010	
Effluent[b]	October 5, 2010	See Table 5
	October 13, 2010	
	October 19, 2010	
	October 27, 2010	
	October 28, 2010	
	November 3, 2010	
	November 9, 2010	
	November 16, 2010	
	November 13, 2010	
	November 24, 2010	
	December 7, 2010	
	December 14, 2010	
	December 21, 2010	
	December 28, 2010	
Reverse Osmosis Concentrate[c]	December 7, 2010	See Table 6
Sludge[d]	December 7, 2010	See Table 7

Notes:

[a] Influent sampling is required monthly.

[b] Effluent sampling is required weekly.

[c] Reverse Osmosis Concentrate sampling is required quarterly.

[d] One composite sludge sample is required quarterly, see Table 7. Sludge bioassay analysis is required annually; the sludge bioassay analysis was conducted on the Third Quarter 2010 sludge composite sample and reported (pass at 95 percent survival rate) in the IM No. 3 Third Quarter 2010 Monitoring Report.

TABLE 4
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Influent Monitoring Results [a]
Fourth Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																						
Analytes		TDS	Turbidity	Specific Conductance	Lab pH [c]	Field pH [d]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units [b]		mg/L	NTU	µmhos/cm	pHunits	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
MDL		0.434	0.0140	0.0380	0.0250	---	0.0950	1.10	1.00	0.0020	0.190	0.260	0.185	0.0047	0.305	0.0250	0.0950	0.0600	0.660	0.240	0.0550	0.00020	0.500	3.00	1.32
Sample ID	**Date**																								
SC-100B-WDR-277	**10/5/2010**	**4300**	**ND (0.100)**	**7870**	**---**	**7.4**	**918**	**987**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**4.20**	**24.8**	**0.968**	**ND (5.00)**	**2.60**	**ND (10.0)**	**10.0**	**23.0**	**ND (10.0)**	**3.21**	**ND (0.0050)**	**549**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	---	1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	0.500	0.0050	12.5	20.0	10.0
SC-100B-WDR-280	**10/27/2010**	**5110**	**ND (0.100)**	**7870**	**---**	**---**	**890**	**1090**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**10.0**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	10.5	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-100B-WDR-281	**11/3/2010**	**4940**	**ND (0.100)**	**7980**	**---**	**7.3**	**969**	**1020**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**8.10**	**25.4**	**1.01**	**ND (5.00)**	**2.45**	**ND (10.0)**	**9.80**	**20.4**	**24.1**	**3.26**	**ND (0.0050)**	**559**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	---	10.0	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	50.0	20.0	10.0
SC-100B-WDR-286	**12/7/2010**	**4780**	**0.103**	**8000**	**7.30 J**	**---**	**894**	**1080**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**3.50**	**24.9**	**0.980**	**ND (5.00)**	**2.63**	**ND (10.0)**	**10.2**	**22.4**	**ND (10.0)**	**3.20**	**ND (0.0050)**	**567**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	4.00	---	1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0

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

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

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

c pH result is J flagged because of the 2007 EPA requirements for pH analysis - pH has 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 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results[a]
Fourth Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

WDRs Effluent Limits[b]	Ave. Monthly	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
	Max Daily	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	NA
Required Sampling Frequency		**Weekly**							**Monthly**																	
Analytes		TDS	Turbidity	Specific Conductance	Lab pH [e]	Field pH [f]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units[c]		mg/L	NTU	µmhos/cm	pHunits	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
MDL[d]		0.434	0.0140	0.0380	0.0250	---	0.0950	0.0220	1.00	0.0020	0.190	0.260	0.185	0.0047	0.305	0.0250	0.0950	0.0600	0.660	0.240	0.0550	0.00020	0.500	3.00	1.32
Sample ID	**Date**																									
SC-700B-WDR-277	**10/5/2010**	**4190**	**0.128**	**7110**	**---**	**7.10**	**ND (1.00)**	**0.310**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**10.4**	**0.871**	**ND (5.00)**	**2.05**	**ND (10.0)**	**1.40**	**17.6**	**ND (10.0)**	**2.89**	**ND (0.0050)**	**497**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	0.500	0.0050	12.5	20.0	10.0
SC-700B-WDR-278	**10/13/2010**	**4410**	**0.115**	**7090**	**---**	**7.20**	**ND (1.00)**	**0.200**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**1.60**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-279	**10/19/2010**	**4340**	**0.107**	**7160**	**---**	**7.30**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**2.60**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-280	**10/27/2010**	**---**	**---**	**---**	**---**	**7.40**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-280B	**10/28/2010**	**4450**	**0.162**	**7770**	**---**	**7.20**	**2.80**	**1.60**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**3.20**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	1.00	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-281	**11/3/2010**	**4590**	**0.127**	**7330**	**---**	**6.90**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**12.0**	**0.961**	**ND (5.00)**	**2.02**	**ND (10.0)**	**1.80**	**16.2**	**ND (10.0)**	**3.14**	**ND (0.0050)**	**518**	**ND (20.0)**	**11.1**
RL		250	0.100	2.00	---	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0
SC-700B-WDR-282	**11/9/2010**	**4430**	**0.140**	**7340**	**---**	**7.10**	**1.90**	**0.250**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.50**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-283	**11/16/2010**	**4510**	**0.108**	**7500**	**---**	**7.10**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**2.10**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-284	**11/23/2010**	**4600**	**ND (0.100)**	**7590**	**---**	**7.40**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**7.40**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-285	**11/30/2010**	**4390**	**0.102**	**7310**	**---**	**7.30**	**ND (1.00)**	**0.310**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**2.10**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-286	**12/7/2010**	**4620**	**ND (0.100)**	**7500**	**7.61 J**	**7.70**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**15.4**	**0.967**	**ND (5.00)**	**2.29**	**ND (10.0)**	**17.0**	**17.8**	**ND (10.0)**	**2.94**	**ND (0.0050)**	**509**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	4.00	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-287	**12/14/2010**	**4460**	**ND (0.100)**	**7400**	**---**	**7.10**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.80**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-288	**12/21/2010**	**3550**	**ND (0.100)**	**7320**	**---**	**6.90**	**ND (1.00)**	**0.430**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**ND (1.00)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---
SC-700B-WDR-289	**12/28/2010**	**4250**	**ND (0.100)**	**7250**	**---**	**6.90**	**ND (1.00)**	**0.350**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**ND (1.00)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results [a]
Fourth Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

NOTES:

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

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 result is J flagged because of the 2007 EPA requirements for pH analysis - pH has 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 6
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Reverse Osmosis Concentrate Monitoring Results [a]
Fourth Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																					
Analytes		TDS	Specific Conductance	Lab pH [c]	Field pH [d]	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units [b]		mg/L	µmhos/cm	pHunits	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MDL		0.434	0.0380	0.0250	---	0.00019	0.00022	0.00019	0.00026	0.00019	0.00011	0.00013	0.00052	0.00031	0.0250	0.000095	0.0013	0.00020	0.00048	0.00074	0.00020	0.00018	0.00010	0.0013
Sample ID	**Date**																							
SC-701-WDR-286	**12/7/2010**	**39400**	**44500**	**7.33 J**	**---**	**0.0297**	**0.00240**	**ND (0.0100)**	**0.00180**	**0.110**	**ND (0.0010)**	**ND (0.0030)**	**0.00690**	**0.0612**	**14.6**	**ND (0.0100)**	**0.122**	**ND (0.0010)**	**0.0267**	**0.0301**	**ND (0.0050)**	**ND (0.0010)**	**ND (0.0050)**	**ND (0.0100)**
RL		1000	2.00	4.00	---	0.0020	0.0021	0.0100	0.0010	0.0100	0.0010	0.0030	0.0050	0.0050	0.500	0.0100	0.0100	0.0010	0.0100	0.0100	0.0050	0.0010	0.0050	0.0100

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

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 result is J flagged because of the 2007 EPA requirements for pH analysis - pH has 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 7
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Sludge Monitoring Results[a]
Fourth Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																		
Analytes		Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units[b]		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL		0.0600	0.200	0.0010	0.0010	0.0010	0.00030	0.00010	0.00010	0.0010	0.0120	0.0010	0.00030	0.00040	0.00030	0.0020	0.0020	0.0010	0.00030	0.0020
Sample ID	**Date**																			
SC-Sludge-WDR-286	**12/7/2010**	**4670**	**56.5**	**45.4**	**10.7**	**58.2**	**1.62**	**ND (0.988)**	**7.11**	**28.9**	**32.3**	**4.20**	**8.31**	**ND (0.198)**	**21.2**	**ND (1.00)**	**4.51**	**2.32**	**117**	**32.2**
RL		19.8	4.59	2.00	0.988	1.00	1.00	0.988	1.00	1.00	4.59	1.00	1.00	0.198	1.00	1.00	1.00	2.00	1.00	2.00

NOTES:

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

[a] Sampling location for all sludge samples is the sludge collection bin (see attached P&ID TP-PR-10-10-06).

[b] Units reported in this table are those units required in the WDRs.

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-277	C.Knight	10/5/2010	8:40:00 AM	TLI	EPA 120.1	SC	10/6/2010	Iordan Stavrev
					TLI	EPA 200.7	B	10/25/2010	Ethel Suico
					TLI	EPA 200.7	FE	10/22/2010	Ethel Suico
					TLI	EPA 200.7	FETD	10/8/2010	Ethel Suico
					TLI	EPA 200.7	MND	10/8/2010	Ethel Suico
					TLI	EPA 200.8	AL	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	AS	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BA	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CR	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CU	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MO	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	NI	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	PB	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	SB	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	ZN	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	10/11/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	10/6/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	10/6/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	10/6/2010	Giawad Ghenniwa
					FIELD	HACH	PH	10/5/2010	C.Knight
					TLI	SM 2320B	ALKB	10/12/2010	Iordan Stavrev
					TLI	SM 2320B	ALKC	10/12/2010	Iordan Stavrev
					TLI	SM2130B	TRB	10/6/2010	Gautam Savani
					TLI	SM2540C	TDS	10/7/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	10/12/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	10/6/2010	Jenny Tankunakorn
SC-100B	SC-100B-WDR-280	J.Aide	10/27/2010	8:06:00 AM	TLI	EPA 120.1	SC	10/28/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	10/29/2010	Hope Trinidad/Katia Kiarashpoor
					TLI	EPA 200.8	MN	10/29/2010	Hope Trinidad/Katia Kiarashpoor
					TLI	EPA 218.6	CR6	10/28/2010	Sonya Bersudsky
					TLI	SM2130B	TRB	10/28/2010	Gautam Savani
					TLI	SM2540C	TDS	10/28/2010	Jenny Tankunakorn
SC-100B	SC-100B-WDR-281	Ron Phelps	11/3/2010	12:15:00 PM	TLI	EPA 120.1	SC	11/4/2010	Iordan Stavrev
					TLI	EPA 200.7	AL	11/17/2010	Ethel Suico
					TLI	EPA 200.7	B	11/10/2010	Ethel Suico

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-281	Ron Phelps	11/3/2010	12:15:00 PM	TLI	EPA 200.7	CR	11/17/2010	Ethel Suico
					TLI	EPA 200.7	FE	11/17/2010	Ethel Suico
					TLI	EPA 200.7	FETD	11/12/2010	Ethel Suico
					TLI	EPA 200.8	AS	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	BA	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	CU	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	MN	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	MND	11/23/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	MO	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	NI	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	PB	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	SB	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	ZN	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 218.6	CR6	11/4/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	11/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	11/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	11/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	11/3/2010	Tim D
					TLI	SM 2320B	ALKB	11/10/2010	Iordan Stavrev
					TLI	SM 2320B	ALKC	11/10/2010	Iordan Stavrev
					TLI	SM2130B	TRB	11/4/2010	Gautam Savani
					TLI	SM2540C	TDS	11/8/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	11/8/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	11/4/2010	Jenny Tankunakorn
SC-100B	SC-100B-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 120.1	SC	12/9/2010	Iordan Stavrev
					TLI	EPA 200.7	B	12/17/2010	Ethel Suico
					TLI	EPA 200.7	FE	12/17/2010	Ethel Suico
					TLI	EPA 200.8	AL	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	AS	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	BA	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CR	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CU	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MO	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	NI	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	PB	12/16/2010	Katia Kiarashpoor

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Monitoring Information
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 200.8	SB	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	12/14/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	12/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	12/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	12/8/2010	Giawad Ghenniwa
					TLI	SM2130B	TRB	12/8/2010	Gautam Savani
					TLI	SM2540C	TDS	12/8/2010	Jenny Tankunakorn
					TLI	SM4500-HB	PH	12/8/2010	Iordan Stavrev
					TLI	SM4500NH3D	NH3N	12/9/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	12/8/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-277	C.Knight	10/5/2010	8:40:00 AM	TLI	EPA 120.1	SC	10/6/2010	Iordan Stavrev
					TLI	EPA 200.7	B	10/25/2010	Ethel Suico
					TLI	EPA 200.7	FE	10/22/2010	Ethel Suico
					TLI	EPA 200.8	AL	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	AS	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BA	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CR	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CU	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MO	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	NI	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	PB	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	SB	10/14/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	ZN	10/7/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	10/11/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	10/6/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	10/6/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	10/6/2010	Giawad Ghenniwa
					FIELD	HACH	PH	10/5/2010	C.Knight
					TLI	SM2130B	TRB	10/6/2010	Gautam Savani
					TLI	SM2540C	TDS	10/7/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	10/12/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	10/6/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-278	J.Aide	10/13/2010	8:00:00 AM	TLI	EPA 120.1	SC	10/19/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	10/19/2010	Hope Trinidad/Katia Kiarashpoor

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Monitoring Information
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-278	J.Aide	10/13/2010	8:00:00 AM	TLI	EPA 200.8	MN	10/19/2010	Hope Trinidad/Katia Kiarashpoor
					TLI	EPA 218.6	CR6	10/15/2010	Sonya Bersudsky
					FIELD	HACH	PH	10/13/2010	J.Aide
					TLI	SM2130B	TRB	10/14/2010	Gautam Savani
					TLI	SM2540C	TDS	10/14/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-279	C.Knight	10/19/2010	9:00:00 AM	TLI	EPA 120.1	SC	10/20/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	10/27/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	10/27/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	10/20/2010	Sonya Bersudsky
					FIELD	HACH	PH	10/19/2010	Ron Phelps
					TLI	SM2130B	TRB	10/20/2010	Gautam Savani
					TLI	SM2540C	TDS	10/21/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-280	J.Aide	10/27/2010	8:06:00 AM	FIELD	HACH	PH	10/27/2010	Tim D
SC-700B	SC-700B-WDR-280B	C.Knight	10/28/2010	1:35:00 PM	TLI	EPA 120.1	SC	11/1/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	11/2/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	11/2/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	10/29/2010	Sonya Bersudsky
					FIELD	HACH	PH	10/28/2010	Tim D
					TLI	SM2130B	TRB	10/29/2010	Gautam Savani
					TLI	SM2540C	TDS	10/29/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-281	Ron Phelps	11/3/2010	12:20:00 PM	TLI	EPA 120.1	SC	11/4/2010	Iordan Stavrev
					TLI	EPA 200.7	AL	11/17/2010	Ethel Suico
					TLI	EPA 200.7	B	11/10/2010	Ethel Suico
					TLI	EPA 200.7	FE	11/17/2010	Ethel Suico
					TLI	EPA 200.8	AS	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	BA	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	CR	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	CU	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	MN	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	MO	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	NI	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	PB	11/5/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	SB	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 200.8	ZN	11/12/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	EPA 218.6	CR6	11/11/2010	Sonya Bersudsky

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Monitoring Information
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-281	Ron Phelps	11/3/2010	12:20:00 PM	TLI	EPA 300.0	FL	11/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	11/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	11/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	11/3/2010	Tim D
					TLI	SM2130B	TRB	11/4/2010	Gautam Savani
					TLI	SM2540C	TDS	11/8/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	11/8/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	11/4/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-282	Ron Phelps	11/9/2010	12:00:00 PM	TLI	EPA 120.1	SC	11/10/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	11/18/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	11/18/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	11/11/2010	Sonya Bersudsky
					FIELD	HACH	PH	11/9/2010	Ron Phelps
					TLI	SM2130B	TRB	11/10/2010	Gautam Savani
					TLI	SM2540C	TDS	11/10/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-283	Ron Phelps	11/16/2010	1:00:00 PM	TLI	EPA 120.1	SC	11/17/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	11/24/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	11/24/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	11/17/2010	Sonya Bersudsky
					FIELD	HACH	PH	11/16/2010	Tim D
					TLI	SM2130B	TRB	11/17/2010	Gautam Savani
					TLI	SM2540C	TDS	11/17/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-284	C.Knight	11/23/2010	2:25:00 PM	TLI	EPA 120.1	SC	11/29/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	12/3/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	12/9/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	11/24/2010	Sonya Bersudsky
					FIELD	HACH	PH	11/23/2010	C. Knight
					TLI	SM2130B	TRB	11/24/2010	Gautam Savani/Iordan Stavrev
					TLI	SM2540C	TDS	11/29/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-285	C.Knight	11/30/2010	2:12:00 PM	TLI	EPA 120.1	SC	12/6/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	12/7/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	12/9/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/1/2010	Sonya Bersudsky
					FIELD	HACH	PH	11/30/2010	C. Knight
					TLI	SM2130B	TRB	12/1/2010	Gautam Savani

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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-285	C.Knight	11/30/2010	2:12:00 PM	TLI	SM2540C	TDS	12/2/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 120.1	SC	12/9/2010	Iordan Stavrev
					TLI	EPA 200.7	B	12/17/2010	Ethel Suico
					TLI	EPA 200.7	FE	12/17/2010	Ethel Suico
					TLI	EPA 200.8	AL	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	AS	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	BA	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CR	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CU	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MN	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MO	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	NI	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	PB	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	SB	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	12/14/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	12/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	12/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	12/8/2010	Giawad Ghenniwa
					FIELD	HACH	PH	12/7/2010	Ron Phelps
					TLI	SM2130B	TRB	12/8/2010	Gautam Savani
					TLI	SM2540C	TDS	12/8/2010	Jenny Tankunakorn
					TLI	SM4500-HB	PH	12/8/2010	Iordan Stavrev
					TLI	SM4500NH3D	NH3N	12/9/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	12/8/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-287	Ron Phelps	12/14/2010	12:45:00 PM	TLI	EPA 120.1	SC	12/17/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	1/6/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/6/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/15/2010	Sonya Bersudsky
					FIELD	HACH	PH	12/14/2010	Ron Phelps
					TLI	SM2130B	TRB	12/15/2010	Gautam Savani
					TLI	SM2540C	TDS	12/15/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-288	Chris Lentz	12/21/2010	1:25:00 PM	TLI	EPA 120.1	SC	1/3/2011	Mark Kotani
					TLI	EPA 200.8	CR	1/6/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/6/2011	Katia Kiarashpoor

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Monitoring Information
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-288	Chris Lentz	12/21/2010	1:25:00 PM	TLI	EPA 218.6	CR6	12/27/2010	Sonya Bersudsky
					FIELD	HACH	PH	12/21/2010	Chris Lentz
					TLI	SM2130B	TRB	12/22/2010	Gautam Savani/Iordan Stavrev
					TLI	SM2540C	TDS	12/27/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-289	Ron Phelps	12/28/2010	11:30:00 AM	TLI	EPA 120.1	SC	1/4/2011	Mark Kotani
					TLI	EPA 200.8	CR	1/6/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/6/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/29/2010	Sonya Bersudsky
					FIELD	HACH	PH	12/28/2010	Ron Phelps
					TLI	SM2130B	TRB	12/29/2010	Gautam Savani
					TLI	SM2540C	TDS	12/29/2010	Jenny Tankunakorn
SC-701	SC-701-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 120.1	SC	12/9/2010	Iordan Stavrev
					TLI	EPA 200.8	AG	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	AS	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	BA	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	BE	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CD	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CO	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CR	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	CU	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	HG	12/27/2010	Katia Kiarashpoor
					TLI	EPA 200.8	MO	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	NI	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	PB	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	SB	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	SE	12/14/2010	Katia Kiarashpoor
					TLI	EPA 200.8	TL	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	V	12/16/2010	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	12/14/2010	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	12/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	12/8/2010	Giawad Ghenniwa
					TLI	SM2540C	TDS	12/8/2010	Jenny Tankunakorn
					TLI	SM4500-HB	PH	12/8/2010	Iordan Stavrev
Phase Seperator	SC-Sludge-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 300.0	FL	12/9/2010	Giawad Ghenniwa
					TLI	EPA 6010B	AG	12/22/2010	Ethel Suico

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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Seperator	SC-Sludge-WDR-286	Ron Phelps	12/7/2010	1:30:00 PM	TLI	EPA 6010B	AS	12/22/2010	Ethel Suico
					TLI	EPA 6010B	BA	12/22/2010	Ethel Suico
					TLI	EPA 6010B	BE	12/22/2010	Ethel Suico
					TLI	EPA 6010B	CD	12/22/2010	Ethel Suico
					TLI	EPA 6010B	CO	12/22/2010	Ethel Suico
					TLI	EPA 6010B	CR	12/16/2010	Ethel Suico
					TLI	EPA 6010B	CU	12/22/2010	Ethel Suico
					TLI	EPA 6010B	MO	12/22/2010	Ethel Suico
					TLI	EPA 6010B	NI	12/22/2010	Ethel Suico
					TLI	EPA 6010B	PB	12/22/2010	Ethel Suico
					TLI	EPA 6010B	SB	12/22/2010	Ethel Suico
					TLI	EPA 6010B	SE	12/22/2010	Ethel Suico
					TLI	EPA 6010B	TL	12/22/2010	Ethel Suico
					TLI	EPA 6010B	V	12/22/2010	Ethel Suico
					TLI	EPA 6010B	ZN	12/22/2010	Ethel Suico
					TLI	SM2540B	MOIST	12/9/2010	Gautam Savani
					TLI	SW 6020A	HG	12/21/2010	Katia Kiarashpoor/Hope Trinidad
					TLI	SW 7199	CR6	12/16/2010	Sonya Bersudsky

NOTES:

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

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

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

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

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

Figures

Parcel No. 650-151-06
Fort Mojave Indian Tribe
(Formerly owned by PG&E)

BLM

BLM

East Mesa
Injection Area

CW-4
CW-3
CW-2
CW-1

IW-1
IW-2
IW-3

IM3
Treatment
Plant

Historic Route 66

Park Moabi Rd./National Trails Highway

66

BAT CAVE WASH

Colorado River

MW-20
Bench

TW-02S
TW-03D
TW-02D
MW-20-130
PE-01

BN&SF RAILROAD

INTERSTATE
40

500
550
600

LEGEND

- IM3 Injection Well
- Observation Well Cluster
- Compliance Monitoring Well Cluster
- Exploratory Boring
- Groundwater Monitoring Well
- IM Extraction Well
- IM3 Treatment Facility Pipelines
- IM3 Effluent Pipeline

N

0 170 340 680 Feet

California State Plane NAD83 Zone 5 US Feet

FIGURE 1
IM3 PROJECT SITE FEATURES
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\IM3\IM3_PROJECT_AREA_APRIL10.MXD JLAMANTI 10/8/2010 12:12:30

TREATMENT PLANT CONTROL PANEL LCP - 100

LEAK DETECTION PANEL - 003

ALM

–120V

PLANT ALARM R YL1000

PLANT ALARM R YL1001

PLANT ALARM R YL1002

PLANT ALARM R YL1003

PLANT ALARM HORN H YL1004

CLOSED OPENED OPEN TEMP REM pH LVL COND.

RUN ON REM FLOW

LVL POSITION FLOW CONTROL

RUN ON REM PSL FLOW FLOW

CH-104-1HB-E
TP-PR-10-10- 09 [B6]
SULFURIC ACID
P-801B
1/2"-CH-104-1HB-E
V-CH-104-01
BPR

TW-103-1HB
TP-PR-10-10- 08 [D6]
TREATED WATER
R.O. BYPASS
4"-TW-103-1HB

TW-105-1HB
TP-PR-10-10- 08 [B6]
R.O. TREATED WATER
4"-TW-105-1HB

STATIC MIXER 4"x3" 4"x3"

120 VAC
AIT 606
AE 606
AIT 702
AE 702
120 VAC

1" V-1390

V-TW-105-02

HS 200 HOA

HS 700 HOA

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

N.C. V-TW-114-01
V-TW-114-02

HS 100A HOA

TW-104-1HB
TP-PR-10-10- 08 [A1]
OFF-SPEC RECYCLE
FROM R.O. FEED
4"-TW-104-1HB

LIT 200
120 VAC
LE 200

RW-125-1HB
TP-PR-10-10- 07 [B1]
OFF-SPEC RECYCLE
FROM MICROFILTER FEED
4"-RW-125-1HB

WS-111-1HB
TP-PR-10-10-06 [C6]
FROM PROCESS DRAINS TANK
4"-WS-111-1HB

4"-TW-114-1HB

LIT 700
120 VAC
LE 700

VFD - 1100

3"-TW-143-1HB

VENT
MANHOLE

27,000 GAL.
TREATED WATER STORAGE TANK
PERMEATE
T-700

6"-DR-115-1HB

PRV 700
SET @ 50 PSI
3"x2" 3"x2"

TOTAL FLOWMETER TO INJECTION WELLS

1"-TW-129-1HB
V-1390
TW-129-1HB
TP-PR-10-10- 09 [C1]
TO POLYELECTROLYTE MAKE-DOWN SYSTEM

1/2"-TW-128-1HB
V-1390
TW-128-1HB
TP-PR-10-10- 04,05..
SEAL WATER TO PUMPS SHTS 04, 05, 06, 07, 08

FUTURE

2"-TW-127-1HB

SAMPLING STATION B

FIT 702
FE 702
4"x3" 4"x3"
TW-120-1HB
TP-PR-10-10- 11 [C1]
TO INJECTION WELLS
4"-TW-120-1HB
V-TW-120-01

PI 700
V-1390
FIT 700
SC
4"x3" 4"x3"
TW-117-1HB
TP-PR-10-10- 10 [A1]
TREATED WATER TO BAKER TANKS
V-TW-117-02
V-TW-117-01
4"x1 1/2"
EJ-TW-116-01
6"x3"
T
TS-TW-116-01
6"-TW-116-1HB
V-TW-116-01
V-DR-101-01
6"-DR-101-1HB
V-TW-126-01
3"-TW-126-1HB

FE 702
TW-125-1HB
2"
TP-PR-10-10- 05,06..
FIELD ROUTE TO FLUSH SYS. HOSE CONNS.

V-1390 V-1390 V-1390 V-1390
PSL 1100
PS-TW-127-01
2"x1"
BFP
V-TW-127-01

SEAL WATER TANK
PI 1100
PT 1100
T-1100
P-1100
3"x1 1/4"

FIC 200
ZT 200
SEAL WATER PUMP
25 GPM X
115 FT. H20
V-TW-126-02
4"x2 1/2"
AIR SET 80 PSIG
FCV - 200
F.C.
4"x2 1/2"
4"x3"
4"x3"
4"-RW-112-1HB
RW-112-1HB
TP-PR-10-10- 05 [C1]
TO TREATMENT SYSTEM CONTINUOUS FLOW

LSH 201A-(H)
SAMPLING STATION A
ZSC 100
ZSO 100
SV 100
90 PSIG AIR SET
S
F.C.
4"-RW-110-1HB
FV 100
RW 1KB RW 1HB
V-RW-110-01
RO 200
2"-RW-113-1HB
MINIMUM RECIRC. 40 GPM MIN.

RW-107-1KB
TP-PR-10-10-03 [B6]
RAW WATER
FROM EXTRACTION WELLS
4" IN 8"-RW-107-1KB

NOTE 1
LEAK DETECTION (TYP 8)

RW-127-1KB
TP-PR-10-10-03 [B6]
FROM VALVE VAULT 1 SPARE
4" IN 8"-RW-127-1KB

NOTE 1
SPARE

4" IN 8"-RW-107-1KB
4" IN 8"-RW-127-1KB
V-RW-107-01 V-RW-127-01
VALVE VAULT No. 4
RW 1KB RW 1HB RW 1KB RW 1HB

FUTURE
4" IN 8" SPARE
4" IN 8" PE-3

27,000 GAL.
RAW WATER STORAGE TANK
T-100

6"-DR-114-1HB
6"-DR-100-1HB
V-DR-100-01
V-RW-111-01

1/2" x 3/8"
SOV 200
PI 200
V-1390
EJ-RW-111-01
6"x4"
6"-RW-111-1HB
PS-RW-111-01
4"x3"
V-RW-112-01
P-200
RAW WATER FEED PUMP
190 GPM X 35 FT H20
V-1390
V-RW-112-02
FE 200
FIT 200

NOTES

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

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

SECONDARY CONTAINMENT - PROCESS PLANT

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

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

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

SCALE NONE

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

PROJ NO. 315994

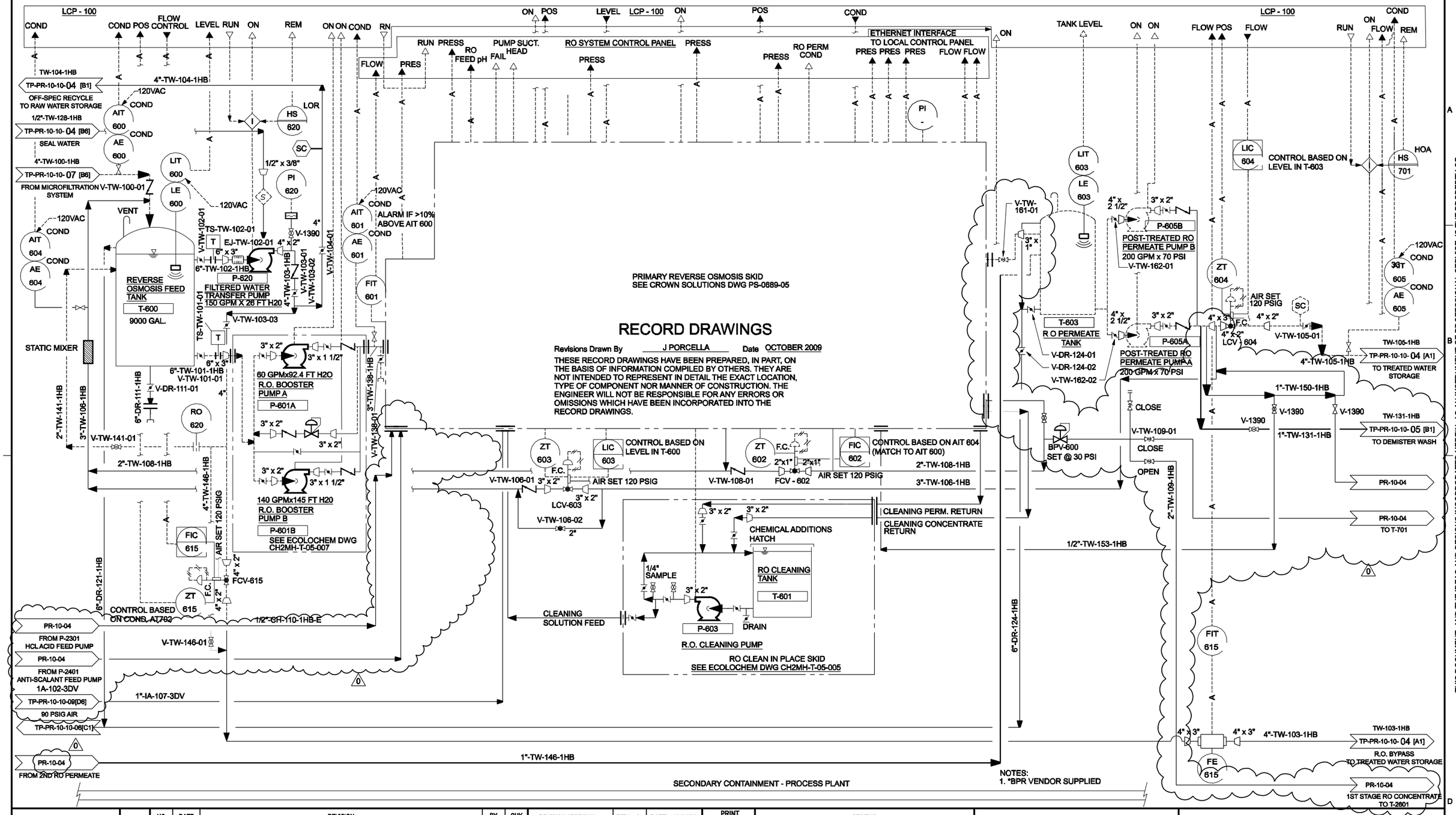
CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 04
STORAGE AREA

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

BAR IS ONE INCH ON ORIGINAL DRAWING

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



**
ORIGINALLY STAMPED
AND SIGNED BY:
JOHN PORCELLA
CALIFORNIA PE NO. C70145
ON 04-01-2009
**

RESPONSIBLE ENGINEER: John Porcella C70145 Exp. 9-30-10
PE#

NO.	DATE	REVISION	BY	CHK
A	2/12/09	INTERNAL REVIEW		
B	2/12/09	CLIENT REVIEW		
C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP
0	11/17/09	FINAL RECORD ISSUE	JR	JP

REVISION APPROVAL	REVIEWED	DISCIPLINE	REVIEWED
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	SJ	ELECTRICAL	FH
STRUCTURAL		INST & CONTROL	JG
MECHANICAL	SJ	ARCHITECTURAL	
PROCESS	DF	ENVIRONMENTAL	
PIPING	SJ	GEN. ARRANG.	SJ

REV 0 DATE 10/02/09

PRINT DISTRIBUTION	
DATE	
STATUS	
REV.	
CLIENT	
FIELD	
INTRA CO.	

STATUS				
ISSUED	REV	DATE	SDE	PEM
PRELIMINARY	A	2/12/09	JP	JP
FOR REVIEW AND APPROVAL	C	4/01/09	JP	JP
APPROVED FOR CONSTRUCTION				
REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
PLANT PERFORMANCE IMPROVEMENTS

PROJ NO. 362032

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET ONE OF TWO

DWG. NO. PR-10-03 REV. 0

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

FILENAME: PR-10-03.dgn PLOT DATE: 11/19/2009 PLOT TIME: 10:27:54 AM

COND LVL RUN ON FLOW

PR-10-03 → TO SEAL WATER TRUNK LINE

HS 701 HOA

1 1/2" TW-154-1HB

PR-10-03
TO PRIMARY RO FROM P-2301
HCI ACID PUMP

LOCATED IN CHEMICAL STORAGE AREA

1/2" CH-112-1HB

HCI ACID TOTE

HYDRO-CHLORIC ACID (HCI) PUMP SKID SEE CROWN DWG PS-0689-03

FROM P-2302
3/8" CH-113-1HB

LOCATED NEAR EXISTING RO

1/2" CH-114-1HB

SECONDARY RO ANTI-SCALANT CHEMICAL DRUM

ANTISCALANT FEED PUMP SKID SEE CROWN DWG PS-0689-04

PRIMARY RO ANTI-SCALANT CHEMICAL DRUM

1/4" CH-115-1HB
FROM P-2402

V-1390 NO

PR-10-03
TO PRIMARY RO FROM P-2401
ANTI-SCALANT FEED PUMP

1A-102-3DV
TP-PR-10-10-09[06]
90 PSIG AIR

1"-1A-108-3DV

120VAC

AIT 701 COND

AE 701 COND

1 1/2" TW-152-1HB
RECYCLE

1ST STAGE RO CONCENTATE
PR-10-03

1 1/2"-TW-148-1HB

2"x1 1/2"

V-1390 NO

2" TW-109-1HB

V-1390 NC

LIT 701

LE 701

120VAC

VENT

T-2601
SECONDARY RO FEED TANK
SEE CROWN DWG PS-0689-06

1 1/2" TW-149-1HB

V-1390 NC

P-2701
SECONDARY RO FEED PUMP SEE CROWN DWG PS-0689-07

1 1/2" TW-151-1HB

SECONDARY REVERSE OSMOSIS SKID
SEE CROWN SOLUTION DWG:
PS-0689-08
(NOTE 3)

1" TW-146-1HB

PERMEATE
PR-10-03
TO T-603 TANK

V-1390

SAMPLING STATION D

SC

PR-10-03
FROM PRIMARY RO

CLOSE

2"x1"

OPEN V-1390

V-DR-112-01

SEAL WATER

SOV 701

S

SEAL WATER
TP-PR-10-10-08 [B6]

1/2"x3/8"

RO CONCENTRATE STORAGE TANK
7,200 GAL.
T-701
8000 GAL.

PI 701

V-1390

TS-TW-111-01

T

6"x1 1/2"

V-TW-111-01

EJ-TW-111-01

6"-TW-111-1HB

P-107

3"x1"

V-TW-112-01

FIT 701

RD CONCENTRATE FLOWMETER

FE 701

MAG

3"x1"

3"x2"

V-TW-112-03

6"-DR-112-1HB

RO CONCENTRATE
TRANSFER PUMP
80 GPM X 85 FT H20

TO TRENCH DRAIN

1" TW-147-1HB

TW-112-1RB
TP-PR-10-10 [C1]
RO CONCENTRATE

RECORD DRAWINGS

Revisions Drawn By J PORCELLA Date OCTOBER 2009

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

** ORIGINALLY STAMPED AND SIGNED BY: JOHN PORCELLA CALIFORNIA PE NO. C70145 ON 04-01-2009 **

RESPONSIBLE ENGINEER: John Porcella Exp. 9-30-10 C70145 PE #

NO.	DATE	REVISION	BY	CHK
A	2/12/09	INTERNAL REVIEW		
B	2/12/09	CLIENT REVIEW		
C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP
0	11/17/09	FINAL RECORD ISSUE	JR	JP

REVISION APPROVAL		REV 0	DATE 10/02/09
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	SJ	ELECTRICAL	FH
STRUCTURAL		INST & CONTROL	JG
MECHANICAL	SJ	ARCHITECTURAL	
PROCESS	DF	ENVIRONMENTAL	
PIPING	SJ	GEN. ARRANG.	SJ

PRINT DISTRIBUTION	
DATE	
STATUS	
REV.	
CLIENT	
FIELD	
INTRA CO.	

STATUS	REV	DATE	SDE	PEM
ISSUED				
PRELIMINARY	A	2/12/09	JP	JP
FOR REVIEW AND APPROVAL	C	4/01/09	JP	JP
APPROVED FOR CONSTRUCTION				
REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
PLANT PERFORMANCE IMPROVEMENTS

PROJ NO. 362032

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET TWO OF TWO

DWG. NO. PR-10-04 REV. 0

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

FILENAME: PR-10-04.dgn PLOT DATE: 11/19/2009 PLOT TIME: 10:28:26 AM

CONTROL PANEL

PLC

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

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

CH-109-1HB-E
TP-PR-10-10- 09 [C6]
POLYELECTROLYTE FEED CH-108-1HB-E
1/2"-CH-109-1HB-E
V-CH-109-01

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

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

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

M-400-A · M-400-B · M-400-C · CL-400 CLARIFIER · NSH 400 TORQUE · HS 400 HOA · HS 410 HOA · AIT 400 120VAC TURB · SV 400 · ZSC 400 · ZSO 400 · AIR SET 120 PSIG · F. C. · FV - 400 · AE 400 TURB · SV 401 · 120 PSIG AIR SET · PI 401 · PE 401 · LE 402 · M-402 · 4"-WS-102-1HB

ZSC 410 · ZSO 410 · AIR SET 120 PSIG · SV 410 · F. C. · FV - 410 · V-WS-104-01 · 4"-WS-100-1HB

SEE PARKSON DRAWING 10066701-01

6"-DR-107-1HB

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

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

120VAC LIT 402 · SV 404 · 120 PSIG AIR SET · HS 403 HOA · SV 403 · PI 404 · PE 404 · 1/2" · 2" x 1" · V-WS-103-01 · V-WS-103-02 · WS-103-1HB
TP-PR-10-10- 05 [B1]
SLUDGE RECYCLE

4" x 1" · P-404 SLUDGE RECYCLE PUMP 20 GPM X 30 FT. H2O · 2"-WS-103-1HB · V-WS-109-01 · 2"-WS-109-1HB

2"-WS-101-1HB · 2" x 1" · V-WS-101-01 · 4" x 2" · P-401 SLUDGE WITHDRAWAL PUMP 20 GPM X 30 FT. H2O · 6" x 4"

SLUDGE HOLDING TANK 6000 GAL · T-402 · VENT · DECANT · 3% - 5% SOLIDS · 2"-WS-105-1HB · V-WS-105-01 · 2"-WS-107-1HB · V-WS-107-01 · V-WS-108-01 · 4"-WS-108-1HB · P-403 SEPARATOR FEED PUMP 20 GPM X 30 FT. H2O · V-WS-110-01

2" x 1" · 2" x 1" · 2"-WS-106-1HB · V-WS-106-01 · 4"-WS-110-1HB · TRUCK FILL FOR OFF-SITE DISPOSAL

2" V-1790 (TYP 5) · 4" (TYP 5) AIR/SIGHT GAP · 4" · PI 403 · PE 403

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

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

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

4"-WS-104-1HB

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

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

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

120VAC LIT 900 · LE 900 · 1/2" x 3/8" · VENT · PROCESS DRAIN TANK 5,000 GAL. T-900 · P-900 PROCESS DRAIN PUMP · V-DR-113-01 · 6"-DR-113-1HB · VERTICAL WET PIT 175 GPM x 37 FT. H2O · LSH 900

V-WS-111-02 · V-WS-111-03 · 4"-WS-111-1HB · V-WS-111-01 · PS-WS-111-01 · V-1390 · 1"-DR-106-1HB · V-WS-113-01 · 2"-WS-113-1HB · 4" x 2"

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

LSH 405B · FH-WS-106-01 · LSH 405A · SAMPLING STATION E

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

LSHH 405 · 480 VAC · LCP - 405 · P-405 PHASE SEPARATOR SUMP PUMP PACKAGE 25 GPM x 25 FT. H2O · PUMPOUT VAULT · PS-405 PHASE SEPARATORS ALTERNATING DURING OPERATION

SECONDARY CONTAINMENT - PROCESS PLANT

T-900A PROCESS SUMP

NOTES:

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

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

REVISION APPROVAL — REV 2 — DATE 01/23/05

DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE
CIVIL		ELECTRICAL		STATUS
STRUCTURAL		INST & CONTROL		REV.
MECHANICAL		ARCHITECTURAL		CLIENT
PROCESS		ENVIRONMENTAL		FIELD
PIPING		GEN. ARRANG.		INTRA CO.

PRINT DISTRIBUTION

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

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

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 06
CLARIFICATION AND SLUDGE REMOVAL

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

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

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

CONTROL PANEL LCP-100

WELL TW-3D CONTROL

WELL TW-2S CONTROL

WELL TW-2D CONTROL

WELL PE-1 CONTROL

LEAK DETECTION PANEL - 003

ALM

120V

LSH LVL RUN ON RM PRESS FLOW

LSH LSHH

HS 102 HOA

HS 100 HOA

HS 101 HOA

HS 103 HOA

HOLD

LSH 002

LSHH 002

FUTURE

4"-RW-140-1HB

V-RW-140-01

VALVE VAULT No. 2

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

NOTE 1

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

4"-RW-139-1HB

V-RW-139-01

3"-RW-138-1HB

V-RW-138-01

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

4"-RW-105-1HB

V-RW-105-05

4" IN 8"-FUTURE

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

LSH 102A

NOTE 1

Well TW-2S Flowmeter

FI 102

LSH 001

LSHH 001

LT 100 VENT

FE 100

FIT 100

PIT 100

PE 100

3"x2"

V-RW-105-02

3"-RW-105-1HB THROTTLING

MAG

V-RW-105-01

V-1390

VALVE VAULT No. 1

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

LSH 100A

NOTE 1

1" V-1390

LT 101

Well TW-2D Flowmeter

4" x 3"

EJ-RW-105-01

4"-RW-105-1HB

FE 101

FIT 101

PIT 101

PE 101

V-RW-102-02

3"-RW-102-1HB THROTTLING

V-RW-102-01

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

LSH 101A

NOTE 1

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

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

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

SPARE TO VALVE VAULT 4

NOTES 1 & 2

V-RW-105-06 THROTTLING

V-RW-105-03

V-RW-105-04

4" IN 8"-RW-107-1KB

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

TO RAW WATER STORAGE

V-RW-108-02 THROTTLING

4"-RW-130-1HB

LT 103 VENT

FE 103

FIT 103

PIT 103

PE 103

V-RW-130-02

V-RW-130-01

V-RW-108-01

LSH

NOTE 1

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

TO BAKER TANKS V-RW-131-01

LSH 103A

NOTE 1

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

4"x3"

V-RW-132-02

V-RW-132-01

3"-RW-132-1HB

Well TW-3D Flowmeter

VENT LT 102

PI 102

PIT 102

PRV 102

PE 102

FIT 102

FE 102

LSH 102

SET AT 120 PSI

V-1390

3"x2"

3"-RW-134-1HB

V-RW-134-01

MAG

4"x3"

V-RW-134-02

WELL VAULT No. 4

LE 102

P-102

EXTRACTION WELL TW-3D

135 GPM x 248 FT. H20

PI 100

LSH 100

3"-RW-103-1HB

V-RW-103-01

V-RW-103-02

WELL VAULT No. 2

LE 100

P-100

EXTRACTION WELL TW-2S

40 GPM x 180 FT. H20

PI 101

PRV 101

LSH 101

3"-RW-100-1HB

V-RW-100-01

V-RW-100-02

WELL VAULT No. 1

LE 101

P-101

EXTRACTION WELL TW-2D

90 GPM x 245 FT. H20

PI 103

PRV 103

LSH 103

WELL VAULT No. 3

LE 103

P-103

EXTRACTION WELL PE-1

40 GPM x 235 FT. H20

NOTES

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

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

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

PRINT DISTRIBUTION: DATE / STATUS / REV. / CLIENT / FIELD / INTRA CO.

STATUS	REV	DATE	SDE	PEM
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	AJ for KLM	AJ

SCALE NONE

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

REGISTERED PROFESSIONAL ENGINEER KENNETH L. MARTINS No. CH4876 CIVIL STATE OF CALIFORNIA

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

PROJ NO. 315994

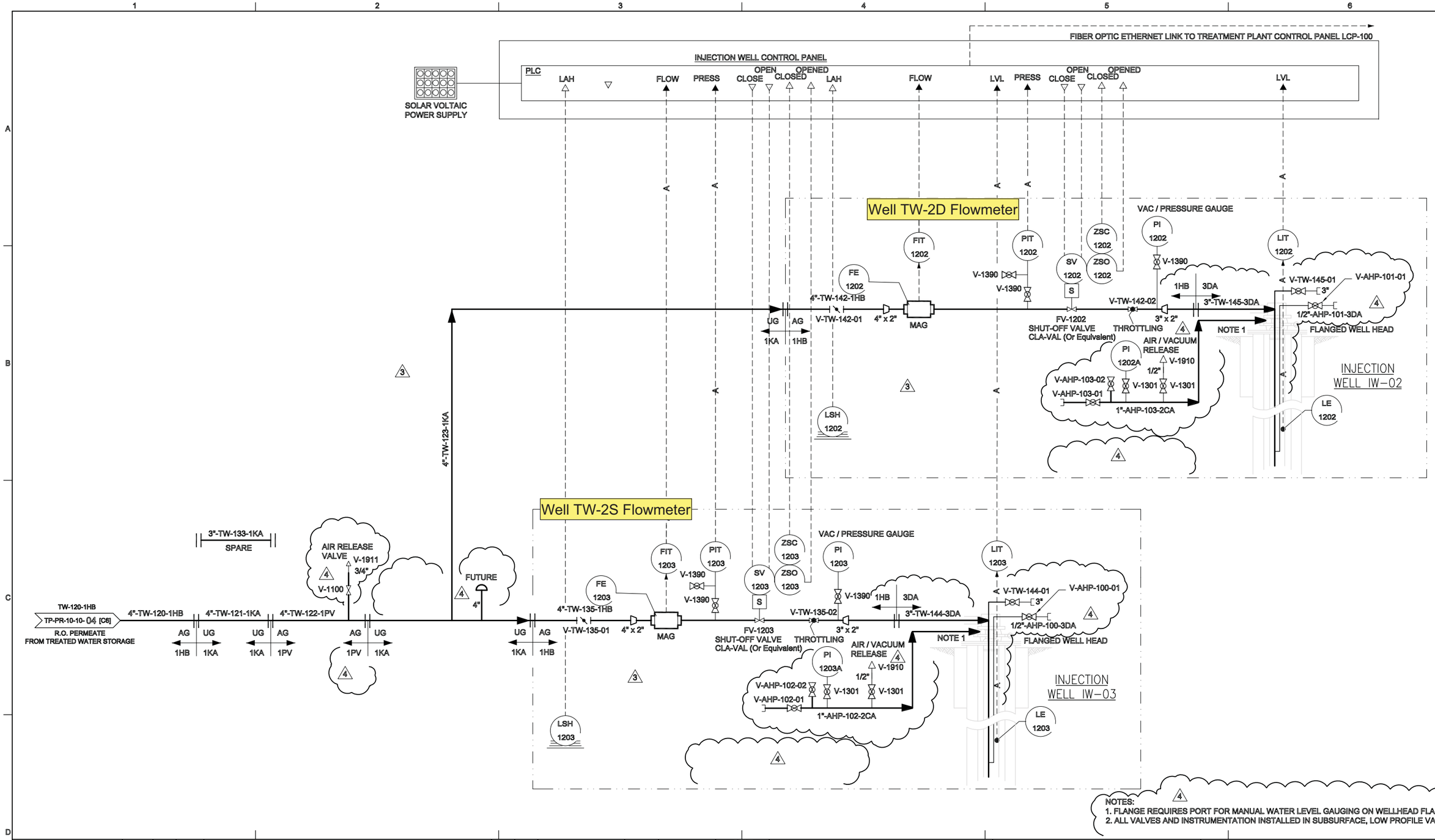
CH2MHILL

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

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

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

FILENAME: tppr101003.dwg PLOT DATE: 19-OCT-2005 PLOT TIME:



NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 4	DATE 03/10/05		PRINT DISTRIBUTION	
A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED		DATE	
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL			STATUS	
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL			REV.	
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL			CLIENT	
3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL			FIELD	
4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ	PIPING		GEN. ARRANG.			INTRA CO.	

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

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

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 11
INJECTION WELLS

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

FILENAME: tppr101011.dwg PLOT DATE: 10-MAR-2005 PLOT TIME:

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

Appendix A
Semiannual Operations and Maintenance Log, July 1, 2010 through December 31, 2010

APPENDIX A

Semiannual Operations and Maintenance Log, July 1, 2010 through December 31, 2010

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

July 2010

- **July 1, 2010 (planned):** The extraction well system was offline from 9:40 a.m. to 1:04 p.m. and 1:24 p.m. to 7:12 p.m. for iron oxidation tank T301B maintenance. Extraction system downtime was 9 hours and 12 minutes.
- **July 1, 2010 (planned):** The extraction well system was offline from 11:00 p.m. to 11:54 p.m. for microfilter bank switch. Extraction system downtime 54 minutes.
- **July 6, 2010 (planned):** The extraction well system was offline from 1:44 p.m. to 3:16 p.m. for microfilter bank switch. Extraction system downtime was 1 hour and 32 minutes.
- **July 7, 2010 (planned):** The extraction well system was offline from 9:54 a.m. to 9:56 a.m., 10:18 a.m. to 10:22 a.m., 10:32 a.m. to 10:34 a.m., and 10:38 a.m. to 10:42 a.m. for testing of the pipeline leak detection alarm system. Extraction system downtime was 12 minutes.
- **July 10, 2010 (unplanned):** The extraction well system was offline from 12:16 a.m. to 12:18 a.m. due to reduced microfilter performance. Extraction system downtime was 2 minutes.
- **July 11, 2010 (unplanned):** The extraction well system was offline from 1:40 p.m. to 2:18 p.m. due to low ferrous chloride flow. Extraction system downtime was 38 minutes.
- **July 13, 2010 (planned):** The extraction well system was offline from 7:20 a.m. to 9:14 for microfilter bank switch and maintenance. Extraction system downtime was 1 hour and 54 minutes.
- **July 14, 2010 (planned):** The extraction well system was offline from 7:38 a.m. to 9:00 a.m. to replace a valve on clean-in-place (CIP) skid. Extraction system downtime was 1 hour and 22 minutes.
- **July 14, 2010 (unplanned):** The extraction well system was offline from 1:36 p.m. to 3:28 p.m. due to low ferrous chloride flow. Extraction system downtime was 1 hour and 52 minutes.

- **July 14, 2010 (planned):** The extraction well system was offline from 6:12 p.m. to 7:08 p.m. to replace valve on CIP skid. Extraction system downtime was 56 minutes.
- **July 15, 2010 (unplanned):** The extraction well system was offline from 5:40 p.m. to 5:44 p.m. due to reduced microfilter performance. Extraction system downtime was 4 minutes.
- **July 21, 2010 (unplanned):** The extraction well system was offline from 8:16 a.m. to 8:34 a.m. and 9:28 a.m. to 9:30 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 20 minutes.
- **July 23, 2010 (planned):** The extraction well system was offline from 10:04 a.m. to 2:16 p.m. for microfilter bank switch and maintenance. Extraction system downtime was 4 hours and 12 minutes.
- **July 23, 2010 (planned):** The extraction well system was offline from 7:56 p.m. to 10:00 p.m. to collect routine process control samples after microfilter bank switch. Extraction system downtime was 2 hours and 4 minutes.
- **July 31, 2010 (planned):** The extraction well system was offline from 5:30 a.m. to 5:50 p.m. for microfilter maintenance. Extraction system downtime was 20 minutes.

August 2010

- **August 3, 2010 (unplanned):** The extraction well system was offline from 4:18 p.m. to 5:46 p.m. due to reduced microfilter performance. Extraction system downtime was 1 hour and 28 minutes.
- **August 5, 2010 (planned):** The extraction well system was offline from 11:02 a.m. to 11:04 a.m. and 11:10 a.m. to 12:04 p.m. for microfilter maintenance and testing of the pipeline leak detection alarm system. Extraction system downtime 56 minutes.
- **August 15, 2010 (planned):** The extraction well system was offline from 10:46 a.m. to 10:58 a.m. and 11:00 a.m. to 11:02 a.m. for cleaning of the T-100 strainer. Extraction system downtime was 14 minutes.
- **August 17, 2010 (unplanned):** The extraction well system was offline from 3:10 p.m. to 3:28 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 18 minutes.
- **August 23 - 26, 2010 (planned):** The extraction well system was offline from 11:48 a.m. to 1:44 p.m. on August 23rd, 2:48 p.m. on August 23rd to 12:40 p.m. on August 26th, and 12:48 p.m. to 3:34 p.m. on August 26th for biannual plant outage. Extraction system downtime was 3 days 2 hours and 24 minutes.
- **August 31, 2010 (unplanned):** The extraction well system was offline from 11:08 a.m. to 11:24 a.m. for service of the polymer system. Extraction system downtime was 16 minutes.

September 2010

- **September 2, 2010 (planned):** The extraction well system was offline from 4:20 p.m. to 4:21 p.m., 4:30 p.m. to 4:31 p.m., 4:34 p.m. to 4:35 p.m., 4:38 p.m. to 4:39 p.m., 4:43 p.m. to 4:44 p.m., and 4:47 p.m. to 4:48 p.m. due to testing of the pipeline leak detection alarm system. Extraction system downtime was 6 minutes.
- **September 16, 2010 (planned):** The extraction well system was offline from 12:44 p.m. to 6:39 p.m. for microfilter bank switch. Extraction system downtime was 5 hours and 55 minutes.
- **September 18, 2010 (unplanned):** The extraction well system was offline from 7:38 p.m. to 7:40 p.m. due to plant alarm that shut down extraction wells. Extraction system downtime was 2 minutes.
- **September 30, 2010 (unplanned):** The extraction well system was offline from 12:56 p.m. to 1:07 p.m. due to reduced microfilter performance. Extraction system downtime was 11 minutes.

October 2010

- **October 3, 2010 (unplanned):** The extraction well system was offline from 12:35 p.m. to 2:25 p.m. and 4:52 p.m. to 5:07 p.m. due to City of Needles power supply imbalance that shut down extraction wells. Extraction system downtime was 2 hours and 5 minutes.
- **October 4, 2010 (unplanned):** The extraction well system was offline from 5:03 p.m. to 7:45 p.m. due to plugging in the chemical loop and cleaning of the chemical loop. Extraction system downtime was 2 hours and 42 minutes.
- **October 5, 2010 (planned):** The extraction well system was offline from 1:05 p.m. to 6:02 p.m. for chemical loop cleaning. Extraction system downtime was 4 hours and 57 minutes.
- **October 6, 2010 (planned):** The extraction well system was offline from 11:14 a.m. to 12:12 p.m. when City of Needles power utility adjusted power feed to plant. Extraction system downtime was 58 minutes.
- **October 6, 2010 (planned):** The extraction well system was offline from 3:09 p.m. to 3:10 p.m., 3:13 p.m. to 3:14 p.m., 3:23 p.m. to 3:25 p.m., 3:27 p.m. to 3:28 p.m., 3:32 p.m. to 3:33 p.m., and 3:36 p.m. to 3:37 p.m. due to leak detection system testing. Extraction system downtime was 7 minutes.
- **October 8, 2010 (planned):** The extraction well system was offline from 12:22 p.m. to 2:10 p.m. to replace existing flow control valve, FCV602, with a new valve. Extraction system downtime was 1 hour and 48 minutes.
- **October 8, 2010 (unplanned):** The extraction well system was offline from 3:20 p.m. to 5:36 p.m. when polymer feed pump, P-805, to the clarifier failed. Extraction system downtime was 2 hours and 16 minutes.

- **October 14, 2010 (unplanned):** The extraction well system was offline from 12:14 p.m. to 12:18 p.m. due to City of Needles power supply imbalance that shut down extraction wells. Extraction system downtime was 4 minutes.
- **October 15, 2010 (planned):** The extraction well system was offline from 11:20 a.m. to 1:18 p.m. for scheduled monthly preventative maintenance. Extraction system downtime was 1 hour and 58 minutes.
- **October 28, 2010 (unplanned):** The extraction well system was offline from 10:18 a.m. to 7:10 p.m. The system was turned off due to concerns when an effluent sample was inadvertently collected from the influent sampling location. When the IM3 team was contacted by the laboratory with the unusual results, per IM3 operating procedures, injection and extraction were stopped, and were not started again until the effluent was confirmed to be in compliance**.** Extraction system downtime was 8 hours and 52 minutes.

November 2010

- **November 1, 2010 (unplanned):** The extraction well system was offline from 12:18 a.m. to 1:28 a.m. due to cleaning of a plugged line between T-300 and 301. Extraction system downtime was 1 hour and 10 minutes.
- **November 4, 2010 (unplanned):** The extraction well system was offline from 8:06 a.m. to 8:10 a.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 4 minutes.
- **November 4, 2010 (planned):** The extraction well system was offline from 12:14 p.m. to 12:16 p.m., 12:22 p.m. to 12:42 p.m. and 1:06 p.m. to 1:14 p.m. for critical alarm and extraction well specific capacity testing. Extraction system downtime was 30 minutes.
- **November 10, 2010 (planned):** The extraction well system was offline from 11:04 a.m. to 12:34 p.m. due to blower maintenance. Extraction system downtime was 1 hour and 30 minutes.
- **November 12, 2010 (planned):** The extraction well system was offline from 9:56 a.m. to 10:00 a.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 4 minutes.
- **November 12, 2010 (unplanned):** The extraction well system was offline from 2:06 p.m. to 4:02 p.m. due to reduced microfilter performance and microfilter maintenance. Extraction system downtime was 1 hour and 56 minutes.
- **November 24, 2010 (unplanned):** The extraction well system was offline from 11:00 p.m. to 11:02 p.m. due to a level sensor malfunction in the raw water storage tank. Extraction system downtime was 2 minutes.
- **November 29, 2010 (unplanned):** The extraction well system was offline from 1:00 p.m. to 1:02 p.m., 1:22 p.m. to 1:24 p.m., 2:22 p.m. to 2:24 p.m., 2:48 p.m. to 2:50 p.m., and 8:08 a.m. to 8:10 a.m. due to instrumentation and control engineers onsite making corrections

to the human-machine interface computer software monitoring and tracking system. Extraction system downtime was 10 minutes.

December 2010

- **December 1, 2010 (planned):** The extraction well system was offline from 9:50 a.m. to 11:44 a.m. due to replacement of primary reverse osmosis membranes. Extraction system downtime was 1 hour and 54 minutes.
- **December 1, 2010 (planned):** The extraction well system was offline from 11:50 a.m. to 11:56 a.m. for startup sampling. Extraction system downtime was 6 minutes.
- **December 1, 2010 (planned):** The extraction well system was offline from 3:02 p.m. to 5:28 p.m. due to microfilter maintenance. Extraction system downtime was 2 hours and 26 minutes.
- **December 8, 2010 (planned):** The extraction well system was offline from 12:36 p.m. to 12:38 p.m. and 1:20 p.m. to 1:22 p.m. due to critical alarm and leak detection system testing. Extraction system downtime was 4 minutes.
- **December 9, 2010 (unplanned):** The extraction well system was offline from 7:34 a.m. to 7:38 a.m., 10:48 a.m. to 10:52 a.m., 11:10 a.m. to 11:12 a.m. and 12:48 p.m. to 12:54 p.m. due to reduced microfilter performance. Extraction system downtime was 16 minutes.
- **December 10, 2010 (planned):** The extraction well system was offline from 4:14 p.m. to 4:44 p.m. and 4:52 p.m. to 7:36 p.m. due to polymer pump replacement. Extraction system downtime was 3 hours and 14 minutes.
- **December 19, 2010 (unplanned):** The extraction well system was offline from 2:29 p.m. to 3:21 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 52 minutes.
- **December 31, 2010 (unplanned):** The extraction well system was offline from 9:22 p.m. to 9:24 p.m. due to reduced microfilter performance. Extraction system downtime was 2 minutes.

Appendix B
Daily Volumes of Groundwater Treated

July 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
July	1	2010	--	--	89,313	23,602	112,916	106,125	48	106,172	3,035
July	2	2010	--	--	148,961	40,290	189,251	175,150	10	175,160	5,962
July	3	2010	--	--	134,934	40,136	175,070	183,511	80	183,591	4
July	4	2010	--	--	140,252	40,185	180,437	173,345	73	173,418	3,100
July	5	2010	--	--	143,230	40,552	183,782	175,748	77	175,825	2
July	6	2010	--	--	140,112	37,238	177,350	169,297	74	169,370	4,684
July	7	2010	--	--	135,113	38,119	173,232	176,927	1,764	178,691	131
July	8	2010	--	--	148,228	38,521	186,749	169,302	98	169,400	3,087
July	9	2010	--	--	122,454	38,794	161,247	165,734	98	165,832	3,215
July	10	2010	--	--	138,336	37,854	176,190	169,235	92	169,327	3,077
July	11	2010	--	--	114,262	37,259	151,521	153,562	102	153,663	3,220
July	12	2010	--	--	129,952	38,752	168,704	161,616	106	161,721	3,076
July	13	2010	--	--	135,071	35,728	170,798	160,730	123	160,853	3,063
July	14	2010	--	--	119,013	32,117	151,131	152,260	101	152,361	2,947
July	15	2010	--	--	135,711	37,624	173,335	163,211	93	163,304	3,083
July	16	2010	--	--	136,438	37,436	173,873	168,342	84	168,426	3,075
July	17	2010	--	--	150,383	37,986	188,369	183,693	65	183,758	3,055
July	18	2010	--	--	157,180	37,980	195,161	185,497	58	185,555	6,303
July	19	2010	--	--	157,402	37,668	195,071	188,696	60	188,757	3,067
July	20	2010	--	--	157,160	38,072	195,232	187,865	54	187,920	9,615
July	21	2010	--	--	153,814	36,877	190,691	108,260	74,140	182,400	6,302
July	22	2010	--	--	157,488	37,824	195,313	19	186,844	186,863	4,440
July	23	2010	--	--	115,143	28,336	143,479	12	132,478	132,490	9,526
July	24	2010	--	--	155,520	38,003	193,523	12	189,509	189,521	6,428
July	25	2010	--	--	157,134	38,153	195,288	10	185,267	185,278	6,336
July	26	2010	--	--	157,202	38,114	195,317	8	188,873	188,881	6,423
July	27	2010	--	--	157,076	38,413	195,490	18	183,842	183,860	6,446
July	28	2010	--	--	157,215	38,032	195,247	1,491	193,467	194,958	3,838
July	29	2010	--	--	157,367	37,892	195,259	4,366	186,195	190,562	5,774
July	30	2010	--	--	157,226	37,979	195,205	4,966	184,813	189,778	3,089
July	31	2010	--	--	154,759	37,365	192,124	2,397	190,806	193,202	3,096
Total Monthly Volumes (gal)			**0**	**0**	**4,413,450**	**1,152,902**	**5,566,352**	**3,491,404**	**1,899,494**	**5,390,898**	**128,500**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**98.9**	**25.8**	**124.7**	**78.2**	**42.6**	**120.8**	**2.9**

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

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

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

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during July 2010 is approximately 0.84 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

August 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
August	1	2010	--	--	156,994	38,518	195,512	87	193,607	193,694	3,087
August	2	2010	--	--	157,146	38,352	195,498	8,780	178,348	187,128	3,080
August	3	2010	--	--	146,902	36,196	183,098	3,832	178,751	182,583	3,230
August	4	2010	--	--	156,687	38,857	195,544	1,213	188,718	189,932	3,091
August	5	2010	--	--	150,743	34,458	185,201	1,205	185,661	186,866	2
August	6	2010	--	--	156,783	38,545	195,328	16	182,835	182,852	3,136
August	7	2010	--	--	156,780	38,574	195,354	6	191,406	191,412	3,194
August	8	2010	--	--	156,502	39,079	195,581	10	197,969	197,979	6,338
August	9	2010	--	--	156,268	39,479	195,747	15	189,215	189,230	4
August	10	2010	--	--	156,629	38,918	195,548	13	189,753	189,766	2,969
August	11	2010	--	--	156,171	39,770	195,941	12	186,315	186,327	3,124
August	12	2010	--	--	156,884	38,758	195,642	9	189,774	189,784	3,404
August	13	2010	--	--	155,876	40,269	196,145	13	196,866	196,879	6,005
August	14	2010	--	--	156,047	39,995	196,042	16	196,434	196,450	2,958
August	15	2010	--	--	154,594	38,460	193,054	11	189,377	189,388	3,090
August	16	2010	--	--	157,375	37,933	195,309	14	191,514	191,529	3,096
August	17	2010	--	--	154,632	37,970	192,602	11	189,997	190,008	3,168
August	18	2010	--	--	157,030	38,511	195,541	1,603	188,405	190,008	3,103
August	19	2010	--	--	156,979	38,670	195,649	9	197,670	197,679	3,116
August	20	2010	--	--	157,426	38,007	195,434	11	186,013	186,024	3,239
August	21	2010	--	--	157,274	38,301	195,575	11	190,127	190,138	3,234
August	22	2010	--	--	157,194	38,485	195,679	10	185,496	185,505	1,898
August	23	2010	--	--	83,853	20,723	104,576	14	106,461	106,475	1,340
August	24	2010	--	--	8	6	14	10	224	233	4
August	25	2010	--	--	4	6	10	11	468	480	4,505
August	26	2010	--	--	56,334	14,216	70,550	69,231	1,560	70,790	4
August	27	2010	--	--	156,669	38,529	195,198	182,243	104	182,347	3,145
August	28	2010	--	--	155,648	39,970	195,617	195,120	67	195,187	3,247
August	29	2010	--	--	155,960	39,741	195,700	187,864	66	187,930	2,968
August	30	2010	--	--	155,846	39,933	195,779	193,041	65	193,107	3,240
August	31	2010	--	--	153,642	39,411	193,053	88,938	95,474	184,412	3,042
Total Monthly Volumes (gal)			**0**	**0**	**4,346,882**	**1,078,640**	**5,425,523**	**933,382**	**4,368,740**	**5,302,122**	**89,057**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**97.4**	**24.2**	**121.5**	**20.9**	**97.9**	**118.8**	**2.0**

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

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

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

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

September 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
September	1	2010	--	--	156,070	39,859	195,928	14	190,815	190,829	5,547
September	2	2010	--	--	154,306	38,810	193,116	1,670	191,848	193,519	5,462
September	3	2010	--	--	155,951	39,378	195,329	14	191,924	191,938	6,881
September	4	2010	--	--	156,473	38,527	195,000	14	188,702	188,716	3,522
September	5	2010	--	--	156,946	38,189	195,135	12	190,606	190,618	3,553
September	6	2010	--	--	156,233	39,242	195,474	14	189,061	189,075	3,924
September	7	2010	--	--	156,096	39,413	195,509	15	189,177	189,192	3,997
September	8	2010	--	--	144,434	39,426	183,860	99,598	91,520	191,118	3,744
September	9	2010	--	--	154,900	40,777	195,677	190,849	199	191,048	5,569
September	10	2010	--	--	154,945	40,728	195,673	186,842	79	186,921	10,088
September	11	2010	--	--	155,558	40,261	195,819	190,100	68	190,168	8,217
September	12	2010	--	--	156,287	39,131	195,418	191,491	80	191,570	5,932
September	13	2010	--	--	155,939	39,609	195,548	188,784	80	188,864	5,476
September	14	2010	--	--	155,394	40,219	195,613	187,581	71	187,651	9,881
September	15	2010	--	--	155,797	39,757	195,554	143,658	48,980	192,638	6,173
September	16	2010	--	--	116,740	30,115	146,855	17	145,313	145,330	2,791
September	17	2010	--	--	155,998	39,273	195,271	14	189,146	189,160	6,498
September	18	2010	--	--	156,037	38,977	195,014	13	190,284	190,297	6,539
September	19	2010	--	--	156,340	38,863	195,203	8	187,847	187,855	15,709
September	20	2010	--	--	155,550	40,075	195,625	7	191,296	191,303	5,386
September	21	2010	--	--	156,250	39,019	195,268	20	191,248	191,268	4,356
September	22	2010	--	--	156,048	39,473	195,521	4,208	185,447	189,656	4,123
September	23	2010	--	--	155,543	39,984	195,527	10	190,442	190,452	4,079
September	24	2010	--	--	155,228	40,330	195,558	17	190,440	190,457	3,721
September	25	2010	--	--	155,692	39,978	195,670	7	191,957	191,965	3,713
September	26	2010	--	--	155,778	39,859	195,637	13	192,252	192,265	7,261
September	27	2010	--	--	155,510	40,126	195,636	4	191,511	191,515	10,992
September	28	2010	--	--	155,793	39,957	195,749	319	186,801	187,120	324
September	29	2010	--	--	155,848	40,144	195,993	16	195,410	195,425	1,944
September	30	2010	--	--	154,283	39,052	193,335	7	189,314	189,321	18
Total Monthly Volumes (gal)			**0**	**0**	**4,621,965**	**1,178,548**	**5,800,514**	**1,385,336**	**4,281,918**	**5,667,255**	**165,421**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**107.0**	**27.3**	**134.3**	**32.1**	**99.1**	**131.2**	**3.8**

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

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

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

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during September 2010 is approximately 0.55 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

October 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
October	1	2010	--	--	155,893	38,934	194,827	18	193,965	193,983	3,256
October	2	2010	--	--	156,072	38,739	194,810	15	194,433	194,449	11,696
October	3	2010	--	--	141,497	35,156	176,653	10	179,089	179,099	13,233
October	4	2010	--	--	137,914	34,625	172,539	10	164,117	164,126	10,413
October	5	2010	--	--	122,554	31,559	154,112	12	147,074	147,086	3,666
October	6	2010	--	--	145,858	37,172	183,030	2,369	175,159	177,528	7,169
October	7	2010	--	--	155,972	38,508	194,480	18	193,264	193,282	3,373
October	8	2010	--	--	128,663	31,916	160,579	524	144,236	144,760	3,112
October	9	2010	--	--	156,798	37,239	194,037	9	193,734	193,743	3,277
October	10	2010	--	--	156,664	37,507	194,171	11	193,569	193,580	6,635
October	11	2010	--	--	156,863	37,275	194,138	12	192,464	192,476	3,254
October	12	2010	--	--	157,025	36,950	193,975	10	191,282	191,292	3,242
October	13	2010	--	--	157,154	36,821	193,976	14	190,693	190,707	3,109
October	14	2010	--	--	156,363	36,992	193,355	10	188,883	188,893	3,111
October	15	2010	--	--	143,220	34,498	177,718	29	171,692	171,721	3,117
October	16	2010	--	--	156,265	37,946	194,211	101,832	93,088	194,920	3,125
October	17	2010	--	--	156,427	37,839	194,266	186,749	107	186,857	3,222
October	18	2010	--	--	156,588	37,748	194,336	191,088	78	191,166	3,114
October	19	2010	--	--	156,266	38,214	194,480	188,971	13	188,984	3,251
October	20	2010	--	--	156,503	38,002	194,505	183,094	13	183,106	3,133
October	21	2010	--	--	139,648	34,004	173,652	177,848	16	177,863	3,125
October	22	2010	--	--	156,411	38,005	194,416	190,282	18	190,300	3,401
October	23	2010	--	--	156,758	37,534	194,292	188,209	11	188,220	3,241
October	24	2010	--	--	156,653	37,677	194,330	189,165	20	189,185	3,273
October	25	2010	--	--	156,768	37,633	194,401	191,608	17	191,625	3,853
October	26	2010	--	--	156,328	38,336	194,664	186,469	15	186,484	3,254
October	27	2010	--	--	156,482	38,057	194,539	190,961	15	190,976	3,385
October	28	2010	--	--	98,024	24,359	122,382	118,127	16	118,144	1,881
October	29	2010	--	--	156,264	37,931	194,195	186,614	20	186,634	3,241
October	30	2010	--	--	156,203	38,003	194,205	189,915	17	189,932	3,219
October	31	2010	--	--	156,320	37,988	194,308	187,652	21	187,673	3,256
Total Monthly Volumes (gal)			**0**	**0**	**4,656,417**	**1,133,164**	**5,789,581**	**2,851,656**	**2,807,138**	**5,658,794**	**132,630**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**104.3**	**25.4**	**129.7**	**63.9**	**62.9**	**126.8**	**3.0**

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

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

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

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during October 2010 is approximately 0.03 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

November 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
November	1	2010	--	--	147,974	36,468	184,442	185,227	16	185,243	3,101
November	2	2010	--	--	156,373	37,953	194,325	190,940	14	190,954	3,205
November	3	2010	--	--	156,606	37,575	194,181	183,230	15	183,245	3,232
November	4	2010	--	--	148,016	36,906	184,923	122,109	63,291	185,399	3,287
November	5	2010	--	--	156,539	37,642	194,182	12	190,367	190,379	2,547
November	6	2010	--	--	156,310	38,066	194,376	13	188,857	188,870	4,499
November	7	2010	--	--	156,805	37,281	194,086	16	183,385	183,401	3,130
November	8	2010	--	--	156,797	37,360	194,157	8	186,451	186,459	5
November	9	2010	--	--	156,176	38,440	194,616	11	189,385	189,396	3,127
November	10	2010	--	--	145,997	35,850	181,847	12	173,457	173,469	3,124
November	11	2010	--	--	156,526	37,969	194,495	15	193,293	193,308	3,229
November	12	2010	--	--	142,704	35,099	177,802	14	175,749	175,763	3,356
November	13	2010	--	--	156,380	38,221	194,601	15	189,625	189,639	6,221
November	14	2010	--	--	156,232	37,429	193,661	12	193,259	193,272	3,256
November	15	2010	--	--	157,143	37,176	194,319	18	188,796	188,814	3,252
November	16	2010	--	--	156,757	37,722	194,478	11	189,325	189,336	3,255
November	17	2010	--	--	156,877	37,325	194,202	14	191,357	191,371	3,256
November	18	2010	--	--	157,087	37,047	194,134	62,500	124,362	186,862	2,172
November	19	2010	--	--	157,199	36,958	194,157	187,454	1,703	189,157	1,076
November	20	2010	--	--	155,556	39,313	194,870	186,022	217	186,239	5,686
November	21	2010	--	--	155,695	39,031	194,727	191,806	166	191,972	3,403
November	22	2010	--	--	155,843	38,789	194,632	187,412	202	187,613	2,576
November	23	2010	--	--	155,882	38,802	194,684	190,377	185	190,562	4,423
November	24	2010	--	--	155,808	38,437	194,245	192,404	165	192,569	3,365
November	25	2010	--	--	156,820	37,189	194,009	187,378	209	187,587	3,238
November	26	2010	--	--	156,777	36,832	193,609	187,079	210	187,288	3,251
November	27	2010	--	--	157,191	36,614	193,805	190,369	197	190,566	3,380
November	28	2010	--	--	156,711	37,378	194,089	188,628	203	188,831	3,251
November	29	2010	--	--	156,117	36,546	192,663	182,950	198	183,148	3,237
November	30	2010	--	--	156,596	36,977	193,573	189,012	188	189,199	3,228
Total Monthly Volumes (gal)			**0**	**0**	**4,653,493**	**1,124,399**	**5,777,892**	**3,005,067**	**2,624,845**	**5,629,913**	**97,366**
Average Pump/Injection Rates (gpm)			**0.0**	**0.0**	**107.7**	**26.0**	**133.7**	**69.6**	**60.8**	**130.3**	**2.3**

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

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

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

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during November 2010 is approximately 0.88 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

December 2010 Operational Data

IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

			Extraction Well System					Injection Well System			RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
December	1	2010	--	--	126,982	30,127	157,108	152,850	315	153,165	3,345
December	2	2010	--	--	156,875	37,273	194,149	183,054	230	183,284	1,672
December	3	2010	--	--	156,453	37,866	194,319	193,680	172	193,853	1,673
December	4	2010	--	--	156,375	37,874	194,249	190,075	189	190,264	1,609
December	5	2010	--	--	156,521	37,591	194,112	185,186	224	185,410	1,677
December	6	2010	--	--	156,252	37,999	194,251	190,999	182	191,181	1,673
December	7	2010	--	--	155,944	38,422	194,366	187,804	185	187,989	1,668
December	8	2010	--	--	154,092	37,532	191,623	185,364	3,178	188,542	1,673
December	9	2010	--	--	154,432	37,723	192,154	181,828	239	182,067	1,678
December	10	2010	*	2,075	130,659	32,869	165,603	165,797	140	165,936	1,611
December	11	2010	--	--	156,223	38,018	194,241	186,674	69	186,743	1,675
December	12	2010	--	--	156,378	37,727	194,105	192,300	82	192,381	1,628
December	13	2010	--	--	156,532	37,425	193,957	188,559	114	188,674	1,603
December	14	2010	--	--	155,364	37,900	193,264	187,087	132	187,219	1,602
December	15	2010	*	10,757	137,392	38,737	186,885	188,936	501	189,438	1,600
December	16	2010	--	--	155,312	38,859	194,171	107,900	84,548	192,448	1,608
December	17	2010	--	--	155,334	38,723	194,057	19	193,411	193,430	1,605
December	18	2010	--	--	155,954	37,851	193,805	19	187,207	187,226	1,599
December	19	2010	--	--	149,442	36,953	186,395	17	179,417	179,434	1
December	20	2010	--	--	155,581	37,872	193,453	12	188,312	188,324	2,224
December	21	2010	--	--	155,999	37,329	193,329	18	187,163	187,181	1,610
December	22	2010	--	--	156,024	37,227	193,251	17	185,471	185,488	1,672
December	23	2010	--	--	155,854	37,462	193,316	15	189,889	189,904	1,607
December	24	2010	--	--	156,104	37,021	193,125	19	189,075	189,094	1,615
December	25	2010	--	--	156,095	37,169	193,264	19	187,825	187,844	1,607
December	26	2010	--	--	156,303	36,796	193,098	23	191,421	191,444	1,610
December	27	2010	--	--	156,531	36,825	193,356	22	183,480	183,502	1,613
December	28	2010	--	--	156,483	36,884	193,367	14	189,647	189,661	1,617
December	29	2010	--	--	156,681	36,633	193,313	18	187,015	187,033	1,596
December	30	2010	--	--	156,411	37,080	193,491	18	184,418	184,436	1,603
December	31	2010	--	--	156,106	36,990	193,096	22	192,352	192,374	1,603
Total Monthly Volumes (gal)			**0**	**12,833**	**4,756,689**	**1,152,753**	**5,922,274**	**2,868,364**	**2,906,603**	**5,774,967**	**51,178**
Average Pump/Injection Rates (gpm)			**0.0**	**0.3**	**106.6**	**25.8**	**132.7**	**64.3**	**65.1**	**129.4**	**1.1**

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

a. Extraction wells TW 3D and PE 1 were operated during December 2010 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW 2D and TW-2S ran for a short period on December 10, 2010 and December 15, 2010 for sampling activities. The TW-2S flow meter is broken and did not record the TW-2S flow on December 10, 2010 and December 15, 2010.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during December 2010 is approximately 1.62 percent. This percentage difference includes instrument noise in the system, but is within the accuracy of the flow meters. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

Appendix C
Flowmeter Calibration Records

Endress+Hauser
People for Process Automation

Flow Calibration with Adjustment

30092171-1385272

WWRA-000923-F
Purchase order number

US-19050353-20 / Endress+Hauser Flowtec
Order N°/Manufacturer

23P50-AL1A1AA022AW
Order code

PROMAG 23 P 2"
Transmitter/Sensor

7700F216000
Serial N°

- FIT-103 PE-1
Tag N°

FCP-6.F
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9289
Calibration factor

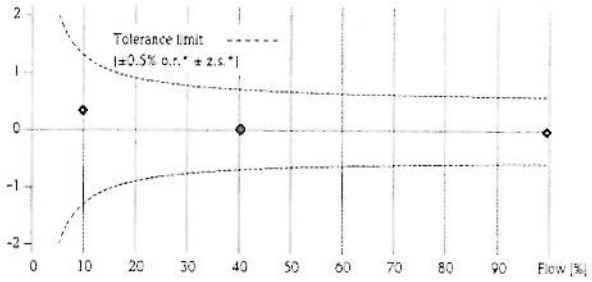
0
Zero point

74.9 °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	30.1	7.7642	7.7895	0.33	5.60
40.5	62.9	30.1	31.549	31.556	0.02	10.47
40.5	62.9	30.1	31.546	31.541	-0.02	10.47
99.7	155.1	30.1	77.735	77.718	-0.02	19.95
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*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.

11-30-2006
Date of calibration

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

Morris E. Trueblood Jr.
Operator

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

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

30107893-1304706

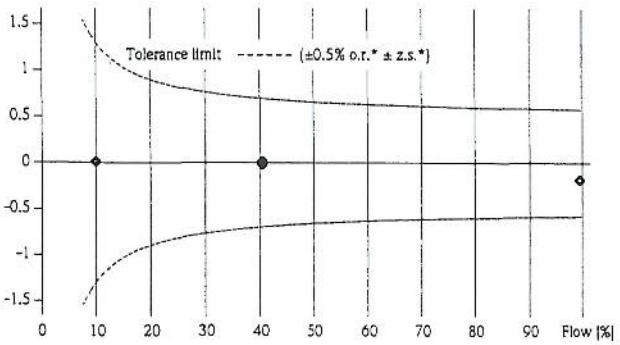
WWRA-002048-F Purchase order number	FCP-6.F Calibration rig
US-19054161-10 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 GPM (100%) Calibrated full scale
23P50-AL1A1AA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9154 Calibration factor
6C037016000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

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
9.9	15.5	30.1	7.7531	7.7537	0.01	5.59
40.5	63.0	30.1	31.560	31.554	-0.02	10.47
40.5	63.0	30.1	31.569	31.574	0.01	10.48
99.5	154.8	30.1	77.589	77.448	-0.18	19.89
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*o.r.: of rate

**Calculated value (4 - 20 mA)

Measured error % o.r.



*z.s.: Zero stability

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

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

Tim Swick

09-12-2007
Date of calibration

Tim Swick
Operator

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

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

Flow Calibration with Adjustment

Endress+Hauser
People for Process Automation

30057866-1275190

41724888
Purchase Order Number

USA-49310090-40 / Endress+Hauser Flowtec
Order Nº/Manufacturer

23P50-AL1A1RA022AW
Order Code

PROMAG 23 P 2"
Transmitter/Sensor

6A021F16000
Serial Nº

FIT ~~100~~ 101 / TW-20 / installed 7/28/05
Tag Nº

FCP-6.C
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9178
Calibration factor

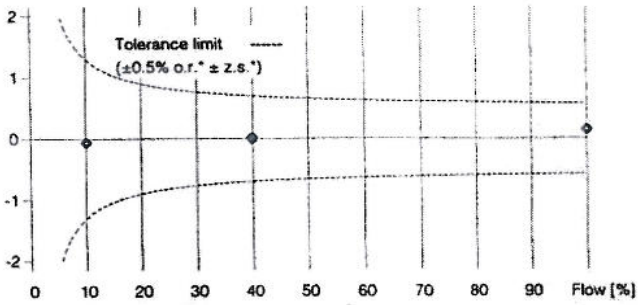
0
Zero point

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.-Nº 030502.2

Flow Calibration with Adjustment

Endress+Hauser
People for Process Automation

30057870-1275191

41724888
Purchase Order Number

USA-49310090-40 / Endress+Hauser Flowtec
Order Nº/Manufacturer

23P50-AL1A1RA022AW
Order Code

PROMAG 23 P 2"
Transmitter/Sensor

6A022016000
Serial Nº

FIT ~~101~~ 100 / TW-25 / installed 7/28/05
Tag Nº

FCP-6.C
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9207
Calibration factor

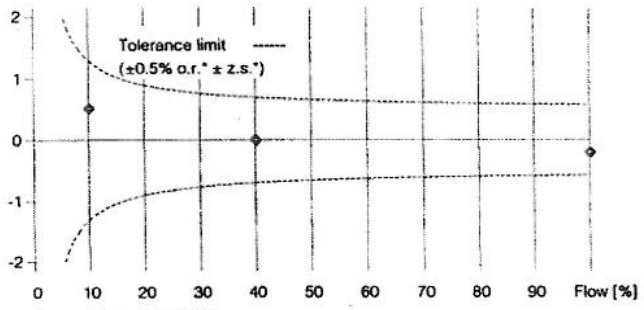
0
Zero point

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.



*z.s.: Zero stability

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

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

Tim Swick

11-29-2004
Date of calibration

Tim Swick
Operator

Endress+Hauser
2350 Endress Place
Greenwood, IN 46143

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

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

30171212-1304705

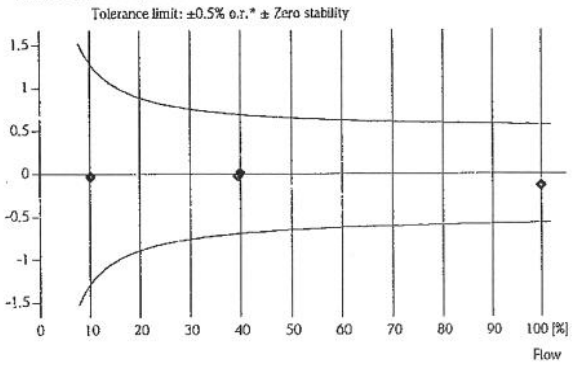
WWRA-006931-F Purchase order number	FCP-6.F Calibration rig
US-19068473-30 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 us.gal/min (≙ 100%) Calibrated full scale
23P50-AL1A1AA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9101 Calibration factor
6C036F16000 Serial N°	-34 Zero point
~~FIT-1201~~ / 1W02 / FIT-1202 Tag N°	78.7 °F Water temperature

Flow [%]	Flow [us.gal/min]	Duration [s]	V target [us.gal]	V meas. [us.gal]	Δ o.r.* [%]	Outp.** [mA]
10.1	15.7	30.2	7.8942	7.8921	-0.03	5.61
39.5	61.5	30.2	30.956	30.950	-0.02	10.32
39.9	62.1	30.2	31.263	31.268	0.02	10.39
100.0	155.7	30.2	78.338	78.232	-0.14	19.98
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*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), Aurangabad (IN) and Suzhou (CN).

John Davis

08-06-2010
Date of calibration

John Davis
Operator

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

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

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

30171217-1275192

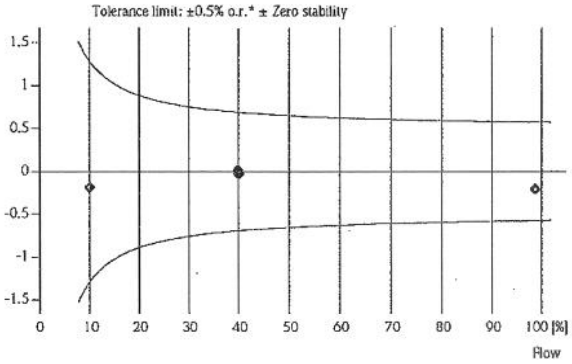
WWRA-006931-F Purchase order number	FCP-6.F Calibration rig
US-19068473-20 / Endress+Hauser Flowtec Order N°/Manufacturer	155.6102 us.gal/min (≙ 100%) Calibrated full scale
23P50-AL1A1RA022AW Order code	Current 4 - 20 mA Calibrated output
PROMAG 23 P 2" Transmitter/Sensor	0.9092 Calibration factor
6A022116000 Serial N°	0 Zero point
~~FIT-102~~ 1W-03/FIT1203 Tag N°	79.6 °F Water temperature

Flow [%]	Flow [us.gal/min]	Duration [s]	V target [us.gal]	V meas. [us.gal]	Δ o.r.* [%]	Outp.** [mA]
10.0	15.5	30.2	7.8009	7.7865	-0.18	5.59
39.9	62.0	30.2	31.203	31.209	0.02	10.38
40.1	62.4	30.2	31.360	31.353	-0.02	10.41
98.8	153.8	30.2	77.402	77.243	-0.20	19.78
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*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), Aurangabad (IN) and Suzhou (CN).

John Davis

08-06-2010
Date of calibration

John Davis
Operator

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

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

Endress+Hauser
People for Process Automation

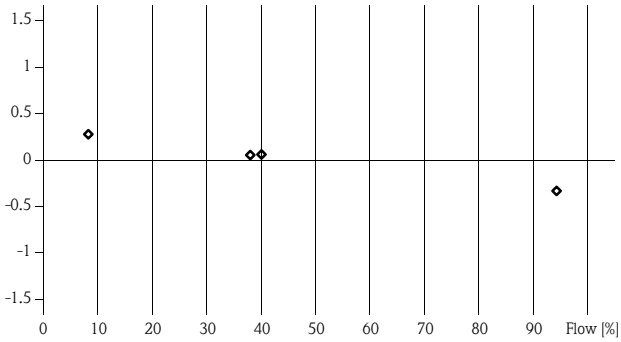
Flow Calibration with Adjustment

30057895-1275195

41724888	FCP-20 MEDIUM
Purchase order number	Calibration rig
US-49310090-60 / Endress+Hauser Flowtec	398.3621 GPM (≙ 100%)
Order N°/Manufacturer	Calibrated full scale
23P80-AL1A1RA022AW	Current 4 - 20 mA
Order code	Calibrated output
PROMAG 23 P 3"	1.1430
Transmitter/Sensor	Calibration factor
6A022416000	0
Serial N°	Zero point
FIT-700	73.1 °F
Tag N°	Water temperature

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

*o.r.: of rate



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

11-29-2004	Tim Swick
Date of calibration	Operator
Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143	Certified acc. to MIL-STD-45662A ISO 9001, Reg.-N° 030502.2

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

3006019-1304707

41729921
Purchase order number

US-49311914-10 / Endress+Hauser Flowtec
Order N°/Manufacturer

23P50-AL1A1AA022AW
Order code

PROMAG 23 P 2"
Transmitter/Sensor

6C037116000
Serial N°

~~FIT-1203~~ FIT-701 RO Concentrate
Tag N°

FCP-20 SMALL
Calibration rig

155.6102 GPM (≙ 100%)
Calibrated full scale

Current 4 - 20 mA
Calibrated output

0.9152
Calibration factor

0
Zero point

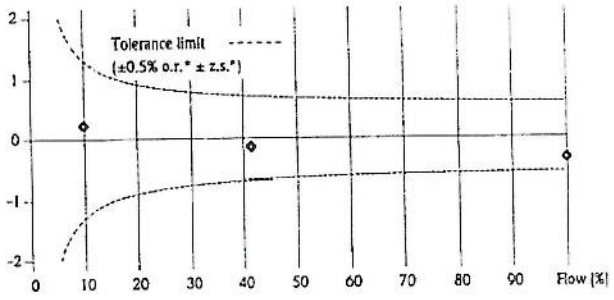
72.2 °F
Water temperature

Flow [%]	Flow [GPM]	Duration [sec]	V target [US GAL]	V meas. [US GAL]	Δ o.r.* [%]	Outp.** [mA]
10.0	15.5	61.2	15.818	15.853	0.22	5.60
41.6	64.7	61.2	66.050	65.948	-0.15	10.64
41.6	64.8	61.3	66.120	66.024	-0.14	10.65
100.1	155.8	61.2	158.973	158.403	-0.36	19.96
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

*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

01-31-2005
Date of calibration

Jim Baase
Operator

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

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

Appendix D
Fourth Quarter 2010
Laboratory Analytical Reports

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

October 26, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-277 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 991454

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-277 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 October 5, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The sample result and associated matrix spike for sample SC-700B-WDR-277 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike result was within acceptable limits and the results from the analysis at a 5x dilution matched those of the straight run, the result 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.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991454
Date: October 26, 2010
Collected: October 5, 2010
Received: October 5, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Iordan Stavrev
SM 4500-Si D	Soluble Silica	Jenny Tankunakorn
EPA 365.2	Total Phosphorus	Jenny Tankunakorn
EPA 415.2	Total Organic Carbon	Kim Luck
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Daniel Kang / Hope Trinidad
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 991454
Date Received: October 5, 2010
Revision 1; November 4, 2010

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991454-001	SC-700B-WDR-277	E120.1	NONE	10/5/2010	8:40	EC	7110	umhos/cm	2.00
991454-001	SC-700B-WDR-277	E200.7	NONE	10/5/2010	8:40	BORON	871	ug/L	200
991454-001	SC-700B-WDR-277	E200.7	NONE	10/5/2010	8:40	Iron	ND	ug/L	20.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Aluminum	ND	ug/L	50.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Antimony	ND	ug/L	10.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Arsenic	ND	ug/L	1.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Barium	10.4	ug/L	10.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Chromium	ND	ug/L	1.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Copper	ND	ug/L	5.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Lead	ND	ug/L	10.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Manganese	1.4	ug/L	1.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Molybdenum	17.6	ug/L	10.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Nickel	ND	ug/L	10.0
991454-001	SC-700B-WDR-277	E200.8	NONE	10/5/2010	8:40	Zinc	ND	ug/L	10.0
991454-001	SC-700B-WDR-277	E218.6	LABFLT	10/5/2010	8:40	Chromium, hexavalent	0.31	ug/L	0.20
991454-001	SC-700B-WDR-277	E300	NONE	10/5/2010	8:40	Fluoride	2.05	mg/L	0.500
991454-001	SC-700B-WDR-277	E300	NONE	10/5/2010	8:40	Nitrate as N	2.89	mg/L	0.500
991454-001	SC-700B-WDR-277	E300	NONE	10/5/2010	8:40	Sulfate	497	mg/L	12.5
991454-001	SC-700B-WDR-277	SM2130B	NONE	10/5/2010	8:40	Turbidity	0.128	NTU	0.100
991454-001	SC-700B-WDR-277	SM2540C	NONE	10/5/2010	8:40	Total Dissolved Solids	4190	mg/L	250
991454-001	SC-700B-WDR-277	SM4500NH3D	NONE	10/5/2010	8:40	Ammonia-N	ND	mg/L	0.500
991454-001	SC-700B-WDR-277	SM4500NO2B	NONE	10/5/2010	8:40	Nitrite as N	ND	mg/L	0.0050

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991454-002	SC-100B-WDR-277	E120.1	NONE	10/5/2010	8:40	EC	7870	umhos/cm	2.00
991454-002	SC-100B-WDR-277	E200.7	NONE	10/5/2010	8:40	BORON	968	ug/L	200
991454-002	SC-100B-WDR-277	E200.7	NONE	10/5/2010	8:40	Iron	ND	ug/L	20.0
991454-002	SC-100B-WDR-277	E200.7	LABFLT	10/5/2010	8:40	Iron	ND	ug/L	20.0
991454-002	SC-100B-WDR-277	E200.7	LABFLT	10/5/2010	8:40	Manganese	10.6	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Aluminum	ND	ug/L	50.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Antimony	ND	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Arsenic	4.2	ug/L	1.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Barium	24.8	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Chromium	918	ug/L	1.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Copper	ND	ug/L	5.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Lead	ND	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Manganese	10.0	ug/L	1.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Molybdenum	23.0	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Nickel	ND	ug/L	10.0
991454-002	SC-100B-WDR-277	E200.8	NONE	10/5/2010	8:40	Zinc	ND	ug/L	10.0
991454-002	SC-100B-WDR-277	E218.6	LABFLT	10/5/2010	8:40	Chromium, hexavalent	987	ug/L	21.0
991454-002	SC-100B-WDR-277	E300	NONE	10/5/2010	8:40	Fluoride	2.6	mg/L	0.500
991454-002	SC-100B-WDR-277	E300	NONE	10/5/2010	8:40	Nitrate as N	3.21	mg/L	0.500
991454-002	SC-100B-WDR-277	E300	NONE	10/5/2010	8:40	Sulfate	549	mg/L	12.5
991454-002	SC-100B-WDR-277	SM2130B	NONE	10/5/2010	8:40	Turbidity	ND	NTU	0.100
991454-002	SC-100B-WDR-277	SM2320B	NONE	10/5/2010	8:40	Alkalinity	142	mg/L	5.00
991454-002	SC-100B-WDR-277	SM2320B	NONE	10/5/2010	8:40	Bicarbonate	142	mg/L	5.00
991454-002	SC-100B-WDR-277	SM2320B	NONE	10/5/2010	8:40	Carbonate	ND	mg/L	5.00
991454-002	SC-100B-WDR-277	SM2540C	NONE	10/5/2010	8:40	Total Dissolved Solids	4300	mg/L	250
991454-002	SC-100B-WDR-277	SM4500NH3D	NONE	10/5/2010	8:40	Ammonia-N	ND	mg/L	0.500
991454-002	SC-100B-WDR-277	SM4500NO2B	NONE	10/5/2010	8:40	Nitrite as N	ND	mg/L	0.0050
991454-002	SC-100B-WDR-277	SM4500-PB_E	NONE	10/5/2010	8:40	Total Phosphorous-P	ND	mg/L	0.0200
991454-002	SC-100B-WDR-277	SM4500SI	NONE	10/5/2010	8:40	Soluble Silica	20.5	mg/L	2.00
991454-002	SC-100B-WDR-277	SM5310C	NONE	10/5/2010	8:40	Total Organic Carbon	ND	mg/L	0.300

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

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

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 991454

Printed 10/26/2010

Samples Received on 10/5/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-277	991454-001	10/05/2010 08:40	Water
SC-100B-WDR-277	991454-002	10/05/2010 08:40	Water

Anions By I.C. - EPA 300.0 Batch 10AN10 D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Fluoride	mg/L	10/06/2010 22:49	5.00	0.0600	0.500	2.05
Nitrate as Nitrogen	mg/L	10/06/2010 22:49	5.00	0.0950	0.500	2.89
991454-002 Fluoride	mg/L	10/06/2010 23:01	5.00	0.0600	0.500	2.60
Nitrate as Nitrogen	mg/L	10/06/2010 23:01	5.00	0.0950	0.500	3.21

Method Blank

Parameter	Unit	DF	Result
Fluoride	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	1.93	2.05	5.78	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.85	2.89	1.50	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.10	4.00	103	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.02	4.00	101	90 - 110

Matrix Spike — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.4	22.0(20.0)	102	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.9	22.9(20.0)	105	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.13	4.00	103	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.03	4.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.99	3.00	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.99	3.00	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.16	3.00	105	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.00	3.00	100	90 - 110

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Anions By I.C. - EPA 300.0

Batch 10AN10 E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Sulfate	mg/L	10/06/2010 18:28	25.0	1.00	12.5	497
991454-002 Sulfate	mg/L	10/06/2010 18:41	25.0	1.00	12.5	549

Method Blank

Parameter	Unit	DF	Result
Sulfate	mg/L	1.00	ND

Duplicate — Lab ID = 991410-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	25.0	30.5	31.3	2.34	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	20.1	20.0	101	90 - 110

Matrix Spike — Lab ID = 991410-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	25.0	138	131(100.)	107	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	20.2	20.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.1	15.0	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.0	15.0	100	90 - 110

Nitrite SM 4500-NO2 B Batch 10NO210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Nitrite as Nitrogen	mg/L	10/06/2010 14:23	1.00	0.000200	0.0050	ND
991454-002 Nitrite as Nitrogen	mg/L	10/06/2010 14:24	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0474	0.0450	105	90 - 110

Matrix Spike — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0227	0.0200(0.0200	114	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0292	0.0270	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0211	0.0200	106	90 - 110

Alkalinity by SM 2320B Batch 10ALK10B 10/12/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-002 Alkalinity as CaCO3	mg/L	10/12/2010	1.00	1.68	5.00	142
Bicarbonate (Calculated)	mg/L	10/12/2010	1.00	0.153	5.00	142
Carbonate (Calculated)	mg/L	10/12/2010	1.00	0.153	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO3	mg/L	1.00	ND

Duplicate — Lab ID = 991456-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	53.0	54.0	1.87	0 - 0

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	101.	100.	101.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.	100.	90 - 110

Matrix Spike — Lab ID = 991456-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	152.	154.(100.)	98.0	75 - 125

Matrix Spike Duplicate — Lab ID = 991456-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	151.	154.(100.)	97.0	75 - 125

Specific Conductivity - EPA 120.1 Batch 10EC10C 10/6/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Specific Conductivity	umhos/cm	10/06/2010	1.00	0.0380	2.00	7110
991454-002 Specific Conductivity	umhos/cm	10/06/2010	1.00	0.0380	2.00	7870

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991455-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8580	8560	0.233	0 - 10

Duplicate — Lab ID = 991456-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	1710	1690	1.18	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	710.	706.	101	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	714.	706.	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	989.	999.	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	983.	999.	98.4	90 - 110

Chrome VI by EPA 218.6

Batch 10CrH10F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Chromium, Hexavalent	ug/L	10/11/2010 12:15	1.05	0.0210	0.20	0.31
991454-002 Chromium, Hexavalent	ug/L	10/11/2010 12:26	105	2.20	21.0	987

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	983	987	0.335	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.10	5.00	102	90 - 110

Matrix Spike — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.16	5.69(5.25)	109	90 - 110

Matrix Spike — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.33	1.37(1.06)	95.9	90 - 110

Matrix Spike — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2050	2040(1050)	101	90 - 110

Matrix Spike — Lab ID = 991455-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	30.9	29.6(16.4)	108	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105

Metals by EPA 200.7, Total

Batch 102210A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Iron	ug/L	10/22/2010 14:37	1.00	3.00	20.0	ND
991454-002 Iron	ug/L	10/22/2010 14:53	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	12.4	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5120	5000	102	90 - 110

Matrix Spike — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	2010	2010(2000)	99.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5090	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5020	5000	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5060	5000	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2060	2000	103	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2160	2000	108	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2080	2000	104	80 - 120

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2180	2000	109	80 - 120

Metals by EPA 200.7, Total Batch 102510A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Boron	ug/L	10/25/2010 18:40	5.00	4.70	200.	871
991454-002 Boron	ug/L	10/25/2010 18:45	5.00	4.70	200.	968

Method Blank

Parameter	Unit	DF	Result
Boron	ug/L	1.00	ND

Duplicate — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	1.00	958	955	0.303	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5370	5000	107	90 - 110

Matrix Spike — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Boron	ug/L	1.00	2690	2960(2000)	86.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5440	5000	109	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	4450	5000	89.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	4700	5000	93.9	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Metals by EPA 200.8, Total Batch 100710B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Arsenic	ug/L	10/07/2010 19:21	5.00	0.260	1.0	ND
Barium	ug/L	10/07/2010 19:21	5.00	0.185	10.0	10.4
Chromium	ug/L	10/07/2010 19:21	5.00	0.0950	1.0	ND
Copper	ug/L	10/07/2010 19:21	5.00	0.305	5.0	ND
Lead	ug/L	10/07/2010 19:21	5.00	0.0950	10.0	ND
Manganese	ug/L	10/07/2010 19:21	5.00	0.210	1.0	1.4
Nickel	ug/L	10/07/2010 19:21	5.00	0.240	10.0	ND
Zinc	ug/L	10/07/2010 19:21	5.00	1.32	10.0	ND
991454-002 Arsenic	ug/L	10/07/2010 19:41	5.00	0.260	1.0	4.2
Barium	ug/L	10/07/2010 19:41	5.00	0.185	10.0	24.8
Chromium	ug/L	10/07/2010 19:41	5.00	0.0950	1.0	918
Copper	ug/L	10/07/2010 19:41	5.00	0.305	5.0	ND
Lead	ug/L	10/07/2010 19:41	5.00	0.0950	10.0	ND
Manganese	ug/L	10/07/2010 19:41	5.00	0.210	1.0	10.0
Nickel	ug/L	10/07/2010 19:41	5.00	0.240	10.0	ND
Zinc	ug/L	10/07/2010 19:41	5.00	1.32	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	ND	0	0	0 - 20
Barium	ug/L	5.00	10.2	10.4	2.62	0 - 20
Chromium	ug/L	5.00	ND	0	0	0 - 20
Nickel	ug/L	5.00	1.08	0	0	0 - 20
Zinc	ug/L	5.00	ND	1.46	0	0 - 20
Copper	ug/L	5.00	1.06	1.17	10.6	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.45	1.45	0.275	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.3	50.0	101	90 - 110
Barium	ug/L	1.00	52.1	50.0	104	90 - 110
Chromium	ug/L	1.00	49.8	50.0	99.6	90 - 110
Nickel	ug/L	1.00	47.8	50.0	95.7	90 - 110
Zinc	ug/L	1.00	48.6	50.0	97.3	90 - 110
Copper	ug/L	1.00	48.8	50.0	97.6	90 - 110
Lead	ug/L	1.00	51.1	50.0	102	90 - 110
Manganese	ug/L	1.00	52.0	50.0	104	90 - 110

Matrix Spike — Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	244.	250.(250.)	97.6	75 - 125
Barium	ug/L	5.00	244	260(250.)	93.5	75 - 125
Chromium	ug/L	5.00	240	250.(250.)	96.2	75 - 125
Nickel	ug/L	5.00	221	250.(250.)	88.6	75 - 125
Zinc	ug/L	5.00	218	251(250.)	86.7	75 - 125
Copper	ug/L	5.00	225	251(250.)	89.7	75 - 125
Lead	ug/L	5.00	221	250.(250.)	88.2	75 - 125
Manganese	ug/L	5.00	244	251(250.)	97.1	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.2	50.0	102	90 - 110
Barium	ug/L	1.00	54.6	50.0	109	90 - 110
Chromium	ug/L	1.00	51.2	50.0	102	90 - 110
Nickel	ug/L	1.00	49.2	50.0	98.3	90 - 110
Zinc	ug/L	1.00	53.1	50.0	106	90 - 110
Copper	ug/L	1.00	49.8	50.0	99.6	90 - 110
Lead	ug/L	1.00	53.3	50.0	107	90 - 110
Manganese	ug/L	1.00	53.0	50.0	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.2	50.0	96.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.2	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.6	50.0	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	52.7	50.0	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.3	50.0	101	90 - 110
Nickel	ug/L	1.00	48.9	50.0	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	46.8	50.0	93.6	90 - 110
Zinc	ug/L	1.00	47.2	50.0	94.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	51.9	50.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	46.9	50.0	93.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	49.7	50.0	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	50.2	50.0	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	52.1	50.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.6	50.0	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	53.9	50.0	108	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	45.9	50.0	91.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.0	50.0	92.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.7	50.0	93.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.2	50.0	92.4	80 - 120
Nickel	ug/L	1.00	44.6	50.0	89.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	44.7	50.0	89.4	80 - 120
Zinc	ug/L	1.00	45.2	50.0	90.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	45.0	50.0	90.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	46.6	50.0	93.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	45.8	50.0	91.6	80 - 120
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.8	50.0	97.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.5	50.0	97.1	80 - 120

Serial Dilution — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	885	918	3.66	0 - 10

Metals by EPA 200.8, Total

Batch 101410A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Aluminum	ug/L	10/14/2010 14:40	5.00	6.00	50.0	ND
Antimony	ug/L	10/14/2010 14:40	5.00	0.190	10.0	ND
Molybdenum	ug/L	10/14/2010 14:40	5.00	0.660	10.0	17.6
991454-002 Aluminum	ug/L	10/14/2010 15:50	5.00	6.00	50.0	ND
Antimony	ug/L	10/14/2010 15:50	5.00	0.190	10.0	ND
Molybdenum	ug/L	10/14/2010 15:50	5.00	0.660	10.0	23.0

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	5.00	1.38	0	0	0 - 20
Antimony	ug/L	5.00	ND	0	0	0 - 20
Molybdenum	ug/L	5.00	16.5	17.6	6.28	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.8	50.0	106	90 - 110
Antimony	ug/L	1.00	45.4	50.0	90.8	90 - 110
Molybdenum	ug/L	1.00	48.7	50.0	97.4	90 - 110

Matrix Spike

Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	266	250.(250.)	106	75 - 125
Antimony	ug/L	5.00	231	250.(250.)	92.4	75 - 125
Molybdenum	ug/L	5.00	258	268(250.)	96.1	75 - 125

Matrix Spike Duplicate

Lab ID = 991454-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	273	250.(250.)	109	75 - 125
Antimony	ug/L	5.00	272	250.(250.)	109	75 - 125
Molybdenum	ug/L	5.00	269	268(250.)	101	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.4	50.0	98.7	90 - 110
Antimony	ug/L	1.00	45.5	50.0	91.0	90 - 110
Molybdenum	ug/L	1.00	49.7	50.0	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.3	50.0	107	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	54.9	50.0	110	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.2	50.0	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.3	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	54.5	50.0	109	90 - 110
Antimony	ug/L	1.00	51.5	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	53.6	50.0	107	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	53.4	50.0	107	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	51.6	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	47.5	50.0	95.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	47.3	50.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	48.2	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	45.8	50.0	91.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	46.7	50.0	93.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	48.2	50.0	96.4	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.8	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	59.6	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.4	50.0	107	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	55.1	50.0	110	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Reactive Silica by SM4500-Si D

Batch 10Si10A — 10/11/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-002 Silica	mg/L	10/11/2010	50.0	0.700	2.00	20.5

Method Blank

Parameter	Unit	DF	Result
Silica	mg/L	1.00	ND

Duplicate — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Silica	mg/L	50.0	19.5	20.5	4.55	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.491	0.464	106	90 - 110

Matrix Spike — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Silica	mg/L	50.0	41.8	40.5(20.0)	107	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.218	0.232	93.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.391	0.400	97.7	90 - 110

Total Dissolved Solids by SM 2540 C Batch 10TDS10B 10/7/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Total Dissolved Solids	mg/L	10/07/2010	1.00	0.434	250.	4190
991454-002 Total Dissolved Solids	mg/L	10/07/2010	1.00	0.434	250.	4300

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 991456-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4580	4380	4.57	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	497.	500.	99.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	491.	500.	98.2	90 - 110

Total Organic Carbon (T/DOC) SM 5310 C Batch 10TOC10D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-002 Total Organic Carbon	mg/L	10/19/2010 20:44	1.00	0.0250	0.300	ND

Method Blank

Parameter	Unit	DF	Result
Total Organic Carbon	mg/L	1.00	ND

Duplicate — Lab ID = 991448-021

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Organic Carbon	mg/L	1.00	2.23	2.24	0.582	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	18.6	20.0	92.8	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.58	10.0	95.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.24	10.0	92.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.29	10.0	92.9	90 - 110

Total Phosphate, SM 4500-PB,E Batch 10TP10A 10/11/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-002 Phosphate, Total As P	mg/L	10/11/2010	1.00	0.00300	0.0200	ND

Method Blank

Parameter	Unit	DF	Result
Phosphate, Total As P	mg/L	1.00	ND

Duplicate — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Phosphate, Total As P	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.105	0.100	105	90 - 110

Matrix Spike — Lab ID = 991454-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0664	0.0650(0.0650	102	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0648	0.0600	108.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0684	0.0650	105	90 - 110

Ammonia Nitrogen by SM4500-NH3D Batch 10NH3-E10B 10/12/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Ammonia as N	mg/L	10/12/2010	1.00	0.00200	0.500	ND
991454-002 Ammonia as N	mg/L	10/12/2010	1.00	0.00200	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate — Lab ID = 991553-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.1	10.0	101	90 - 110

Matrix Spike — Lab ID = 991553-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.97	6.00(6.00)	99.5	75 - 125

Matrix Spike Duplicate — Lab ID = 991553-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.85	6.00(6.00)	97.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.01	6.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.99	6.00	99.8	90 - 110

Metals by 200.7, Dissolved

Batch 100810A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-002 Iron	ug/L	10/08/2010 13:39	1.00	0.542	20.0	ND
Manganese	ug/L	10/08/2010 13:39	1.00	0.0420	10.0	10.6

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0	0	0 - 20
Manganese	ug/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5000	5000	99.9	90 - 110
Manganese	ug/L	1.00	5030	5000	101	90 - 110

Matrix Spike

Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1820	2000(2000)	90.8	75 - 125
Manganese	ug/L	1.00	1870	2000(2000)	93.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4910	5000	98.2	90 - 110
Manganese	ug/L	1.00	5010	5000	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5200	5000	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5120	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5060	5000	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5130	5000	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5050	5000	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5200	5000	104	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1930	2000	96.5	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2100	2000	105	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2070	2000	103	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2090	2000	104	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	2070	2000	103	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	2120	2000	106	80 - 120

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Turbidity by SM 2130 B Batch 10TUC10E 10/6/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991454-001 Turbidity	NTU	10/06/2010	1.00	0.0140	0.100	0.128
991454-002 Turbidity	NTU	10/06/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 991459-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.60	8.00	95.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for, Mona Nassimi
Manager, Analytical Services

Ez Seam

4

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS10B

Date Calculated: 10/11/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	109.2192	109.2192	109.2192	0.0000	No	0.0000	0.0	25.0	ND	1
991454-1	10	67.2544	67.2963	67.2963	0.0000	No	0.0419	4190.0	250.0	4190.0	1
991454-2	10	65.6368	65.6799	65.6798	0.0001	No	0.0430	4300.0	250.0	4300.0	1
991455-1	20	74.7683	74.8343	74.8341	0.0002	No	0.0658	3290.0	125.0	3290.0	1
991455-2	10	66.8223	66.8740	66.8739	0.0001	No	0.0516	5160.0	250.0	5160.0	1
991456-1	10	76.5716	76.6126	76.6125	0.0001	No	0.0409	4090.0	250.0	4090.0	1
991456-2	10	67.8037	67.8469	67.8467	0.0002	No	0.0430	4300.0	250.0	4300.0	1
991456-3	10	68.2350	68.2786	68.2786	0.0000	No	0.0436	4360.0	250.0	4360.0	1
991456-4	10	75.4565	75.5147	75.5147	0.0000	No	0.0582	5820.0	250.0	5820.0	1
991456-5	10	68.8017	68.8523	68.8523	0.0000	No	0.0506	5060.0	250.0	5060.0	1
991456-6	20	67.7380	67.8259	67.8257	0.0002	No	0.0877	4385.0	125.0	4385.0	1
991456-6D	20	69.2479	69.3400	69.3396	0.0004	No	0.0917	4585.0	125.0	4585.0	1
LCS	100	68.2935	68.3432	68.3432	0.0000	No	0.0497	497.0	25.0	497.0	1
991456-7	10	49.4669	49.5120	49.5116	0.0004	No	0.0447	4470.0	250.0	4470.0	1
991456-8	10	47.6395	47.6862	47.6859	0.0003	No	0.0464	4640.0	250.0	4640.0	1
991456-9	50	105.2922	105.3388	105.3388	0.0000	No	0.0466	932.0	50.0	932.0	1
991456-10	10	68.5548	68.612	68.612	0.0000	No	0.0572	5720.0	250.0	5720.0	1
991435	864	160.2383	160.2429	160.2429	0.0000	No	0.0046	5.3	2.9	5.3	1
991486	100	68.9878	69.0360	69.0356	0.0004	No	0.0478	478.0	25.0	478.0	1
991486D	100	68.9060	68.9545	68.9541	0.0004	No	0.0481	481.0	25.0	481.0	1
LCSD	100	66.0720	66.1214	66.1211	0.0003	No	0.0491	491.0	25.0	491.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\ 0^{6}$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Hyp — Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS10B

Date Calculated: 10/11/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991454-1	7110	0.59	4621.5	0.91
991454-2	7810	0.55	5076.5	0.85
991455-1	5350	0.61	3477.5	0.95
991455-2	8560	0.60	5564	0.93
991456-1	7190	0.57	4673.5	0.88
991456-2	7140	0.60	4641	0.93
991456-3	7220	0.60	4693	0.93
991456-4	8630	0.67	5609.5	1.04
991456-5	8190	0.62	5323.5	0.95
991456-6	6610	0.66	4296.5	1.02
991456-6D	6610	0.69	4296.5	1.07
LCS				
991456-7	7270	0.61	4725.5	0.95
991456-8	7260	0.64	4719	0.98
991456-9	1690	0.55	1098.5	0.85
991456-10	8540	0.67	5551	1.03
991435	8.07	0.66	5.2455	1.01
991486	794	0.60	516.1	0.93
991486D	794	0.61	516.1	0.93

TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

6

Date of Analysis: 10/12/10
Start of Analysis:
Date Sampled:

Eq Seen

Analytical Batch: 10ALK10B
Matrix: Water
Date Calculated: 10/12/10

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	7.05	50	0.02		0.0	0.05		1.0	5	ND	ND	ND	ND	
991486-16	7.28	50	0.02		0.0	5.16		103.2	5	103.2	103.2	ND	ND	
991486-20	7.85	50	0.02		0.0	5.55		111.0	5	111.0	111.0	ND	ND	
991486-3	7.62	50	0.02		0.0	5.50		110.0	5	110.0	110.0	ND	ND	
991454-2	7.82	50	0.02		0.0	7.08		141.6	5	141.6	141.6	ND	ND	
991456-1	7.93	50	0.02		0.0	3.45		69.0	5	69.0	69.0	ND	ND	
991456-2	7.77	50	0.02		0.0	2.60		52.0	5	52.0	52.0	ND	ND	
991456-3	7.95	50	0.02		0.0	3.25		65.0	5	65.0	65.0	ND	ND	
991456-4	7.70	50	0.02		0.0	2.40		48.0	5	48.0	48.0	ND	ND	
991456-5	7.77	50	0.02		0.0	3.05		61.0	5	61.0	61.0	ND	ND	
991456-6	7.76	50	0.02		0.0	2.70		54.0	5	54.0	54.0	ND	ND	
991456-7	7.70	50	0.02		0.0	2.20		44.0	5	44.0	44.0	ND	ND	
991456-8	7.63	50	0.02		0.0	2.50		50.0	5	50.0	50.0	ND	ND	
~~991456-9~~		~~50~~	~~0.02~~		~~0.0~~			0.0	5	ND	ND	ND		
991456-10	7.63	50	0.02		0.0	2.50		50.0	5	50.0	50.0	ND	ND	
991553-1	7.69	50	0.02		0.0	3.40		68.0	5	68.0	68.0	ND	ND	
991553-2	7.71	50	0.02		0.0	3.55		71.0	5	71.0	71.0	ND	ND	
991584-20	7.79	50	0.02		0.0	5.45		109.0	5	109.0	109.0	ND	ND	
~~991456-5~~		~~50~~	~~0.02~~		~~0.0~~			0.0	5	ND	ND	ND		
991456-6 DUP	7.71	50	0.02		0.0	2.65		53.0	5	53.0	53.0	ND	ND	
991456-6 MS	9.88	50	0.02	2.0	40.0	7.60		152.0	5	152.0	72.0	80	ND	
991456-6 MSD	9.88	50	0.02	2.0	40.0	7.55		151.0	5	151.0	71.0	80	ND	
LCS1	10.10	50	0.02	2.4	47.0	5.05		101.0	5	101.0	7.0	94	ND	
LCS2	10.10	50	0.02	2.4	47.0	5.00		100.0	5	100.0	6.0	94	ND	

Calculations as follows:

$$T \text{ or } P = \left(\frac{A \times N \times 50000}{mL \ sample} \right)$$

Where:
T = Total Alkalinity, mg CaCO3/L
P = Phenolphthalein Alkalinity, mg CaCO3/L
A = mL standard acid used
N = normality of standard acid

$$\text{Low Alkalinity: as mg/L CaCO3} = \frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

Where: B = mL titrant to first recorded pH
C = total mL titrant to reach pH 0.3 unit lower
N = normality of standard acid

ND: Not Detected (below the reporting limit)
LCS: Laboratory Control Standard
LCSD: Laboratory Control Standard Duplicate
MS: Matrix Spike
MSD: Matrix Spike Duplicate

JORDAN
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Alk_10b10/14/10, by HT

Rec'd 10/05/10
s 991454 :

991454

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-277]

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

COMPANY CH2M HILL /E2
PROJECT NAME PG&E Topock IM3
PHONE 530-229-3303 FAX 530-339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 408401.01.DM
SAMPLERS (SIGNATURE C. Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Alkalinity (2320-B)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Total P (4500-P)	Anions (300.0) F, NO3, SO4	TOC (5310 C)	Dissolved Metals (200.7) Fe, Mn lab filtered	Soluable Silica - Reactive (4500-Si CorD)	NO2 (4500-NO2B)	NUMBER OF CONTAINERS	COMMENTS
-1 SC-700B-WDR-277	10/05/10	0840		X		X	X	X	X	X		X				X	4	pH=2
-2 SC-100B-WDR-277	10/05/10	0840		X	X	X	X	X	X	X	X	X	X	X	X	X	10	pH=2 / pH=7
																		ALERT !!
			TEMP		pH			EC		Cr (LL)			Cr (T)					Level III QC
SC-700B	0840		78.8°F		7.1			7.28		.002								
	SAMPLE TIME		0848		0848			0848		0903								
SC-100B	0840		75.0°F		7.4			8.08		1.14							14	TOTAL NUMBER OF CONTAINERS
			0852		0852			0852		09:03								

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	C. Knight	C. Knight	Ouc	Date/ 10-5-10 Time 14:43
Received	Rafael Davila	Rafael	T.K.I	Date/ 10-5-10 Time 15:30
Relinquished	Rafael Davila	Rafael	T.K.I	Date/ 10-5-10 Time 21:30
Received	Shabnam Na	Linda	TKI	Date/ 10/5/10 Time 21:30
Relinquished				Date/ Time
Received				Date/ Time

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 4.4°C °F
CUSTODY SEALED YES ☐ NO ☐

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

For Sample Condition
See Form Attached

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
09/30/10	991359-7	9.5	N/A	N/A	N/A	SB
	-8					
	-9					
	-10					
	-11					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
10/04/10	991393-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
10/04/10	991394-1	9.5	N/A	N/A	N/A	SB
	-2					
	-4					
	-5					
	-6					
	-7					
	-9					
	-11					
	-17					
	-18					
	-19					
	-20					
10/01/10	991373-1	9.5	N/A	N/A	N/A	SB
	-2					
10/06/10	991454-1	7.0	5.00	9.5	7:30	SB
	-2				7:35	

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991531 (1-3)	<1	>2	10/7/10	DK	No	Yes 17:00
991516	<1	<2				—
991517	>2				Yes	2no A
991518						
991519 (1-5)						
991521						
991534	<1	<2	10/8/10	hr	No	—
991513 (1-10)	<1	<2	10/8/10	DK	No	—
4,5,6,8,9	>1				Yes	—
991528	>1	<2		DK	Yes	—
991511	<1	<2		DK	No	—
991512	>1	<2			Yes	—
991533 (1-6)						—
991548	<1	<2	10/8/10	ES	No	—
547 (1-7)	>2	<2			Yes	—
991454 (1)	<1	>2		hr/DK	No	Yes
991455 (2)	<1	>2	10/7/10	DK	No	Yes 20:00
991562	<1	>2	10/11/10	DK	No	Yes 12:00
991553 (1-5)	<1	<2				No
Lab Rep (1-2)						
991554 (1-2)						
991570 (2)	<1	<2	10/12/10	hr	No	— 3.4 for digestion
1571						
1572						
1573						
991598 (1-2)	<1	<2	10/13/10	E	No	—
991565 (1-3)	<1	>2	10/14/10	ES	No	@1:30 p.m
991586	>2	<2			Yes	—
588-4	>2	<2				—
591	<2	<2			No	—
597 (1-7)	<2	>2				@1:30 p.m
621 (1-4)	>1	<2			Yes	—
991575 (4)	~~Diss~~ -	<2	10/14/10	hr	No	—
1623	<1	>2			No	4:00 pm Y
1624 (9)	-	<2			No Diss	
1601	<1	<2			No	—
991637	>1	<2	10/15/10	ES	Yes	—
638	>1	<2				—
643 (-1)	>1	<2				—
645 (1	<1	<2			No	—
673	<1	>2				@4:00 p.m
991674 (1-7)	<1	>2	10/16/10	ES	No	@ 2:00 pm
991680 (3)	F	<2	10/18/10	hr	No	—
1601 (3)						—
1625 (4)						—
1681	-	-	10/19/10	KK	Yes - TTC	—
1691	>1	<2			No	—
1692	<1	<2				—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 991454

Date Delivered: 10/25/10 **Time:** 21:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.4 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☒Client	☒Yes	☐No	☐N/A
12.	Were samples pH checked? pH = see c.o.c.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

ALERT !! Level III QC

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabnam

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

October 28, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-278 PROJECT, GROUNDWATER MONITORING, TLI NO.: 991623

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-278 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on October 13, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The result from the matrix spike for sample SC-700B-WDR-278 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

fo - Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991623
Date: October 28, 2010
Collected: October 13, 2010
Received: October 13, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Hope Trinidad / Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

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

Laboratory No.: 991623
Date Received: October 13, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991623-001	SC-700B-WDR-278	E120.1	NONE	10/13/2010	8:00	EC	7090	umhos/cm	2.00
991623-001	SC-700B-WDR-278	E200.8	NONE	10/13/2010	8:00	Chromium	ND	ug/L	1.0
991623-001	SC-700B-WDR-278	E200.8	NONE	10/13/2010	8:00	Manganese	1.6	ug/L	1.0
991623-001	SC-700B-WDR-278	E218.6	LABFLT	10/13/2010	8:00	Chromium, hexavalent	0.20	ug/L	0.20
991623-001	SC-700B-WDR-278	SM2130B	NONE	10/13/2010	8:00	Turbidity	0.115	NTU	0.100
991623-001	SC-700B-WDR-278	SM2540C	NONE	10/13/2010	8:00	Total Dissolved Solids	4410	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 991623

Printed 10/29/2010

Samples Received on 10/13/2010 8:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-278	991623-001	10/13/2010 08:00	Water

Specific Conductivity - EPA 120.1 Batch 10EC10H 10/19/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991623-001 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	7090

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991625-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	923.	921.	0.217	0 - 10

Duplicate — Lab ID = 991625-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	959.	958.	0.104	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707.	706.	100	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	688.	706.	97.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	994.	999.	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

Chrome VI by EPA 218.6

Batch 10CrH10H

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991623-001 Chromium, Hexavalent	ug/L	10/15/2010 08:49	1.05	0.0210	0.20	0.20

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991598-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1760	1760	0.312	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.32	5.00	106	90 - 110

Matrix Spike — Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.97	5.57(5.25)	108	90 - 110

Matrix Spike — Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.27	1.26(1.06)	101	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.18	5.00	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.97	10.0	99.7	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.90	10.0	99.0	95 - 105

Metals by EPA 200.8, Total

Batch 101910A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991623-001 Chromium	ug/L	10/19/2010 13:06	5.00	0.0950	1.0	ND
Manganese	ug/L	10/19/2010 13:06	5.00	0.210	1.0	1.6

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.68	1.64	2.71	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.5	50.0	101	90 - 110
Manganese	ug/L	1.00	54.9	50.0	110	90 - 110

Matrix Spike

Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	242	250.(250.)	96.7	75 - 125
Manganese	ug/L	5.00	245	252(250.)	97.2	75 - 125

Matrix Spike Duplicate

Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	244.	250.(250.)	97.6	75 - 125
Manganese	ug/L	5.00	246	252(250.)	97.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.4	50.0	101	90 - 110
Manganese	ug/L	1.00	52.7	50.0	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.5	50.0	96.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.4	50.0	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.1	50.0	98.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.3	50.0	101	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.1	50.0	94.2	80 - 120

Total Dissolved Solids by SM 2540 C Batch 10TDS10C 10/14/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991623-001 Total Dissolved Solids	mg/L	10/14/2010	1.00	0.434	250.	4410

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 991627-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	563.	565.	0.355	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	500.	500.	100.	90 - 110

Turbidity by SM 2130 B Batch 10TUC10H 10/14/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991623-001 Turbidity	NTU	10/14/2010	1.00	0.0140	0.100	0.115

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 991623-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.117	0.115	1.72	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.65	8.00	95.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

E2 Consulting Engineers Nassimi

3

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS10C

Date Calculated: 10/13/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	110.2364	110.2368	110.2368	0.0000	No	0.0004	4.0	25.0	ND	1
991565-2	200	110.8005	110.8170	110.817	0.0000	No	0.0165	82.5	12.5	82.5	1
991565-3	100	72.5224	72.5378	72.5378	0.0000	No	0.0154	154.0	25.0	154.0	1
991592-2	100	78.3884	78.4500	78.45	0.0000	No	0.0616	616.0	25.0	616.0	1
991627-1	100	76.0050	76.0632	76.0632	0.0000	No	0.0582	582.0	25.0	582.0	1
991627-2	100	67.8128	67.8695	67.8693	0.0002	No	0.0565	565.0	25.0	565.0	1
991623	10	74.7477	74.7918	74.7918	0.0000	No	0.0441	4410.0	250.0	4410.0	1
991627-2D	100	76.2204	76.2767	76.2767	0.0000	No	0.0563	563.0	25.0	563.0	1
LCS	100	72.4781	72.5281	72.5281	0.0000	No	0.0500	500.0	25.0	500.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Hope — Reviewer Printed Name

Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS10C

Date Calculated: 10/13/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991565-2	162	0.51	105.3	0.78
991565-3	291	0.53	189.15	0.81
991592-2	998	0.62	648.7	0.95
991627-1	930	0.63	604.5	0.96
991627-2	935	0.60	607.75	0.93
991623	7050	0.63	4582.5	0.96
991627-2D	935	0.60	607.75	0.93

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

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-278] 991623

COC Number

TURNAROUND TIME 10 Days

DATE 10/13/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr. Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
~~SC-700B-WDR-278~~ SC-700B-WDR-278 -1A	10/13/10	0800	Water	X	X	X	X	X	3	pH = 7
									3	TOTAL NUMBER OF CONTAINERS

SC-700B-WDR-278

ANALYSIS	pH	EC	Cr6	TOTAC	TEMP
0808	7.2	7.42	.003	.005	19.5

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	J AIDE	OMI	10/13/10 1500
Signature (Received) Bonifacio Oaya	B. OAYAG	TLI	Date/ 10-13-10 Time 1500
Signature (Relinquished) B. Oaya	B. OAYAG	TLI	Date/ 10-13-10 Time 2030
Signature (Received) Linda Cunning	Linda	TLI	Date/ 10/13/10 Time 2030
Signature (Relinquished)			Date/ Time
Signature (Received)			Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 3.8°C °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10/08/10	991554-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
10/12/10	991575-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
↓	↓ -4	↓	↓	↓	↓	↓
10/13/10	991598	9.5	N/A	N/A	N/A	SB
10/13/10	991600-1	9.5	N/A	N/A	N/A	SB
	-2					
↓	↓ -3	↓	↓	↓	↓	↓
10/13/10	991601-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
↓	↓ -4	↓	↓	↓	↓	↓
10/14/10	991624-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
↓	↓ -9	↓	↓	↓	↓	↓
10/14/10	991623	7.0	5.00	9.5	7.40	SB
10/14/10	991625-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
↓	↓ -7	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)	
991531 (1-3)	<1	>2	10/7/10	DK	No	Yes 17:00	
991516	<1	<2				—	
991517	>2				Yes	2mL A	
991518							
991519 (1-5)							
991521							
991534	<1	<2	10/8/10	hr	No	—	
991513 (1-10)	<1	<2	10/8/10	DK	No	—	
4,5,6,8,9	>1				Yes	—	
991528	>1	<2		DK	Yes	—	
991511	<1	<2		DK	No	—	
991512	>1	<2			Yes	—	
991533 (1-6)						—	
991548	<1	<2	10/8/10	ES	NO	—	
547 (1-7)	>2	<2			Yes	—	
991454 (1)	<1	>2		hr/DK	No	Yes	
991455 (2)	<1	>2	10/7/10	DK	No	Yes 20:00	
991562	<1	>2	10/11/10	DK	No	Yes 12:00	
991553 (1-5)	<1	<2				No	
Fe (1-2)							
991554 (1-2							
991570 (2)	<1	<2	10/12/10	hr	No	—	3,4 for digestion
1571							
1572							
1573							
991598 (1-2)	<1	<2	10/13/10	E	No	—	
991565 (1-3)	<1	>2	10/14/10	ES	No	@1:30 p.m	
991586	>2	<2			Yes	—	
588-4	>2	<2				—	
591	<2	<2			No	—	
597 (1-7)	<2	>2				@1:30 p.m	
621 (1-4)	>1	<2			Yes	—	
991575 (4)	~~Diss~~ -	<2	10/14/10	hr	No	—	
1623	<1	>2			No	4:00 pm Y	
1624 (9)	-	<2			No Diss		
1601	<1	<2			No	—	
991637	>1	<2	10/15/10	ES	Yes	—	
638	>1	<2				—	
643 (-1)	>1	<2				—	
645 (1	<1	<2			No	—	
673	<1	>2				@4:00 p.m	
991674 (1-7)	<1	>2	10/16/10	ES	No	@5:00pm	
991680 (3)	F	<2	10/18/10	hr	No	—	
1601 (3)						—	
1625 (24)						—	
1681	-	-	10/19/10	KK	Yes - TNC	—	
1691	>1	<2			No	—	
1692	<1	<2				—	

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 Lab # 991623

Date Delivered: 10/13/10 Time: 20:30 By: ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 3.8° C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

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

\\MATRIXnew\Discrp.FormBlank.doc

ALERT!!
Level III QC

TRUESDAIL LABORATORIES, INC.

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14201 FRANKLIN AVENUE
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www.truesdail.com

November 2, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-279 PROJECT, GROUNDWATER MONITORING, TLI NO.: 991721

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-279 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991721
Date: November 2, 2010
Collected: October 19, 2010
Received: October 19, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 991721
Date Received: October 19, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991721-001	SC-700B-WDR-279	E120.1	NONE	10/19/2010	9:00	EC	7160	umhos/cm	2.00
991721-001	SC-700B-WDR-279	E200.8	NONE	10/19/2010	9:00	Chromium	ND	ug/L	1.0
991721-001	SC-700B-WDR-279	E200.8	NONE	10/19/2010	9:00	Manganese	2.6	ug/L	1.0
991721-001	SC-700B-WDR-279	E218.6	LABFLT	10/19/2010	9:00	Chromium, hexavalent	ND	ug/L	0.20
991721-001	SC-700B-WDR-279	SM2130B	NONE	10/19/2010	9:00	Turbidity	0.107	NTU	0.100
991721-001	SC-700B-WDR-279	SM2540C	NONE	10/19/2010	9:00	Total Dissolved Solids	4340	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.DM
Project Number: 408401.DM

Laboratory No. 991721

Printed 11/2/2010

Samples Received on 10/19/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-279	991721-001	10/19/2010 09:00	Water

Specific Conductivity - EPA 120.1 Batch 10EC10J 10/20/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991721-001 Specific Conductivity	umhos/cm	10/20/2010	1.00	0.0380	2.00	7160

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991722-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	72.4	72.2	0.277	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	691.	706.	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	692.	706.	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	990.	999.	99.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

Chrome VI by EPA 218.6

Batch 10CrH10K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991721-001 Chromium, Hexavalent	ug/L	10/20/2010 16:35	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991625-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.04	5.00	101	90 - 110

Matrix Spike — Lab ID = 991625-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.06(1.06)	104	90 - 110

Matrix Spike — Lab ID = 991625-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.06(1.06)	109	90 - 110

Matrix Spike — Lab ID = 991625-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

Matrix Spike — Lab ID = 991625-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

Matrix Spike — Lab ID = 991625-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.08	1.06(1.06)	102	90 - 110

Matrix Spike — Lab ID = 991625-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105.	90 - 110

Matrix Spike — Lab ID = 991625-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

Matrix Spike — Lab ID = 991625-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	104	90 - 110

Matrix Spike — Lab ID = 991625-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

Matrix Spike — Lab ID = 991625-022

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.06(1.06)	107	90 - 110

Matrix Spike — Lab ID = 991625-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.06(1.06)	107	90 - 110

Matrix Spike — Lab ID = 991625-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.06(1.06)	100	90 - 110

Matrix Spike — Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.06(1.06)	107	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.93	5.00	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.78	10.0	97.8	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.88	10.0	98.8	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	90 - 105

Metals by EPA 200.8, Total

Batch 102710A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991721-001 Chromium	ug/L	10/27/2010 13:16	5.00	0.0950	1.0	ND
Manganese	ug/L	10/27/2010 13:16	5.00	0.210	1.0	2.6

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	2.59	2.56	1.01	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Manganese	ug/L	1.00	45.8	50.0	91.5	90 - 110

Matrix Spike

Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	224	250.(250.)	89.5	75 - 125
Manganese	ug/L	5.00	243	253(250.)	96.1	75 - 125

Matrix Spike Duplicate

Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	227	250.(250.)	90.9	75 - 125
Manganese	ug/L	5.00	219	253(250.)	86.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	91.9	90 - 110
Manganese	ug/L	1.00	46.7	50.0	93.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.7	50.0	93.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.2	50.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.2	50.0	92.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.2	50.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	54.6	50.0	109	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.6	50.0	91.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.3	50.0	90.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.6	50.0	99.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.3	50.0	92.7	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 10TDS10E 10/21/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991721-001 Total Dissolved Solids	mg/L	10/21/2010	1.00	0.434	250.	4340

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4160	4340	4.24	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	482.	500.	96.4	90 - 110

Turbidity by SM 2130 B

Batch 10TUC10K 10/20/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991721-001 Turbidity	NTU	10/20/2010	1.00	0.0140	0.100	0.107

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 991721-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.109	0.107	1.85	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.83	8.00	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

E2 Nassim.

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS10E

Date Calculated: 10/21/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	69.2701	69.2704	69.2703	0.0001	No	0.0002	2.0	25.0	ND	1
991679-2	200	114.3478	114.3648	114.3644	0.0004	No	0.0166	83.0	12.5	83.0	1
991679-3	100	75.7777	75.7932	75.7932	0.0000	No	0.0155	155.0	25.0	155.0	1
991721	10	49.5572	49.6006	49.6006	0.0000	No	0.0434	4340.0	250.0	4340.0	1
991721D	10	50.6254	50.6670	50.6670	0.0000	No	0.0416	4160.0	250.0	4160.0	1
LCS	100	73.1500	73.1982	73.1982	0.0000	No	0.0482	482.0	25.0	482.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: **A** = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS10E

Date Calculated: 10/21/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991679-2	163	0.51	105.95	0.78
991679-3	289	0.54	187.85	0.83
991721	7160	0.61	4654	0.93
991721D	7160	0.58	4654	0.89

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-279]

991721

COC Number

TURNAROUND TIME 10 Days

DATE 10/19/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	Ronnie Thurston

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	TotBl Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-279	10/19/10	9:00	Water	x	x	x	x	x	3	pH = 7 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

TEMP - 80.0 9:02
pH - 7.3 904
EC - 7.43 904
Cr6 - .003 911
TOTAL - .003 918

ALERT !!
Level III QC

For Sample Condition
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) C. Knight	C. Knight	CH2M Hill	10-19-10 15:14
Signature (Received) Rafael Davila	Rafael	T.L.I	10-19-10 15:15
Signature (Relinquished) Rafael Davila	Rafael	T.L.I	10-19-10 21:30
Signature (Received) Shabnima	Leida	TLI	10/19/10 21:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

037

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10/14/10	991625-8	9.5	N/A	N/A	N/A	SB
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-22					
	-23					
	-24					
10/15/10	991646-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
10/20/10	991721	7.0	5.00	9.5	7:45	SB

al

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991703	>1	<2	10/19/10	KK	yes	—
1705	<1	<2	10/19/10	↓	NO	—
1706	<1	<2			No	
1707	<1	<2			No	
1708	<1	<2			↓	
1709	<1	<2			↓	
1711 (3)	—	—	↓	↓	yes	
991732	<1	>2	10/20/10	ES	NO	@ 10:30 a.m
734	<1	<2			↓	—
720 (1-5)	>1	<2			yes	3010 A
723	>1	<2			↓	↓
727	<1	<2			NO	—
726	>1	<2			Yes	3010 A
737	>1	<2	↓	↓	↓	↓
991744	>1	<2	10/21/10	ES	Yes	3010 A
752-1	>1	>2	↓	↓	↓	@ 12:00 p.m
991753-4	>1	<2	↓	↓	3010A	
991764 (1-3)	<1	>2	10/22/10	ES	NO	@ 12:30 p.m
766	<1	<2			NO	—
767	↓	↓	↓	↓	↓	—
768-1	↓	↓	↓	↓	↓	—
773	>1	↓	↓	↓	yes	—
775 (-4)	<1	↓	↓	↓	No	—
777	<1	↓	↓	↓	↓	—
778 (1-2)	>1	↓	↓	↓	yes	—
767 (1-3)	>1	↓	↓	↓	yes	—
771	<1	>2	↓	↓	NO	@ 2:30 p.m
991789	<1	<2	10/25/10	KK	NO	—
1791	>1	<2	↓	↓	yes	—
1795	>1	<2	↓	↓	yes	—
~~991679-1~~	~~<1~~	~~<2~~	10/25/10	~~KK~~	NO	—
~~1679-2~~	~~<1~~	~~<2~~	↓	↓	↓	—
~~1679-3~~	~~<1~~	~~<2~~	↓	↓	↓	—
~~1565-1~~	~~<1~~	~~<2~~	↓	↓	↓	—
~~1565-2~~	~~<1~~	~~<2~~	↓	↓	↓	—
~~1565-3~~	~~<1~~	~~<2~~	↓	↓	↓	—
991776 (1-3)	<1	<2	10/25/10	KK	NO	—
991646 (1-3)	>1	<2	↓	↓	↓	—
1721	<1	<2	↓	↓	↓	@ 1:45 pm
991804 (1-3)	<1	>2	10/26	ES	NO	@ 11:30 a.m
991813	—	—	10/27	HT	Y	TTLC
1808	<1	>2	↓	↓	NO	9:30 a.m
1809	<1	<2	↓	↓	↓	—
1810	↓	↓	↓	↓	↓	↓
1811	↓	↓	↓	↓	↓	↓
1837	>0	↓	↓	↓	Yes	—
1838	<2	<2	↓	↓	NO	—
991~~721~~ 1840 (1-6)	<1	<2	10/27	KK	NO	—
991 1841 (1-9)	<1	<2	10/27	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 Lab # 991721

Date Delivered: 10/19/10 Time: 21:30 By: ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.5°C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

ALERT!! Level III QC

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

16. Comments: _____

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

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Established 1931

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

November 11, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-280 PROJECT, GROUNDWATER MONITORING, TLI NO.: 991871

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-280 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on October 27, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991871
Date: November 11, 2010
Collected: October 27, 2010
Received: October 27, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Hope Trinidad / Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 991871
Date Received: October 27, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991871-001	SC-100B-WDR-280	E120.1	NONE	10/27/2010	8:06	EC	7870	umhos/cm	2.00
991871-001	SC-100B-WDR-280	E200.8	NONE	10/27/2010	8:06	Chromium	890	ug/L	1.0
991871-001	SC-100B-WDR-280	E200.8	NONE	10/27/2010	8:06	Manganese	10.0	ug/L	1.0
991871-001	SC-100B-WDR-280	E218.6	LABFLT	10/27/2010	8:06	Chromium, hexavalent	1090	ug/L	10.5
991871-001	SC-100B-WDR-280	SM2130B	NONE	10/27/2010	8:06	Turbidity	ND	NTU	0.100
991871-001	SC-100B-WDR-280	SM2540C	NONE	10/27/2010	8:06	Total Dissolved Solids	5110	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 991871

Printed 11/11/2010

Samples Received on 10/27/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-100B-WDR-280	991871-001	10/27/2010 08:06	Water

Specific Conductivity - EPA 120.1 Batch 10EC10M 10/28/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991871-001 Specific Conductivity	umhos/cm	10/28/2010	1.00	0.0380	2.00	7870

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991871-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7850	7870	0.254	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	983.	999.	98.4	90 - 110

Chrome VI by EPA 218.6

Batch 10CrH10N

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991871-001 Chromium, Hexavalent	ug/L	10/28/2010 09:28	52.5	1.10	10.5	1090

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991845-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	42.6	42.4	0.480	0 - 20

Duplicate — Lab ID = 991871-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1160	1090	6.42	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.00	5.00	100	90 - 110

Matrix Spike — Lab ID = 991871-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2510	2400(1310)	109	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.98	10.0	99.8	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.90	10.0	99.0	95 - 105

Metals by EPA 200.8, Total

Batch 102910A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991871-001 Chromium	ug/L	10/29/2010 13:33	5.00	0.0950	1.0	890
Manganese	ug/L	10/29/2010 13:33	5.00	0.0600	1.0	10.0

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Lab ID = 991871-001

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	924	890	3.81	0 - 20
Manganese	ug/L	5.00	10.1	10.0	0.793	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.6	90 - 110
Manganese	ug/L	1.00	48.3	50.0	96.5	90 - 110

Lab ID = 991871-001

Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	1160	1140(250.)	107	75 - 125
Manganese	ug/L	5.00	238	260(250.)	91.3	75 - 125

Lab ID = 991871-001

Matrix Spike Duplicate

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	1160	1140(250.)	109	75 - 125
Manganese	ug/L	5.00	241	260(250.)	92.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.5	90 - 110
Manganese	ug/L	1.00	47.8	50.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.0	50.0	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.4	50.0	96.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.4	50.0	94.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.9	50.0	95.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.3	50.0	96.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.2	50.0	94.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.9	50.0	95.8	80 - 120

Serial Dilution — Lab ID = 991871-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	921	890	3.47	0 - 10

Total Dissolved Solids by SM 2540 C Batch 10TDS10G 10/28/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991871-001 Total Dissolved Solids	mg/L	10/28/2010	1.00	0.434	250.	5110

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 991876-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	299.	298.	0.335	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	496.	500.	99.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	502.	500.	100	90 - 110

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Printed 11/11/2010

Turbidity by SM 2130 B Batch 10TUC10R 10/28/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991871-001 Turbidity	NTU	10/28/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 991871-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.53	8.00	94.1	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.57	8.00	94.6	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ London 6

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS10G

Date Calculated: 11/1/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	68.4299	68.4304	68.4303	0.0001	No	0.0004	4.0	25.0	ND	1
991808-2	200	110.2288	110.2518	110.2514	0.0004	No	0.0226	113.0	12.5	113.0	1
991808-3	100	72.8348	72.8487	72.8484	0.0003	No	0.0136	136.0	25.0	136.0	1
991871	10	50.2379	50.2894	50.289	0.0004	No	0.0511	5110.0	250.0	5110.0	1
991972-2	50	68.9844	69.0818	69.0817	0.0001	No	0.0973	1946.0	50.0	1946.0	1
991873-1	100	73.8373	73.8977	73.8973	0.0004	No	0.0600	600.0	25.0	600.0	1
991873-2	50	74.7194	74.7750	74.7749	0.0001	No	0.0555	1110.0	50.0	1110.0	1
991873-3	50	67.7377	67.7890	67.789	0.0000	No	0.0513	1026.0	50.0	1026.0	1
991873-4	50	65.9954	66.0488	66.0484	0.0004	No	0.0530	1060.0	50.0	1060.0	1
991873-5	50	66.8204	66.8734	66.873	0.0004	No	0.0526	1052.0	50.0	1052.0	1
991873-6	50	74.7659	74.8163	74.8163	0.0000	No	0.0504	1008.0	50.0	1008.0	1
991808-3D	100	72.4783	72.4925	72.4924	0.0001	No	0.0141	141.0	25.0	141.0	1
LCS	100	110.3609	110.4109	110.4105	0.0004	No	0.0496	496.0	25.0	496.0	1
991873-7	50	70.3234	70.4553	70.4549	0.0004	No	0.1315	2630.0	50.0	2630.0	1
991875-1	20	49.4661	49.5420	49.5416	0.0004	No	0.0755	3775.0	125.0	3775.0	1
991875-2	50	68.9027	69.0231	69.0228	0.0003	No	0.1201	2402.0	50.0	2402.0	1
991875-3	50	67.7886	67.8496	67.8496	0.0000	No	0.0610	1220.0	50.0	1220.0	1
991875-4	50	77.8372	77.8920	77.8916	0.0004	No	0.0544	1088.0	50.0	1088.0	1
991875-5	50	76.0071	76.0621	76.0619	0.0002	No	0.0548	1096.0	50.0	1096.0	1
991875-6	20	75.5470	75.6326	75.6322	0.0004	No	0.0852	4260.0	125.0	4260.0	1
991875-8	100	68.8006	68.8376	68.8373	0.0003	No	0.0367	367.0	25.0	367.0	1
991875-9	100	110.9669	111.0183	111.0183	0.0000	No	0.0514	514.0	25.0	514.0	1
991876-7	100	108.6473	108.7710	108.6771	0.0939	Yes	0.0298	298.0	25.0	298.0	1
991876-7D	100	112.1691	112.1994	112.199	0.0004	No	0.0299	299.0	25.0	299.0	1
LCSD	100	110.3646	110.4148	110.4148	0.0000	No	0.0502	502.0	25.0	502.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\,0^{6}$$

Where: **A** = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS10G

Date Calculated: 11/1/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991808-2	161	0.70	104.65	1.08
991808-3	291	0.47	189.15	0.72
991871	7870	0.65	5115.5	1.00
991972-2	2820	0.69	1833	1.06
991873-1	952	0.63	618.8	0.97
991873-2	1670	0.66	1085.5	1.02
991873-3	1670	0.61	1085.5	0.95
991873-4	1600	0.66	1040	1.02
991873-5	1610	0.65	1046.5	1.01
991873-6	1870	0.54	1215.5	0.83
991808-3D	291	0.48	189.15	0.75
LCS				
991873-7	3610	0.73	2346.5	1.12
991875-1	5010	0.75	3256.5	1.16
991875-2	3400	0.71	2210	1.09
991875-3	1830	0.67	1189.5	1.03
991875-4	1650	0.66	1072.5	1.01
991875-5	1660	0.66	1079	1.02
991875-6	5250	0.81	3412.5	1.25
991875-8	595	0.62	386.75	0.95
991875-9	906	0.57	588.9	0.87
991876-7	484	0.62	314.6	0.95
991876-7D	484	0.62	314.6	0.95

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-280]

COC Number
TURNAROUND TIME 10 Days
DATE 10/27/10 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 408401.01.DM TEAM 1
SAMPLERS (SIGNATURE

SAMPLE ID	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
~~SC-700B-WDR-280~~ SC-100B-WDR-280 1A	10/27/10		Water	x	x	x	x	x	3	
									3	TOTAL NUMBER OF CONTAINERS

10/28/10
PH - 7.4 ANALYSIS. 8:06
EC - 7.41
Cr6 - .002
TOTAL - .006.
TEMP - 75.5

SC-700C - Process Controle Sample 1A

CHAIN OF CUSTODY SIGNATURE RECORD

10-27-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Luke	OMI	1530
Signature (Received)	Rafael	T-L-I	10-27-10 16:00
Signature (Relinquished)			
Signature (Received)			
Signature (Relinquished)			
Signature (Received)			

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

SPECIAL REQUIREMENTS:

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-280] 991871

COC Number
TURNAROUND TIME 10 Days
DATE 10/27/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-280	10/27/10		Water	X	X	X	X	X	3	PH=7 (200.)
									3	TOTAL NUMBER OF CONTAINERS

PH - 7.4 ANALYSIS. 8:06
EC - 7.41
Cr6 - .002
TOTAL - .006
TEMP - 75.5

ALERT !!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

10-27-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Hide	OMI	1530
Signature (Received)	Rafael Davila	T-L-I	10-27-10 16:00
Signature (Relinquished)	Rafael Davila	T-L-I	10-27-10 21:30
Signature (Received)	Linda	TLI	10/27/10 21:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 4.2 °C °F
CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:
R.D

036

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10/28/10	991876-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
10/28/10	991877-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
10/28/10	991878-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
10/28/10	991871	7.0	5.00	9.5	7:45	SB
10/29/10	991891	7.0	5.00	9.5	7:40	SB
10/29/10	991892-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991805	<1	<2	10/27	KK	NO	@11:30 am 10/26/10
1846 (1-6,8,9)	<1	<2	↓	↓	↓	—
1845 (1-5)	<1	<2				—
1842 (1-7)	<1	<2	↓	↓	↓	—
991884	<1	<2	10/28/10	ES	NO	
991882	<1	>2				@ 2:30 p.m
991869	<1	>2				↓
991879 (1-2)	<1	<2				—
1871	<1	>2 (11 drops)	10/28	KK	NO	@ 10:00
1808 (1-3)	<1	<2	10/29	KK	NO	—
1845 (1-8)	<1	<2			NO	—
1873 (1-7)	<1	<2			NO	—
1872 (1-3)	<1	<2			NO	—
1874 (1-11)	<1	<2			NO	—
1877 (1-6)	<1	<2			NO	—
1875 (1-9)	<1	<2			NO	—
1876 (1-11)	<1	<2			NO	—
991891	<1	>2		KK	NO	@ 4:05 pm 10/29
991893 (1-2)	<1	<2	~~KK~~ 10/30	KK	NO	—
9918978 (1-5)	<1	<2			NO	—
991894 (1-9)	<1	<2			NO	—
991897 (1-9)	<1	<2			NO	—
991895 (1-8)	4	<2			NO	—
991896 (1-11)	<1	<2			NO	—
991898 (1-11)	<1	<2			NO	—
991892 (1-10)	<1	<2			NO	—
991921 (1-6,8)	<1	<2	11/1/10	KK	NO	—
991922 (1-4)	<1	<2			NO	—
991917 (1-5)	<1	<2			NO	
991920 (1-6)	<1	<2			NO	
~~991922~~ 991910	—	—	11/2/10	KK	Yes - TOC	—
991924 (3)	<1	>2			NO	@ 8:30 am
991932 (3)	>1	<2			Yes	—
991933	<1	<2			NO	—
1934	<1	<2			↓	—
991936 (1)	<1	>2	11/2	KK	NO	@ 9:50 am
991944 (16,24)	<1	>2	11/2	ES	NO	@ 5:00 p.m
991945 (1-3)	↓	↓	↓	↓	↓	↓
991953 (3)	<1	>2	11/3	NA	NO	@ 2:30 pm
991959	<1	<2				—
991960	<1	<2				—
991961	<1	<2				—
991962	<1	<2				—
991963	<1	<2	↓	↓	↓	—
991964	>1	<2	↓	↓	YES	—
991843 (2)	>1	>2	11/3/10	AT	NO - Filtered	Y @ 11:00 am 11/4
991918 (2)	>2	>2	↓	↓	↓	↓
991994 (1,2)	<1	>2	11/5	KK	NO	@ 8:20 am 11/5
991995 (1-2)	<1	<2	↓	↓	NO	—
991966 (9)	<1	<2	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E2 Lab # 991871

Date Delivered: 10/27/10 Time: 21:30 By: ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.2° C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☑N/A
12.	Were samples pH checked? pH = See COC	☑Yes	☐No	☒N/A sc
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Dávila

\\MATRIX\env\Discrp.FormBlank.doc

November 10, 2010

Shawn P. Duffy
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

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

CA-ELAP No.: 2676
NV Cert. No.: NV-009222007A

Workorder No.: N004823

RE: IM 3

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on October 28, 2010 by Advanced Technology Laboratories - Las Vegas . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

CLIENT: CH2M HILL
Project: IM 3
Lab Order: N004823

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples are analyzed within method holding time.

Analytical Comments for EPA 6010B:

Dilution was necessary due to sample matrix. Plasma was extinguished when sample was run at no dilution.

Advanced Technology Laboratories, Inc *3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691*

Advanced Technology Laboratories - Las Vega

Date: *10-Nov-10*

CLIENT: CH2M HILL
Project: IM 3
Lab Order: N004823
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004823-001A	SC-700B	Water	10/28/2010	10/28/2010	
N004823-001B	SC-700B	Water	10/28/2010	10/28/2010	

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B
Lab Order:	N004823	**Collection Date:**	10/28/2010
Project:	IM 3	**Matrix:**	WATER
Lab ID:	N004823-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **IC1_101028B**	QC Batch: **R78199**				PrepDate:		Analyst: **QBM**
Hexavalent Chromium	ND	0.14	1.0		µg/L	5	10/28/2010 06:57 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: CH2M HILL
Work Order: N004823
Project: IM 3

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID: **MB-R78199**	SampType: **MBLK**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **78199**
Client ID: **PBW**	Batch ID: **R78199**	TestNo: **EPA 218.6**		Analysis Date: **10/28/2010**	SeqNo: **1219977**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R78199**	SampType: **LCS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **78199**
Client ID: **LCSW**	Batch ID: **R78199**	TestNo: **EPA 218.6**		Analysis Date: **10/28/2010**	SeqNo: **1219978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.049	0.20	5.000	0	101	90	110				

Sample ID: **N004823-001AMS**	SampType: **MS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **78199**
Client ID: **ZZZZZZ**	Batch ID: **R78199**	TestNo: **EPA 218.6**		Analysis Date: **10/28/2010**	SeqNo: **1219980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.940	1.0	5.000	0.9500	99.8	90	110				

Sample ID: **N004823-001ADUP**	SampType: **DUP**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **78199**
Client ID: **ZZZZZZ**	Batch ID: **R78199**	TestNo: **EPA 218.6**		Analysis Date: **10/28/2010**	SeqNo: **1219981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.935	1.0						0.9500	0	20	

Sample ID: **N004823-001AMSD**	SampType: **MSD**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **78199**
Client ID: **ZZZZZZ**	Batch ID: **R78199**	TestNo: **EPA 218.6**		Analysis Date: **10/28/2010**	SeqNo: **1219982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.930	1.0	5.000	0.9500	99.6	90	110	5.940	0.168	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118
Tel: 702 307-2659 Fax: 702 307-2691

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B
Lab Order:	N004823	**Collection Date:**	10/28/2010
Project:	IM 3	**Matrix:**	WATER
Lab ID:	N004823-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP1_101028C**	QC Batch: **35516**				PrepDate:	**10/28/2010**	Analyst: **KAB**
Chromium	ND	1.8	5.0		µg/L	5	10/28/2010 07:27 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

CLIENT: CH2M HILL
Work Order: N004823
Project: IM 3

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N004823-001B-MS**	SampType: **MS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **10/28/2010**	RunNo: **78103**
Client ID: **ZZZZZZ**	Batch ID: **35516**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/28/2010**	SeqNo: **1217418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	469.264	5.0	500.0	0	93.9	75	125				

Sample ID: **N004823-001B-MSD**	SampType: **MSD**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **10/28/2010**	RunNo: **78103**
Client ID: **ZZZZZZ**	Batch ID: **35516**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/28/2010**	SeqNo: **1217419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	482.697	5.0	500.0	0	96.5	75	125	469.3	2.82	20	

Sample ID: **MB-35516**	SampType: **MBLK**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **10/28/2010**	RunNo: **78103**
Client ID: **PBW**	Batch ID: **35516**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/28/2010**	SeqNo: **1217420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-35516**	SampType: **LCS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **10/28/2010**	RunNo: **78103**
Client ID: **LCSW**	Batch ID: **35516**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/28/2010**	SeqNo: **1217421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	484.438	1.0	500.0	0	96.9	85	115				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118
Tel: 702 307-2659 Fax: 702 307-2691

CHAIN OF CUSTODY RECORD

-004

Pg ____ of ____

Advanced Technology Laboratories
3151 W. Post Road
Las Vegas, NV 89118
(702) 307-2659 • Fax (702) 307-2691

FOR LABORATORY USE ONLY:

P.O.#: ____

Logged By: NS for Glen Date: 10/29/10

Method of Transport: Client ☑ ATL ☐ CA OverN ☐ FEDEX ☐ Other: ____

Sample Condition Upon Receipt
1. CHILLED 5.6 Y ☐ N ☐ 4. SEALED Y ☑ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☑ N ☐
3. CONTAINER INTACT Y ☑ N ☐ 6. PRESERVED Y ☑ N ☐

Client: CH2M Hill OMI
Address: TOPOCK COMPRESSOR STATION
TEL: (760) 326 3328.
Attn: ____ City ____ State ____ Zip Code ____ FAX: ( )

Project Name: Topock Project #: Sampler: I attest to the validity and authenticity of this sample, I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. (Printed Name) (Signature)

Relinquished by: (Signature and Printed Name)	Date: 10/28/10	Time: 1220	Received by: (Signature and Printed Name) Scott Donnell	Date: 10/28/10	Time: 1220
Relinquished by: (Signature and Printed Name) Scott Donnell	Date: 10-29-10	Time: 1545	Received by: (Signature and Printed Name)	Date: 10/28/10	Time: 1544
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Print Name ____ Date ____
Signature

Send Report To:
Attn: ____
Co: ____
Address ____
City ____ State ____ Zip ____

Bill To:
Attn: ____
Co: ____
Address ____
City ____ State ____ Zip ____

Special Instructions/Comments:
Scott.donnell@CH2M.com

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample I.D. / Location	Date	Time	Circle or Add Analysis(es) Requested: 8260B (VOC)	8260B (BTEX), (MTBE)	8015B (GRO)	8015B (DRO), (Motor Oil/ORO)	RCRA8 (6010B/7000)	HEX CHROME (CrVI) CR (total)	SPECIFY APPROPRIATE MATRIX: SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s): #	Type	PRESERVATION	REMARKS
1	Cr6	SC-700 D	10/							X						1			

QA/QC
RTNE ☐
CT ☐
SWRCB ☐
Logcode ____
OTHER ____

- TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: ☐ A= Overnight ≤ 24 hr ☐ B= Emergency Next workday ☐ C= Critical 2 Workdays ☐ D= Urgent 3 Workdays ☐ E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

Advanced Technology Laboratories - Las Vegas

Please review the checklist below. Any NO and/or NA signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Sample Receipt Checklist

Cooler Received/Opened On: 10/28/2010 Workorder: N004823

Rep sample Temp (Deg C): IR Gun ID: #1

Temp Blank: ☐ Yes ☑ No

Carrier name: Walk-In

Last 4 digits of Tracking No.: Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☑	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample for metals was received unpreserved. Sample was preserved in-house upon receipt.

Checklist Completed By GG Reviewed By: [signature] 10/29/10

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

$$Cr^{+6}, \mu g/L = A \times 1000 * DF$$

where:

A = mg/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For N004823-001A, concentration in µg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 0.000190 * 1000 * 5$$

$$= 0.95 \ \mu g/L$$

Since reporting limit is 1.0 µg/L:

$$Cr^{+6}, \mu g/L = ND$$

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: METALS BY ICP
MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in ug/L, in the original sample as follows:

$$M, mg/L = \frac{A*C*DF*1000}{B}$$

where:
M= concentration of the metal in mg/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N004823-001B, concentration in ug/L are calculated as follows:

$$Cr, mg/L = -0.00009 \frac{mg/L * 0.025\ L * 5 * 1000}{0.025\ L}$$

Cr = -0.45 ug/L

Reporting result in two significant figures,
Result is below the reporting limit therefore,

Cr =ND

MS
for KB
n/a

Advanced Technology Laboratories - Las Vegas

Date: *10-Nov-10*

CLIENT: CH2M HILL
Work Order: N004823
Project: IM 3

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N004823-001BPS** SampType: **PS** TestCode: **6010_WPGEP** Units: **µg/L** Prep Date: RunNo: **78103**
Client ID: **ZZZZZZ** Batch ID: **35516** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/28/2010** SeqNo: **1217422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12119.825	25	12500	0	97.0	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

November 11, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-280B PROJECT, GROUNDWATER MONITORING, TLI NO.: 991891

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-280B project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991891
Date: November 11, 2010
Collected: October 28, 2010
Received: October 28, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

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

Laboratory No.: 991891
Date Received: October 28, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991891-001	SC-700B-WDR-280B	E120.1	NONE	10/28/2010	13:35	EC	7770	umhos/cm	2.00
991891-001	SC-700B-WDR-280B	E200.8	NONE	10/28/2010	13:35	Chromium	2.8	ug/L	1.0
991891-001	SC-700B-WDR-280B	E200.8	NONE	10/28/2010	13:35	Manganese	3.2	ug/L	1.0
991891-001	SC-700B-WDR-280B	E218.6	LABFLT	10/28/2010	13:35	Chromium, hexavalent	1.6	ug/L	1.0
991891-001	SC-700B-WDR-280B	SM2130B	NONE	10/28/2010	13:35	Turbidity	0.162	NTU	0.100
991891-001	SC-700B-WDR-280B	SM2540C	NONE	10/28/2010	13:35	Total Dissolved Solids	4450	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 991891

Printed 11/11/2010

Samples Received on 10/28/2010 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-280B	991891-001	10/28/2010 13:35	Water

Specific Conductivity - EPA 120.1 Batch 11EC10A 11/1/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991891-001 Specific Conductivity	umhos/cm	11/01/2010	1.00	0.0380	2.00	7770

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991891-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7810	7770	0.513	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	691.	706.	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703.	706.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	992.	999.	99.3	90 - 110

Chrome VI by EPA 218.6

Batch 10CrH10Q

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991891-001 Chromium, Hexavalent	ug/L	10/29/2010 12:37	5.25	0.110	1.0	1.6

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991876-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	26.3	26.6	1.32	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.46	5.00	109	90 - 110

Matrix Spike — Lab ID = 991891-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.01	6.84(5.25)	103	90 - 110

Matrix Spike — Lab ID = 991891-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	2.30	2.22(1.06)	107	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.99	10.0	99.9	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.98	10.0	99.8	95 - 105

Metals by EPA 200.8, Total

Batch 110210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991891-001 Chromium	ug/L	11/02/2010 19:51	5.00	0.0950	1.0	2.8
Manganese	ug/L	11/02/2010 19:51	5.00	0.210	1.0	3.2

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 991625-021

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.4	90 - 110
Manganese	ug/L	1.00	54.8	50.0	110	90 - 110

Matrix Spike

Lab ID = 991625-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	251	250.(250.)	100	75 - 125
Manganese	ug/L	5.00	246	250.(250.)	98.3	75 - 125

Matrix Spike Duplicate

Lab ID = 991625-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	247	250.(250.)	98.6	75 - 125
Manganese	ug/L	5.00	246	250.(250.)	98.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.5	90 - 110
Manganese	ug/L	1.00	52.2	50.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.7	50.0	93.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.8	50.0	93.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	45.7	50.0	91.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	45.7	50.0	91.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.4	50.0	105	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	95.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.8	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.2	50.0	92.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	53.9	50.0	108	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 10TDS10H — 10/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991891-001 Total Dissolved Solids	mg/L	10/29/2010	1.00	0.434	250.	4450

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 991924-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	188.	197.	4.68	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	497.	500.	99.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	507.	500.	101	90 - 110

Turbidity by SM 2130 B

Batch 10TUC10S — 10/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991891-001 Turbidity	NTU	10/29/2010	1.00	0.0140	0.100	0.162

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 991891-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.163	0.162	0.615	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.50	8.00	93.8	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.62	8.00	95.2	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS10H

Date Calculated: 11/1/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	78.4097	78.4099	78.4099	0.0000	No	0.0002	2.0	25.0	ND	1
991877-2	20	67.8762	67.9450	67.945	0.0000	No	0.0688	3440.0	125.0	3440.0	1
991878-1	20	73.6642	73.7560	73.756	0.0000	No	0.0918	4590.0	125.0	4590.0	1
991878-2	50	68.5539	68.6068	68.6065	0.0003	No	0.0526	1052.0	50.0	1052.0	1
991878-3	100	105.3622	105.3965	105.3963	0.0002	No	0.0341	341.0	25.0	341.0	1
991878-4	100	111.3938	111.4294	111.4294	0.0000	No	0.0356	356.0	25.0	356.0	1
991878-5	50	76.2214	76.2560	76.256	0.0000	No	0.0346	692.0	50.0	692.0	1
991945-1	50	69.2695	69.3211	69.3207	0.0004	No	0.0512	1024.0	50.0	1024.0	1
991945-2	100	68.2319	68.2895	68.2891	0.0004	No	0.0572	572.0	25.0	572.0	1
991945-3	100	110.6561	110.7107	110.7107	0.0000	No	0.0546	546.0	25.0	546.0	1
991945-4	100	111.5216	111.5824	111.582	0.0004	No	0.0604	604.0	25.0	604.0	1
LCS	100	111.1903	111.2400	111.24	0.0000	No	0.0497	497.0	25.0	497.0	1
991891	10	50.6233	50.6680	50.6678	0.0002	No	0.0445	4450.0	250.0	4450.0	1
991894-2	100	104.2449	104.2986	104.2982	0.0004	No	0.0533	533.0	25.0	533.0	1
991894-4	50	68.2437	68.3037	68.3035	0.0002	No	0.0598	1196.0	50.0	1196.0	1
991894-5	50	67.2514	67.3124	67.312	0.0004	No	0.0606	1212.0	50.0	1212.0	1
991894-6	50	69.2441	69.3031	69.3029	0.0002	No	0.0588	1176.8	50.0	1176.8	1
991894-7	50	66.0726	66.1271	66.1269	0.0002	No	0.0543	1086.0	50.0	1086.0	1
991894-8	50	73.1479	73.2056	73.2053	0.0003	No	0.0574	1148.0	50.0	1148.0	1
991894-9	50	75.7774	75.8377	75.8373	0.0004	No	0.0599	1198.0	50.0	1198.0	1
991924-2	200	102.8522	102.8719	102.8717	0.0002	No	0.0195	97.5	12.5	97.5	1
991924-3	100	92.1028	92.1228	92.1225	0.0003	No	0.0197	197.0	25.0	197.0	1
991924-3D	100	103.7168	103.7356	103.7356	0.0000	No	0.0188	188.0	25.0	188.0	1
LCSD	100	112.9015	112.9526	112.9522	0.0004	No	0.0507	507.0	25.0	507.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\,10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Hyn — Reviewer Printed Name

Reviewer Signature

WetChem Tds_0810

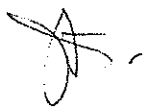
Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS10H

Date Calculated: 11/1/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991877-2	4470	0.77	2905.5	1.18
991878-1	5700	0.81	3705	1.24
991878-2	1640	0.64	1066	0.99
991878-3	606	0.56	393.9	0.87
991878-4	535	0.67	347.75	1.02
991878-5	1100	0.63	715	0.97
991945-1	1810	0.57	1176.5	0.87
991945-2	999	0.57	649.35	0.88
991945-3	863	0.63	560.95	0.97
991945-4	1000	0.60	650	0.93
LCS				
991891	7770	0.57	5050.5	0.88
991894-2	910	0.59	591.5	0.90
991894-4	1750	0.68	1137.5	1.05
991894-5	1780	0.68	1157	1.05
991894-6	1710	0.69	1111.5	1.06
991894-7	1610	0.67	1046.5	1.04
991894-8	1650	0.70	1072.5	1.07
991894-9	1720	0.70	1118	1.07
991924-2	176	0.55	114.4	0.85
991924-3	321	0.61	208.65	0.94
991924-3D	321	0.59	208.65	0.90



EZ

Sean

TRUESDAIL LABORATORIES, INC.

Turbidity by EPA 180.1/SM 2130B, Color by SM 2120A and Odor by EPA 140.1

Date Analyzed: 10-29-10

Batch #: 10TUC105

Stock Standard (SS): Turbidity		8
Mfr:	Std Used:	R202
Cat No.: R202	Std Conc:	4000
Lot No.:	Amt Used:	2
Exp Date: 7/12	Finl Vol,ml	1000
Conc.: 4000 ntu	TLI ID:	10105 8

Stock Std: COLOR		15
Mfr:	Std Used:	R186
Cat No.: R186	Std Conc:	500
Lot No.:	Amt Used:	30
Exp Date: 2/12	Finl Vol,ml	1000
Conc.: 10105 500	TLI ID:	10105 15

Stock Std: LCS		LCS 12.5
Mfr:	Std Used:	R160
Cat NO: R160	Std Conc:	500
Lot No.:	Amt Used:	25
Exp Date: 9/11	Finl Vol,ml	1000
Conc: 500	TLI ID:	10105 12.5

Lab Number	Date Sampld	NTU	Final NTU	Initial Vol, ml	Final Vol, ml	DF	Color CU	Initial Vol,ml	Final Vol, ml	DF	Odor TON
Blank			0.087	200	200	1					
LCS NTU			7.50			1					
LCS CU											
991891	10-28-10		0.162								
Spl dup 991891	10-28-10		0.163								
Blank			0.080								
LCS NTU			7.62								
LCS CU											
Blank											
LCS NTU											
LCS CU											

GAUTAM
Printed Name:

Signature

Reviewer

TRUESDAIL LABORATORIES, INC.

Turbidity by EPA 180.1, SM 2130B
Color by SM 2120B

Date: 10/29/10 Batch#: 10TUC10S

Blank Summary

Analyte	Blank Value NTU CU	Acceptance Limits NTU CU	QC Within Control (Y/N)
Turbidity	0.087	0.1	Yes
Turbidity	0.080	0.1	Yes
Turbidity			
Color			
Color			
Color			

Laboratory Control Sample (LCS) Summary

Analyte	QC samples	Measured value NTU CU	Theoretical value NTU CU	Percent Recovery	Acceptance Limits	QC Within Control (Y/N)
Turbidity	LCS	7.50	8.00	94%	90 -110%	YES
Turbidity	LCS	7.62	8.00	95%	90 -110%	YES
Turbidity	LCS					
Color	LCS					
Color	LCS					
Color	LCS					

Analyte	Sample ID	Sample Results	Sample Duplicate Results	Relative Percent Difference	Acceptance Limits	QC Within Control (Y/N)
Turbidity	991891	0.16	0.16	1%	<20%	YES
Color				-		YES

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS/MSD Amount	Measured Conc. of spiked sample	Theoret. Conc. of spiked sample	MS/MSD% Recovery	Accept. Limits	QC In Control	Relative Percent Difference	Accept. Limits	QC Within Control
MS													
MSD													

Holding Time: Sample maximum 48 hours: yes

GAUTAM
Analyst's Printed Name

Analyst's Signature

Reviewer's Signature

WetChem , Tuc_0110

14201 Franklin Ave.
Tustin, CA 92780
Ph: (714) 730-6239
Fax:(714) 730-6462

Dept. Name: Wet Chemistry

Method Detection Limit Summary

Department No. 4

Analyte	Method	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L
Alkalinity	SM 2320B	2/4/2008	5.00		1.188	5.00	3/16/2009	5.00		0.153	5.00	3/9/2010	5.00		1.68	5.00
Ammonia by Electrode	SM 4500-NH3 D	4/7/2008	0.05		0.005	0.05	3/24/2009	0.05		0.005	0.05	3/23/2010	0.05		0.002	0.05
Ammonia by Distillatn.	SM 4500-NH3 B,C											3/11/2010	0.50		0.063	0.50
Chem. Oxygen Demand	SM 5220D	3/3/2008	10.00		5.196	10.00	3/24/2009	10.00		2.6003	10.00	3/17/2010	10.00		3.3723	10.00
Chlorine Residual	SM 4500-CL- D	10/29/2007	0.10		0.025	0.10	2/2/2009	0.10		0.016	0.10	2/25/2010	0.10		0.018	0.10
Chromium VI	EPA 7196A, SM 3500-Cr B	7/22/2008	0.01		0.002	0.01	7/15/2009	0.01		0.0035	0.01					
Cyanide Total	SM4500-CN E	10/15/2007	0.01		0.001	0.01	11/17/2008	0.01		0.001	0.01	1/11/2010	0.01		0.002	0.01
Cyanide Amenable	SM4500-CN G	10/15/2007	0.01		0.001	0.01	11/17/2008	0.01		0.001	0.01	1/11/2010	0.01		0.002	0.01
Hardness Total	SM 2340C	3/10/2008	2.00		0.247	2.00	3/5/2009	2.00		0.000	2.00	3/11/2010	2.00		0.495	2.00
MBAS	SM 5540C	2/6/2008	0.05		0.011	0.05	3/26/2009	0.05		0.005	0.05	3/11/2010	0.05		0.005	0.05
Nitrate - Nitrite as N	SM 4500-NO3						5/30/2008	0.05		0.012	0.05					
Nitrite	SM 4500-NO2 B	12/10/2008	0.005		0.000	0.005	3/24/2009	0.005		0.0002	0.005	3/11/2010	0.005		0.0002	0.005
Oil and Grease	EPA 1664A / 5520	4/18/2008	5.00		0.283	5.00	4/8/2009	5.00		1.339	5.00	4/23/2010	5.00		0.4702	5.00
pH , units	SM 4500-H B	1/25/2008	4.00		0.070	4.00	1/21/2009	4.00		0.017	4.00	1/20/2010	4.00		0.025	4.00
Phenols Total	SM 5530 D	3/23/2008	0.05		0.025	0.05	4/1/2009	0.05		0.0113	0.05					
Phosphate Ortho	SM 4500-P E	4/3/2008	0.02		0.001	0.02	4/30/2009	0.02		0.0009	0.02	4/24/2010	0.02		0.00304	0.02
Phosphate Total	SM 4500-P B,E	3/7/2008	0.02		0.003	0.02	3/24/2009	0.02		0.0014	0.02	3/18/2010	0.02		0.0030	0.02
Silica	SM 4500-Si D	3/25/2008	0.04		0.019	0.04	3/20/2009	0.04		0.0141	0.04	3/14/2010	0.04		0.014	0.04
Specific Conductivity	SM 2510 B	2/8/2008	2.00		0.099	2.00	2/5/2009	2.00		0.022	2.00	2/10/2010	2.00		0.038	2.00
Sulfite	SM 4500-SO3 2- B						2/8/2008	2.00		0.570	2.00	3/16/2010	2.00		0.719	2.00
Sulfide Total and Dissolved	SM 4500-S2-D	3/17/2008	0.05		0.007	0.05	5/19/2009	0.05		0.0046	0.05					
Total Dissolved Solids	SM 2540 C	2/11/2008	2.50		0.070	2.50	2/10/2009	2.50		0.070	2.50	3/2/2010	2.50		0.434	2.50
Total Suspended Solids	SM 2540 D	3/11/2008	2.50		0.307	2.50	2/26/2009	2.50		0.350	2.50	3/15/2010	2.50		0.423	2.50
Total Solids	SM 2540 B	3/13/2008	10.0		2.990	10.0	2/27/2009	10.0		1.680	10.0	3/12/2010	2.5		0.363	2.50
Total Organic Carbon	SM 5310 C	9/26/2007	0.30		0.067	0.30	1/16/2009	0.30		0.048	0.30	3/10/2010	0.30		0.0248	0.30
TPHC SGT HEM	EPA 1664A/5520F	4/18/2008	5.00		0.307	5.00	4/15/2009	5.00		1.056	5.00	4/23/2010	5.00		0.30673	5.00
TKN	SM 4500-Norg B	2/12/2008	0.50		0.084	0.50	3/4/2009	0.50		0.067	0.50	3/9/2010	0.50		0.067	0.50
Turbidity	EPA 180.1	11/26/2008	0.10		0.007	0.10	12/29/2009	0.10		0.014	0.10					

		Result	Unit	DF	RL	Analyzed Date + Time
991874-006	Chromium, Hexavalent	2.663	ug/L	5.25	1.05	10/29/10 11:03:00 AM
	Chromium, Hexavalent	2.211	ug/L	1.05	0.200	10/29/10 10:53:00 AM
991876-001	Chromium, Hexavalent	133.766	ug/L	10.5	2.10	10/29/10 11:14:00 AM
991876-002	Chromium, Hexavalent	26.644	ug/L	1.05	0.200	10/29/10 11:24:00 AM
991876-003	Chromium, Hexavalent	26.422	ug/L	1.05	0.200	10/29/10 11:45:00 AM
991876-004	Chromium, Hexavalent	0.656	ug/L	1.05	0.200	10/29/10 12:58:00 PM
991876-006	Chromium, Hexavalent	1.202	ug/L	1.05	0.200	10/29/10 1:09:00 PM
991876-007	Chromium, Hexavalent	0.441	ug/L	1.05	0.200	10/29/10 1:19:00 PM
991876-008	Chromium, Hexavalent	1.039	ug/L	1.05	0.200	10/29/10 1:30:00 PM
991876-009	Chromium, Hexavalent	1.257	ug/L	1.05	0.200	10/29/10 1:40:00 PM
991876-010	Chromium, Hexavalent	0.768	ug/L	1.05	0.200	10/29/10 1:50:00 PM
991876-011	Chromium, Hexavalent	1.820	ug/L	1.05	0.200	10/29/10 2:01:00 PM
991876-012	Chromium, Hexavalent	ND	ug/L	1.05	0.200	10/29/10 2:11:00 PM
991877-001	Chromium, Hexavalent	0.466	ug/L	1.05	0.200	10/29/10 2:53:00 PM
991877-002	Chromium, Hexavalent	2.426	ug/L	1.05	0.200	10/29/10 3:03:00 PM
991877-003	Chromium, Hexavalent	4.459	ug/L	1.05	0.200	10/29/10 3:16:00 PM
991877-004	Chromium, Hexavalent	4.612	ug/L	1.05	0.200	10/29/10 3:27:00 PM
991877-005	Chromium, Hexavalent	4.868	ug/L	1.05	0.200	10/29/10 3:37:00 PM
991877-006	Chromium, Hexavalent	ND	ug/L	1.05	0.200	10/29/10 3:48:00 PM
991891-001	Chromium, Hexavalent	1.592	ug/L	5.25	1.05	10/29/10 12:37:00 PM
	Chromium, Hexavalent	1.162	ug/L	1.05	0.200	10/29/10 10:32:00 AM

Method Blank

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	ND	ug/L	1.00	0				

Duplicate 991876-002

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	26.295	ug/L	1.05	0	0	20		1.32

Lab Control Sample

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	5.459	ug/L	1.00	5.00	90	110	109	

Matrix Spike 991891-001

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	7.010	ug/L	5.25	5.25	90	110	103	
Chromium, Hexavalent	2.300	ug/L	1.06	1.06	90	110	107	

MRCCS - Secondary

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	5.303	ug/L	1.00	5.00	90	110	106	

ah

	Result	Unit	DF	RL	Analyzed Date + Time

MRCVS - Primary

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	9.986	ug/L	1.00	10.0	95	105	99.9	
Chromium, Hexavalent	10.115	ug/L	1.00	10.0	95	105	101	

MRCVS - Primary 991891-001

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium, Hexavalent	9.983	ug/L	1.00	10.0	95	105	99.8	

ah

TRUESDAIL LABORATORIES, INC.

EPA 218.6 Hexavalent Chrome

Standard and Check Standards Preparation Logbook

Batch:	10CrH10 Q
Date:	10/29/10

STANDARD PREPARATION

Calibration Stock Standard (SSa)

Manufacturer:	Absolute Standards, Inc.
Catalog Number:	54161
Lot Number/ TLI I.D.:	91908
Expiration Date:	9/19/11
Concentration (ppm):	1000

Diluted Stock Conc. ppm: 10

Standard Used:	SSa 91908
Standard Conc.(ppm):	1,000
Amount Used (ml):	1
Final Volume(ml):	100
TLI I.D.:	SC 1010 B 10

Corr. Coeff.
0.999893

Correlation Coefficient must be minimum 0.999

Primary Conc. ppm:	0.3	0.5	1.0	0.02
Standard Used:	SC 1010 B 10	SC 1010 B 10	SC 1010 B 10	SC 1010 B 1
Standard Conc.(ppm):	10	10	10	1.0
Amount Used (ml):	3	5	10	2
Final Volume(ml):	100	100	100	100
TLI I.D.:	PS 1010 B 0.3	PS 1010 B 0.5	PS 1010 B 1	PS 1010 B 0.02

Working Conc. ppm:	*0.0002*	*0.003*	*0.01*	*0.03*	*0.05*
Standard Used:	PS 1010 B 0.02	PS 1010 B 0.3	PS 1010 B 1	PS 1010 B 0.3	PS 1010 B 0.5
Standard Conc.(ppm):	0.02	0.3	1	0.3	0.5
Amount Used (ml):	1	1	1	10	10
Final Volume(ml):	100	100	100	100	100
TLI I.D.:	WS 1010 B 0.0002	WS 1010 B 0.003	WS 1010 B 0.01	WS 1010 B 0.03	WS 1010 B 0.05

MRCCS, MRCVS, LCS STANDARD PREPARATION

Stock MRCCS Standard (SSb)

Manufacturer:	Inorganic Ventures
Catalog Number:	CGCR(6)1-1
Lot Number/ TLI I.D.:	C2-CR03026
Expiration Date:	5/1/11
Concentration (ppm):	1000

MRCCS Conc. ppm:	MRCCS Primary 10	MRCCS Primary 0.1	MRCCS Working 0.005
Standard Used:	SSb C2-CR03026	MC 1010 B 10	MC 1010 B 0.1
Std Conc.(ppm):	1,000	10	0.1
Amount Used (ml):	1	1	5
Final Volume(ml):	100	100	100
TLI I.D.:	MC 1010 B 10	MC 1010 B 0.1	MC 1010 B 0.005

Stock MRCVS Standard (SSa)

Manufacturer:	Absolute Standards, Inc.
Catalog Number:	54161
Lot Number/ TLI I.D.:	91908
Expiration Date:	9/19/11
Concentration (ppm):	1000

MRCVS Conc. ppm:	MRCVS Primary 10	MRCVS Primary 0.1	MRCVS Working 0.01
Standard Used:	SSa 91908	MV 1010 B 10	MV 1010 B 0.1
Std Conc.(ppm):	1,000	10	0.1
Amount Used (ml):	1	1	10
Final Volume(ml):	100	100	100
TLI I.D.:	MV 1010 B 10	MV 1010 B 0.1	MV 1010 B 0.01

Stock LCS Standard (SSb)

Manufacturer:	Inorganic Ventures
Catalog Number:	CGCR(6)1-1
Lot Number/ TLI I.D.:	C2-CR03026
Expiration Date:	5/1/11
Concentration (ppm):	1000

LCS Conc. ppm:	LCS Primary 10	LCS Primary 0.1	LCS Working 0.005
Standard Used:	SSb C2-CR03026	LC 1010 B 10	LC 1010 0.1
Std Conc.(ppm):	1,000	10	0.1
Amount Used (ml):	1	1	5
Final Volume(ml):	100	100	100
TLI I.D.:	LC 1010 B 10	LC 1010 B 0.1	LC 1010 B 0.005

Stock MS Standard (SSa)

Manufacturer:	Inorganic Ventures
Catalog Number:	CGCR(6)1-1
Lot Number/ TLI I.D.:	C2-CR03026
Expiration Date:	5/1/11
Concentration (ppm):	1000

MS Conc. ppm:	MS Primary 10	MS Primary 0.1	Batch MS 0.001
Standard Used:	SSa C2-CR03026	MS 1010 B 10	MS 1010 Q 0.1
Std Conc.(ppm):	1,000	10	0.1
Amount Used (ml):	1	1	0.5
Final Volume(ml):	100	100	50
TLI I.D.:	MS 1010 B 10	MS 1010 Q 0.1	MS 1010 Q 0.001
Lab #:			991891 MS
Lab #:			991891 5.25X MS

Sonya Bersudsky — Analyst Printed Name

Analyst Signature

Ali Kharrazi — Reviewer Printed Name

Reviewer Signature

14201 Franklin Ave.
Tustin, CA 92780
Ph: (714) 730-6239
Fax:(714) 730-6462

Dept. Name: General Chemistry

Method Detection Limit Summary

Department No. 3

Analyte	Method	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L	Date Analyzd	Spike mg/L	IDL mg/L	MDL mg/L	PQL mg/L
Chromium VI (ug/L) *	EPA 218.6 & 7199	7/30/2008	0.20 ug/L		0.035 ug/L	0.20 ug/L	7/6/2009	0.20 ug/L		0.036 ug/L	0.20 ug/L	7/9/2010	0.20 ug/L		0.040 ug/L	0.20 ug/L
Chromium VI (ug/L) **	EPA 218.6 & 7199	5/27/2008	0.20 ug/L		0.010 ug/L	0.20 ug/L	6/25/2009	0.10 ug/L		0.019 ug/L	0.20 ug/L	7/8/2010	0.10 ug/L		0.021 ug/L	0.20 ug/L
Chromium VI (mg/Kg) * Soil Matrix	EPA 218.6 & 7199	4/24/2008	0.320 mg/Kg		0.059 mg/Kg	0.40 mg/Kg	7/6/2009	0.320 mg/Kg		0.060 mg/Kg	0.40 mg/Kg	7/28/2010	0.2 mg/Kg		0.023 mg/Kg	0.40 mg/Kg
BOD	EPA 405.1	7/21/2008	5 mg/L		0.000	5.00	7/26/2009	5 mg/L		0.000	5.00	7/25/2010	5 mg/L		0.000	5.00
UV254	SM 5910	7/18/2008	0.100 cm-1		0.003	0.020	8/5/2009	0.100 cm-1		0.002	0.010	8/5/2010	0.100 cm-1		0.002	0.010
Bromide **	EPA 300.0	4/28/2008	0.200 mg/L		0.038	0.200	6/29/2009	0.200 mg/L		0.038	0.200	7/7/2010	0.100 mg/L		0.010	0.200
Chloride **	EPA 300.0	4/29/2008	0.100 mg/L		0.026	0.200	6/29/2009	0.100 mg/L		0.024	0.200	7/7/2010	0.100 mg/L		0.030	0.200
Fluoride **	EPA 300.0	4/29/2008	0.050 mg/L		0.017	0.100	6/29/2009	0.100 mg/L		0.012	0.100	7/13/2010	0.050 mg/L		0.005	0.100
Nitrate-N **	EPA 300.0	4/29/2008	0.100 mg/L		0.025	0.200	6/29/2009	0.200 mg/L		0.019	0.200	7/7/2010	0.100 mg/L		0.011	0.200
Sulphate **	EPA 300.0	4/29/2008	0.250 mg/L		0.059	0.500	6/29/2009	0.500 mg/L		0.040	0.500	7/13/2010	0.025 mg/L		0.020	0.500
Inst. ID : * DX 100																
Inst. ID : ** DX 600																

	Result	Unit	DF	RL	Analyzed Date + Time
991625-021 Chromium	ND	ug/L	5.00	1.00	11/2/2010 4:44:00 PM
Manganese	ND	ug/L	5.00	1.00	11/2/2010 4:44:00 PM
991891-001 Chromium	2.772	ug/L	5.00	1.00	11/2/2010 7:51:00 PM
Manganese	3.164	ug/L	5.00	1.00	11/2/2010 7:51:00 PM

Method Blank

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	ND	ug/L	1.00	0				
Manganese	ND	ug/L	1.00	0				

Duplicate 991625-021

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	ND	ug/L	5.00	0	0	20		0
Manganese	ND	ug/L	5.00	0	0	20		0

Lab Control Sample

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	49.7	ug/L	1.00	50.0	90	110	99.4	
Manganese	54.79	ug/L	1.00	50.0	90	110	110	

Matrix Spike 991625-021

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	250.8	ug/L	5.00	250.	75	125	100	
Manganese	245.7	ug/L	5.00	250.	75	125	98.3	

Matrix Spike Duplicate 991625-021

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	246.6	ug/L	5.00	250.	75	125	98.6	1.69
Manganese	245.6	ug/L	5.00	250.	75	125	98.2	0.0407

MRCCS - Secondary

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	48.77	ug/L	1.00	50.0	90	110	97.5	
Manganese	52.16	ug/L	1.00	50.0	90	110	104	

MRCVS - Primary

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	49.67	ug/L	1.00	50.0	90	110	99.3	
Chromium	46.68	ug/L	1.00	50.0	90	110	93.4	
Chromium	46.78	ug/L	1.00	50.0	90	110	93.6	
Manganese	45.72	ug/L	1.00	50.0	90	110	91.4	
Manganese	45.72	ug/L	1.00	50.0	90	110	91.4	
Manganese	52.35	ug/L	1.00	50.0	90	110	105	

SC

	Result	Unit	DF	RL	Analyzed Date + Time

Interference Check Standard A

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Manganese	ND	ug/L	1.00	0				
Manganese	ND	ug/L	1.00	0				

Interference Check Standard AB

	Result	Unit	DF	Added	Lower	Upper	Recovery	RPD
Chromium	47.5	ug/L	1.00	50.0	80	120	95.0	
Chromium	50.85	ug/L	1.00	50.0	80	120	102	
Manganese	46.21	ug/L	1.00	50.0	80	120	92.4	
Manganese	53.9	ug/L	1.00	50.0	80	120	108	

TRUESDAIL LABORATORIES, INC.

EPA 200.8 / 6020A

Standard and Check Standards Preparation Logbook

Batch: 110210A
Date: 11/2/10

STANDARD PREPARATION

Calibration Stock Standard (SSa & SSb)

	Inorganic Ventures	Inorganic Ventures
Manufacturer:	Inorganic Ventures	Inorganic Ventures
Catalog Number:	TRUE-STD-1	TRUE-STD-2
Lot Number/ TLI I.D.:	D2-MEB326021	D2-MEB326020
Expiration Date:	April-11	April-11
Concentration (ppm):	1000	1000
Metals:	Al Ba Be Cd Co Cu Pb M Ni Ag Tl Zn Ca Mg Na K	As Sb B Mo Se Sn Ti

	Primary Std: 5 ppm	Primary Std: 0.5 ppm
Standard Used:	SSA and SSB	SSA and SSB
Standard Conc.(ppm):	1,000	5
Amount Used (ml):	0.25 from eac	5 from eac
Final Volume(ml):	50	50
TLI I.D.:	PS 081110 5	PS 081110 5

Working Std. ppb:	0.2 ppb	0.5 ppb	1 ppb	2 ppb	5 ppb	10 ppb	20 ppb	50 ppb	100 ppb	200 ppb	500 ppb
Standard Used:	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5	PS 081110 5
tandard Conc.(ppm):	0.5	0.5	0.5	5	5	5	5	5	5	5	5
Amount Used (ml):	0.02	0.05	0.10	0.02	0.05	0.10	0.2	0.5	1.0	2.0	5.0
Final Volume(ml):	50	50	50	50	50	50	50	50	50	50	50
TLI I.D.:	WS 102510 0.2	WS 102510 0.5	WS 102510 1	WS 102510 2	WS 102510	WS 102510 10	S 102510 2	S 102510 5	S 102510 1	S 102510 2	S 102510 5

MRCCS, MRCVS, LCS, and MS STANDARD PREPARATION

Stock MRCCS Standard (QCSa & QCSb)

	CPI	CPI
Manufacturer:	CPI	CPI
Catalog Number:	4400-090616KG02	4400-090616KG03
Lot Number/ TLI I.D.:	09H057	09H058
Expiration Date:	February-11	February-11
Concentration (ppm):	1000	1000
Metals:	4/1/11	As,B,Mo,Sb,Se,Sn,Ti

	MRCCS Primary 5 ppm	MRCCS Working 50 ppb
Std Used:	CSa & QCSb 10	PS 102510 5
Conc.(ppm):	1,000	5
Amount (ml):	0.25 from eac	0.50
l Volume(ml):	50	50
TLI I.D.:	PS 102510 5	WS 110210 5

Stock MRCVS Standard (SSa & SSb)

	Inorganic Ventures	Inorganic Ventures
Manufacturer:	Inorganic Ventures	Inorganic Ventures
Catalog Number:	TRUE-STD-1	TRUE-STD-2
Lot Number/ TLI I.D.:	D2-MEB326021	D2-MEB326020
Expiration Date:	April-11	April-11
Concentration (ppm):	1000	1000
Metals:	Al Ba Be Cd Co Cu Pb M Ni Ag Tl Zn Ca Mg Na K	As Sb B Mo Se Sn Ti

	MRCVS Primary 5 ppm	MRCVS Working 50 ppb
Std Used:	SSa & SSb 100	PS 081110 5
Conc.(ppm):	1,000	5
Amount (ml):	0.25 from eac	0.50
Final Volume(ml):	50	50
TLI I.D.:	PS 081110 5	WS 110210 5

Stock LCS Standard (QCSa & QCSb)

	CPI	CPI
Manufacturer:	CPI	CPI
Catalog Number:	4400-090616KG02	4400-090616KG03
Lot Number/ TLI I.D.:	09H057	09H058
Expiration Date:	February-11	February-11
Concentration (ppm):	1000	1000
Metals:	09H057	As,B,Mo,Sb,Se,Sn,Ti

	LCS Primary 5 ppm	LCS Working 50 ppb
Std Used:	QCSa & QCSb	PS 102510 5
Conc.(ppm):	1,000	5
Amount (ml):	0.25 from eac	0.50
Final Volume(ml):	50	50
TLI I.D.:	PS 102510 5	WS 110210 50

Stock MS Standard (QCSa & QCSb)

	CPI	CPI
Manufacturer:	CPI	CPI
Catalog Number:	4400-090616KG02	4400-090616KG03
Lot Number/ TLI I.D.:	09H057	09H058
Expiration Date:	February-11	February-11
Concentration (ppm):	1000	1000
Metals:	Al Ba Be Cd Ca Co Cu Tl Fe PB Ni Mg Mn K Ag Na	As,B,Mo,Sb,Se,Sn,Ti

	MS Primary 5 ppm	MS Working 50 ppb
Std Used:	QCSa & QCSb	PS 102510 5
Conc.(ppm):	1,000	5
Amount (ml):	0.25 from eac	0.10
Final Volume(ml):	50	10
TLI I.D.:	PS 102510 5	WS 110210 50

Stock ICS Standard

	organic Ventures (ICS	organic Ventures (ICS
Manufacturer:	organic Ventures (ICS	organic Ventures (ICS
Catalog Number:	6020ICS-0A	6020ICS-0B-1000
Lot Number/ TLI I.D.:	C2-MEB307012	D2-MEB325120
Expiration Date:	April-11	April-11
Concentration (ppm):	1000, 20	1000
Metals:	*Ag, As, Cd, Co, Cr, Cu, Mn, Ni, Zn	(Al, Ca, Fe, K, Mg, Na); M

	ICS Primary 5 ppm	ICS Working 50 ppb
Std Used:	ICSA & ICSB	ICS
Conc.(ppm):	1,000	5
Amount (ml):	0.25 from each	0.50
Final Volume(ml):	50	50
TLI I.D.:	ICS 043010 5	ICS 100710 50

ICPMS INTERNAL STANDARD PREPARATION

Internal Stock Std (ISS)

	^{6}Li	^{74}Ge	Y	Sc	Tb	Re
Manufacturer:	norganic Venture	norganic Venture	norganic Venture	norganic Venture	norganic Ventures	norganic Venture
Catalog Number:	CG6LI1-1	CGGE1-1	CGY1-5	CGSC1-1	CGTB1-1	CGRE1-1
t Number/ TLI I.D.:	D2-LI02125	C2-GE01081	C2-Y01125	C2-SC02083	C2-TB01050	C2-RE01071
Expiration Date:	October-11	May-11	April-11	January-11	October-11	January-11
ncentration (ppm):	1004	995	1032	1040	1002	1040

Internal Primary Std (IPS) — 1ppm

Std. Used:	Li, Ge, Y, Sc, Tb, Re
Conc. (ppm):	1000
Amount (mL):	0.2 from each
Final Volume (mL):	200
TLI I.D.:	IPS 110110 1 ppm

Katia K. — Analyst Printed Name

Analyst Signature

H. Trinidad — Reviewer Printed Name

Reviewer Signature

14201 Franklin Ave.
Tustin, CA 92780
Ph: (714) 730-6239
Fax:(714) 730-6462

Dept. Name: Metals

Method Detection Limit Summary

Matrix: Water

Method: EPA 200.8 / 6020A
Inst.: Agilent ICP/MS

Analyte	Date Analyzd	Spike ug/L	IDL ug/L	MDL ug/L	PQL ug/L	Date Analyzd	Spike ug/L	IDL ug/L	MDL ug/L	PQL ug/L	Date Analyzd	Spike ug/L	IDL ug/L	MDL ug/L	PQL ug/L
Aluminum	1/10/2006	5.00		0.715644	5.0000	7/6/2009	10.00		0.472	10.00	6/15/2010	10.00		1.2049	10.00
Antimony	2/14/2006	0.50		0.13641	1.0000	5/20/2009	0.20		0.099	1.000	4/29/2010	0.20		0.0384	1.000
Arsenic	2/14/2006	0.50		0.30913	1.0000	5/20/2009	0.20		0.0283	1.000	6/15/2010	0.20		0.0518	1.000
Barium	2/14/2006	0.50		0.16329	1.0000	6/23/2009	0.20		0.042	1.000	4/29/2010	0.20		0.0374	1.000
Beryllium	2/14/2006	0.50		0.12008	1.0000	5/19/2009	0.20		0.030	1.000	4/29/2010	0.20		0.0223	1.000
Bismuth	2/14/2006	1.00		0.14063	1.0000	7/6/2009	10.00		0.674	10.00	6/15/2010	10.00		1.3466	10.00
Boron											8/4/2010	10.000		0.93905	10.000
Cadmium	2/14/2006	0.50		0.18604	1.0000	5/19/2009	0.20		0.012	1.000	4/29/2010	0.20		0.0250	1.000
Chromium	2/14/2006	0.50		0.06815	1.0000	5/20/2009	0.20		0.015	1.000	4/29/2010	0.20		0.0192	1.000
Cobalt	2/14/2006	0.50		0.07464	1.0000	5/20/2009	0.20		0.015	1.000	4/29/2010	0.20		0.0000	1.000
Copper	1/10/2006	1.00		0.45447	1.0000	6/23/2009	0.50		0.104	1.000	6/15/2010	0.20		0.0614	1.000
Iron						7/6/2009	10.00		3.065	10.000	7/8/2010	5.000		0.54157	5.000
Lead	2/14/2006	0.50		0.12481	1.0000	5/19/2009	0.20		0.015	1.000	4/29/2010	0.20		0.0192	1.000
Manganese	2/14/2006	0.50		0.08035	1.0000	5/20/2009	0.20		0.012	1.000	6/15/2010	0.20		0.0421	1.000
Molybdenum	2/14/2006	0.50		0.13214	1.0000	6/26/2009	2.00		0.145	2.000	6/15/2010	1.00		0.1323	1.000
Nickel	2/14/2006	0.50		0.37899	1.0000	5/20/2009	0.20		0.041	1.000	6/15/2010	0.20		0.0475	1.000
Selenium	2/14/2006	0.50		0.55717	1.0000	5/20/2009	0.20		0.049	1.000	6/15/2010	1.00		0.1477	1.000
Silver	2/14/2006	0.50		0.12420	1.0000	5/20/2009	0.20		0.038	1.000	6/15/2010	0.20		0.0395	1.000
Thalium	2/14/2006	0.50		0.05568	1.0000	5/19/2009	0.20		0.017	1.000	4/29/2010	0.20		0.0358	1.000
Tin											6/15/2010	10.00		1.3561	10.000
Titanium						9/8/2009	0.50		0.162	1.000	6/15/2010	10.00		0.5132	10.000
Vanadium	2/14/2006	0.50		0.11099	1.0000	5/20/2009	0.20		0.012	1.000	6/15/2010	0.20		0.0205	1.000
Zinc	1/10/2006	5.00		0.30087	5.0000	1/10/2006	5.00		0.30087	5.0000	1/12/2010	2.00		0.263	5.00
Uranium	2/14/2006	0.50		0.024647	1.0000	6/23/2009	0.20		0.0600	1.000	4/29/2010	0.20		0.0576	1.000
Mercury						7/23/2009	0.20		0.025	0.200	7/28/2010	0.20		0.03951	0.1185

TRUESDAIL LABORATORIES, INC.

Internal Chain of Custody Logbook

Lab Number: 991891

Client Name: E2

Storage Temperature: 4°C

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature
				10.28.10	22:30		Amir	
	Cr6	10/29/10	8:30	10/29/10	17:00	100	Sanya	

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature
				10.28.10	22:30		Amir	
	Cr, Mn	102910	8:00	102910	4 30	10 ml	Katha	

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature
				10.28.10	22:30		Amir	
	TDS	10/29/10	10:00	10/29/10	16:30	10	Hop	
	Turbidity	10/29/10	8:00	10/29/10	16:30	400	↓	
	EC	11/01/10	08:30	11/01/10	15:30	100	DORDA10	

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

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-280B]

991891

COC Number

TURNAROUND TIME 10 Days

DATE 10/28/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	C. Knight 13:35

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-280B	10/28/10	13:35	Water	X	X	X	X	X	3	pH = 7 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

pH. 7.2 @ 13:41
EC 7.82 @ 13:38
TEMP 81.1 °F @ 13:38
$Cr^{(6)}$ .002 @ 13:51
$Cr^{(T)}$ .010 @ 14:04

ALERT !!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) C. Knight	C. Knight	OMI - CH2M Hill	10/28/10 16:30
Signature (Received) Rafael Davila	Rafael	T. L. I	10-28-10 16:30
Signature (Relinquished) Rafael Davila	Rafael	T. L. I	10-28-10 22:00
Signature (Received) Shakuntala	Lucia	TLI	10/28/10 22:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 4.5°C °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

032

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10/28/10	991876-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
10/28/10	991877-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
10/28/10	991878-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
10/28/10	991871	7.0	5.00	9.5	7:45	SB
10/29/10	991891	7.0	5.00	9.5	7:40	SB
10/29/10	991892-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991805	<1	<2	10/27	KK	NO	@11:30 am 10/26/10
1846 (1-6,8,9)	<1	<2	↓	↓	↓	—
1845 (1-5)	<1	<2				—
1842 (1-7)	<1	<2				—
991848	<1	<2	10/28/10	ES	NO	
991882	<1	>2				@ 2:30 p.m
991889	<1	>2				↓
991879 (1-2)	<1	<2				—
1871	<1	<2	10/28	KK	NO	@ 10:00
1808 (1-3)	<1	<2	10/29	KK	NO	—
1845 (1-8)	<1	<2			NO	—
1873 (1-7)	<1	<2			NO	—
1872 (1-3)	<1	<2			NO	—
1874 (1-11)	<1	<2			NO	—
1877 (1-6)	<1	<2			NO	—
1875 (1-9)	<1	<2			NO	—
1876 (1-11)	<1	<2			NO	—
991891	<1	>2		KK	NO	@ 4:05 pm 10/29
991893 (1-2)	<1	<2	~~KK~~ 10/30	KK	NO	—
991897 8 (1-5)	<1	<2			NO	—
991894 (1-9)	<1	<2			NO	—
991897 (1-9)	<1	<2			NO	—
991895 (1-8)	4	<2			NO	—
991896 (1-11)	<1	<2			NO	—
991898 (1-11)	<1	<2			NO	—
991892 (1-10)	<1	<2			NO	—
991921 (1-6,8)	<1	<2	11/1/10	KK	NO	—
991922 (1-4)	<1	<2			NO	—
991917 (1-5)	<1	<2			NO	
991920 (1-6)	<1	<2			NO	
~~991922~~ 991910	—	—	11/2/10	KK	Yes - TOO	—
991924 (3)	<1	>2			NO	@ 8:30 am
991932 (3)	>1	<2			Yes	—
991933	<1	<2			NO	—
1932	<1	<2			↓	—
991936 (1)	<1	>2	11/2	KK	NO	@ 9:50 am
991944 (16,24)	<1	>2	11/2	ES	NO	@ 5:00 p.m
991945 (1-3)	↓	↓	↓	↓	↓	↓
991953 (3)	<1	>2	11/3	N/A	NO	@ 2:30 pm
991959	<1	<2				—
991960	<1	<2				—
991961	<1	<2				—
991962	<1	<2				—
991963	<1	<2				—
991964	>1	<2	↓	↓	YES	—
991843 (2)	>1	>2	11/3/10	KK	NO - Filtered	Y @ 11:00 am 11/4
991918 (2	>2	>2	↓	↓	↓	↓
991999 (1,2)	<1	>2	11/5	KK	NO	@ 8:20 am 11/5
991995 (1-2)	<1	<2	↓	↓	NO	—
991966 (9)	<1	<2	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 991891

Date Delivered: 10/28/10 **Time:** 22.00 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.5 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☒No	☐N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☒No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Amie

ALERT !!
Level III QC

\\MATRIX\env\Discrp.FormBlank.doc

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-700B	10-5-10	0850	10.5.10	0848	METER #1	10-5-10	0430	-55.2	C. Knight	7.1
	Notes:										
2	SC-100B	10-5-10	0840	10-5-10	0852	METER #1	10-5-10	0430	-55.2	C. Knight	7.4
	Notes:										
3	SC-700B	10-13-10	0800	10-13-10	0806	METER #1	10-13-10	0430	-55.5	JAIDE	7.2
	Notes:										
4	SC-700B	10-19-10	900	10-19-10	904	METER #1	10-19-10	430	-55.8	[illegible]	7.3
	Notes:										
5	SC-700B	10-27-10	800	10-27-10	806	METER #1	10-27-10	430	54.5	TIM D	7.4
	Notes:										
6	SC-700B-	10-28	13:35	10-28-10	13:41	METER #1	10-28-10	4:35	-54.4	Tim D	7.2
	Notes:										
7	SC-700B	11-3-10	12:20	11-3-10	12:36	METER #1	11-3-10	04:30	-55.4	Tim D	6.9
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-100B	11-3-10	12:15	~~12:31~~ 11:3-10	1231	METER #1	11-3-10	0430	-55.4	Tim D	7.3
	Notes:										
2											
	Notes:										
3											
	Notes:										
4											
	Notes:										
5											
	Notes:										
6											
	Notes:										
7											
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

November 29, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-281 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 991995

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-281 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 November 3, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The sample result and associated matrix spike for sample SC-700B-WDR-281 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike result was within acceptable limits and the results from the analysis at a 5x dilution matched those of the straight run, the result 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

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991995
Date: November 29, 2010
Collected: November 3, 2010
Received: November 3, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Iordan Stavrev
SM 4500-Si D	Soluble Silica	Jenny Tankunakorn
EPA 365.2	Total Phosphorus	Jenny Tankunakorn
EPA 415.2	Total Organic Carbon	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Katia Kiarashpoor / Hope Trinidad
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 991995
Date Received: November 3, 2010

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991995-001	SC-700B-WDR-281	E120.1	NONE	11/2/2010	12:20	EC	7330	umhos/cm	2.00
991995-001	SC-700B-WDR-281	E200.7	NONE	11/2/2010	12:20	Aluminum	ND	ug/L	50.0
991995-001	SC-700B-WDR-281	E200.7	NONE	11/2/2010	12:20	BORON	961	ug/L	200
991995-001	SC-700B-WDR-281	E200.7	NONE	11/2/2010	12:20	Iron	ND	ug/L	20.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Antimony	ND	ug/L	10.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Arsenic	ND	ug/L	1.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Barium	12.0	ug/L	10.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Chromium	ND	ug/L	1.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Copper	ND	ug/L	5.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Lead	ND	ug/L	10.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Manganese	1.8	ug/L	1.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Molybdenum	16.2	ug/L	10.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Nickel	ND	ug/L	10.0
991995-001	SC-700B-WDR-281	E200.8	NONE	11/2/2010	12:20	Zinc	11.1	ug/L	10.0
991995-001	SC-700B-WDR-281	E218.6	LABFLT	11/2/2010	12:20	Chromium, hexavalent	ND	ug/L	0.20
991995-001	SC-700B-WDR-281	E300	NONE	11/2/2010	12:20	Fluoride	2.02	mg/L	0.500
991995-001	SC-700B-WDR-281	E300	NONE	11/2/2010	12:20	Nitrate as N	3.14	mg/L	1.00
991995-001	SC-700B-WDR-281	E300	NONE	11/2/2010	12:20	Sulfate	518	mg/L	25.0
991995-001	SC-700B-WDR-281	SM2130B	NONE	11/2/2010	12:20	Turbidity	0.127	NTU	0.100
991995-001	SC-700B-WDR-281	SM2540C	NONE	11/2/2010	12:20	Total Dissolved Solids	4590	mg/L	250
991995-001	SC-700B-WDR-281	SM4500NH3D	NONE	11/2/2010	12:20	Ammonia-N	ND	mg/L	0.500
991995-001	SC-700B-WDR-281	SM4500NO2B	NONE	11/2/2010	12:20	Nitrite as N	ND	mg/L	0.0050

005

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991995-002	SC-100B-WDR-281	E120.1	NONE	11/2/2010	12:15	EC	7980	umhos/cm	2.00
991995-002	SC-100B-WDR-281	E200.7	NONE	11/2/2010	12:15	Aluminum	ND	ug/L	50.0
991995-002	SC-100B-WDR-281	E200.7	NONE	11/2/2010	12:15	BORON	1010	ug/L	200
991995-002	SC-100B-WDR-281	E200.7	NONE	11/2/2010	12:15	Chromium	969	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.7	NONE	11/2/2010	12:15	Iron	ND	ug/L	20.0
991995-002	SC-100B-WDR-281	E200.7	LABFLT	11/2/2010	12:15	Iron	ND	ug/L	20.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Antimony	ND	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Arsenic	8.1	ug/L	1.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Barium	25.4	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Copper	ND	ug/L	5.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Lead	ND	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Manganese	9.8	ug/L	1.0
991995-002	SC-100B-WDR-281	E200.8	LABFLT	11/2/2010	12:15	Manganese	9.2	ug/L	1.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Molybdenum	20.4	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Nickel	24.1	ug/L	10.0
991995-002	SC-100B-WDR-281	E200.8	NONE	11/2/2010	12:15	Zinc	ND	ug/L	10.0
991995-002	SC-100B-WDR-281	E218.6	LABFLT	11/2/2010	12:15	Chromium, hexavalent	1020	ug/L	10.5
991995-002	SC-100B-WDR-281	E300	NONE	11/2/2010	12:15	Fluoride	2.45	mg/L	0.500
991995-002	SC-100B-WDR-281	E300	NONE	11/2/2010	12:15	Nitrate as N	3.26	mg/L	1.00
991995-002	SC-100B-WDR-281	E300	NONE	11/2/2010	12:15	Sulfate	559	mg/L	50.0
991995-002	SC-100B-WDR-281	SM2130B	NONE	11/2/2010	12:15	Turbidity	ND	NTU	0.100
991995-002	SC-100B-WDR-281	SM2320B	NONE	11/2/2010	12:15	Alkalinity	131	mg/L	5.00
991995-002	SC-100B-WDR-281	SM2320B	NONE	11/2/2010	12:15	Bicarbonate	131	mg/L	5.00
991995-002	SC-100B-WDR-281	SM2320B	NONE	11/2/2010	12:15	Carbonate	ND	mg/L	5.00
991995-002	SC-100B-WDR-281	SM2540C	NONE	11/2/2010	12:15	Total Dissolved Solids	4940	mg/L	250
991995-002	SC-100B-WDR-281	SM4500NH3D	NONE	11/2/2010	12:15	Ammonia-N	ND	mg/L	0.500
991995-002	SC-100B-WDR-281	SM4500NO2B	NONE	11/2/2010	12:15	Nitrite as N	ND	mg/L	0.0050
991995-002	SC-100B-WDR-281	SM4500-PB_E	NONE	11/2/2010	12:15	Total Phosphorous-P	ND	mg/L	0.0200
991995-002	SC-100B-WDR-281	SM4500Si	NONE	11/2/2010	12:15	Soluble Silica	25.5	mg/L	2.00
991995-002	SC-100B-WDR-281	SM5310C	NONE	11/2/2010	12:15	Total Organic Carbon	ND	mg/L	0.300

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

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

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 991995

Printed 11/29/2010

Samples Received on 11/3/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-281	991995-001	11/02/2010 12:20	Water
SC-100B-WDR-281	991995-002	11/02/2010 12:15	Water

Anions By I.C. - EPA 300.0 Batch 11AN10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Nitrate as Nitrogen	mg/L	11/04/2010 12:30	5.00	0.0550	1.00	3.14
Sulfate	mg/L	11/04/2010 15:11	50.0	1.00	25.0	518
991995-002 Nitrate as Nitrogen	mg/L	11/04/2010 12:42	5.00	0.0550	1.00	3.26
Sulfate	mg/L	11/04/2010 14:34	100	2.00	50.0	559

Method Blank

Parameter	Unit	DF	Result
Sulfate	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	100	559	559	0.00662	0 - 20
Nitrate as Nitrogen	mg/L	5.00	3.14	3.26	3.84	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	20.2	20.0	101	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.97	4.00	99.3	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	100	1620	1560(1000)	106	85 - 115
Nitrate as Nitrogen	mg/L	5.00	24.3	23.3(20.0)	105	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	19.9	20.0	99.4	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.3	15.0	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	2.98	3.00	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.2	15.0	101	90 - 110

Anions By I.C. - EPA 300.0

Batch 11AN10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Fluoride	mg/L	11/04/2010 12:30	5.00	0.0600	0.500	2.02
991995-002 Fluoride	mg/L	11/04/2010 12:42	5.00	0.0600	0.500	2.45

Method Blank

Parameter	Unit	DF	Result
Fluoride	mg/L	1.00	ND

Duplicate — Lab ID = 991993-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	1.00	0.914	0.889	2.77	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.13	4.00	103	90 - 110

Matrix Spike — Lab ID = 991993-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	2.80	2.89(2.00)	95.7	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.09	4.00	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.12	3.00	104	90 - 110

Nitrite SM 4500-NO2 B Batch 11NO210C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Nitrite as Nitrogen	mg/L	11/04/2010 11:42	1.00	0.000200	0.0050	ND
991995-002 Nitrite as Nitrogen	mg/L	11/04/2010 11:43	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0401	0.0400	100	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0230	0.0200(0.0200	115.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0200	0.0200	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0204	0.0200	102.	90 - 110

Alkalinity by SM 2320B Batch 11ALK10B 11/10/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Alkalinity as CaCO3	mg/L	11/10/2010	1.00	1.68	5.00	131.
Bicarbonate (Calculated)	mg/L	11/10/2010	1.00	0.153	5.00	131.
Carbonate (Calculated)	mg/L	11/10/2010	1.00	0.153	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO3	mg/L	1.00	ND

Lab ID = 992017-001

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	136.	136.	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	98.0	100.	98.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	99.0	100.	99.0	90 - 110

Lab ID = 992017-001

Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	240.	236.(100.)	104.	75 - 125

Lab ID = 992017-001

Matrix Spike Duplicate

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	239.	236.(100.)	103.	75 - 125

Specific Conductivity - EPA 120.1 Batch 11EC10B 11/4/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Specific Conductivity	umhos/cm	11/04/2010	1.00	0.0380	2.00	7330
991995-002 Specific Conductivity	umhos/cm	11/04/2010	1.00	0.0380	2.00	7980

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 991966-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	4980	4970	0.201	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	706.	706.	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	979.	999.	98.0	90 - 110

Chrome VI by EPA 218.6

Batch 11CrH10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Chromium, Hexavalent	ug/L	11/04/2010 13:20	52.5	1.10	10.5	1020

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1020	1020	0.0288	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.13	5.00	103	90 - 110

Matrix Spike — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.82	5.51(5.25)	106	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2170	2070(1050)	109	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.01	5.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.71	10.0	97.1	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.88	10.0	98.8	95 - 105

Chrome VI by EPA 218.6 Batch 11CrH10K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Chromium, Hexavalent	ug/L	11/11/2010 11:50	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991994-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	13.1	12.9	1.22	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.15	5.00	103	90 - 110

Matrix Spike — Lab ID = 991994-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	28.4	29.3(16.4)	94.4	90 - 110

Matrix Spike — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.25(1.06)	95.9	90 - 110

Matrix Spike — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.30	1.35(1.06)	94.8	90 - 110

Matrix Spike — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.40	5.50(5.25)	98.2	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.94	10.0	99.4	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

Metals by EPA 200.7, Total Batch 111010A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Boron	ug/L	11/10/2010 15:53	1.00	5.00	200.	961
991995-002 Boron	ug/L	11/10/2010 15:58	1.00	5.00	200.	1010

Method Blank

Parameter	Unit	DF	Result
Boron	ug/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	1.00	1030	1010	1.96	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5030	5000	101	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Boron	ug/L	1.00	2900	3010(2000)	94.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5100	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	4660	5000	93.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5180	5000	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5070	5000	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Metals by EPA 200.7, Total

Batch 111710A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Aluminum	ug/L	11/17/2010 12:54	1.00	1.00	50.0	ND
Iron	ug/L	11/17/2010 12:54	1.00	3.00	20.0	ND
991995-002 Aluminum	ug/L	11/17/2010 13:10	1.00	1.00	50.0	ND
Chromium	ug/L	11/17/2010 13:10	1.00	3.00	10.0	969
Iron	ug/L	11/17/2010 13:10	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0	0	0 - 20
Chromium	ug/L	1.00	ND	0	0	0 - 20
Iron	ug/L	1.00	11.3	13.6	18.5	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4940	5000	98.7	90 - 110
Chromium	ug/L	1.00	5220	5000	104	90 - 110
Iron	ug/L	1.00	5190	5000	104	90 - 110

Matrix Spike — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2330	2000(2000)	116	75 - 125
Chromium	ug/L	1.00	2010	2000(2000)	101	75 - 125
Iron	ug/L	1.00	1960	2010(2000)	97.1	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4820	5000	96.4	90 - 110
Chromium	ug/L	1.00	4860	5000	97.2	90 - 110
Iron	ug/L	1.00	4920	5000	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4860	5000	97.1	90 - 110
Chromium	ug/L	1.00	5060	5000	101	90 - 110
Iron	ug/L	1.00	5030	5000	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1820	2000	91.2	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1840	2000	92.0	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2040	2000	102	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2030	2000	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1820	2000	90.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1810	2000	90.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	1980	2000	98.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	2070	2000	103	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1990	2000	99.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2040	2000	102	80 - 120

Metals by EPA 200.8, Total

Batch 110510A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Arsenic	ug/L	11/05/2010 12:53	5.00	0.260	1.0	ND
Lead	ug/L	11/05/2010 12:53	5.00	0.0950	10.0	ND
Nickel	ug/L	11/05/2010 12:53	5.00	0.240	10.0	ND
991995-002 Arsenic	ug/L	11/05/2010 13:21	5.00	0.260	1.0	8.1
Lead	ug/L	11/05/2010 13:21	5.00	0.0950	10.0	ND
Nickel	ug/L	11/05/2010 13:21	5.00	0.240	10.0	24.1

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Lead	ug/L	1.00	ND

Duplicate

Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	ND	0	0	0 - 20
Nickel	ug/L	5.00	1.40	1.30	7.48	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.7	50.0	97.3	90 - 110
Nickel	ug/L	1.00	48.5	50.0	97.0	90 - 110
Lead	ug/L	1.00	48.2	50.0	96.4	90 - 110

Matrix Spike

Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	233	250.(250.)	93.3	75 - 125
Nickel	ug/L	5.00	207	251(250.)	82.2	75 - 125
Lead	ug/L	5.00	226	250.(250.)	90.5	75 - 125

Matrix Spike Duplicate

Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	241	250.(250.)	96.2	75 - 125
Nickel	ug/L	5.00	213	251(250.)	84.8	75 - 125
Lead	ug/L	5.00	226	250.(250.)	90.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.6	50.0	99.2	90 - 110
Nickel	ug/L	1.00	52.0	50.0	104	90 - 110
Lead	ug/L	1.00	48.6	50.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.0	50.0	96.1	90 - 110
Nickel	ug/L	1.00	46.5	50.0	93.1	90 - 110
Lead	ug/L	1.00	46.5	50.0	93.1	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.5	50.0	95.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	45.5	50.0	91.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	48.2	50.0	96.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	45.8	50.0	91.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Metals by EPA 200.8, Total Batch 111210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Antimony	ug/L	11/12/2010 16:19	5.00	6.00	10.0	ND
Barium	ug/L	11/12/2010 16:19	5.00	0.185	10.0	12.0
Chromium	ug/L	11/12/2010 16:19	5.00	0.0950	1.0	ND
Copper	ug/L	11/12/2010 16:19	5.00	0.305	5.0	ND
Manganese	ug/L	11/12/2010 16:19	5.00	0.210	1.0	1.8
Molybdenum	ug/L	11/12/2010 16:19	5.00	0.660	10.0	16.2
Zinc	ug/L	11/12/2010 16:19	5.00	1.32	10.0	11.1
991995-002 Antimony	ug/L	11/12/2010 17:24	5.00	6.00	10.0	ND
Barium	ug/L	11/12/2010 17:24	5.00	0.185	10.0	25.4
Copper	ug/L	11/12/2010 17:24	5.00	0.305	5.0	ND
Manganese	ug/L	11/12/2010 17:24	5.00	0.210	1.0	9.8
Molybdenum	ug/L	11/12/2010 17:24	5.00	0.660	10.0	20.4
Zinc	ug/L	11/12/2010 17:24	5.00	1.32	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Barium	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	5.00	11.3	12.0	6.26	0 - 20
Chromium	ug/L	5.00	1.03	0.934	10.0	0 - 20
Zinc	ug/L	5.00	11.4	11.1	1.96	0 - 20
Antimony	ug/L	5.00	ND	0	0	0 - 20
Copper	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.52	1.81	17.7	0 - 20
Molybdenum	ug/L	5.00	15.9	16.2	2.37	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	47.4	50.0	94.7	90 - 110
Chromium	ug/L	1.00	48.0	50.0	96.0	90 - 110
Zinc	ug/L	1.00	50.0	50.0	99.9	90 - 110
Antimony	ug/L	1.00	46.4	50.0	92.8	90 - 110
Copper	ug/L	1.00	48.3	50.0	96.7	90 - 110
Manganese	ug/L	1.00	47.2	50.0	94.3	90 - 110
Molybdenum	ug/L	1.00	47.7	50.0	95.3	90 - 110

Matrix Spike Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	240	262(250.)	91.3	75 - 125
Chromium	ug/L	5.00	232	251(250.)	92.3	75 - 125
Zinc	ug/L	5.00	244	261(250.)	93.3	75 - 125
Antimony	ug/L	5.00	205	250.(250.)	82.0	75 - 125
Copper	ug/L	5.00	214	250.(250.)	85.6	75 - 125
Manganese	ug/L	5.00	226	252(250.)	89.9	75 - 125
Molybdenum	ug/L	5.00	253	266(250.)	94.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.3	50.0	98.5	90 - 110
Chromium	ug/L	1.00	47.8	50.0	95.7	90 - 110
Zinc	ug/L	1.00	51.6	50.0	103	90 - 110
Antimony	ug/L	1.00	48.6	50.0	97.2	90 - 110
Copper	ug/L	1.00	47.9	50.0	95.9	90 - 110
Manganese	ug/L	1.00	49.8	50.0	99.6	90 - 110
Molybdenum	ug/L	1.00	45.4	50.0	90.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.1	50.0	100	90 - 110
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Zinc	ug/L	1.00	50.8	50.0	102	90 - 110
Antimony	ug/L	1.00	47.8	50.0	95.6	90 - 110
Copper	ug/L	1.00	47.4	50.0	94.8	90 - 110
Manganese	ug/L	1.00	50.1	50.0	100	90 - 110
Molybdenum	ug/L	1.00	48.6	50.0	97.2	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	80 - 120
Zinc	ug/L	1.00	49.5	50.0	99.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	49.8	50.0	99.6	80 - 120
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	48.2	50.0	96.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	47.3	50.0	94.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.8	50.0	99.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.7	50.0	97.4	80 - 120
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Reactive Silica by SM4500-Si D Batch 11Si10A 11/5/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Silica	mg/L	11/05/2010	50.0	0.700	2.00	25.5

Method Blank

Parameter	Unit	DF	Result
Silica	mg/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Silica	mg/L	50.0	25.9	25.5	1.77	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.500	0.464	108	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Silica	mg/L	50.0	45.0	45.5(20.0)	97.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.227	0.232	97.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.391	0.400	97.7	90 - 110

Total Dissolved Solids by SM 2540 C Batch 11TDS10C 11/8/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Total Dissolved Solids	mg/L	11/08/2010	1.00	0.434	250.	4590
991995-002 Total Dissolved Solids	mg/L	11/08/2010	1.00	0.434	250.	4940

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	5090	4940	2.99	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	512.	500.	102	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	500.	500.	100.	90 - 110

Total Organic Carbon (T/DOC) SM 5310 C Batch 11TOC10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Total Organic Carbon	mg/L	11/05/2010 18:10	1.00	0.0250	0.300	ND

Method Blank

Parameter	Unit	DF	Result
Total Organic Carbon	mg/L	1.00	ND

Duplicate — Lab ID = 991923-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Organic Carbon	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	19.2	20.0	96.0	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	10.2	10.0(10.0)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.60	10.0	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.45	10.0	94.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	9.28	10.0	92.8	90 - 110

Total Phosphate, SM 4500-PB,E Batch 11TP10A 11/4/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Phosphate, Total As P	mg/L	11/04/2010	1.00	0.00300	0.0200	ND

Method Blank

Parameter	Unit	DF	Result
Phosphate, Total As P	mg/L	1.00	ND

Duplicate — Lab ID = 991998-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Phosphate, Total As P	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.110	0.100	110.	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0691	0.0650(0.0650	106	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0641	0.0600	107	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0684	0.0650	105	90 - 110

Ammonia Nitrogen by SM4500-NH3D Batch 11NH3-E10A 11/8/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Ammonia as N	mg/L	11/08/2010	1.00	0.00200	0.500	ND
991995-002 Ammonia as N	mg/L	11/08/2010	1.00	0.00200	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.6	10.0	106	90 - 110

Matrix Spike — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.96	6.00(6.00)	99.4	75 - 125

Matrix Spike Duplicate — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.92	6.00(6.00)	98.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.79	6.00	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.77	6.00	96.1	90 - 110

Metals by EPA 200.8, Dissolved Batch 112310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Manganese	ug/L	11/23/2010 15:36	5.00	0.210	1.0	9.2

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992184-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	1.00	26.9	27.5	2.21	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.8	50.0	97.5	90 - 110

Matrix Spike — Lab ID = 992184-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	1.00	73.1	77.5(50.0)	91.1	75 - 125

Matrix Spike Duplicate — Lab ID = 992184-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	1.00	71.2	77.5(50.0)	87.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.0	50.0	92.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.8	50.0	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.8	50.0	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.9	50.0	104	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.1	50.0	96.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.6	50.0	97.1	80 - 120

Metals by 200.7, Dissolved

Batch 111210A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-002 Iron	ug/L	11/12/2010 09:36	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4880	5000	97.7	90 - 110

Matrix Spike — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	2240	2000(2000)	112.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4980	5000	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5010	5000	100	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2030	2000	101	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1870	2000	93.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2110	2000	105	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1940	2000	96.8	80 - 120

Turbidity by SM 2130 B Batch 11TUC10D 11/4/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991995-001 Turbidity	NTU	11/04/2010	1.00	0.0140	0.100	0.127
991995-002 Turbidity	NTU	11/04/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 991995-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.06	8.00	101	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.02	8.00	100	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ Sean 9

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 11TDS10C

Date Calculated: 11/11/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	111.1446	111.1449	111.1447	0.0002	No	0.0001	1.0	25.0	ND	1
991917-1	50	110.3626	110.4299	110.4299	0.0000	No	0.0673	1346.0	50.0	1346.0	1
991917-2	50	108.6906	108.7254	108.7254	0.0000	No	0.0348	696.0	50.0	696.0	1
991979-5	50	73.0357	73.1569	73.1569	0.0000	No	0.1212	2424.0	50.0	2424.0	1
991979-6	50	75.1470	75.2717	75.2717	0.0000	No	0.1247	2494.0	50.0	2494.0	1
991979-7	50	74.2625	74.3249	74.3247	0.0002	No	0.0622	1244.0	50.0	1244.0	1
991979-8	50	110.6353	110.6969	110.6969	0.0000	No	0.0616	1232.0	50.0	1232.0	1
991994-1	20	76.2233	76.2896	76.2894	0.0002	No	0.0661	3305.0	125.0	3305.0	1
991994-2	10	74.7674	74.8210	74.821	0.0000	No	0.0536	5360.0	250.0	5360.0	1
991995-1	10	68.9868	69.0330	69.0327	0.0003	No	0.0459	4590.0	250.0	4590.0	1
991995-2	10	68.9000	68.9494	68.9494	0.0000	No	0.0494	4940.0	250.0	4940.0	1
991995-2D	10	66.8223	66.8732	66.8732	0.0000	No	0.0509	5090.0	250.0	5090.0	1
LCS	100	104.8934	104.9450	104.9446	0.0004	No	0.0512	512.0	25.0	512.0	1
992017	100	112.9049	112.9360	112.9356	0.0004	No	0.0307	307.0	25.0	307.0	1
992010-4	100	112.3122	112.3584	112.3581	0.0003	No	0.0459	459.0	25.0	459.0	1
991944-16	50	66.7247	66.7570	66.7569	0.0001	No	0.0322	644.0	50.0	644.0	1
992055-1	100	109.4434	110.0572	110.0572	0.0000	No	0.6138	6138.0	25.0	6138.0	1
992055-2	100	76.0089	76.4980	76.4979	0.0001	No	0.4890	4890.0	25.0	4890.0	1
992055-3	100	74.7218	75.1297	75.1296	0.0001	No	0.4078	4078.0	25.0	4078.0	1
992059-2	200	110.9669	110.9839	110.9839	0.0000	No	0.0170	85.0	12.5	85.0	1
992059-3	100	69.5146	69.5348	69.5348	0.0000	No	0.0202	202.0	25.0	202.0	1
992068-1	2	49.8957	50.0769	50.0769	0.0000	No	0.1812	90600.0	1250.0	90600.0	1
992068-2	2	49.4141	49.5840	49.584	0.0000	No	0.1699	84950.0	1250.0	84950.0	1
LCSD	100	112.8494	112.8994	112.8994	0.0000	No	0.0500	500.0	25.0	500.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\,10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit

ND = not detected (below the reporting limit)

Analyst Printed Name: Amy

Analyst Signature

Reviewer Printed Name: Sean C

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 11TDS10C

Date Calculated: 11/11/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
991917-1	2160	0.62	1404	0.96
991917-2	1070	0.65	695.5	1.00
991979-5	3480	0.70	2262	1.07
991979-6	3490	0.71	2268.5	1.10
991979-7	1830	0.68	1189.5	1.05
991979-8	1880	0.66	1222	1.01
991994-1	5300	0.62	3445	0.96
991994-2	8550	0.63	5557.5	0.96
991995-1	7280	0.63	4732	0.97
991995-2	7970	0.62	5180.5	0.95
991995-2D	7970	0.64	5180.5	0.98
LCS				
992017	490	0.63	318.5	0.96
992010-4	790	0.58	513.5	0.89
991944-16	1060	0.61	689	0.93
992055-1	7820	0.78	5083	1.21
992055-2	6050	0.81	3932.5	1.24
992055-3	5230	0.78	3399.5	1.20
992059-2	169	0.50	109.85	0.77
992059-3	363	0.56	235.95	0.86
992068-1	138800	0.65	90220	1.00
992068-2	126600	0.67	82290	1.03

SDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

Date of Analysis: 11/10/10
Start of Analysis:
Date Sampled:

Analytical Batch: 11ALK10B
Matrix: Water
Date Calculated: 11/10/10

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	7.15	50	0.02		0.0	0.05		1.0	5	ND	ND	ND	ND	
991996-2	7.64	50	0.02		0.0	6.55		131.0	5	131.0	131.0	ND	ND	
992017	7.70	50	0.02		0.0	6.80		136.0	5	136.0	136.0	ND	ND	
992010-2	8.00	50	0.02		0.0	5.55		111.0	5	111.0	111.0	ND	ND	
992077-20	7.93	50	0.02		0.0	5.75		115.0	5	115.0	115.0	ND	ND	
920068-1	10.95	0.002	0.02	5.8	2900000.0	6.25		3125000.0	125000	3125000.0	ND	450000	2675000	
920068-2	10.91	0.002	0.02	5.3	2625000.0	5.75		2875000.0	125000	2875000.0	ND	500000	2375000	
992079-1	8.40	0.01	0.02	0.1	10000.0	1.75		175000.0	25000	175000.0	155000.0	20000	ND	
992079-2	8.91	0.05	0.02	0.5	9000.0	7.78		155500.0	5000	155500.0	137500.0	18000	ND	
992017 DUP	7.65	50	0.02		0.0	6.80		136.0	5	136.0	136.0	0	ND	
992017 MS	9.25	50	0.02	2.0	39.0	12.00		240.0	5	240.0	162.0	78	ND	
992017 MSD	9.30	50	0.02	2.0	40.0	11.95		239.0	5	239.0	159.0	80	ND	
LCS1	10.25	50	0.02	2.1	42.0	4.90		98.0	5	98.0	14.0	84	ND	
LCS2	10.25	50	0.02	2.2	43.0	4.95		99.0	5	99.0	13.0	86	ND	

Calculations as follows:

$$T \text{ or } P = \left(\frac{A \times N \times 50000}{mL\ sample} \right)$$

Low Alkalinity: as mg/L CaCO3 $= \dfrac{(2 \times B - C) \times N \times 50000}{mL\ sample}$

ND: Not Detected (below the reporting limit)
LCS: Laboratory Control Standard
LCSD: Laboratory Control Standard Duplicate
MS: Matrix Spike
MSD: Matrix Spike Duplicate

Where: T = Total Alkalinity, mg CaCO3/L
P = Phenolphthalein Alkalinity, mg CaCO3/L
A = mL standard acid used
N = normality of standard acid

Where: B = mL titrant to first recorded pH
C = total mL titrant to reach pH 0.3 unit lower
N = normality of standard acid
S = titrant vol to reach pH 0.3 lower

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

049

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14201 Franklin Avenue, Tustin, CA 92780-7008
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CHAIN OF CUSTODY RECORD

991995

[IM3Plant-WDR-281]

COC Number

TURNAROUND TIME 10 Days

DATE 11/03/10 PAGE 1 OF 2

COMPANY	CH2M HILL /E2
PROJECT NAME	PG&E Topock IM3
PHONE	530-229-3303 FAX 530-339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	408401.01.DM
SAMPLERS (SIGNATURE	

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Alkalinity (2320-B)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Total P (4500-P)	Anions (300.0) F, NO3, SO4	TOC (5310 C)	Dissolved Metals (200.7) Fe, Mn lab filtered	Soluable Silica - Reactive (4500-Si CorD)	NO2 (4500-NO2B)		NUMBER OF CONTAINERS	COMMENTS
1	SC-700B-WDR-281	11/02/10	~~1220~~ 1220		X		X	X	X	X	X		X				X		4	pH=2 } 200.7 (Total)
2	SC-100B-WDR-281	11/02/10	1215		X	X	X	X	X	X	X	X	X	X	X	X	X		9	pH=2 }
																			13	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition see Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Ryan Phelps	OMI	11-3-10 15:30
Signature (Received)	Rafael Davila	T-I-I	11-3-10 15:30
Signature (Relinquished)	Rafael Davila	T-I-I	11-3-10 21:30
Signature (Received)	Rafael Davila	TLI	11/3/10 21:30
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 3.9°C °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

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

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Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/03/10	991976-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
11/03/10	991977-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
11/03/10	991978-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
11/03/10	991979-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
11/04/10	991994-1	7.0	5.00	9.5	8:45	SB
11/04/10	991995-1	7.0	5.00	9.5	8:50	SB
	-2	7.0	5.00	9.5	8:55	SB
SB						

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991805,	<1	<2	10/27	KK	NO	@11:30 am 10/26/10
1846 (1-6,89)	<1	<2	↓	↓	↓	—
1845 (1-5)	<1	<2	↓	↓	↓	—
1842 (1-7)	<1	<2	↓	↓	↓	—
991868	<1	<2	10/28/10	ES	NO	
991882	<1	>2				@ 2:30 p.m
991869	<1	>2				↓
991879 (1-2)	<1	<2				—
1871	<1	>2 initially	10/28	KK	NO	@ 10:00
1808 (1-3)	<1	<2	10/29	KK	NO	—
1845 (1-8)	<1	<2	↓	↓	NO	—
1873 (1-7)	<1	<2	↓	↓	NO	—
1872 (1-3)	<1	<2	↓	↓	NO	—
1874 (1-11)	<1	<2	↓	↓	NO	—
1877 (1-6)	<1	<2	↓	↓	NO	—
1875 (1-9)	<1	<2	↓	↓	NO	—
1876 (1-11)	<1	<2	↓	↓	NO	—
991891	<1	>2	↓	↓	NO	@ 4:05 pm 10/29
991893 (1-2)	<1	<2	~~KK~~ 10/30	KK	NO	—
991878 (1-5)	<1	<2	↓	↓	NO	—
991894 (1-9)	<1	<2	↓	↓	NO	—
991897 (1-9)	<1	<2	↓	↓	NO	—
991895 (1-8)	4	<2	↓	↓	NO	—
991896 (1-11)	<1	<2	↓	↓	NO	—
991898 (1-11)	<1	<2	↓	↓	NO	—
991892 (1-10)	<1	<2	↓	↓	NO	—
991921 (1-6?)	<1	<2	11/1/10	KK	NO	—
991922 (1-4)	<1	<2	↓	↓	NO	—
991917 (1-3)	<1	<2	↓	↓	NO	
991920 (1-6)	<1	<2	↓	↓	NO	
~~991922~~ 991910	—	—	11/2/10	AT	Yes - TOC	—
991924 (3)	<1	>2	↓	↓	NO	@ 8:30am
991932 (3)	>1	<2	↓	↓	Yes	—
991933	<1	<2	↓	↓	NO	—
1934	<1	<2	↓	↓	↓	—
991936 (1)	<1	>2	11/2	KK	NO	@ 9:50 am
991944 (16,20)	<1	>2	11/2	ES	NO	@ 5:00 p.m
991945 (1-3)	↓	↓	↓	↓	↓	↓
991953 (3)	<1	>2	11/3	NA	NO	@ 2:30 pm
991959	<1	<2	↓	↓	↓	—
991960	<1	<2	↓	↓	↓	—
991961	<1	<2	↓	↓	↓	—
991962	<1	<2	↓	↓	↓	—
991963	<1	<2	↓	↓	↓	—
991964	>1	<2	↓	↓	YES	—
991843 (2)	>1	>2	11/3/10	AT	NO - Filtered	@ 11:00 am 11/4
991918 (2	>2	>2	↓	↓	↓	↓
991994 (1,2)	<1	>2	11/5	KK	NO	@ 8:20 am 11/5
991995 (1-2)	<1	<2	↓	↓	NO	—
991966 (9)	<1	<2	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E 2 **Lab #** 991995

Date Delivered: 11 / 3 /10 **Time:** 21:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 1.9° C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☑Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

November 23, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-282 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992097

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-282 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on November 9, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The sample result and associated matrix spike for sample SC-700B-WDR-282 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike result was within acceptable limits and the results from the analysis at a 5x dilution matched those of the straight run, the result from the straight run is reported.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992097
Date: November 23, 2010
Collected: November 9, 2010
Received: November 9, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992097
Date Received: November 9, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992097-001	SC-700B-WDR-282	E120.1	NONE	11/9/2010	12:00	EC	7340	umhos/cm	2.00
992097-001	SC-700B-WDR-282	E200.8	NONE	11/9/2010	12:00	Chromium	1.9	ug/L	1.0
992097-001	SC-700B-WDR-282	E200.8	NONE	11/9/2010	12:00	Manganese	4.5	ug/L	1.0
992097-001	SC-700B-WDR-282	E218.6	LABFLT	11/9/2010	12:00	Chromium, hexavalent	0.25	ug/L	0.20
992097-001	SC-700B-WDR-282	SM2130B	NONE	11/9/2010	12:00	Turbidity	0.14	NTU	0.100
992097-001	SC-700B-WDR-282	SM2540C	NONE	11/9/2010	12:00	Total Dissolved Solids	4430	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will heve two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992097

Printed 11/26/2010

Samples Received on 11/9/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-282	992097-001	11/09/2010 12:00	Water

Specific Conductivity - EPA 120.1 Batch 11EC10C 11/10/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992097-001 Specific Conductivity	umhos/cm	11/10/2010	1.00	0.0380	2.00	7340

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992026-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	4900	4920	0.407	0 - 20

Duplicate — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7350	7340	0.136	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	697.	706.	98.7	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703.	706.	99.6	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	987.	999.	98.8	90 - 110

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

Chrome VI by EPA 218.6

Batch 11CrH10K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992097-001 Chromium, Hexavalent	ug/L	11/11/2010 12:00	1.05	0.0210	0.20	0.25

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 991994-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	13.1	12.9	1.22	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.15	5.00	103	90 - 110

Matrix Spike — Lab ID = 991994-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	28.4	29.3(16.4)	94.4	90 - 110

Matrix Spike — Lab ID = 991995-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.25(1.06)	95.9	90 - 110

Matrix Spike — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.40	5.54(5.25)	97.4	90 - 110

Matrix Spike — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.30	1.31(1.06)	98.9	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.94	10.0	99.4	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Printed 12/22/2010
Revision 1

Metals by EPA 200.8, Total

Batch 111710C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992097-001 Chromium	ug/L	11/18/2010 15:52	5.00	0.0950	1.0	1.9
Manganese	ug/L	11/18/2010 15:52	5.00	0.210	1.0	4.5

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992022-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.02	2.02	0.0990	0 - 20
Manganese	ug/L	5.00	483	466.	3.54	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110
Manganese	ug/L	1.00	47.2	50.0	94.4	90 - 110

Matrix Spike — Lab ID = 992022-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	235	252(250.)	93.2	75 - 125
Manganese	ug/L	1.00	736	716.(250.)	108	75 - 125

Matrix Spike Duplicate — Lab ID = 992022-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	236	252(250.)	93.4	75 - 125
Manganese	ug/L	5.00	721	716.(250.)	102	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.5	90 - 110
Manganese	ug/L	1.00	48.5	50.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.7	50.0	93.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.4	50.0	92.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.8	50.0	95.5	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.0	50.0	94.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.6	50.0	95.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.6	50.0	93.1	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 11TDS10D — 11/10/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992097-001 Total Dissolved Solids	mg/L	11/10/2010	1.00	0.434	250.	4430

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 992026-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3890	3950	1.53	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	496.	500.	99.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	493.	500.	98.6	90 - 110

Turbidity by SM 2130 B

Batch 11TUC10I — 11/10/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992097-001 Turbidity	NTU	11/10/2010	1.00	0.0140	0.100	0.140

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992097-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.141	0.140	0.712	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.79	8.00	97.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.83	8.00	97.9	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

E2

Sean

2

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 11TDS10D

Date Calculated: 11/12/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	122.0328	122.0328	122.0328	0.0000	No	0.0000	0.0	25.0	ND	1
992026-2	20	49.4669	49.5358	49.5354	0.0004	No	0.0685	3425.0	125.0	3425.0	1
992026-3	50	65.6368	65.7735	65.7734	0.0001	No	0.1366	2732.0	50.0	2732.0	1
992026-4	20	51.1420	51.2044	51.2041	0.0003	No	0.0621	3105.0	125.0	3105.0	1
992026-5	20	68.5553	68.6231	68.6231	0.0000	No	0.0678	3390.0	125.0	3390.0	1
992026-6	20	77.8372	77.9081	77.9077	0.0004	No	0.0705	3525.0	125.0	3525.0	1
992026-7	20	67.7902	67.8529	67.8529	0.0000	No	0.0627	3135.0	125.0	3135.0	1
992026-9	20	76.5244	76.5954	76.5953	0.0001	No	0.0709	3545.0	125.0	3545.0	1
992026-10	10	67.8036	67.8956	67.8956	0.0000	No	0.0920	9200.0	250.0	9200.0	1
992026-11	50	68.7750	68.8755	68.8751	0.0004	No	0.1001	2002.0	50.0	2002.0	1
992026-12	20	69.5835	69.6626	69.6625	0.0001	No	0.0790	3950.0	125.0	3950.0	1
992026-12D	20	68.7051	68.7833	68.7829	0.0004	No	0.0778	3890.0	125.0	3890.0	1
LCS	100	111.1881	111.2377	111.2377	0.0000	No	0.0496	496.0	25.0	496.0	1
992026-13	50	65.8315	65.9744	65.974	0.0004	No	0.1425	2850.0	50.0	2850.0	1
992029-1	50	76.5687	76.6037	76.6037	0.0000	No	0.0350	700.0	50.0	700.0	1
992097	10	75.4568	75.5015	75.5011	0.0004	No	0.0443	4430.0	250.0	4430.0	1
LCSD	100	112.1691	112.2187	112.2184	0.0003	No	0.0493	493.0	25.0	493.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\ 0^{6}$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Hyo — Reviewer Printed Name

Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 11TDS10D

Date Calculated: 11/12/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992026-2	4490	0.76	2918.5	1.17
992026-3	3670	0.74	2385.5	1.15
992026-4	4220	0.74	2743	1.13
992026-5	4420	0.77	2873	1.18
992026-6	4440	0.79	2886	1.22
992026-7	4140	0.76	2691	1.16
992026-9	4870	0.73	3165.5	1.12
992026-10	11240	0.82	7306	1.26
992026-11	2840	0.70	1846	1.08
992026-12	4920	0.80	3198	1.24
992026-12D	4920	0.79	3198	1.22
LCS				
992026-13	3580	0.80	2327	1.22
992029-1	1202	0.58	781.3	0.90
992097	7340	0.60	4771	0.93

442097

Rec'd 11/9/10 992097

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-282]

COC Number

TURNAROUND TIME 10 Days

DATE 11/09/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)									NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-282	11/09/10	1200	Water	X	X	X	X		X								3	pH = 6 (200.7)
																	3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished		Ravi Pillai	AMI	11-9-10 1545
Received	Rafael Davila	Rafael	T.E.I	11-9-10 15:45
Relinquished	Rafael Davila	Rafael	T.E.I	11-9-10 21:30
Received		Amir Hasan	TU	11-9-10 21:30
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☒ WARM ☐ 4.1°C

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

038

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/05/10	992033-9	9.5	N/A	N/A	N/A	SB
11/05/10	992034 -1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
11/05/10	992035	9.5	N/A	N/A	N/A	SB
11/10/10	992097	7.0	5.00	9.5	11:15	SB

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992794	<1	>2	11/24	ET	No	@ 3:00 p.m
992097	<1	2	11/10	~~KK~~	No	@ 2:00pm

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992097

Date Delivered: 11/09/10 **Time:** 2130 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.1°C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☒No	☐N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐Truesdail ☐Client	☐Yes	☒No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: _____

ALERT !!
Level III QC

TRUESDAIL LABORATORIES, INC.

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Established 1931

14201 FRANKLIN AVENUE
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www.truesdail.com

December 7, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-283 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992202

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-283 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on November 16, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992202
Date: December 7, 2010
Collected: November 16, 2010
Received: November 16, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992202
Date Received: November 16, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992202-001	SC-700B-WDR-283	E120.1	NONE	11/16/2010	13:00	EC	7500	umhos/cm	2.00
992202-001	SC-700B-WDR-283	E200.8	NONE	11/16/2010	13:00	Chromium	ND	ug/L	1.0
992202-001	SC-700B-WDR-283	E200.8	NONE	11/16/2010	13:00	Manganese	2.1	ug/L	1.0
992202-001	SC-700B-WDR-283	E218.6	LABFLT	11/16/2010	13:00	Chromium, hexavalent	ND	ug/L	0.20
992202-001	SC-700B-WDR-283	SM2130B	NONE	11/16/2010	13:00	Turbidity	0.108	NTU	0.100
992202-001	SC-700B-WDR-283	SM2540C	NONE	11/16/2010	13:00	Total Dissolved Solids	4510	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **CH2MHill**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG & E Topock
P.O. Number: 55685
Project Number: 184004.PS.02

Laboratory No. 992202

Printed 12/7/2010

Samples Received on 11/16/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-283	992202-001	11/16/2010 13:00	Water

Specific Conductivity - EPA 120.1 Batch 11EC10E 11/17/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992202-001 Specific Conductivity	umhos/cm	11/17/2010	1.00	0.0380	2.00	7500

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992202-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7500	7500	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	689.	706.	97.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	695.	706.	98.4	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	698.	706.	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

Chrome VI by EPA 218.6

Batch 11CrH10P

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992202-001 Chromium, Hexavalent	ug/L	11/17/2010 15:33	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992028-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	16.7	17.1	2.47	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.16	5.00	103	90 - 110

Matrix Spike — Lab ID = 992202-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.22(1.06)	104	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.24	5.00	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.5	10.0	105	95 - 105

Metals by EPA 200.8, Total Batch 112410A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992202-001 Chromium	ug/L	11/24/2010 16:55	5.00	0.0950	1.0	ND
Manganese	ug/L	11/24/2010 16:55	5.00	0.210	1.0	2.1

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992132-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	593	594	0.168	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.5	50.0	93.1	90 - 110
Manganese	ug/L	1.00	46.8	50.0	93.5	90 - 110

Matrix Spike — Lab ID = 992132-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	232	250.(250.)	92.7	75 - 125
Manganese	ug/L	5.00	804	844(250.)	84.0	75 - 125

Matrix Spike Duplicate — Lab ID = 992132-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	227	250.(250.)	90.8	75 - 125
Manganese	ug/L	5.00	822	844(250.)	90.9	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.6	90 - 110
Manganese	ug/L	1.00	47.8	50.0	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	92.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.7	50.0	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.2	50.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.2	50.0	102	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.8	50.0	93.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	44.5	50.0	89.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	44.5	50.0	89.0	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 11TDS10F — 11/17/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992202-001 Total Dissolved Solids	mg/L	11/17/2010	1.00	0.434	250.	4510

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 992202-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4740	4510	4.97	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	488.	500.	97.6	90 - 110

Turbidity by SM 2130 B

Batch 11TUC10M — 11/17/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992202-001 Turbidity	NTU	11/17/2010	1.00	0.0140	0.100	0.108

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992202-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.109	0.108	0.922	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 11TDS10F

Date Calculated: 11/18/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	68.2299	68.2299	68.2299	0.0000	No	0.0000	0.0	25.0	ND	1
992184-2	200	102.8522	102.8701	102.87	0.0001	No	0.0178	89.0	12.5	89.0	1
992184-3	100	72.4766	72.4959	72.4955	0.0004	No	0.0189	189.0	25.0	189.0	1
992205-1	50	49.5030	49.5645	49.5642	0.0003	No	0.0612	1224.0	50.0	1224.0	1
992205-2	100	70.9031	70.9611	70.9611	0.0000	No	0.0580	580.0	25.0	580.0	1
992202	10	47.6390	47.6841	47.6841	0.0000	No	0.0451	4510.0	250.0	4510.0	1
992202D	10	50.4994	50.5472	50.5468	0.0004	No	0.0474	4740.0	250.0	4740.0	1
LCS	100	78.4065	78.4556	78.4553	0.0003	No	0.0488	488.0	25.0	488.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\ 0^{6}$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit

ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 11TDS10F

Date Calculated: 11/18/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992184-2	183	0.49	118.95	0.75
992184-3	359	0.53	233.35	0.81
992205-1	1844	0.66	1198.6	1.02
992205-2	986	0.59	640.9	0.90
992202	7500	0.60	4875	0.93
992202D	7500	0.63	4875	0.97

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-283] 992202

COC Number
TURNAROUND TIME 10 Days
DATE 11/16/10 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 408401.01.DM TEAM 1
SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-283	11/16/10	1300	Water	x	x	x	x	x	3	pH = 6 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Thom Phelps	OMI	11-16-10 15:29
Signature (Received) Rafael Davila	Rafael	T.L.I	11-16-10 15:30
Signature (Relinquished) Rafael Davila	Rafael	T.L.I	11-16-10 21:30
Signature (Received) Shakeemme	Lucio	TLI	11/16/10 21:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 4.1 °C °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/05/10	992033-9	9.5	N/A	N/A	N/A	SB
11/05/10	992034-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
11/05/10	992035	9.5	N/A	N/A	N/A	SB
11/10/10	992097	7.0	5.00	9.5	11:15	SB
11/12/10	992132-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
11/12/10	992133-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
11/12/10	992134-1	9.5	N/A	N/A	N/A	SB
11/17/10	992201-1	7.0	5.00	9.5	7:20	SB
	-2	7.0			7:30	
	-3	8.5			7:45	
	-4	7.0			11:30	
	-5	7.0			10:15	
	-6				10:00	
	-7				9:20	
	-8				9:45	
	-9				8:00	
	-10				10:30	
	-11				9:30	
	-12				12:15	
11/17/10	992202	7.0	5.00	9.5	10:30	SB
11/17/10	992205-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992374	<1	>2	11/24	ES	No	@ 3:01 p.m
992097	<1	>2	11/10	KK	No	@ 2:00 pm
992352 (1-6)	<1	>2	11/24	KK	NO	11/29 @ 7am
992355 (1-2)	<1	>2	11/24	KK	NO	11/29 @ 7am
992382 (1-3)	<1	>2	11/29	ES	NO	yes @ 3:00pm
992390 (1-3)	<1	>2	↓	↓	↓	↓
992355 (3-6)	<1	>2	12/01	KK	NO	yes @ 10 am
992351	<1	>2	11/29	KK	NO	yes @ 9 am
992422	<1	>2	12/01	KK	No	yes @ 10am
992416	<1	<2	12/2	ES	NO	↓
992433 (1-3)	<1	>2	↓	↓	↓	yes @ 10:30 a.m
992414	<1	<2	↓	↓	↓	—
992441 (1-2)	>1	<2	12/3	ES	yes	
992445 4	<1	<2	↓	↓	NO	—
992447	>1	<2	↓	↓	yes	
992450	>1	<2	↓	↓	yes	
992452	<1	<2	↓	↓	~~No~~ yes	—
Decon BLK	~~No~~ <1	>2	12/3/10	KK	NO	Y @ 2:30 pm
MB	~~No~~ <1	↓	↓	↓	↓	↓ ↓
992400 (3)	F	↓	↓	↓	↓	↓ ↓
992461	>1	<2	12/9	ES	yes	—
992462	>1	<2	↓	↓	Yes	—
992466	<1	<2	12/6	ES	No	—
992467	<1	>2	↓	↓	↓	@ 2:00 p.m
47X	<1	<2	↓	↓	↓	↓
992473 (1-3)	<1	>2	12/7	KK	No	@ 8:30 am
992480	<1	<2	↓	↓	↓	—
992482	<1	<2	↓	↓	↓	—
992486	<1	>2	12/7	ES	↓	@ 10:00 a.m
992502 (16,23)	<1	>2	↓	↓	↓	@ 3:00 p.m
992202	<1	>2	11/17	ES	↓	@ 10:00 a.m

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992202

Date Delivered: 11/16/10 **Time:** 21:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.1 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

ALERT!! Level III QC

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabreenia

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
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www.truesdail.com

December 10, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-284 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992351

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-284 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

The matrix spike for sample SC-700B-WDR-284 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike result was within acceptable limits and the results from the analysis at a 5x dilution matched those of the straight run, the result from the straight run is reported.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992351
Date: December 10, 2010
Collected: November 23, 2010
Received: November 23, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani / Iordan Stavrev
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992351
Date Received: November 23, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992351-001	SC-700B-WDR-284	E218.6	LABFLT	11/23/2010	14:25	Chromium, hexavalent	ND	ug/L	0.20
992351-001	SC-700B-WDR-284	E200.8	NONE	11/23/2010	14:25	Chromium	ND	ug/L	1.0
992351-001	SC-700B-WDR-284	E120.1	NONE	11/23/2010	14:25	EC	7590	umhos/cm	2.00
992351-001	SC-700B-WDR-284	E200.8	NONE	11/23/2010	14:25	Manganese	7.4	ug/L	1.0
992351-001	SC-700B-WDR-284	SM2540C	NONE	11/23/2010	14:25	Total Dissolved Solids	4600	mg/L	250
992351-001	SC-700B-WDR-284	SM2130B	NONE	11/23/2010	14:25	Turbidity	ND	NTU	0.100

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineeers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992351

Printed 12/10/2010

Samples Received on 11/23/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-284	992351-001	11/23/2010 14:25	Water

Specific Conductivity - EPA 120.1 Batch 11EC10F 11/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Specific Conductivity	umhos/cm	11/29/2010	1.00	0.0380	2.00	7590

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992355-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	4210	4200	0.238	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	702.	706.	99.4	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	999.	999.	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	999.	100	90 - 110

Chrome VI by EPA 218.6

Batch 11CrH10U

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Chromium, Hexavalent	ug/L	11/24/2010 09:19	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992352-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	11.1	10.7	3.71	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.13	5.00	103	90 - 110

Matrix Spike — Lab ID = 991892-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.40	7.37(5.30)	101	90 - 110

Matrix Spike — Lab ID = 991892-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.23	7.22(5.30)	100	90 - 110

Matrix Spike — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.87	5.51(5.25)	107	90 - 110

Matrix Spike — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.31	1.21(1.06)	109	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.09	5.00	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.87	10.0	98.7	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

Metals by EPA 200.8, Total

Batch 120310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Chromium	ug/L	12/03/2010 15:09	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 992352-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.3	50.0	107	90 - 110

Matrix Spike — Lab ID = 992352-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	260	250.(250.)	104	75 - 125

Matrix Spike Duplicate — Lab ID = 992352-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	259	250.(250.)	103	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.9	50.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.4	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.7	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.7	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.6	50.0	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.9	50.0	108	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.4	50.0	107	80 - 120

Metals by EPA 200.8, Total

Batch 120910A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Manganese	ug/L	12/09/2010 12:34	5.00	0.210	1.0	7.4

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	5.00	6.95	7.41	6.32	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	90 - 110

Matrix Spike — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	241	257(250.)	93.5	75 - 125

Matrix Spike Duplicate — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	243	257(250.)	94.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.5	50.0	96.9	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.4	50.0	98.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.0	50.0	100	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 11TDS10H 11/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Total Dissolved Solids	mg/L	11/29/2010	1.00	0.434	250.	4600

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 992278-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	193.	190.	1.57	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	499.	500.	99.8	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	501.	500.	100	90 - 110

Turbidity by SM 2130 B

Batch 11TUC10Q 11/24/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992351-001 Turbidity	NTU	11/24/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.75	8.00	96.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.83	8.00	97.9	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

7

EZ Seal

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 11TDS10H

Date Calculated: 11/29/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	67.7335	67.7344	67.7344	0.0000	No	0.0009	9.0	25.0	ND	1
992262	493	112.1803	112.1817	112.1816	0.0001	No	0.0013	2.6	5.1	ND	1
992272-1	100	69.8137	69.8584	69.8584	0.0000	No	0.0447	447.0	25.0	447.0	1
992272-2	100	74.7203	74.7481	74.748	0.0001	No	0.0277	277.0	25.0	277.0	1
992272-3	100	68.9843	69.0117	69.0113	0.0004	No	0.0270	270.0	25.0	270.0	1
992272-4	100	76.2213	76.2532	76.2528	0.0004	No	0.0315	315.0	25.0	315.0	1
992273-1	1000	92.1026	92.1046	92.1046	0.0000	No	0.0020	2.0	2.5	ND	1
992273-2	100	74.7655	74.7930	74.7926	0.0004	No	0.0271	271.0	25.0	271.0	1
992273-3	100	73.0306	73.0604	73.0604	0.0000	No	0.0298	298.0	25.0	298.0	1
992273-4	100	68.8928	68.9722	68.9722	0.0000	No	0.0794	794.0	25.0	794.0	1
992273-5	100	66.7231	66.8029	66.8025	0.0004	No	0.0794	794.0	25.0	794.0	1
992273-3D	100	75.1456	75.1767	75.1765	0.0002	No	0.0309	309.0	25.0	309.0	1
LCS	100	67.8127	67.8629	67.8626	0.0003	No	0.0499	499.0	25.0	499.0	1
992273-6	100	66.8264	66.8556	66.8556	0.0000	No	0.0292	292.0	25.0	292.0	1
992278-2	200	110.6547	110.6754	110.6754	0.0000	No	0.0207	103.5	12.5	103.5	1
992278-3	100	74.2590	74.2780	74.278	0.0000	No	0.0190	190.0	25.0	190.0	1
992351	10	51.5114	51.5576	51.5574	0.0002	No	0.0460	4600.0	250.0	4600.0	1
992355-7	20	73.8438	73.9064	73.906	0.0004	No	0.0622	3110.0	125.0	3110.0	1
992334	1000	103.7163	103.7258	103.7258	0.0000	No	0.0095	9.5	2.5	9.5	1
992079-3	1	49.3608	49.4443	49.4443	0.0000	No	0.0835	83500.0	2500.0	83500.0	1
992079-3	2	49.5553	49.7254	49.7254	0.0000	No	0.1701	85050.0	1250.0	85050.0	1
992079-4	1	51.1335	51.3023	51.3023	0.0000	No	0.1688	168800.0	2500.0	168800.0	1
992079-4	2	51.2617	51.5852	51.5851	0.0001	No	0.3234	161700.0	1250.0	161700.0	1
992278-3D	100	70.3226	70.3419	70.3419	0.0000	No	0.0193	193.0	25.0	193.0	1
LCS	100	69.5108	69.5609	69.5609	0.0000	No	0.0501	501.0	25.0	501.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 11TDS10H

Date Calculated: 11/29/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992262	9.61	ND	6.2465	ND
992272-1	712	0.63	462.8	0.97
992272-2	451	0.61	293.15	0.94
992272-3	437	0.62	284.05	0.95
992272-4	414	0.76	269.1	1.17
992273-1	1.3	ND	0.845	ND
992273-2	445	0.61	289.25	0.94
992273-3	384	0.78	249.6	1.19
992273-4	384	2.07	249.6	3.18
992273-5	384	2.07	249.6	3.18
992273-3D	384	0.80	249.6	1.24
LCS				
992273-6	462	0.63	300.3	0.97
992278-2	174	0.59	113.1	0.92
992278-3	359	0.53	233.35	0.81
992351	7540	0.61	4901	0.94
992355-7	4360	0.71	2834	1.10
992334	16.7	0.57	10.855	0.88
992079-3				
992079-3				
992079-4				
992079-4				
992278-3D	359	0.54	233.35	0.83

992 351 Rec'd 11/23/10 992351

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-284]

COC Number

TURNAROUND TIME 10 Days

DATE 11/23/10 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 408401.01.DM TEAM 1

SAMPLERS (SIGNATURE O.Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-284	11/23/10	14:25	Water	x	x	x	x	x	3	pH - 7 (200.7)
									TOTAL NUMBER OF CONTAINERS	

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) P.Knight	C.KNIGHT	OMI	11/23/10 14:40
Signature (Received) Rafael Davila	Rafael	T.T.I	11-23-10 15:00
Signature (Relinquished) Rafael Davila	Rafael	T.T.I	11-23-10 21:30
Signature (Received)	Amir Merivan	TTI	11.23.10 21:30
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

040

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/19/10	992252	9.5	N/A	N/A	N/A	SB
11/24/10	992351	7.0	5.0 mL	9.5	8:30	ali
11/24/10	992352-1	7.0	5.0mL	9.5	8:40	ali
	-2				8:42	
	-3				8:43	
	-4				8:44	
	-5				8:46	
	-6				8:48	
11/24/10	992355-1	7.0	5.0ml	9.5	10:10	ali
	-2				10:12	
	-3				10:15	
	-4				10:17	
	-5				10:20	
	-6				10:23	

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992374	<1	>2	11/24	ES	No	@ 3:00 p.m
992097	<1	↓2	11/10	KK	No	@2:00pm
992352 (1-6)	<1	>2	11/24	KK	NO	11/29@7am
992355 (1-2)	<1	>2	11/24	KK	NO	11/29 @7Am
992382 (1-3)	<1	>2	11/29	ES	No	Yes @ 3:00pm
992390 (1-3)	<1	>2	↓	↓	↓	↓
992355 (3-6)	<1	>2	12/01	KK	NO	yes@10am
992351	<1	>2	11/29	KK	NO	yes@9am
992422	<1	>2	12/01	KK	No	yes@10am
992416	<1	<2	12/2	ES	No	—
992433 (1-3)	<1	>2	↓	↓	↓	yes @ 10:30 a.m
992434	<1	<2	↓	↓	↓	—
992441 (1-2)	>1	<2	12/3	ES	yes	
992445.4	<1	<2	|	|	No	—
992447	>1	<2	|	|	yes	
992450	>1	<2	|	|	Yes	
992452	<1	<2	|	|	~~No~~ yes	—
Decon BLK	~~No~~ <1	>2	12/3/10	ES	NO	Y @ 2:30pm
MB	~~No~~ <1	↓	↓	↓	↓	↓ ↓
992460 (3)	F	↓	↓	↓	↓	↓
992461	>1	<2	12/3	ES	yes	—
992462	>1	<2	↓	↓	Yes	—
992466	<1	<2	12/6	ES	No	—
992467	<1	>2	|	|	|	@2:00 p.m
47X	<1	<2	|	|		
992473 (1-3)	<1	>2	12/7	KK	No	@8:30 am
992480	<1	<2	|	|	|	—
992482	<1	<2	↓	|	|	—
992486	<1	>2	12/7	ES	|	@ 10:00 a.m
992502 (16,23)	<1	>2	↓	↓	|	@3:00 p.m
992202	<1	>2	11/17	ES	↓	@ 10:00 a.m
992506	<1	<2	12/8	KK	No	—
992507	<1	<2	|	|	|	—
992508	<1	<2	|	|	|	
992509	<1	<2	|	|	|	—
992510	<1	<2	↓	↓	↓	—
992524 (1-2)	<1	>2	12/8	KK	No	@8:30 am
992525 (1-3)	<1	>2	|	|	|	@8:30 am
992351	<1	↓2	~~12/8~~ 11/29	KK	No	@8:30 am
992523	SLUDGE		12/8/10	ES	yes	TTLC
992535	>1	<2	|	|	Yes	—
992528	<1	<2	12/8/10	ES	NV	—
992539 (1-3)	<1	>2	12/9/10	ES	NO	@ 11:00 a.m
992540	<1	<2	|	|	|	—
541	|	|	|	|	|	—
542	|	|	|	|	|	—
543	|	|	|	|	|	—
544	|	|	|	|	|	—
545	↓	↓	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992351

Date Delivered: 11/23/10 **Time:** 21:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.3° C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑Truesdail ☐Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C-O.C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

December 13, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-285 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992422

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-285 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

The sample and sample duplicate results for sample SC-700B-WDR-285 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike was within acceptable limits and the results from the analysis at a 5x dilution matched those of the straight run, the result from the straight run is reported.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992422
Date: December 13, 2010
Collected: November 30, 2010
Received: November 30, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992422
Date Received: November 30, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992422-001	SC-700B-WDR-285	E120.1	NONE	11/30/2010	14:12	EC	7310	umhos/cm	2.00
992422-001	SC-700B-WDR-285	E200.8	NONE	11/30/2010	14:12	Chromium	ND	ug/L	1.0
992422-001	SC-700B-WDR-285	E200.8	NONE	11/30/2010	14:12	Manganese	2.1	ug/L	1.0
992422-001	SC-700B-WDR-285	E218.6	LABFLT	11/30/2010	14:12	Chromium, hexavalent	0.31	ug/L	0.20
992422-001	SC-700B-WDR-285	SM2130B	NONE	11/30/2010	14:12	Turbidity	0.102	NTU	0.100
992422-001	SC-700B-WDR-285	SM2540C	NONE	11/30/2010	14:12	Total Dissolved Solids	4390	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992422

Printed 12/14/2010

Samples Received on 11/30/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-285	992422-001	11/30/2010 14:12	Water

Specific Conductivity - EPA 120.1 Batch 12EC10A 12/6/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Specific Conductivity	umhos/cm	12/06/2010	1.00	0.0380	2.00	7310

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7360	7310	0.682	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703.	706.	99.6	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	698.	706.	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	999.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Chromium, Hexavalent	ug/L	12/01/2010 10:46	1.05	0.0210	0.20	0.31

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.301	0.309	2.62	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.81	5.00	96.1	90 - 110

Matrix Spike — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.70	5.68(5.25)	100	90 - 110

Matrix Spike — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.37	1.37(1.06)	100.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.25	5.00	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.55	10.0	95.5	95 - 105

Metals by EPA 200.8, Total

Batch 120910A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Manganese	ug/L	12/09/2010 13:08	5.00	0.210	1.0	2.1

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	5.00	6.95	7.41	6.32	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	90 - 110

Matrix Spike — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	241	257(250.)	93.5	75 - 125

Matrix Spike Duplicate — Lab ID = 992351-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	243	257(250.)	94.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.5	50.0	96.9	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.4	50.0	98.8	80 - 120

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.0	50.0	100	80 - 120

Metals by EPA 200.8, Total

Batch 120710A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Chromium	ug/L	12/07/2010 11:09	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.6	50.0	107	90 - 110

Matrix Spike — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	212	250.(250.)	84.8	75 - 125

Matrix Spike Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	219	250.(250.)	87.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	54.4	50.0	109	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.4	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.2	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.2	50.0	102	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	55.3	50.0	111	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	55.1	50.0	110	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 12TDS10A 12/2/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Total Dissolved Solids	mg/L	12/02/2010	1.00	0.434	250.	4390

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4380	4390	0.228	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	499.	500.	99.8	90 - 110

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Turbidity by SM 2130 B Batch 12TUC10A 12/1/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992422-001 Turbidity	NTU	12/01/2010	1.00	0.0140	0.100	0.102

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992422-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.103	0.102	0.976	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.17	8.00	102	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.03	8.00	100	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

E2 - Seam

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS10A

Date Calculated: 12/6/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	68.8091	68.8091	68.8091	0.0000	No	0.0000	0.0	25.0	ND	1
992390-2	200	103.4226	103.4403	103.4403	0.0000	No	0.0177	88.5	12.5	88.5	1
992390-3	100	76.5669	76.5866	76.5866	0.0000	No	0.0197	197.0	25.0	197.0	1
992422	10	74.7476	74.7919	74.7915	0.0004	No	0.0439	4390.0	250.0	4390.0	1
992422D	10	48.1851	48.2289	48.2289	0.0000	No	0.0438	4380.0	250.0	4380.0	1
LCS	100	104.2455	104.2954	104.2954	0.0000	No	0.0499	499.0	25.0	499.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

WetChem Tds_0810

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS10A

Date Calculated: 12/6/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992390-2	182	0.49	118.3	0.75
992390-3	373	0.53	242.45	0.81
992422	7400	0.59	4810	0.91
992422D	7400	0.59	4810	0.91

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(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-285] 992422

COC Number

TURNAROUND TIME 10 Days

DATE 11/30/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	C.Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-285	11/30/10	14:12	Water	X	X	X	X	X	3	DM = 6 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

Rec'd 11/30/10
sl 992422

For Sample Condition
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	C.Knight	CKNIGHT	OMI	11/30/10 15:45
Received	Chris Kent	CHRIS LEGUE	OMI	11-30-10 15:45
Relinquished	Chris Kent	CHRIS LEGUE	OMI	11-30-10 16:00
Received	Rafael Davila	Rafael	T-L-I	11-30-10 16:08
Relinquished	Rafael Davila	Rafael	T-L-I	11-30-10 21:30
Received	L. Shabunina	Shabunina	TLI	NOV 30 2010 21:30

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 4.1°C °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

036

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/19/10	992252	9.5	N/A	N/A	N/A	SB
11/24/10	992351	7.0	5.0 mL	9.5	8:30	ab
11/24/10	992352-1	7.0	5.0mL	9.5	8:40	ab
	-2				8:42	
	-3				8:43	
	-4				8:44	
	-5				8:46	
	-6				8:48	
11/24/10	992355-1	7.0	5.0mL	9.5	10:10	ab
	-2				10:12	
	-3				10:15	
	-4				10:17	
	-5				10:20	
	-6				10:23	
12/01/10	992422	7.0	5.00	9.5	9:30	SB

ab

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992374	<1	>2	11/24	ES	No	@ 3:17 p.m
992097	<1	<2	11/10	KK	No	@ 2:00pm
992352 (1-6)	<1	>2	11/24	KK	NO	11/29 @ 7am
992355 (1-2)	<1	>2	11/24	KK	NO	11/29 @ 7Am
992382 (1-3)	<1	>2	11/29	ES	NO	Yes @ 3:00pm
992390 (1-3)	<1	>2	↓	↓	↓	↓
992355 (3-6)	<1	>2	11/01	KK	No	yes @ 10 am
992351	<1	>2	11/29	KK	NO	yes @ 9 am
992422	<1	>2	12/01	KK	No	yes @ 10am
992416	<1	<2	12/2	ES	No	—
992433 (1-3)	<1	>2	↓	↓	↓	yes @ 10:30 a.m
992414	<1	<2	↓	↓	↓	—
992441 (1-2)	>1	<2	12/3	ES	yes	
992445	<1	<2	|	|	NO	—
992447	>1	<2	|	|	Yes	
992450	>1	<2	|	|	Yes	
992452	<1	<2	|	|	~~No~~ yes	—
Decon BLK	~~No~~ <1	>2	12/3/10	~~No~~	NO	Y @ 2:30pm
MB	~~No~~ <1	↓	↓	↓	↓	↓ ↓
992400 (3)	F	↓	↓	↓	↓	—
992461	>1	<2	12/9	ES	Yes	—
992462	>1	<2	↓	↓	Yes	—
992466	<1	<2	12/6	ES	No	—
992467	<1	>2	|	|	|	@ 2:00 pm
478	<1	<2	|	|	|	
992473 (1-3)	<1	>2	12/7	KK	No	@ 8:30 am
992480	<1	<2	|	|	|	—
992482	<1	<2	↓	↓	↓	—
992486	<1	>2	12/7	ES	|	@ 10:00 a.m
992502 (16,23)	<1	>2	↓	↓	|	@ 3:00 p.m
992202	<1	>2	11/17	ES	↓	@ 10:00 a.m
992506	<1	<2	12/8	KK	No	—
992507	<1	<2	|	|	|	—
992508	<1	<2	|	|	|	—
992509	<1	<2	|	|	|	—
992510	<1	<2	↓	↓	↓	—
992524 (1-2)	<1	>2	12/8	KK	No	@ 8:30 am
992525 (1-3)	<1	>2	|	|	|	@ 8:30 am
992351	<1	<2	~~12/8~~ 11/29	KK	No	@ 8:30 am
992523	SLUDGE		12/8/10	ES	Yes	TTLC
992535	>1	<2	|	|	Yes NV	—
992528	<1	<2	12/8/10	ES	|	—
992539 (1-3)	<1	>2	12/9/10	ES	NO	@ 11:00 a.m
992540	<1	<2	|	|	|	—
541	|	|	|	|	|	—
542	|	|	|	|	|	—
543	|	|	|	|	|	—
544	|	|	|	|	|	—
545	↓	↓	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992422

Date Delivered: 11/30/10 **Time:** 2:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.1 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabnina

ALERT !!
Level III QC

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-100B	11-3-10	12:15	~~12:31~~ 11-3-10	1231	METER #1	11-3-10	0930	-55.4	Tim D	7.3
	Notes:										
2	SC-700B	11-9-10	1200	11-9-10	1206	METER #1	11-9-10	4:30	-55.5	Ron P.	7.1
	Notes.										
3	SC-700B	11-16-10	1300	11-16-10	1204	METER #1	11-16-10	4:30	-55.4	Tim D	7.1
	Notes:										
4	SC-700-B	11-23-10	14:25	11-23-10	14:29	METER #1	11-23-10	04:30	-56.3	C. Knight ~~Tim Dennon~~	7.4
	Notes:										
5	SC-700 B	11-30-10	14:12	11-30-10	14:17	METER #1	11-30-10	04:30	-54.2	C. Knight	7.3
	Notes:										
6											
	Notes:										
7											
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

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www.truesdail.com

January 5, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-286 PROJECT, SLUDGE MONITORING,

TLI NO.: 992523

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-286 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 December 7, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

All final results and associated dilution factors are reported on a dry weight basis.

The recovery for the digested matrix spike for Total Chromium, Beryllium, and Mercury were outside the acceptance limits. A post-digestion spike was analyzed for each and the recoveries were within acceptable limits.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.
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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992523
Date: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Ethel Suico
SW 6020	Metals by ICP/MS	Katia Kiarashpoor / Hope Trinidad
SW 7199	Hexavalent Chromium	Sonya Bersudsky

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992523
Date Received: December 7, 2010

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	SW 7199 *Hexavalent Chromium* mg/kg	EPA 300.0 *Fluoride* mg/kg	SM 2540 B *% Moisture* %
992523	SC-Sludge-WDR-286	13:30	56.5	32.3	56.5

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

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

005

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992523
Date Received: December 7, 2010

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	Date of Analysis: Time Coll.	Antimony SW 6010B 12/22/10 mg/kg	Arsenic SW 6010B 12/22/10 mg/kg	Barium SW 6010B 12/22/10 mg/kg	Beryllium SW 6010B 12/22/10 mg/kg	Cadmium SW 6010B 12/22/10 mg/kg	Chromium SW 6010B 12/16/10 mg/kg	Cobalt SW 6010B 12/22/10 mg/kg	Copper SW 6010B 12/22/10 mg/kg	Lead SW 6010B 12/22/10 mg/kg
992523	SC-Sludge-WDR-286	13:30	45.4	10.7	58.2	1.62	ND	4670	7.11	28.9	4.20

Lab I.D.	Sample ID	Date of Analysis: Time Coll.	Mercury SW 6020 12/21/10 mg/kg	Molybdenum SW 6010B 12/22/10 mg/kg	Nickel SW 6010B 12/22/10 mg/kg	Selenium SW 6010B 12/22/10 mg/kg	Silver SW 6010B 12/22/10 mg/kg	Thallium SW 6010B 12/22/10 mg/kg	Vanadium SW 6010B 12/22/10 mg/kg	Zinc SW 6010B 12/22/10 mg/kg
992523	SC-Sludge-WDR-286	13:30	ND	8.31	21.2	ND	4.51	2.32	117	32.2

NOTES:
ND: Not detected, or below limit of detection

900

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM
Prep. Batch: 12CrH10I

Laboratory No.: 992523
Date: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010
Prep/ Analyzed: December 16, 2010
Analytical Batch: 12CrH10I

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
992523	SC-Sludge-WDR-286	13:30	15:25	mg/kg	5.00	4.59	56.5

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992523	56.5	57.5	1.76%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	992523	56.5	10.0	18.4	184	234	240	96.4%	75-125%	Yes
IMS	992523	56.5	50.0	41.9	2095	1990	2151	92.3%	75-125%	Yes
PDMS	992523	56.5	25.0	14.7	367	427	424	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	---	<0.400	Yes
MRCCS	1.94	2.00	97.0%	90% - 110%	Yes
MRCVS#1	1.96	2.00	98.1%	90% - 110%	Yes
MRCVS#2	1.93	2.00	96.6%	90% - 110%	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 Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992523
Date: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010
Prep/ Analyzed: December 9, 2011
Analytical Batch: 12SOLID10B

Investigation: **Total Solids by SM 2540 B**

Analytical Results % Moisture

TLI I.D.	Field I.D.	Sample Time	Units	Results
992523	SC-Sludge-WDR-286	13:30	%	56.5

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992523	56.5	57.8	2.31%	≤ 20%	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

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

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992523
Date: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010
Prep/ Analyzed: December 9, 2011
Analytical Batch: 12AN10D

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
992523	SC-Sludge-WDR-286	13:30	12:25	mg/kg	1.00	4.59	32.3

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992531-5	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	992531-5	0.411	1.00	2.00	2.00	2.22	2.41	90.5%	85-115%	Yes
MSD	992531-5	0.411	1.00	2.00	2.00	2.21	2.41	90.1%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.14	4.00	104%	90% - 110%	Yes
MRCVS#1	3.20	3.00	107%	90% - 110%	Yes
MRCVS#2	3.14	3.00	105%	90% - 110%	Yes
LCS	4.16	4.00	104%	90% - 110%	Yes

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

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REPORT

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

Attention: Shawn Duffy

Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM
Investigation: Total Metal Analyses as Requested

Laboratory No.: 992523
Reported: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-Sludge-WDR-286 **Time Collected:** 13:30 **LAB ID:** 992523

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6010B	45.4	1.00	mg/kg	2.00	122210A-Th	12/22/10	16:34
Arsenic	SW 6010B	10.7	1.00	mg/kg	0.988	122210A-Th	12/22/10	16:34
Barium	SW 6010B	58.2	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Beryllium	SW 6010B	1.62	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Cadmium	SW 6010B	ND	1.00	mg/kg	0.988	122210A-Th	12/22/10	16:34
Chromium	SW 6010B	4670	20.0	mg/kg	20.7	121610A-Th	12/16/10	17:55
Cobalt	SW 6010B	7.11	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Copper	SW 6010B	28.9	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Lead	SW 6010B	4.20	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Mercury	SW 6020	ND	10.0	mg/kg	0.198	122110A-Hg	12/21/10	17:00
Molybdenum	SW 6010B	8.31	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Nickel	SW 6010B	21.2	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Selenium	SW 6010B	ND	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Silver	SW 6010B	4.51	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Thallium	SW 6010B	2.32	1.00	mg/kg	2.00	122210A-Th	12/22/10	16:34
Vanadium	SW 6010B	117	1.00	mg/kg	1.00	122210A-Th	12/22/10	16:34
Zinc	SW 6010B	32.2	1.00	mg/kg	2.00	122210A-Th	12/22/10	16:34

NOTES:

Sample results and reporting limits reported on a dry weight basis.
ND: Not detected,or below limit of detection.
DF: Dilution factor.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992523
Reported: January 5, 2011
Collected: December 7, 2010
Received: December 7, 2010

Quality Control/Quality Assurance Report

				DIGESTED BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Antimony	SW 6010B	122210A-Th	mg/kg	ND	2.00	4.69	5.00	93.8%	90-110%	4.95	5.00	98.9%	90-110%
Arsenic	SW 6010B	122210A-Th	mg/kg	ND	0.500	4.63	5.00	92.5%	90-110%	4.94	5.00	98.8%	90-110%
Barium	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.94	5.00	98.8%	90-110%	4.70	5.00	93.9%	90-110%
Beryllium	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.87	5.00	97.5%	90-110%	4.50	5.00	90.0%	90-110%
Cadmium	SW 6010B	122210A-Th	mg/kg	ND	0.500	5.10	5.00	102%	90-110%	5.05	5.00	101%	90-110%
Chromium	SW 6010B	121610A-Th	mg/kg	ND	1.00	4.89	5.00	97.8%	90-110%	4.97	5.00	99.4%	90-110%
Cobalt	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.98	5.00	99.6%	90-110%	4.94	5.00	98.7%	90-110%
Copper	SW 6010B	122210A-Th	mg/kg	ND	1.00	5.05	5.00	101%	90-110%	4.92	5.00	98.4%	90-110%
Lead	SW 6010B	122210A-Th	mg/kg	ND	1.00	5.01	5.00	100%	90-110%	4.95	5.00	98.9%	90-110%
Mercury	SW 6020	122110A-Hg	mg/kg	ND	0.100	0.00204	0.00200	102%	90-110%	0.00210	0.00200	105%	90-110%
Molybdenum	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.55	5.00	90.9%	90-110%	4.87	5.00	97.3%	90-110%
Nickel	SW 6010B	122210A-Th	mg/kg	ND	1.00	5.04	5.00	101%	90-110%	4.83	5.00	96.7%	90-110%
Selenium	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.59	5.00	91.9%	90-110%	4.90	5.00	98.0%	90-110%
Silver	SW 6010B	122210A-Th	mg/kg	ND	1.00	5.14	5.00	103%	90-110%	5.00	5.00	99.9%	90-110%
Thallium	SW 6010B	122210A-Th	mg/kg	ND	2.00	5.10	5.00	102%	90-110%	5.08	5.00	102%	90-110%
Vanadium	SW 6010B	122210A-Th	mg/kg	ND	1.00	4.99	5.00	99.7%	90-110%	4.94	5.00	98.8%	90-110%
Zinc	SW 6010B	122210A-Th	mg/kg	ND	2.00	5.01	5.00	100%	90-110%	4.93	5.00	98.6%	90-110%

INTERFERENCE CHECK STANDARD AB

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Arsenic	SW 6010B	mg/kg	1.90	2.00	95.2%	80-120%
Cadmium	SW 6010B	mg/kg	2.05	2.00	103%	80-120%
Chromium	SW 6010B	mg/kg	1.95	2.00	97.7%	80-120%
Cobalt	SW 6010B	mg/kg	2.04	2.00	102%	80-120%
Copper	SW 6010B	mg/kg	2.03	2.00	102%	80-120%
Mercury	SW 6020	mg/kg	0.00182	0.00200	90.9%	80-120%
Nickel	SW 6010B	mg/kg	2.05	2.00	102%	80-120%
Silver	SW 6010B	mg/kg	2.03	2.00	102%	80-120%
Zinc	SW 6010B	mg/kg	2.07	2.00	104%	80-120%

LABORATORY CONTROL SAMPLES / SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Antimony	SW 6010B	mg/kg	98.4	100	98.4%	85-115%	992523	45.4	47.2	3.87%	≤20
Arsenic	SW 6010B	mg/kg	97.3	100	97.3%	85-115%	992523	10.7	11.4	5.51%	≤20
Barium	SW 6010B	mg/kg	100	100	100%	85-115%	992523	58.2	63.7	8.97%	≤20
Beryllium	SW 6010B	mg/kg	103	100	103%	85-115%	992523	1.62	1.70	4.55%	≤20
Cadmium	SW 6010B	mg/kg	106	100	106%	85-115%	992523	ND	ND	0.00%	≤20
Chromium	SW 6010B	mg/kg	104	100	104%	85-115%	992523	4670	4770	2.12%	≤20
Cobalt	SW 6010B	mg/kg	104	100	104%	85-115%	992523	7.11	7.51	5.50%	≤20
Copper	SW 6010B	mg/kg	104	100	104%	85-115%	992523	28.9	30.4	5.19%	≤20
Lead	SW 6010B	mg/kg	99.4	100	99.4%	85-115%	992523	4.20	4.54	7.68%	≤20
Mercury	SW 6020	mg/kg	0.107	0.100	107%	85-115%	992523	ND	ND	0.00%	≤20
Molybdenum	SW 6010B	mg/kg	95.9	100	95.9%	85-115%	992523	8.31	8.78	5.46%	≤20
Nickel	SW 6010B	mg/kg	102	100	102%	85-115%	992523	21.2	22.8	7.22%	≤20
Selenium	SW 6010B	mg/kg	95.7	100	95.7%	85-115%	992523	ND	ND	0.00%	≤20
Silver	SW 6010B	mg/kg	109	100	109%	85-115%	992523	4.51	4.73	4.82%	≤20
Thallium	SW 6010B	mg/kg	109	100	109%	85-115%	992523	2.32	2.49	7.15%	≤20
Vanadium	SW 6010B	mg/kg	103	100	103%	85-115%	992523	117	124	5.95%	≤20
Zinc	SW 6010B	mg/kg	102	100	102%	85-115%	992523	32.2	32.4	0.57%	≤20

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
992523	Antimony	SW 6010B	mg/kg	45.4	1.00	217	217	263	262	99.6%	75-125%
992523	Arsenic	SW 6010B	mg/kg	10.7	1.00	217	217	228	259	114%	75-125%
992523	Barium	SW 6010B	mg/kg	58.2	1.00	217	217	276	287	105%	75-125%
992523	Beryllium	SW 6010B	mg/kg	1.62	1.00	198	198	199	221	111%	75-125%
992523	Cadmium	SW 6010B	mg/kg	0.00	1.00	217	217	217	220	101%	75-125%
992523	Chromium	SW 6010B	mg/kg	4670	20.0	198	3952	8622	8670	101%	75-125%
992523	Cobalt	SW 6010B	mg/kg	7.11	1.00	217	217	225	224	99.6%	75-125%
992523	Copper	SW 6010B	mg/kg	28.9	1.00	217	217	246	268	110%	75-125%
992523	Lead	SW 6010B	mg/kg	4.20	1.00	217	217	222	193	86.8%	75-125%
992523	Mercury	SW 6020	mg/kg	0.156	10.0	0.198	1.98	2.13	2.49	118%	75-125%
992523	Molybdenum	SW 6010B	mg/kg	8.31	1.00	217	217	226	234	104%	75-125%
992523	Nickel	SW 6010B	mg/kg	21.2	1.00	217	217	239	233	97.5%	75-125%
992523	Selenium	SW 6010B	mg/kg	0.00	1.00	217	217	217	201	92.5%	75-125%
992523	Silver	SW 6010B	mg/kg	4.51	1.00	217	217	222	237	107%	75-125%
992523	Thallium	SW 6010B	mg/kg	2.32	1.00	217	217	220	187	84.9%	75-125%
992523	Vanadium	SW 6010B	mg/kg	117	1.00	217	217	334	357	110%	75-125%
992523	Zinc	SW 6010B	mg/kg	32.2	1.00	217	217	250	271	110%	75-125%

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

Respectfully submitted,
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Dry Weight Calculations

Date Calculated: 1/5/2011

	Sample Result Wet Weight mg/kg	Dilution Factor	% Moisture %	Sample Result Dry* Weight mg/kg	Reported Value mg/kg	Reporting Limit Wet Weight mg/kg	Reporting Limit Dry Weight mg/kg
Fluoride	14.057	---	56.5	32.2853	32.3	2.00	4.59
Hexavalent Chromium	24.5877	---	56.5	56.4715	56.5	2.00	4.59
Hexavalent Chromium - Dup	25.0243	---	56.5	57.4742	57.5	2.00	4.59
Hexavalent Chromium - MS	101.6967	---	56.5	233.571	234	4.00	9.19
Hexavalent Chromium - IMS	867.863	---	56.5	1993.256	1990	20.0	45.9
Hexavalent Chromium - PDMS	185.8161	---	56.5	426.771	427	10.0	23.0
Antimony	19.77	1.00	56.5	45.4065	45.4	0.430	2.00
Arsenic	4.678	1.00	56.5	10.7441	10.7	0.430	0.988
Barium	25.34	1.00	56.5	58.1994	58.2	0.430	1.00
Beryllium	0.7067	1.00	56.5	1.6231	1.62	0.430	1.00
Cadmium	ND	1.00	56.5	ND	ND	0.430	0.988
Chromium	2032	20.0	56.5	4666.97	4670	9.02	20.7
Cobalt	3.097	1.00	56.5	7.1130	7.11	0.430	1.00
Copper	12.58	1.00	56.5	28.8930	28.9	0.430	1.00
Lead	1.829	1.00	56.5	4.2007	4.20	0.430	1.00
Mercury	0.06781	10.0	56.5	0.15574	ND	0.0860	0.198
Molybdenum	3.619	1.00	56.5	8.3119	8.31	0.430	1.00
Nickel	9.236	1.00	56.5	21.2127	21.2	0.430	1.00
Selenium	ND	1.00	56.5	ND	ND	0.430	1.00
Silver	1.964	1.00	56.5	4.5108	4.51	0.430	1.00
Thallium	1.011	1.00	56.5	2.3220	2.32	0.430	2.00
Vanadium	50.91	1.00	56.5	116.927	117	0.430	1.00
Zinc	14.03	1.00	56.5	32.2232	32.2	0.430	2.00

Sample Result in Dry Weight = [$Sample_{ww}$ / (100-%Moisture)]*100

where:
$Sample_{ww}$ = Sample result in wet weight

E2 - Sean

TRUESDAIL LABORATORIES, INC.

TOTAL SOLIDS BY SM 2540 B

Date of Analysis: 12/09/10

Analytical Batch: 12SOLID10B
Oven Temp, °C: 105

Lab No.	Dish Number	Weight of dish, g	Wt of wet sample, g	Wt of wet sample+ dish, g	Wt of dried residue+dish,g	Wt of dried residue, g	% Total Solids	% Moisture
992523	1	1.3122	2.0503	3.3625	2.2049	0.8927	43.540	56.460
992523D	2	1.3173	2.0042	3.3215	2.1635	0.8462	42.221	57.779

Relative Percent Difference			
Sample ID	Sample	Sample Dup	RPD
992523	56.460	57.779	2.3

$$\% \text{ Total Solids} = \frac{(A - B) * 100}{C - B} = \frac{\text{Weight of dried residue} \times 100}{\text{Weight of wet sample}}$$

Where:
A = Weight of dried Residue + Dish, g
B = Weight of dish, g
C = Weight of wet sample + Dish, g

G. Savani
Analyst Name

Analyst Signature

Reviewer Name

Reviewer Signature

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

992523 [IM3plant-WDR-286]

TURNAROUND TIME 10 Days
DATE 12/07/10 PAGE 1 OF 1

COMPANY CH2M HILL
PROJECT NAME PG&E Topock IM3
PHONE 530-229-3303 FAX 530-339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 392895.AA.DM
SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Anions (300.0) F	Bioassay 96hr Acute	Metals (6010B) Title 22, (includes Mercury)	Cr6 (7199)	NUMBER OF CONTAINERS	COMMENTS
SC-Sludge-WDR-286	12/07/10	1330	Sludge	X		X	X	4	
								4	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished		Ben Helps	OMI	12-7-10 15:30
Received	Rafael Davila	Rafael	T.L.I	12-7-10 15:30
Relinquished	Rafael Davila	Rafael	T.L.I	12-7-10 21:30
Received	Shabnam Nabavi	Nabavi	TLI	12/7/10 21:30
Relinquished				
Received				

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 4.5°C °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

041

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992394	<1	>2	11/24	ES	No	@ 3:15 p.m
992097	<1	>2	11/10	KK	No	@ 2:00 pm
992352 (1-6)	<1	>2	11/24	KK	ND	11/29 @ 7am
992355 (1-2)	<1	>2	11/24	KK	NO	11/29 @ 7am
992382 (1-3)	<1	>2	11/29	ES	No	yes @ 3:10pm
992390 (1-3)	<1	>2	↓	↓	↓	↓
992355 (3-6)	<1	>2	12/01	KK	NO	yes @ 10 am
992351	<1	>2	11/29	KK	NO	yes @ 9 am
992422	<1	>2	12/01	KK	No	yes @ 10am
992416	<1	<2	12/2	ES	No	—
992433 (1-3)	<1	>2	↓	↓	↓	yes @ 10:30 a.m
992414	<1	<2				—
992441 (1-2)	>1	<2	12/3	ES	yes	
992445.4	<1	<2			No	—
992447	>1	<2			Yes	
992450	>1	<2			Yes	
992452	<1	<2			~~No~~ yes	—
Decon BLK	~~No~~ <1	>2	12/3/10	KK	No	Y @ 2:30pm
MB	~~No~~ <1	↓	↓	↓	↓	↓ ↓
992460 (3)	F					
992461	>1	<2	12/3	ES	yes	—
992462	>1	<2	↓	↓	Yes	—
992466	<1	<2	12/6	ES	No	—
992467	<1	>2				@ 2:00 p.m
478	<1	<2				
992473 (1-3)	<1	>2	12/7	KK	No	@ 8:30 am
992480	<1	<2	↓	↓	↓	—
992482	<1	<2				—
992486	<1	>2	12/7	ES		@ 10:10 a.m
992502 (16,23)	<1	>2	↓	↓		@ 3:00 p.m
992202	<1	>2	11/17	ES		@ 10:00 a.m
992506	<1	<2	12/8	KK	No	—
992507	<1	<2				—
992508	<1	<2				—
992509	<1	<2				—
992510	<1	<2				—
992524 (1-2)	<1	>2	12/8	KK	No	@ 8:30 am
992525 (1-3)	<1	>2				@ 8:30 am
992351	<1	>2	~~12~~/8 11/29	KK	No	@ 8:30 am
992523	SLUDGE		12/8/10	ES	Yes	TTLC
992527	>1	<2			Yes	—
992528	<1	<2	12/8/10	ES	NO	—
992539 (1-3)	<1	>2	12/9/10	ES	NO	@ 11:00 a.m
992540	<1	<2				—
541						—
542						—
543						—
544						—
545	↓	↓	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: CH2M Hill **Lab #** 992523

Date Delivered: 12/07/10 **Time:** 21:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.5°C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☑N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☑N/A
12.	Were samples pH checked? pH = _____	☐Yes	☐No	☑N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑ Std	☑Yes	☐No	☐N/A

ALERT !! Level III QC

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☑Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☐Other _____

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabunina

TRUESDAIL LABORATORIES, INC.

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14201 FRANKLIN AVENUE
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www.truesdail.com

January 4, 2011

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-286 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 992525

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-286 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 December 7, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Mr. Shawn Duffy of CH2M Hill requested the analysis for pH by SM 4500-H B on the three samples listed on the chain of custody.

The matrix spike for sample SC-700B-WDR-286 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the result from the 5x dilution agrees with that of the straight run, the data from the straight run is reported.

The Total Dissolved Solids by SM 2540 C ratio of measured TDS to calculated TDS for sample SC-701-WDR-286 exceeds the recommended limit of 1.3. The sample was analyzed using two different sample volumes (2.5 mL and 2 mL) and the results of the two have a relative percent difference of less than 5 percent. Therefore, the data is accepted and the result from the analysis using 2.5 mL of sample 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

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

TRUESDAIL LABORATORIES, INC.

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

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992525
Date: January 4, 2011
Collected: December 7, 2010
Received: December 7, 2010

ANALYST LIST

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

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992525
Date Received: December 7, 2010
Revision 1; January 8, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992525-001	SC-700B-WDR-286	E120.1	NONE	12/7/2010	13:30	EC	7500	umhos/cm	2.00
992525-001	SC-700B-WDR-286	E200.7	NONE	12/7/2010	13:30	BORON	967	ug/L	200
992525-001	SC-700B-WDR-286	E200.7	NONE	12/7/2010	13:30	Iron	ND	ug/L	20.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Aluminum	ND	ug/L	50.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Antimony	ND	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Arsenic	ND	ug/L	1.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Barium	15.4	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Chromium	ND	ug/L	1.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Copper	ND	ug/L	5.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Lead	ND	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Manganese	17.0	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Molybdenum	17.8	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Nickel	ND	ug/L	10.0
992525-001	SC-700B-WDR-286	E200.8	NONE	12/7/2010	13:30	Zinc	ND	ug/L	10.0
992525-001	SC-700B-WDR-286	E218.6	LABFLT	12/7/2010	13:30	Chromium, hexavalent	ND	ug/L	0.20
992525-001	SC-700B-WDR-286	E300	NONE	12/7/2010	13:30	Fluoride	2.29	mg/L	0.500
992525-001	SC-700B-WDR-286	E300	NONE	12/7/2010	13:30	Nitrate as N	2.94	mg/L	1.00
992525-001	SC-700B-WDR-286	E300	NONE	12/7/2010	13:30	Sulfate	509	mg/L	12.5
992525-001	SC-700B-WDR-286	SM2130B	NONE	12/7/2010	13:30	Turbidity	ND	NTU	0.100
992525-001	SC-700B-WDR-286	SM2540C	NONE	12/7/2010	13:30	Total Dissolved Solids	4620	mg/L	250
992525-001	SC-700B-WDR-286	SM4500HB	NONE	12/7/2010	13:30	PH	7.61	pH	4.00
992525-001	SC-700B-WDR-286	SM4500NH3D	NONE	12/7/2010	13:30	Ammonia-N	ND	mg/L	0.500
992525-001	SC-700B-WDR-286	SM4500NO2B	NONE	12/7/2010	13:30	Nitrite as N	ND	mg/L	0.0050

Revision 1; January 8, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992525-002	SC-100B-WDR-286	E120.1	NONE	12/7/2010	13:30	EC	8000	umhos/cm	2.00
992525-002	SC-100B-WDR-286	E200.7	NONE	12/7/2010	13:30	BORON	980	ug/L	200
992525-002	SC-100B-WDR-286	E200.7	NONE	12/7/2010	13:30	Iron	ND	ug/L	20.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Aluminum	ND	ug/L	50.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Antimony	ND	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Arsenic	3.5	ug/L	1.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Barium	24.9	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Chromium	894	ug/L	1.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Copper	ND	ug/L	5.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Lead	ND	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Manganese	10.2	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Molybdenum	22.4	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Nickel	ND	ug/L	10.0
992525-002	SC-100B-WDR-286	E200.8	NONE	12/7/2010	13:30	Zinc	ND	ug/L	10.0
992525-002	SC-100B-WDR-286	E218.6	LABFLT	12/7/2010	13:30	Chromium, hexavalent	1080	ug/L	21.0
992525-002	SC-100B-WDR-286	E300	NONE	12/7/2010	13:30	Fluoride	2.63	mg/L	0.500
992525-002	SC-100B-WDR-286	E300	NONE	12/7/2010	13:30	Nitrate as N	3.20	mg/L	1.00
992525-002	SC-100B-WDR-286	E300	NONE	12/7/2010	13:30	Sulfate	567	mg/L	12.5
992525-002	SC-100B-WDR-286	SM2130B	NONE	12/7/2010	13:30	Turbidity	0.103	NTU	0.100
992525-002	SC-100B-WDR-286	SM2540C	NONE	12/7/2010	13:30	Total Dissolved Solids	4780	mg/L	250
992525-002	SC-100B-WDR-286	SM4500HB	NONE	12/7/2010	13:30	PH	7.30	pH	4.00
992525-002	SC-100B-WDR-286	SM4500NH3D	NONE	12/7/2010	13:30	Ammonia-N	ND	mg/L	0.500
992525-002	SC-100B-WDR-286	SM4500NO2B	NONE	12/7/2010	13:30	Nitrite as N	ND	mg/L	0.0050

Revision 1; January 8, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992525-003	SC-701-WDR-286	E120.1	NONE	12/7/2010	13:30	EC	44500	umhos/cm	2.00
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Antimony	ND	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Arsenic	1.8	ug/L	1.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Barium	110	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Beryllium	ND	ug/L	1.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Cadmium	ND	ug/L	3.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Chromium	29.7	ug/L	2.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Cobalt	6.9	ug/L	5.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Copper	61.2	ug/L	5.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Lead	ND	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Mercury	ND	ug/L	1.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Molybdenum	122	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Nickel	26.7	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Selenium	30.1	ug/L	10.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Silver	ND	ug/L	5.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Thallium	ND	ug/L	1.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Vanadium	ND	ug/L	5.0
992525-003	SC-701-WDR-286	E200.8	NONE	12/7/2010	13:30	Zinc	ND	ug/L	10.0
992525-003	SC-701-WDR-286	E218.6	LABFLT	12/7/2010	13:30	Chromium, hexavalent	2.4	ug/L	2.1
992525-003	SC-701-WDR-286	E300	NONE	12/7/2010	13:30	Fluoride	14.6	mg/L	0.500
992525-003	SC-701-WDR-286	SM2540C	NONE	12/7/2010	13:30	Total Dissolved Solids	39400	mg/L	1000
992525-003	SC-701-WDR-286	SM4500HB	NONE	12/7/2010	13:30	PH	7.33	pH	4.00

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

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

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992525

Printed 1/4/2011

Samples Received on 12/7/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-286	992525-001	12/07/2010 13:30	Water
SC-100B-WDR-286	992525-002	12/07/2010 13:30	Water
SC-701-WDR-286	992525-003	12/07/2010 13:30	Water

Anions By I.C. - EPA 300.0 Batch 12AN10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Fluoride	mg/L	12/08/2010 11:53	5.00	0.0250	0.500	2.29
Nitrate as Nitrogen	mg/L	12/08/2010 11:53	5.00	0.0550	1.00	2.94
Sulfate	mg/L	12/08/2010 14:34	25.0	0.500	12.5	509
992525-002 Fluoride	mg/L	12/08/2010 12:05	5.00	0.0250	0.500	2.63
Nitrate as Nitrogen	mg/L	12/08/2010 12:05	5.00	0.0550	1.00	3.20
Sulfate	mg/L	12/08/2010 14:47	25.0	0.500	12.5	567
992525-003 Fluoride	mg/L	12/08/2010 12:30	5.00	0.0250	0.500	14.6

Method Blank

Parameter	Unit	DF	Result
Bromide	mg/L	1.00	ND
Chloride	mg/L	1.00	ND
Fluoride	mg/L	1.00	ND
Sulfate	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Bromide	mg/L	1.00	0.399	0.409	2.48	0 - 20
Chloride	mg/L	25.0	61.5	62.0	0.742	0 - 20
Fluoride	mg/L	1.00	0.508	0.505	0.592	0 - 20
Sulfate	mg/L	25.0	89.0	88.1	0.961	0 - 20
Nitrate as Nitrogen	mg/L	1.00	1.89	1.91	0.842	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Bromide	mg/L	1.00	3.85	4.00	96.3	90 - 110
Chloride	mg/L	1.00	3.98	4.00	99.4	90 - 110
Fluoride	mg/L	1.00	4.14	4.00	103	90 - 110
Sulfate	mg/L	1.00	20.1	20.0	100	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.98	4.00	99.5	90 - 110

Matrix Spike — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Bromide	mg/L	1.00	2.52	2.41(2.00)	105	85 - 125
Chloride	mg/L	25.0	174	162(100.)	112	85 - 125
Fluoride	mg/L	1.00	2.48	2.50(2.00)	99.0	85 - 125
Sulfate	mg/L	25.0	196	188(100.)	108	85 - 125
Nitrate as Nitrogen	mg/L	1.00	3.91	3.91(2.00)	100.	85 - 125

Matrix Spike Duplicate — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Bromide	mg/L	1.00	2.61	2.41(2.00)	110	85 - 125
Fluoride	mg/L	1.00	2.52	2.50(2.00)	101	85 - 125
Nitrate as Nitrogen	mg/L	1.00	3.88	3.91(2.00)	98.4	85 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Bromide	mg/L	1.00	3.92	4.00	98.0	90 - 110
Chloride	mg/L	1.00	4.01	4.00	100	90 - 110
Fluoride	mg/L	1.00	4.18	4.00	104	90 - 110
Sulfate	mg/L	1.00	19.9	20.0	99.3	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Bromide	mg/L	1.00	2.86	3.00	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.09	3.00	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.99	3.00	99.8	90 - 110
Fluoride	mg/L	1.00	3.18	3.00	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.3	15.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.1	15.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.00	3.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.99	3.00	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.99	3.00	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.1	90 - 110

Nitrite SM 4500-NO2 B Batch 12NO210C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Nitrite as Nitrogen	mg/L	12/08/2010 12:05	1.00	0.000200	0.0050	ND
992525-002 Nitrite as Nitrogen	mg/L	12/08/2010 12:06	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0397	0.0400	99.2	90 - 110

Matrix Spike — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200(0.0200	102	75 - 125

Matrix Spike Duplicate — Lab ID = 992528-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0192	0.0200(0.0200	96.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0194	0.0200	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0201	0.0200	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0199	0.0200	99.5	90 - 110

Specific Conductivity - EPA 120.1 Batch 12EC10B 12/9/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Specific Conductivity	umhos/cm	12/09/2010	1.00	0.0380	2.00	7500
992525-002 Specific Conductivity	umhos/cm	12/09/2010	1.00	0.0380	2.00	8000
992525-003 Specific Conductivity	umhos/cm	12/09/2010	1.00	0.0380	2.00	44500

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992525-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8000	8000	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	694.	706.	98.3	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	692.	706.	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	999.	999.	100.	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Chromium, Hexavalent	ug/L	12/08/2010 09:01	1.05	0.0210	0.20	ND
992525-002 Chromium, Hexavalent	ug/L	12/08/2010 09:12	105	2.20	21.0	1080
992525-003 Chromium, Hexavalent	ug/L	12/08/2010 12:01	10.5	0.220	2.1	2.4

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992524-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	15.2	15.2	0.164	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.31	5.00	106	90 - 110

Matrix Spike — Lab ID = 992524-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	38.3	36.8(21.6)	107	90 - 110

Matrix Spike — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.62	5.50(5.25)	102	90 - 110

Matrix Spike — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.31	1.24(1.06)	106	90 - 110

Matrix Spike — Lab ID = 992525-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2710	2660(1580)	103	90 - 110

Matrix Spike — Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	13.2	12.9(10.5)	103	90 - 110

Matrix Spike — Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.05	6.99(5.25)	101	90 - 110

Matrix Spike — Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	ND	1.06(1.06)		90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.22	5.00	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.96	10.0	99.6	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

Metals by EPA 200.7, Total Batch 121710A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Boron	ug/L	12/17/2010 16:30	1.00	5.00	200.	967
Iron	ug/L	12/17/2010 16:30	1.00	3.00	20.0	ND
992525-002 Boron	ug/L	12/17/2010 16:48	1.00	5.00	200.	980
Iron	ug/L	12/17/2010 16:48	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND
Boron	ug/L	1.00	ND

Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0	0	0 - 20
Boron	ug/L	1.00	940	967	2.85	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4940	5000	98.7	90 - 110
Boron	ug/L	1.00	5010	5000	100	90 - 110

Matrix Spike — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1810	2000(2000)	90.3	75 - 125
Boron	ug/L	1.00	2670	2970(2000)	85.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4960	5000	99.1	90 - 110
Boron	ug/L	1.00	5100	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4960	5000	99.2	90 - 110
Boron	ug/L	1.00	4990	5000	99.7	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2030	2000	101	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2010	2000	100	80 - 120
Boron	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2020	2000	101	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2050	2000	103	80 - 120
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Metals by EPA 200.8, Total

Batch 121410B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Arsenic	ug/L	12/14/2010 21:04	5.00	0.260	1.0	ND
Barium	ug/L	12/14/2010 21:04	5.00	0.185	10.0	15.4
Copper	ug/L	12/14/2010 21:04	5.00	0.305	5.0	ND
Zinc	ug/L	12/14/2010 21:04	5.00	1.32	10.0	ND
992525-002 Arsenic	ug/L	12/14/2010 21:31	5.00	0.260	1.0	3.5
Barium	ug/L	12/14/2010 21:31	5.00	0.185	10.0	24.9
Copper	ug/L	12/14/2010 21:31	5.00	0.305	5.0	ND
Zinc	ug/L	12/14/2010 21:31	5.00	1.32	10.0	ND
992525-003 Arsenic	ug/L	12/14/2010 21:38	5.00	0.260	1.0	1.8
Barium	ug/L	12/14/2010 21:38	5.00	0.185	10.0	110
Cobalt	ug/L	12/14/2010 21:38	5.00	0.515	5.0	6.9
Copper	ug/L	12/14/2010 21:38	5.00	0.305	5.0	61.2
Selenium	ug/L	12/14/2010 21:38	5.00	0.740	10.0	30.1
Zinc	ug/L	12/14/2010 21:38	5.00	1.32	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Cobalt	ug/L	1.00	ND
Selenium	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Copper	ug/L	1.00	ND

Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	ND	0	0	0 - 20
Barium	ug/L	5.00	15.5	15.4	0.907	0 - 20
Cobalt	ug/L	5.00	ND	0	0	0 - 20
Selenium	ug/L	5.00	3.83	3.74	2.19	0 - 20
Zinc	ug/L	5.00	ND	0	0	0 - 20
Copper	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.2	50.0	100	90 - 110
Barium	ug/L	1.00	46.4	50.0	92.8	90 - 110
Cobalt	ug/L	1.00	52.8	50.0	106	90 - 110
Selenium	ug/L	1.00	49.2	50.0	98.5	90 - 110
Zinc	ug/L	1.00	49.2	50.0	98.4	90 - 110
Copper	ug/L	1.00	50.8	50.0	102	90 - 110

Matrix Spike — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	249	250.(250.)	99.4	75 - 125
Barium	ug/L	5.00	236.	265(250.)	88.3	75 - 125
Cobalt	ug/L	5.00	252	250.(250.)	101	75 - 125
Selenium	ug/L	5.00	237	254(250.)	93.4	75 - 125
Zinc	ug/L	5.00	219	250.(250.)	87.6	75 - 125
Copper	ug/L	5.00	228	250.(250.)	91.2	75 - 125

Matrix Spike Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	246	250.(250.)	98.3	75 - 125
Barium	ug/L	5.00	236	265(250.)	88.2	75 - 125
Cobalt	ug/L	5.00	253.	250.(250.)	101	75 - 125
Selenium	ug/L	5.00	237.	254(250.)	93.3	75 - 125
Zinc	ug/L	5.00	219	250.(250.)	87.6	75 - 125
Copper	ug/L	5.00	227	250.(250.)	90.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.9	50.0	99.8	90 - 110
Barium	ug/L	1.00	45.7	50.0	91.5	90 - 110
Cobalt	ug/L	1.00	52.3	50.0	105	90 - 110
Selenium	ug/L	1.00	48.9	50.0	97.7	90 - 110
Zinc	ug/L	1.00	48.4	50.0	96.9	90 - 110
Copper	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.6	50.0	95.3	90 - 110
Barium	ug/L	1.00	46.3	50.0	92.6	90 - 110
Cobalt	ug/L	1.00	54.4	50.0	109	90 - 110
Selenium	ug/L	1.00	46.4	50.0	92.8	90 - 110
Zinc	ug/L	1.00	48.1	50.0	96.2	90 - 110
Copper	ug/L	1.00	47.7	50.0	95.4	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.8	50.0	99.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.2	50.0	98.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		
Cobalt	ug/L	1.00	58.4	50.0	117	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	53.3	50.0	107	80 - 120
Selenium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		
Zinc	ug/L	1.00	51.2	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	49.2	50.0	98.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	49.3	50.0	98.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	51.9	50.0	104	80 - 120

Serial Dilution Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	25.0	118	110	6.67	0 - 10
Selenium	ug/L	25.0	27.3	30.1	9.61	0 - 10
Copper	ug/L	25.0	65.0	61.2	5.99	0 - 10

Metals by EPA 200.8, Total Batch 121610A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Aluminum	ug/L	12/16/2010 16:37	5.00	6.02	50.0	ND
Antimony	ug/L	12/16/2010 16:37	5.00	0.190	10.0	ND
Chromium	ug/L	12/16/2010 16:37	5.00	0.0950	1.0	ND
Lead	ug/L	12/16/2010 16:37	5.00	0.0950	10.0	ND
Manganese	ug/L	12/16/2010 16:37	5.00	0.210	10.0	17.0
Molybdenum	ug/L	12/16/2010 16:37	5.00	0.660	10.0	17.8
Nickel	ug/L	12/16/2010 16:37	5.00	0.240	10.0	ND
992525-002 Aluminum	ug/L	12/16/2010 17:09	5.00	6.02	50.0	ND
Antimony	ug/L	12/16/2010 17:09	5.00	0.190	10.0	ND
Chromium	ug/L	12/16/2010 17:09	5.00	0.0950	1.0	894
Lead	ug/L	12/16/2010 17:09	5.00	0.0950	10.0	ND
Manganese	ug/L	12/16/2010 17:09	5.00	0.210	10.0	10.2
Molybdenum	ug/L	12/16/2010 17:09	5.00	0.660	10.0	22.4
Nickel	ug/L	12/16/2010 17:09	5.00	0.240	10.0	ND
992525-003 Antimony	ug/L	12/16/2010 17:15	5.00	0.190	10.0	ND
Beryllium	ug/L	12/16/2010 17:15	5.00	0.110	1.0	ND
Cadmium	ug/L	12/16/2010 17:15	5.00	0.125	3.0	ND
Chromium	ug/L	12/16/2010 17:22	10.0	0.190	2.0	29.7
Lead	ug/L	12/16/2010 17:15	5.00	0.0950	10.0	ND
Molybdenum	ug/L	12/16/2010 17:22	10.0	1.32	10.0	122.
Nickel	ug/L	12/16/2010 17:22	10.0	0.480	10.0	26.7
Silver	ug/L	12/16/2010 17:15	5.00	0.200	5.0	ND
Thallium	ug/L	12/16/2010 17:15	5.00	0.180	1.0	ND
Vanadium	ug/L	12/16/2010 17:15	5.00	0.100	5.0	ND

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Beryllium	ug/L	1.00	ND
Cadmium	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Silver	ug/L	1.00	ND
Thallium	ug/L	1.00	ND
Vanadium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	5.00	ND	0	0	0 - 20
Beryllium	ug/L	5.00	ND	0	0	0 - 20
Cadmium	ug/L	5.00	ND	0	0	0 - 20
Chromium	ug/L	5.00	ND	0	0	0 - 20
Nickel	ug/L	5.00	3.63	3.68	1.37	0 - 20
Antimony	ug/L	5.00	ND	0	0	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20
Silver	ug/L	5.00	ND	0	0	0 - 20
Thallium	ug/L	5.00	1.01	1.08	6.70	0 - 20
Vanadium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	16.4	17.0	3.42	0 - 20
Molybdenum	ug/L	5.00	16.3	17.8	8.45	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	47.9	50.0	95.9	90 - 110
Beryllium	ug/L	1.00	46.9	50.0	93.7	90 - 110
Cadmium	ug/L	1.00	51.5	50.0	103.	90 - 110
Chromium	ug/L	1.00	49.5	50.0	99.1	90 - 110
Nickel	ug/L	1.00	49.1	50.0	98.2	90 - 110
Antimony	ug/L	1.00	47.7	50.0	95.4	90 - 110
Lead	ug/L	1.00	48.0	50.0	96.1	90 - 110
Silver	ug/L	1.00	51.0	50.0	102	90 - 110
Thallium	ug/L	1.00	50.1	50.0	100	90 - 110
Vanadium	ug/L	1.00	48.0	50.0	95.9	90 - 110
Manganese	ug/L	1.00	51.9	50.0	104	90 - 110
Molybdenum	ug/L	1.00	52.7	50.0	105	90 - 110

Matrix Spike Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	244	250.(250.)	97.8	75 - 125
Beryllium	ug/L	5.00	244	250.(250.)	97.6	75 - 125
Cadmium	ug/L	5.00	220	250.(250.)	87.9	75 - 125
Chromium	ug/L	5.00	233	250.(250.)	93.1	75 - 125
Nickel	ug/L	5.00	229	254(250.)	90.0	75 - 125
Antimony	ug/L	5.00	234	250.(250.)	93.8	75 - 125
Lead	ug/L	5.00	212	250.(250.)	84.9	75 - 125
Silver	ug/L	5.00	193.	250.(250.)	77.2	75 - 125
Thallium	ug/L	5.00	210	251(250.)	83.5	75 - 125
Vanadium	ug/L	5.00	238	250.(250.)	95.0	75 - 125
Manganese	ug/L	5.00	254	267(250.)	94.6	75 - 125
Molybdenum	ug/L	5.00	264	268(250.)	98.7	75 - 125

Matrix Spike Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	242	250.(250.)	97.0	75 - 125
Beryllium	ug/L	5.00	251	250.(250.)	100	75 - 125
Cadmium	ug/L	5.00	219.	250.(250.)	87.6	75 - 125
Chromium	ug/L	5.00	232	250.(250.)	92.8	75 - 125
Nickel	ug/L	5.00	228	254(250.)	89.6	75 - 125
Antimony	ug/L	5.00	242	250.(250.)	96.6	75 - 125
Lead	ug/L	5.00	212	250.(250.)	84.8	75 - 125
Silver	ug/L	5.00	196	250.(250.)	78.6	75 - 125
Thallium	ug/L	5.00	210	251(250.)	83.5	75 - 125
Vanadium	ug/L	5.00	237	250.(250.)	95.0	75 - 125
Manganese	ug/L	5.00	251	267(250.)	93.7	75 - 125
Molybdenum	ug/L	5.00	263	268(250.)	98.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	48.0	50.0	96.0	90 - 110
Beryllium	ug/L	1.00	49.0	50.0	97.9	90 - 110
Cadmium	ug/L	1.00	50.8	50.0	102	90 - 110
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Nickel	ug/L	1.00	48.5	50.0	96.9	90 - 110
Antimony	ug/L	1.00	48.5	50.0	97.0	90 - 110
Lead	ug/L	1.00	48.7	50.0	97.5	90 - 110
Silver	ug/L	1.00	51.0	50.0	102	90 - 110
Thallium	ug/L	1.00	52.2	50.0	104	90 - 110
Vanadium	ug/L	1.00	48.0	50.0	96.1	90 - 110
Manganese	ug/L	1.00	51.9	50.0	104	90 - 110
Molybdenum	ug/L	1.00	51.4	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.5	50.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	47.6	50.0	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	49.9	50.0	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	47.9	50.0	95.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	47.2	50.0	94.3	90 - 110
Chromium	ug/L	1.00	47.9	50.0	95.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.1	50.0	96.2	90 - 110
Nickel	ug/L	1.00	49.4	50.0	98.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	47.7	50.0	95.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	53.8	50.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	55.0	50.0	110	90 - 110
Lead	ug/L	1.00	46.6	50.0	93.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	45.4	50.0	90.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	47.2	50.0	94.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	47.7	50.0	95.3	90 - 110
Thallium	ug/L	1.00	45.5	50.0	91.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	45.7	50.0	91.4	90 - 110
Vanadium	ug/L	1.00	47.5	50.0	95.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.5	50.0	97.0	90 - 110
Manganese	ug/L	1.00	52.9	50.0	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	90 - 110
Molybdenum	ug/L	1.00	51.6	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	52.6	50.0	105	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.0	50.0	99.9	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.8	50.0	102	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	ND	0		
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		
Silver	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	ND	0		
Thallium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.3	50.0	103	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	45.8	50.0	91.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	48.0	50.0	96.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	51.1	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.1	50.0	96.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.7	80 - 120
Nickel	ug/L	1.00	49.4	50.0	98.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	48.4	50.0	96.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	48.0	50.0	95.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	49.0	50.0	98.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.4	50.0	103	80 - 120
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Printed 1/4/2011

Serial Dilution

Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	32.7	29.7	9.61	0 - 10
Nickel	ug/L	50.0	29.2	26.7	9.02	0 - 10
Molybdenum	ug/L	50.0	121	122.	0.740	0 - 10

Metals by EPA 200.8, Total

Batch 122710A-Hg

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-003 Mercury	ug/L	12/27/2010 17:26	5.00	0.200	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Mercury	ug/L	1.00	ND

Lab ID = 992525-003

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Mercury	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.84	2.00	92.0	90 - 110

Lab ID = 992525-003

Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	8.48	10.0(10.0)	84.8	75 - 125

Lab ID = 992525-003

Matrix Spike Duplicate

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	8.27	10.0(10.0)	82.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.92	2.00	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.86	2.00	93.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.70	2.00	85.0	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.60	2.00	80.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.78	2.00	89.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.68	2.00	84.0	80 - 120

pH by SM 4500-H B Batch 12PH10F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 pH	pH	12/08/2010 11:15	1.00	0.0250	4.00	7.61
992525-002 pH	pH	12/08/2010 11:18	1.00	0.0250	4.00	7.30
992525-003 pH	pH	12/08/2010 11:21	1.00	0.0250	4.00	7.33

Duplicate — Lab ID = 992525-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.35	7.33	0.272	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.00	7.00	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.02	7.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.07	7.00	101.	90 - 110

Total Dissolved Solids by SM 2540 C Batch 12TDS10B 12/8/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Total Dissolved Solids	mg/L	12/08/2010	1.00	0.434	250.	4620
992525-002 Total Dissolved Solids	mg/L	12/08/2010	1.00	0.434	250.	4780
992525-003 Total Dissolved Solids	mg/L	12/08/2010	1.00	0.434	1000	39400

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate Lab ID = 992503-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	575.	584.	1.55	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	490.	500.	98.0	90 - 110

Ammonia Nitrogen by SM4500-NH3D Batch 12NH3-E10A 12/9/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Ammonia as N	mg/L	12/09/2010	1.00	0.00200	0.500	ND
992525-002 Ammonia as N	mg/L	12/09/2010	1.00	0.00200	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.7	10.0	107	90 - 110

Matrix Spike — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.73	6.00(6.00)	95.4	75 - 125

Matrix Spike Duplicate — Lab ID = 992525-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.81	6.00(6.00)	96.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.81	6.00	96.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.79	6.00	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.83	6.00	97.2	90 - 110

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Printed 1/4/2011

Turbidity by SM 2130 B Batch 12TUC10D 12/8/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992525-001 Turbidity	NTU	12/08/2010	1.00	0.0140	0.100	ND
992525-002 Turbidity	NTU	12/08/2010	1.00	0.0140	0.100	0.103

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992525-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.104	0.103	0.966	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ Conlon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS10B

Date Calculated: 12/13/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	78.3882	78.3895	78.3895	0.0000	No	0.0013	13.0	25.0	ND	1
992466	50	72.8345	72.9004	72.9004	0.0000	No	0.0659	1318.0	50.0	1318.0	1
992467	850	68.1932	68.1988	68.1988	0.0000	No	0.0056	6.6	2.9	6.6	1
992473-2	200	111.3797	111.3967	111.3967	0.0000	No	0.0170	85.0	12.5	85.0	1
992473-3	100	74.5617	74.5799	74.5799	0.0000	No	0.0182	182.0	25.0	182.0	1
992503-10	100	67.8235	67.8819	67.8819	0.0000	No	0.0584	584.0	25.0	584.0	1
992502-16	50	75.5463	75.5878	75.5875	0.0003	No	0.0412	824.0	50.0	824.0	1
992524-1	20	75.7764	75.8398	75.8396	0.0002	No	0.0632	3160.0	125.0	3160.0	1
992524-2	10	50.2210	50.2763	50.2763	0.0000	No	0.0553	5530.0	250.0	5530.0	1
992525-1	10	49.4670	49.5134	49.5132	0.0002	No	0.0462	4620.0	250.0	4620.0	1
992525-2	10	47.9728	48.0208	48.0206	0.0002	No	0.0478	4780.0	250.0	4780.0	1
992503-10D	100	76.5557	76.6134	76.6132	0.0002	No	0.0575	575.0	25.0	575.0	1
992525-3	2.5	47.6400	47.7386	47.7384	0.0002	No	0.0984	39360.0	1000.0	39360.0	1
992528	100	72.5227	72.5600	72.5597	0.0003	No	0.0370	370.0	25.0	370.0	1
992525-3	2	49.5078	49.5902	49.5902	0.0000	No	0.0824	41200.0	1250.0	41200.0	1
LCS	100	68.1210	68.1700	68.17	0.0000	No	0.0490	490.0	25.0	490.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: **A** = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS10B

Date Calculated: 12/13/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992466	2020	0.65	1313	1.00
992467	11	0.60	7.15	0.92
992473-2	176	0.48	114.4	0.74
992473-3	355	0.51	230.75	0.79
992503-10	932	0.63	605.8	0.96
992502-16	1432	0.58	930.8	0.89
992524-1	5260	0.60	3419	0.92
992524-2	8690	0.64	5648.5	0.98
992525-1	7400	0.62	4810	0.96
992525-2	8000	0.60	5200	0.92
992503-10D	932	0.62	605.8	0.95
992525-3	44500	0.88	28925	1.36
992528	651	0.57	423.15	0.87
992525-3	44500	0.93	28925	1.42

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-286] 992525

TURNAROUND TIME 10 Days

DATE 12/07/10 PAGE 1 OF 1

COMPANY CH2M HILL /E2

PROJECT NAME PG&E Topock IM3

PHONE 530-229-3303 FAX 530-339-3303

ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 392895.AA.DM

SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NO2 (4500-NO2B)			NUMBER OF CONTAINERS	COMMENTS
-1 SC-700B-WDR-286	12/07/10	1330		X		X	X	X	X	X		X			X			4	pH = 2 (200.7)
-2 SC-100B-WDR-286	12/07/10	1330		X		X	X	X	X	X		X			X			4	pH = 7 (200.7)
-3 SC-701-WDR-286	12/07/10	1330		X	X	X	X				X							4	pH = 7 (T22)
																		12	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition
see form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name Ron Phelps	Company/ Agency Omi	Date/ Time 12-7-10 15:30
Signature (Received) Rafael Davila	Printed Name Rafael	Company/ Agency T.L.I	Date/ Time 12-7-10 15:30
Signature (Relinquished) Rafael Davila	Printed Name Rafael	Company/ Agency T.L.I	Date/ Time 12-7-10 21:30
Signature (Received)	Printed Name Leader	Company/ Agency TLI	Date/ Time 12/7/10 21:30
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 4.5°C °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

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

093

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/19/10	992252	9.5	N/A	N/A	N/A	SB
11/24/10	992351	7.0	5.0 mL	9.5	8:30	ali
11/24/10	992352-1	7.0	5.0mL	9.5	8:40	ali
↓	-2	↓	↓	↓	8:42	↓
↓	-3	↓	↓	↓	8:43	↓
↓	-4	↓	↓	↓	8:44	↓
↓	-5	↓	↓	↓	8:46	↓
↓	-6	↓	↓	↓	8:48	↓
11/24/10	992355-1	7.0	5.0mL	9.5	10:10	ali
↓	-2	↓	↓	↓	10:12	↓
↓	-3	↓	↓	↓	10:15	↓
↓	-4	↓	↓	↓	10:17	↓
↓	-5	↓	↓	↓	10:20	↓
↓	-6	↓	↓	↓	10:23	↓
12/01/10	992422	7.0	5.00	9.5	9:30	SB
12/08/10	992524-1	7.0	5.00	9.5	8:15	SB
12/08/10	992525-1	7.0	5.00	9.5	8:30	SB
↓	-2	↓	↓	↓	8:35	↓
↓	-3	↓	↓	↓	8:40	↓
12/08/10	992528	9.5	N/A	N/A	N/A	SB

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992374	<1	>2	11/24	ES	No	@ 3:00 p.m
992097	<1	>2	11/10	KK	No	@ 2:00 pm
992352 (1-6)	<1	>2	11/24	KK	NO	11/29 @ 7am
992355 (1-2)	<1	>2	11/24	KK	NO	11/29 @ 7Am
992382 (1-3)	<1	>2	11/29	ES	No	yes @ 3:00 pm
992390 (1-3)	<1	>2	↓	↓	↓	↓
992355 (3-6)	<1	>2	12/01	KK	NO	yes @ 10 am
992351	<1	>2	11/29	KK	NO	yes @ 9 am
992422	<1	>2	12/01	KK	NO	yes @ 10am
992416	<1	<2	12/2	ES	No	—
992433 (1-3)	<1	>2	↓	↓	↓	yes @ 10:30 a.m
992414	<1	<2	↓	↓	↓	—
992441 (1-2)	>1	<2	12/3	ES	yes	
992445-4	<1	<2	|	|	No	—
992447	>1	<2	|	|	yes	
992442	>1	<2	|	|	yes	
992452	<1	<2	|	|	~~No~~ yes	—
Decon BLK	~~No~~ <1	>2	12/3/10	KK	NO	Y @ 2:30 pm
MB	~~No~~ <1	↓	↓	↓	↓	↓ ↓
992400 (3)	F	↓	↓	↓	↓	↓ ↓
992461	>1	<2	12/9	ES	yes	—
992462	>1	<2	↓	↓	yes	—
992466	<1	<2	12/6	ES	No	—
992467	<1	>2	|	|	|	@ 2:00 pm
47X	<1	<2	|	|	|	
992473 (1-3)	<1	>2	12/7	KK	NO	@ 8:30 am
992480	<1	<2	↓	↓	↓	—
992482	<1	<2	↓	↓	↓	—
992486	<1	>2	12/7	ES	↓	@ 10:00 a.m
992502 (16,23)	<1	>2	↓	↓	↓	@ 3:00 p.m
992202	<1	>2	11/17	ES	↓	@ 10:00 a.m
992506	<1	<2	12/8	KK	NO	—
992507	<1	<2	↓	↓	↓	—
992508	<1	<2	↓	↓	↓	—
992509	<1	<2	↓	↓	↓	—
992510	<1	<2	↓	↓	↓	—
992524 (1-2)	<1	>2	12/8	KK	NO	@ 8:30 am
992525 (1-3)	<1	>2	↓	↓	↓	@ 8:30 am
992351	<1	>2	~~12/8~~ 11/29	KK	NO	@ 8:30 am
992523	SLUDGE		12/8/10	ES	Yes	TTLC
992595	>1	<2	↓	↓	Yes	—
992528	<1	<2	12/8/10	ES	NO	—
992539 (1-3)	<1	>2	12/9/10	ES	NO	@ 11:00 a.m
992540	<1	<2	↓	↓	↓	—
541	↓	↓	↓	↓	↓	—
542						—
543						—
544						—
545						—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: CH2M Hill /E2 **Lab #** 992525

Date Delivered: 12/07/10 **Time:** 21:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.5° C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☒Client	☒Yes	☐No	☐N/A
12.	Were samples pH checked? pH = see c.o.c	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

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

ALERT !!
Level III QC

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 6, 2011

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-287 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992656

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-287 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

The matrix spike result for sample SC-700B-WDR-287 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 analysis at a 5x dilution matched those of the straight run, the result from the straight run is reported.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

fo_ Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992656
Date: January 6, 2011
Collected: December 14, 2010
Received: December 14, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992656
Date Received: December 14, 2010

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992656-001	SC-700B-WDR-287	E120.1	NONE	12/14/2010	12:45	EC	7400	umhos/cm	2.00
992656-001	SC-700B-WDR-287	E200.8	NONE	12/14/2010	12:45	Chromium	ND	ug/L	1.0
992656-001	SC-700B-WDR-287	E200.8	NONE	12/14/2010	12:45	Manganese	4.8	ug/L	1.0
992656-001	SC-700B-WDR-287	E218.6	LABFLT	12/14/2010	12:45	Chromium, hexavalent	ND	ug/L	0.20
992656-001	SC-700B-WDR-287	SM2130B	NONE	12/14/2010	12:45	Turbidity	ND	NTU	0.100
992656-001	SC-700B-WDR-287	SM2540C	NONE	12/14/2010	12:45	Total Dissolved Solids	4460	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992656

Printed 1/6/2011

Samples Received on 12/14/2010 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-287	992656-001	12/14/2010 12:45	Water

Specific Conductivity - EPA 120.1 Batch 12EC10C 12/17/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992656-001 Specific Conductivity	umhos/cm	12/17/2010	1.00	0.0380	2.00	7400

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992700-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	34.0	33.6	1.18	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	989.	999.	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	985.	999.	98.6	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH10G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992656-001 Chromium, Hexavalent	ug/L	12/15/2010 12:11	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992579-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	2.10	22.4	22.1	1.09	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.08	5.00	102	90 - 110

Matrix Spike — Lab ID = 992579-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.3	90 - 110

Matrix Spike — Lab ID = 992579-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.898	1.06(1.06)	84.7	90 - 110

Matrix Spike — Lab ID = 992579-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.10	5.25(5.25)	97.2	90 - 110

Matrix Spike — Lab ID = 992579-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.00	5.25(5.25)	95.3	90 - 110

Matrix Spike — Lab ID = 992579-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.843	1.06(1.06)	79.5	90 - 110

Matrix Spike — Lab ID = 992579-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.46	2.31(1.06)	491	90 - 110

Matrix Spike — Lab ID = 992579-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.06(1.06)	100	90 - 110

Matrix Spike — Lab ID = 992579-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.6	90 - 110

Matrix Spike — Lab ID = 992579-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	2.10	52.2	53.4(31.5)	96.2	90 - 110

Matrix Spike — Lab ID = 992579-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	2.10	51.6	53.6(31.5)	93.5	90 - 110

Matrix Spike — Lab ID = 992579-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.83	1.87(1.06)	96.1	90 - 110

Matrix Spike — Lab ID = 992656-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

Matrix Spike — Lab ID = 992656-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.35	5.25(5.25)	102	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.08	5.00	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.90	10.0	99.0	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.83	10.0	98.3	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.63	10.0	96.3	95 - 105

Metals by EPA 200.8, Total

Batch 010611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992656-001 Chromium	ug/L	01/06/2011 14:15	5.00	0.0950	1.0	ND
Manganese	ug/L	01/06/2011 14:15	5.00	0.210	1.0	4.8

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110
Manganese	ug/L	1.00	48.2	50.0	96.5	90 - 110

Matrix Spike

Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	235	250.(250.)	93.9	75 - 125
Manganese	ug/L	5.00	243	250.(250.)	97.4	75 - 125

Matrix Spike Duplicate

Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	233	250.(250.)	93.3	75 - 125
Manganese	ug/L	5.00	238	250.(250.)	95.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.7	90 - 110
Manganese	ug/L	1.00	47.3	50.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.8	50.0	91.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.5	50.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.9	50.0	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.5	50.0	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.1	50.0	94.3	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	80 - 120

Total Dissolved Solids by SM 2540 C Batch 12TDS10C 12/15/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992656-001 Total Dissolved Solids	mg/L	12/15/2010	1.00	0.434	250.	4460

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate Lab ID = 992632-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1240	1230	0.971	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	495.	500.	99.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	504.	500.	101	90 - 110

Turbidity by SM 2130 B Batch 12TUC10J 12/15/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992656-001 Turbidity	NTU	12/15/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992656-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.14	8.00	102	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.06	8.00	101	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS10C

Date Calculated: 12/20/10

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	121.7206	121.7206	121.7206	0.0000	No	0.0000	0.0	25.0	ND	1
992574	50	68.5369	68.5800	68.5799	0.0001	No	0.0430	860.0	50.0	860.0	1
992597-1	50	70.9058	70.9443	70.9441	0.0002	No	0.0383	766.0	50.0	766.0	1
992597-2	50	78.4067	78.4467	78.4466	0.0001	No	0.0399	798.0	50.0	798.0	1
992597-3	50	65.6361	65.6763	65.6761	0.0002	No	0.0400	800.0	50.0	800.0	1
992597-4	50	49.3998	49.4748	49.4748	0.0000	No	0.0750	1500.0	50.0	1500.0	1
992597-5	50	50.6149	50.685	50.685	0.0000	No	0.0701	1402.0	50.0	1402.0	1
992601	100	110.8018	110.8205	110.8205	0.0000	No	0.0187	187.0	25.0	187.0	1
992642	100	114.3478	114.4905	114.4905	0.0000	No	0.1427	1427.0	25.0	1427.0	1
992632-1	50	69.5839	69.6416	69.6416	0.0000	No	0.0577	1154.0	50.0	1154.0	1
992632-2	50	75.4560	75.5177	75.5177	0.0000	No	0.0617	1234.0	50.0	1234.0	1
992632-2D	50	73.1504	73.2129	73.2125	0.0004	No	0.0621	1242.0	50.0	1242.0	1
LCS	100	102.8519	102.9014	102.9014	0.0000	No	0.0495	495.0	25.0	495.0	1
992632-3	50	77.8381	77.8724	77.8724	0.0000	No	0.0343	686.0	50.0	686.0	1
992654	100	102.7302	102.7870	102.7866	0.0004	No	0.0564	564.0	25.0	564.0	1
992658	10	50.5010	50.5459	50.5456	0.0003	No	0.0446	4460.0	250.0	4460.0	1
992684-1	50	75.0447	75.1400	75.14	0.0000	No	0.0953	1906.0	50.0	1906.0	1
992684-2	50	67.2510	67.3444	67.3444	0.0000	No	0.0934	1868.0	50.0	1868.0	1
992684-3	20	51.1416	51.2521	51.2517	0.0004	No	0.1101	5505.0	125.0	5505.0	1
LCS	100	112.3629	112.4133	112.4133	0.0000	No	0.0504	504.0	25.0	504.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: **A** = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

WetChem Tds_081D

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS10C

Date Calculated: 12/20/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992574	1148	0.75	746.2	1.15
992597-1	1304	0.59	847.6	0.90
992597-2	1321	0.60	858.65	0.93
992597-3	1361	0.59	884.65	0.90
992597-4	2360	0.64	1534	0.98
992597-5	2330	0.60	1514.5	0.93
992601	325	0.58	211.25	0.89
992642	772	1.85	501.8	2.84
992632-1	1890	0.61	1228.5	0.94
992632-2	1980	0.62	1287	0.96
992632-2D	1980	0.63	1287	0.97
LCS				
992632-3	1223	0.56	794.95	0.86
992654	932	0.61	605.8	0.93
992658	7380	0.60	4797	0.93
992684-1	2680	0.71	1742	1.09
992684-2	2670	0.70	1735.5	1.08
992684-3	6890	0.80	4478.5	1.23

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-287] 992656

COC Number
TURNAROUND TIME 10 Days
DATE 12/14/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-287	12/14/10	1245	Water	X	X	X	X	X	3	TM=7 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Ron Phillips	OMI	12-14-10 15:30
Signature (Received) Rafael Davila	Rafael	T-L-I	12-14-10 15:30
Signature (Relinquished) Rafael Davila	Rafael	T-L-I	12-14-10 22:00
Signature (Received) A. Shabunnina	Linda	TLI	12/14/10 22:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 4 °C °F
CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/10/10	992578-12	9.5	N/A	N/A	N/A	SB
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
12/10/10	992579-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-8					
	-9					
	-10					
	-11					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-22					
	-23					
12/10/10	992579-1	9.5	N/A	N/A	N/A	SB
	-2					

SB

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992795 - 7	71	<2	12/20	ES	Yes	—
992796 (1-2,3-4)	71	<2	↓	↓	Yes	-
739 (1-3)	<1	<2	↓	↓	NO	-
992744 (1-3)	<1	<2	12/21	ES	NO	yes @ 1:00 pm
747	<1	<2	↓	↓	NO	-
748	<1	<2	↓	↓	↓	
753 (1-2)	71	<2	↓	↓	Yes	-
754 (1-2	71	<2	↓	↓	↓	-
992755 (1-10)	>1	>2	12/21	KK	yes	—
992704 (1-3)	Plant		12/21/10	ES		
MB	↓		↓	↓		
Decontamination Blank	↓		↓	↓		
992827 - 1	<1	<2	12-27-10	KK	NO	—
992758 (1-4)	<1	<2	12-27-10	KK	NO	yes @ 3pm
992792	<1	<2	↓	↓	↓	-
992793	<1	<2	↓	↓	↓	-
992794	<1	<2	↓	↓	↓	-
992795	<1	<2	↓	↓	↓	-
992796	<1	<2	↓	↓	↓	-
992797	<1	<2	↓	↓	↓	-
992802 (1-2)	<1	<2	12-27-10	KK	NO	—
992791 (1-5)	<1	<2	12-27-10	KK	NO	—
992769	71	<2	12/26/10	ES	Yes	
992771 (1-2)	71	<2	↓	↓	↓	
992773	<1	↓	↓	↓	NO	
992774	<1	↓	↓	↓	NO	
992775	71	↓	↓	↓	YES	
992776	<1	↓	↓	↓	NO	
992777	<1	↓	↓	↓	↓	
778 (1-2)	71	↓	↓	↓	Yes	
779	<1	↓	↓	↓	NO	
798 (1-3)	71	↓	↓	↓	Yes	
806	71	↓	↓	↓	↓	
992837 (1-2)	71	↓	↓	↓	↓	
992843 (1-3)	<1	72	↓	↓	NO	@ 5:30 p.m
847	<1	<2	↓	↓	↓	
848	<1	<2	↓	↓	↓	
863	<1	<2	↓	↓	↓	
869 (1-3)	<1	72	↓	↓	↓	@ 5:30 p.m
992872	<1	72	1/3/11	ES	NO	yes @ 5:00 p.m
992873	<1	72	↓	↓	↓	↓
992876 (1-3)	<1	72	↓	↓	↓	
887	<1	<2	↓	↓	↓	
888 (1-4)	71	<2	↓	↓	Yes	
889	<1	<2	↓	↓	NO	
992911 (1-3)	<1	72	↓	↓	↓	yes @ 5:05 p.m
992656 (1)	<1	>2	1/4/11	KK	NO	Y @ 845 AM
992701 (1-2)	<1	<2	↓	↓	No	No

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992656

Date Delivered: 12/14/10 **Time:** 22.00 **By:** ☐Mail ☒Field Service ☐Client

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

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: _____

ALERT !!
Level III QC

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January 6, 2011

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-288 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992801

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-288 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on December 21, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992801
Date: January 6, 2011
Collected: December 21, 2010
Received: December 21, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Mark Kotani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani / Iordan Stavrev
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992801
Date Received: December 21, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992801-001	SC-700B-WDR-288	E120.1	NONE	12/21/2010	13:25	EC	7320	umhos/cm	2.00
992801-001	SC-700B-WDR-288	E200.8	NONE	12/21/2010	13:25	Chromium	ND	ug/L	1.0
992801-001	SC-700B-WDR-288	E200.8	NONE	12/21/2010	13:25	Manganese	ND	ug/L	1.0
992801-001	SC-700B-WDR-288	E218.6	LABFLT	12/21/2010	13:25	Chromium, hexavalent	0.43	ug/L	0.20
992801-001	SC-700B-WDR-288	SM2130B	NONE	12/21/2010	13:25	Turbidity	ND	NTU	0.100
992801-001	SC-700B-WDR-288	SM2540C	NONE	12/21/2010	13:25	Total Dissolved Solids	3550	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992801

Printed 1/6/2011

Samples Received on 12/21/2010 10:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-288	992801-001	12/21/2010 13:25	Water

Specific Conductivity - EPA 120.1 Batch 01EC10D 1/3/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992801-001 Specific Conductivity	umhos/cm	01/03/2011	1.00	0.0380	2.00	7320

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992802-015

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	967.	974.	0.721	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	688.	706.	97.5	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	687.	706.	97.3	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	687.	706.	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	999.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	999.	100	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH10O

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992801-001 Chromium, Hexavalent	ug/L	12/27/2010 18:59	1.05	0.0210	0.20	0.43

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992801-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.400	0.426	6.30	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.32	5.00	106	90 - 110

Matrix Spike — Lab ID = 992801-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.54	1.49(1.06)	105.	90 - 110

Matrix Spike — Lab ID = 992824-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.00	1.06(1.06)	94.4	90 - 110

Matrix Spike — Lab ID = 992824-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

Matrix Spike — Lab ID = 992824-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.07	1.06(1.06)	101	90 - 110

Matrix Spike — Lab ID = 992824-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

Matrix Spike — Lab ID = 992824-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.03	1.06(1.06)	97.5	90 - 110

Matrix Spike — Lab ID = 992824-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.06(1.06)	108	90 - 110

Matrix Spike — Lab ID = 992824-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.02	1.06(1.06)	96.4	90 - 110

Matrix Spike — Lab ID = 992824-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.06(1.06)	100	90 - 110

Matrix Spike — Lab ID = 992824-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.06(1.06)	99.6	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.18	5.00	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.0	10.0	100	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.56	10.0	95.6	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

Metals by EPA 200.8, Total Batch 010611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992801-001 Chromium	ug/L	01/06/2011 14:06	5.00	0.0950	1.0	ND
Manganese	ug/L	01/06/2011 14:06	5.00	0.210	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110
Manganese	ug/L	1.00	48.2	50.0	96.5	90 - 110

Matrix Spike — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	235	250.(250.)	93.9	75 - 125
Manganese	ug/L	5.00	243	250.(250.)	97.4	75 - 125

Matrix Spike Duplicate — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	233	250.(250.)	93.3	75 - 125
Manganese	ug/L	5.00	238	250.(250.)	95.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.7	90 - 110
Manganese	ug/L	1.00	47.3	50.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.8	50.0	91.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.5	50.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.9	50.0	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.5	50.0	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.1	50.0	94.3	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 12TDS10E 12/27/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992801-001 Total Dissolved Solids	mg/L	12/27/2010	1.00	0.434	250.	3550

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate — Lab ID = 992801-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3450	3550	2.86	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	490.	500.	98.0	90 - 110

Turbidity by SM 2130 B

Batch 12TUC10R 12/22/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992801-001 Turbidity	NTU	12/22/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 992801-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.30	8.00	91.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.38	8.00	92.2	90 - 110

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

Printed 1/6/2011

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS10E

Date Calculated: 1/3/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	67.7356	67.7358	67.7358	0.0000	No	0.0002	2.0	25.0	ND	1
992755-1	100	112.1681	112.1890	112.1890	0.0000	No	0.0209	209.0	25.0	209.0	1
992755-2	100	72.4754	72.5012	72.5012	0.0000	No	0.0258	258.0	25.0	258.0	1
992755-3	100	76.5681	76.5908	76.5908	0.0000	No	0.0227	227.0	25.0	227.0	1
992755-4	100	65.8305	65.8564	65.8564	0.0000	No	0.0259	259.0	25.0	259.0	1
992755-5	100	76.5229	76.5447	76.5447	0.0000	No	0.0218	218.0	25.0	218.0	1
992755-6	100	69.2684	69.2971	69.2971	0.0000	No	0.0287	287.0	25.0	287.0	1
992755-7	200	105.3618	105.3938	105.3938	0.0000	No	0.0320	160.0	12.5	160.0	1
992755-8	100	65.9869	66.0122	66.0122	0.0000	No	0.0253	253.0	25.0	253.0	1
992755-9	100	68.7781	68.7988	68.7986	0.0002	No	0.0205	205.0	25.0	205.0	1
992755-10	100	67.7882	67.81	67.81	0.0000	No	0.0218	218.0	25.0	218.0	1
992755-10D	100	67.8788	67.901	67.901	0.0000	No	0.0222	222.0	25.0	222.0	1
LCS	100	72.4280	72.477	72.477	0.0000	No	0.0490	490.0	25.0	490.0	1
992731-1	765	92.1044	92.1064	92.1064	0.0000	No	0.0020	2.6	3.3	ND	1
992731-2	100	67.8051	67.8381	67.8381	0.0000	No	0.0330	330.0	25.0	330.0	1
992731-3MS	100	73.6636	73.7523	73.7523	0.0000	No	0.0887	887.0	25.0	887.0	1
992731-4MS	100	68.7039	68.7945	68.7945	0.0000	No	0.0906	906.0	25.0	906.0	1
992758-1	50	68.2452	68.2892	68.2892	0.0000	No	0.0440	880.0	50.0	880.0	1
992758-2	50	68.4329	68.4593	68.4593	0.0000	No	0.0264	528.0	50.0	528.0	1
992758-3	100	74.2589	74.3131	74.3131	0.0000	No	0.0542	542.0	25.0	542.0	1
992758-4	100	74.7197	74.7695	74.7695	0.0000	No	0.0498	498.0	25.0	498.0	1
992801	10	49.7276	49.7631	49.7631	0.0000	No	0.0355	3550.0	250.0	3550.0	1
992802-12	100	69.8126	69.8728	69.8728	0.0000	No	0.0602	602.0	25.0	602.0	1
992801D	10	51.5105	51.545	51.545	0.0000	No	0.0345	3450.0	250.0	3450.0	1
LCSD											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: **A** = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny — Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS10E

Date Calculated: 1/3/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992755-1	255	0.82	165.75	1.26
992755-2	312	0.83	202.8	1.27
992755-3	276	0.82	179.4	1.27
992755-4	315	0.82	204.75	1.26
992755-5	291	0.75	189.15	1.15
992755-6	389	0.74	252.85	1.14
992755-7	189	0.85	122.85	1.30
992755-8	372	0.68	241.8	1.05
992755-9	252	0.81	163.8	1.25
992755-10	346	0.63	224.9	0.97
992755-10D	346	0.64	224.9	0.99
LCS				
992731-1	2.21	ND	1.4365	ND
992731-2	420	0.79	273	1.21
992731-3MS				
992731-4MS				
992758-1	1593	0.55	1035.45	0.85
992758-2	1009	0.52	655.85	0.81
992758-3	881	0.62	572.65	0.95
992758-4	825	0.60	536.25	0.93
992801	7410	0.48	4816.5	0.74
992802-12	970	0.62	630.5	0.95
992801D	7410	0.47	4816.5	0.72

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-288]

992801

COC Number

TURNAROUND TIME 10 Days

DATE 12/21/10 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 408401.01.DM TEAM 1

SAMPLERS (SIGNATURE) Chris Lentz

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-288	12/21/10	1325	Water	X	X	X	X	X	3	pH = 6 (200.7)
									3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) Chris Lentz	CHRIS LENTZ	OMI	12-21-10 15:30
Signature (Received) Rafael Davila	Rafael	T-L-I	12-21-10 15:30
Signature (Relinquished) Rafael Davila	Rafael	T-L-I	12-21-10 22:30
Signature (Received) L. Strabuniva	Linda	TLI	12/21/10 22:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/17/10	992706-14	9.5	N/A	N/A	N/A	SB
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-23					
	-27					
	-28					
	-29					
	-30					
	-31					
	-32					
12/22/10	992801	7.0	5.00	9.5	11:00	SB
12/22/10	992802-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992877	<1	>2	1-4-11	KK	NO	yes @ 10:30 am
992057 (1-4)	<1	<2	1/4/11	KK	NO	—
992703 (1-6)	<1	<2	1-4-11	KK	NO	—
992801 (1)	<1	>2	1-4-11	KK	NO	Yes @ 11:40 am
992658 (1-8, 11-17, 20, 21)	<1	<2	1-4-11	KK	NO	No
992802 (1-15)	<1	<2	1-5-11	KK	NO	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2 **Lab #** 992801

Date Delivered: 12/21/10 **Time:** 22:30 **By:** ☐Mail ☒Field Service ☐Client

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

ALERT!! Level III QC

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

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabnam

TRUESDAIL LABORATORIES, INC.

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January 6, 2011

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-289 PROJECT, GROUNDWATER MONITORING, TLI NO.: 992877

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-289 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

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

The sample result for sample SC-700B-WDR-289 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike was within the retention time window and the recovery was within acceptable limits, the data is accepted.

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

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 992877
Date: January 6, 2011
Collected: December 28, 2010
Received: December 28, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Mark Kotani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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

Laboratory No.: 992877
Date Received: December 28, 2010

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992877-001	SC-700B-WDR-289	E120.1	NONE	12/28/2010	11:30	EC	7250	umhos/cm	2.00
992877-001	SC-700B-WDR-289	E200.8	NONE	12/28/2010	11:30	Chromium	ND	ug/L	1.0
992877-001	SC-700B-WDR-289	E200.8	NONE	12/28/2010	11:30	Manganese	ND	ug/L	1.0
992877-001	SC-700B-WDR-289	E218.6	LABFLT	12/28/2010	11:30	Chromium, hexavalent	0.35	ug/L	0.20
992877-001	SC-700B-WDR-289	SM2130B	NONE	12/28/2010	11:30	Turbidity	ND	NTU	0.100
992877-001	SC-700B-WDR-289	SM2540C	NONE	12/28/2010	11:30	Total Dissolved Solids	4250	mg/L	250

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.
Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 992877

Printed 1/6/2011

Samples Received on 12/28/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-289	992877-001	12/28/2010 11:30	Water

Specific Conductivity - EPA 120.1 Batch 01EC11F 1/4/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992877-001 Specific Conductivity	umhos/cm	01/04/2011	1.00	0.0380	2.00	7250

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7240	7250	0.138	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	696.	706.	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	965.	999.	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	967.	999.	96.8	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH10R

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992877-001 Chromium, Hexavalent	ug/L	12/29/2010 09:14	1.05	0.0210	0.20	0.35

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate — Lab ID = 992658-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	19.1	18.9	1.18	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.14	5.00	103	90 - 110

Matrix Spike — Lab ID = 992658-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	38.4	40.5(21.6)	90.6	90 - 110

Matrix Spike — Lab ID = 992658-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.38	5.25(5.25)	102	90 - 110

Matrix Spike — Lab ID = 992658-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	ND	1.06(1.06)		90 - 110

Matrix Spike — Lab ID = 992658-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.14(1.06)	109	90 - 110

Matrix Spike — Lab ID = 992658-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.18(1.06)	97.9	90 - 110

Matrix Spike — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.48	1.41(1.06)	107	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.13	5.00	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

Metals by EPA 200.8, Total Batch 010611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992877-001 Chromium	ug/L	01/06/2011 13:24	5.00	0.0950	1.0	ND
Manganese	ug/L	01/06/2011 13:24	5.00	0.210	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110
Manganese	ug/L	1.00	48.2	50.0	96.5	90 - 110

Matrix Spike — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	235	250.(250.)	93.9	75 - 125
Manganese	ug/L	5.00	243	250.(250.)	97.4	75 - 125

Matrix Spike Duplicate — Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	233	250.(250.)	93.3	75 - 125
Manganese	ug/L	5.00	238	250.(250.)	95.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.7	90 - 110
Manganese	ug/L	1.00	47.3	50.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.7	50.0	91.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.8	50.0	91.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.5	50.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.9	50.0	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.5	50.0	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.1	50.0	94.3	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.9	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.6	50.0	101	80 - 120

Total Dissolved Solids by SM 2540 C Batch 12TDS10F 12/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992877-001 Total Dissolved Solids	mg/L	12/29/2010	1.00	0.434	250.	4250

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate Lab ID = 992894-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	772.	752.	2.62	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	501.	500.	100	90 - 110

Turbidity by SM 2130 B Batch 12TUC10T 12/29/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992877-001 Turbidity	NTU	12/29/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate Lab ID = 992877-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.40	8.00	92.5	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.53	8.00	94.1	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS10F

Date Calculated: 1/5/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	105.4163	105.4167	105.4163	0.0004	No	0.0000	0.0	25.0	ND	1
992843-2	200	111.6575	111.6746	111.6746	0.0000	No	0.0171	85.5	12.5	85.5	1
992843-3	100	72.9866	73.0047	73.0047	0.0000	No	0.0181	181.0	25.0	181.0	1
992870	100	110.6346	110.683	110.6828	0.0002	No	0.0482	482.0	25.0	482.0	1
992830-1	100	104.8952	104.9194	104.9193	0.0001	No	0.0241	241.0	25.0	241.0	1
992830-2	100	112.1783	112.2129	112.2127	0.0002	No	0.0344	344.0	25.0	344.0	1
992873	100	68.7940	68.8481	68.8481	0.0000	No	0.0541	541.0	25.0	541.0	1
992874	50	67.8136	67.8481	67.848	0.0001	No	0.0344	688.0	50.0	688.0	1
992876-8	100	69.5118	69.5585	69.5583	0.0002	No	0.0465	465.0	25.0	465.0	1
992877	10	51.2626	51.3054	51.3051	0.0003	No	0.0425	4250.0	250.0	4250.0	1
992894-1	50	48.1869	48.223	48.2229	0.0001	No	0.0360	720.0	50.0	720.0	1
992870D	100	104.2456	104.2944	104.2943	0.0001	No	0.0487	487.0	25.0	487.0	1
LCS	100	112.8458	112.8959	112.8959	0.0000	No	0.0501	501.0	25.0	501.0	1
992894-2	50	49.3633	49.4006	49.4003	0.0003	No	0.0370	740.0	50.0	740.0	1
992894-3	50	76.2178	76.2532	76.2528	0.0004	No	0.0350	700.0	50.0	700.0	1
992894-4	50	51.1371	51.1747	51.1747	0.0000	No	0.0376	752.0	50.0	752.0	1
992911-2	200	115.2452	115.2642	115.2642	0.0000	No	0.0190	95.0	12.5	95.0	1
992911-3	100	111.2915	111.3108	111.3108	0.0000	No	0.0193	193.0	25.0	193.0	1
992894-4D	50	68.8913	68.9303	68.9299	0.0004	No	0.0386	772.0	50.0	772.0	1
LCSD											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS10F

Date Calculated: 1/5/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992843-2	172	0.50	111.8	0.76
992843-3	360	0.50	234	0.77
992870	809	0.60	525.85	0.92
992830-1	390	0.62	253.5	0.95
992830-2	390	0.88	253.5	1.36
992873	905	0.60	588.25	0.92
992874	1171	0.59	761.15	0.90
992876-8	783	0.59	508.95	0.91
992877	7270	0.58	4725.5	0.90
992894-1	1185	0.61	770.25	0.93
992870D	809	0.60	525.85	0.93
LCS				
992894-2	1129	0.66	733.85	1.01
992894-3	1197	0.58	778.05	0.90
992894-4	1275	0.59	828.75	0.91
992911-2	168	0.57	109.2	0.87
992911-3	353	0.55	229.45	0.84
992894-4D	1275	0.61	828.75	0.93

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

[IM3Plant-WDR-289]

992877

COC Number

TURNAROUND TIME 5 Days

DATE 12/28/10 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	408401.01.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (216.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-289	12/28/10	11:30	Water	X	X	X	X		X								3	pm = 7
																	3	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

RUSH

For Sample Condition
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished		Ron Phelps	ONM	12-28-10 1600
Received	Rafael Davila	Rafael	T-L-I	12-28-10 16:00
Relinquished	Rafael Davila	Rafael	T-L-I	12-28-10 21:30
Received	Shabnam Siva	Linda	TLI	12/28/10 21:30
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

038

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/29/10	992877	7.0	5.00	9.5	9:05	SB

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
992877	<1	>2	1-4-11	KK	NO	yes @ 1030 am
992657 (1-4)	<1	<2	1/4/11	KK	NO	—
992703 (1-6)	<1	<2	1-4-11	KK	NO	—
992801 (1)	<1	>2	1-4-11	KK	NO	Yes @ 1140 am
992658 (1-8, 11+17, 20, 21)	<1	<2	1-4-11	KK	NO	No
992802 (1-15)	<1	<2	1-5-11	KK	NO	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 992877

Date Delivered: 12/28/10 **Time:** 2:30 **By:** ☐Mail ☑Field Service ☐Client

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

ALERT!! Level III QC

RUSH

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-700B	12-7-10	13:20	12-7-10	13:42	METER #1	12-7-10	04:30	-55.4	R. Phelps	7.7
	Notes:										
2	SC-700B	12-14-10	12:45	12-14-10	12:56	METER #1	12-14-10	5:00	-55.2	R. PHELPS	7.1
	Notes:										
3	SC-700B	12-21-10	13:25	12-21-10	13:29	METER #1	12-21-10	5:00	-55.3	CHRIS LENTZ	6.9
	Notes:										
4	SC-700B	12-28-10	11:30	12-28-10	N:35	METER #1	12-28-10	5:10	-54.7	Ron PHELPS	6.9
	Notes:										
5											
	Notes:										
6											
	Notes:										
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4