



**Pacific Gas and
Electric Company®**

Yvonne J. Meeks
Site Remediation - Portfolio Manager
Environmental Affairs

6588 Ontario Road
San Luis Obispo, CA 93405

Mailing Address
4325 South Higuera Street
San Luis Obispo, CA 93401

805.546.5243
Internal: 664.5243
Fax: 805.546.5232
E-Mail: YJM1@pge.com

August 12, 2005

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: Start Up Report for the Interim Measure No. 3 Groundwater Remediation System
at the PG&E Topock Compressor Station, Needles, California

Dear Mr. Perdue:

The Start Up Report for the PG&E Topock Compressor Station, Needles, California, Interim Measure (IM) No. 3 Groundwater Remediation System is enclosed. PG&E is submitting this Start Up Report in compliance with the Waste Discharge Requirements (WDR) issued under Board Order No. R7-2004-0103. If you have any questions regarding this report, please call me at (805) 546-5243.

Sincerely,

Yvonne Meeks
PG&E

Enclosures:

Start Up Report for the IM No. 3 Groundwater Remediation System

cc: Jose Cortez, RWQCB
Liann Chavez, RWQCB
Norman Shopay, DTSC

Startup Report for Interim Measures No. 3 Groundwater Treatment System

**Waste Discharge Requirements
Order No. R7-2004-0103
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

August 12, 2005

CH2MHILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

**Startup Report for
Interim Measures No. 3 Groundwater Treatment System
Waste Discharge Requirements Order No. R7-2004-0103
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

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Acronyms and Abbreviations

CRBRWQCB	Colorado River Basin Regional Water Quality Control
gpm	gallons per minute
PG&E	Pacific Gas and Electric Company
USEPA	U.S. Environmental Protection Agency
WDR	Waste Discharge Requirements

1.0 Introduction

Waste Discharge Requirements (WDR), Order No. R7-2004-0103, issued by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB), authorizes Pacific Gas and Electric Company (PG&E) to extract, treat, and re-inject groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. The Monitoring and Reporting Program under Order No. R7-2004-0103 requires a three-day startup test of the groundwater remediation system and preparation of a startup report. PG&E performed the CRBRWQCB-required startup test of the groundwater remediation system between July 25 and July 28, 2005. This report presents the startup test results, as required by the Monitoring and Reporting Program.

2.0 Sampling Locations

The startup test required collecting and analyzing samples of the remediation system influent, effluent, and reverse osmosis concentrate. The sampling stations are described in Table 1.

TABLE 1
Sampling Station Descriptions
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Sample Station	Location
Groundwater Treatment System Influent	Station is sample tap on pipe into T-100.
Groundwater Treatment System Effluent	Station is sample tap on pipe upstream of T-700.
Groundwater Treatment System Reverse Osmosis Concentrate Monitoring	Station is sample tap on pipe to T-701.

PG&E's letter to the CRBRWQCB Executive Officer dated June 29, 2005 described the influent, effluent, and reverse osmosis sampling station locations within the remediation system. Samples of influent and reverse osmosis concentrate were collected from the locations described in the June 29, 2005 letter.

As described in PG&E's letter to the CRBRWQCB Executive Officer dated July 28, 2005, the groundwater treatment system effluent sampling station used for the startup test differed from the effluent sampling station proposed in the June 29, 2005 letter in that startup effluent samples were collected upstream of the Treated Water Tank (T-700), rather than downstream of the tank. The need for an alternate effluent sampling station for the startup testing only was caused by the temporary re-routing of reverse osmosis concentrate (brine) into the treated water tank while waste profiling was being performed.

As described in PG&E's letter to the CRBRWQCB Executive Officer dated July 28, 2005, startup effluent samples from the alternate effluent sampling station were collected as composite samples over a 40-minute period to capture variability in effluent conductivity. This sampling approach is representative of the normal treatment system effluent and meets

the requirements of WDR Provision 25. The sampling station proposed in the June 29, 2005 letter will be used as the effluent sampling station for future compliance monitoring.

Although not representative of either effluent or reverse osmosis concentrate individually during the startup testing (because of temporary re-routing of reverse osmosis concentrate into the treated water tank during the startup period), PG&E collected a sample of combined treated effluent and reverse osmosis concentrate at Sampling Station B identified in the June 29, 2005 letter. Results for these samples are presented, along with the analytical results of the required influent, effluent, and reverse osmosis concentrate samples, in Section 6.0. As stated above, this sample location will be the monitoring location for treatment system effluent for future compliance monitoring.

3.0 Description of Startup Activities

The date, time, and flow rate for activities performed during startup are presented in Table 2. The startup test began at 8:00 a.m. on Monday July 25, 2005. During startup testing, treated effluent was combined with reverse osmosis concentrate and transferred to tanks at the MW-20 bench for offsite disposal. A log of startup activities is provided in Table 2.

TABLE 2
Startup Log
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Event	Date/Time	Influent Flow Rate (gpm) ^a
Startup initiation	July 25, 2005 8:00 a.m.	70 gpm
Three extraction well volumes treated	July 25, 2005 8:09 a.m.	70 gpm
First of three consecutive readings for pH, specific conductivity, and temperature	July 25, 2005 8:00 a.m.	70 gpm
Second of three consecutive readings for pH, specific conductivity, and temperature	July 25, 2005 9:00 a.m.	70 gpm
Third of three consecutive readings for pH, specific conductivity, and temperature	July 25, 2005 10:00 a.m.	70 gpm
First day samples collected	July 25, 2005 11:00 to 11:35 a.m.	70 gpm
First day sample analytical results for pH, total chromium, and hexavalent chromium communicated to the CRBRWQCB	July 27, 2005 5:09 p.m.	70 gpm
Third day samples collected	July 27, 2005 8:30 to 9:30 a.m.	70 gpm
Third day sample analytical results for pH, total chromium, and hexavalent chromium communicated to the CRBRWQCB	July 28, 2005 6:10 p.m.	70 gpm
Discharge to injection wells initiated	July 31, 2005 2:00 p.m.	70 gpm

^a Table shows typical flow rate. Influent flow rate varied between 68 and 72 gpm.

System stability was demonstrated on the first day of the startup test by running the system until at least three well volumes had been extracted and until three consecutive influent readings taken at least one hour apart for pH, specific conductivity, and temperature were within 5 percent of each other. With the treatment system operating at 70 gallons per minute (gpm), three well volumes (equivalent to 600 gallons) were extracted by 8:09 a.m. Hourly data for pH, specific conductivity, and temperature collected on the first day of the startup test are presented in Table 3. All parameter values were within 5 percent, meeting the startup criteria specified in Subsection 2a of the Treatment System Startup Phase and Startup Reporting section of the Monitoring and Reporting Program.

TABLE 3
Day 1 Influent Parameter Stability
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Date/Time	pH (standard units)	Specific Conductivity (micromhos/centimeter)	Temperature (degrees centigrade)
7/25/2005 8:00 a.m.	6.96	10,630	27.5
7/25/2005 9:00 a.m.	7.01	10,670	27.8
7/25/2005 10:00 a.m.	6.98	10,790	28.1

After three well volumes were pumped and influent groundwater stability was demonstrated, the Day 1 remediation system influent, effluent, and reverse osmosis concentrate samples were collected. The system influent, effluent, and reverse osmosis concentrate were again sampled on Day 3 of the startup test. The dates and times of sampling are presented in Table 2.

4.0 Treated Effluent Management

PG&E transferred treated groundwater generated during the startup test period to storage tanks at the MW-20 bench for offsite transport and disposal at a permitted disposal facility.

Subsurface injection was initiated at 2:00 p.m. on July 31, 2005, after analytical results from the Day 1 and Day 3 samples demonstrated that effluent quality complied with WDR effluent limitations, as summarized in Section 6.0.

5.0 Sampling and Analytical Procedures

All samples were collected at the designated sampling locations from sample taps directly into containers provided by Truesdail Laboratories, Inc. The exception was the effluent sample (Location SC-702). At this location, the sample was collected from a sample tap into a 5-gallon bucket. The flow was controlled so that 2 to 4 gallons of liquid were composited over a 40-minute period. The 40-minute sample collection period was chosen in response to

observed effluent specific conductivity variability observed at this location, so that the sample would be representative of the treated effluent.

Sample containers were labeled and packaged according to standard sampling procedures. The samples were stored in a cooler at 4° Celsius and transported to Truesdail Laboratories Inc. via a courier service under chain-of-custody documentation. Truesdail Laboratories, Inc. is certified by the California Department of Health Services (Certification #1237) under the State of California's Environmental Laboratory Accreditation Program. All analyses were performed in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136), promulgated by the U.S. Environmental Protection Agency (USEPA). Analytical reports, including chain-of-custody documentation, are presented in Appendix A.

The analytical method selected for total chromium had a method detection limit of 1.0 parts per billion as required by the Monitoring and Reporting Program. The analytical method selected for hexavalent chromium had a method detection limit of 0.2 parts per billion, as required by the Monitoring and Reporting Program.

6.0 Analytical Results

Reports prepared by the certified analytical laboratory are presented in Appendix A. Effluent sample analytical results for pH, total chromium, and hexavalent chromium are compared to WDR effluent limitations in Table 4. All effluent sample results comply with the WDR effluent limitations.

TABLE 4
Comparison of Effluent Monitoring Results with WDR Effluent Limitations
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Parameter	Units	Day 1 Sample Results	Day 3 Sample Results	Effluent Limit
pH	Standard Units	8.03	7.97	6.5-8.4
Total Chromium	µg/L	1.5	1.8	50
Hexavalent Chromium	µg/L	0.40	0.41	16

µg/L = micrograms per liter

Monitoring results for influent, effluent, and reverse osmosis concentrate samples for all required monitoring parameters are presented in Table 5. As described in Section 2.0, PG&E also collected samples of combined treated effluent and reverse osmosis concentrate that were not required by the Monitoring and Reporting Program. Results for these samples are presented in Table 6.

TABLE 5

Influent, Effluent, and Reverse Osmosis Concentrate Monitoring Results
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Parameter	Units	Influent Sample Results		Effluent Sample Results		Reverse Osmosis Concentrate Sample Results	
		Day 1 Sample (SC-100B-72hr-1)	Day 3 Sample (SC-100B-72hr-2)	Day 1 Sample (SC-702-72hr-1)	Day 3 Sample (SC-702-72hr-2)	Day 1 Sample (SC-701-72hr-1)	Day 3 Sample (SC-701-72hr-2)
TDS	mg/L	6,130	5,460	3,200	2,835	20,700	18,600
Turbidity	NTU	0.870	0.154	1.77	0.190	NR ^a	NR ^a
Specific Conductance	µmhos/cm	9,320	9,280	5,280	5,030	33,900	30,400
pH	standard units	7.61	7.60	8.03	7.97	7.98	7.93
Total Chromium	µg/L	5,540	5,000	1.5	1.8	5.5	6.5
Hexavalent Chromium	µg/L	4,540	4,230	0.40	0.41	2.4	3.1

^a Not required by the WDR Monitoring and Reporting Program.

µg/L = micrograms per liter

mg/L = milligrams per liter

NTU = nephelometric turbidity units

TABLE 6
 Combined Effluent and Reverse Osmosis Concentrate Monitoring Results
Startup Report for Interim Measures No. 3 Groundwater Treatment System

Parameter	Units	Combined Effluent and Reverse Osmosis Concentrate Sample Results	
		Day 1 Sample (SC-700C-72hr-1)	Day 2 Sample (SC-700C-72hr-2)
Total Dissolved Solids	mg/L	4,460	6,260
Turbidity	NTU	1.45	0.0660
Specific Conductance	µmhos/cm	7,080	10,200
pH	standard units	8.11	8.13
Total Chromium	µg/L	1.8	2.7
Hexavalent Chromium	µg/L	<1	1.1

µg/L = micrograms per liter

mg/L = milligrams per liter

NTU = nephelometric turbidity units

7.0 Completion of Startup Phase

This report documents that PG&E has successfully completed the WDR startup phase requirement specified in the Monitoring and Reporting Program.

8.0 Certification

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: Yvonne Meeks

Name: Yvonne Meeks

Company: Pacific Gas and Electric Company

Title: Sr. Environmental Geologist

Date: 8/12/05

Appendix A

Analytical Reports

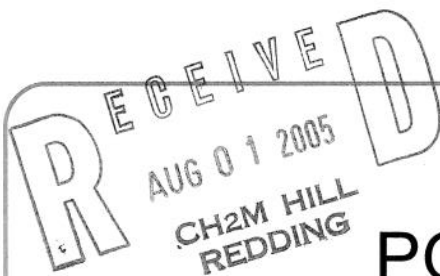
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www.truesdail.com



CH2M HILL PG&E Topock Project

Laboratory Number: 945031

Received: July 25, 2005

IM3 New Treatment Plant

Project No.: 315994.PS.07.CW

P.O. No.: 801799



Prepared for:

**CH2M HILL
Attn: Mark Cichy
2525 Airpark Dr.
Redding, CA 96001**

Prepared by:

**TRUESDAIL LABORATORIES, INC.
TUSTIN, CALIFORNIA**

Table of Contents
TLI Laboratory Data Package
For Laboratory Number: 945031

<u>ITEM</u>	<u>Section</u>
Case Narrative	1.0
Summary Table of Final Results	2.0
Final Reports	3.0
Wet Chem Analysis/ Raw Data, Standard, Quality Control and Chain of Custody Records	4.0
Established Retention Time Window and Analytical Raw Data	5.0

Section 1.0

Case Narrative

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July 27, 2005

CH2M HILL
Ms. Ellen Hedfield
155 Grand Ave., Suite 1000
Oakland, California 94612

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

Dear Ms. Hedfield:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM#3 PLANT PROJECT, GROUNDWATER
MONITORING,
TLI NO.: 945031

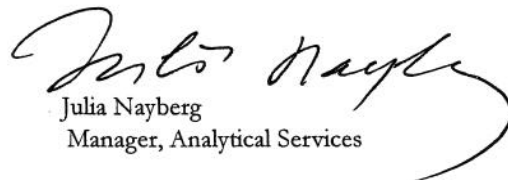
Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM#3 Plant project groundwater monitoring for Total Dissolved and Hexavalent Chromium, pH, Specific Conductivity, Total Dissolved Solids, and Turbidity. A summary table for this laboratory number is included in Section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

The samples were received and delivered with the chain of custody on June 25, 2005, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

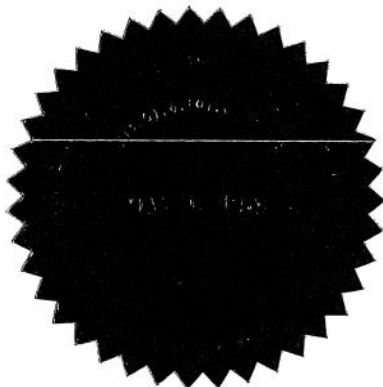
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.



Julia Nayberg
Manager, Analytical Services



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



Section 2.0

Summary Table of Final Results

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Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Laboratory No.: 945031
Date Received: July 25, 2005

Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>SW 6020</u> <i>Chromium</i> <i>Total</i> <i>mg/L</i>	<u>SW 7199</u> <i>Chromium</i> <i>Hexavalent</i> <i>mg/L</i>	<u>EPA 180.1</u> <i>Turbidity</i> <i>NTU</i>	<u>EPA 150.1</u> <i>pH</i> <i>Unit</i>	<u>EPA 120.1</u> <i>EC</i> <i>µmhos/cm</i>	<u>EPA 160.1</u> <i>TDS</i> <i>mg/L</i>
945031-1	SC-100B-72hr-1	11:00	5.54	4.54	0.870	7.61	9320	6130
945031-2	SC-700C-72hr-1	11:21	0.0018	ND	1.45	8.11	7080	4460
945031-3	SC-701-72hr-1	11:35	0.0055	0.0024	---	7.98	33900	20700
945031-4	SC-702-72hr-1	11:15	0.0015	0.00040	1.77	8.03	5280	3200

ND: Non Detected (below reporting limit)

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

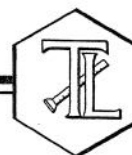
This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use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

Section 3.0

Final Reports

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Client: CH2M HILL
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REPORT

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

Attention: Ellen Hedfield

Laboratory No.: 945031

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799
Prep. Batch: 072605A

Date: July 27, 2005
Collected: July 25, 2005
Received: July 25, 2005
Prep/ Analyzed: July 26, 2005
Analytical Batch: 072605A

Investigation:

**Total Chromium by Inductively Coupled Argon Plasma
Mass Spectrometer Using SW 6020.**

Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
945031-1	SC-100B-72hr-1	mg/L	SW 6020	13:42	104	0.0520	5.54
945031-2	SC-700C-72hr-1	mg/L	SW 6020	13:46	2.60	0.0013	0.0018
945031-3	SC-701-72hr-1	mg/L	SW 6020	14:12	7.29	0.0036	0.0055
945031-4	SC-702-72hr-1	mg/L	SW 6020	13:50	2.60	0.0013	0.0015

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	944994-2	4.72	4.87	3.13%	≤20%	Yes

<u>QC Std I.D.</u>	<u>Lab Number</u>	<u>Conc. of unspiked sample</u>	<u>Dilution Factor</u>	<u>Added Spike Conc.</u>	<u>MS Amount</u>	<u>Measured Conc. of spiked sample</u>	<u>Theoretical Conc. of spiked sample</u>	<u>MS% Recovery</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
MS	944994-2	4.72	104	0.0500	5.20	10.6	9.92	113%	75-125%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
MRCCS	0.0487	0.0500	97.4%	90% - 110%	Yes
MRCVS#1	0.0519	0.0500	104%	90% - 110%	Yes
MRCVS#2	0.0506	0.0500	101%	90% - 110%	Yes
ICS	0.0324	0.0300	108%	80% - 120%	Yes
LCS	0.0535	0.0500	107%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

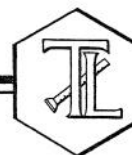
Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

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

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REPORT

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

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

Laboratory No.: 945031

Date: July 27, 2005
Collected: July 25, 2005
Received: July 25, 2005
Prep/ Analyzed: July 26, 2005
Analytical Batch: 07CrH05U

Investigation:

Hexavalent Chromium by SW 7199

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
945031-1	SC-100B-72hr-1	11:00	08:31	mg/L	200	0.0400	4.54
945031-2	SC-700C-72hr-1	11:21	09:40	mg/L	5.00	0.0010	ND
945031-3	SC-701-72hr-1	11:35	10:29	mg/L	10.0	0.0020	0.0024
945031-4	SC-702-72hr-1	11:15	09:07	mg/L	1.05	0.00020	0.00040

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945040-1	0.0103	0.0104	0.97%	< 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	945031-1	4.54	200	0.0200	4.00	8.51	8.54	99.3%	75-125%	Yes
MS	945031-2	0.00	5.00	0.00100	0.00500	0.00490	0.00500	98.0%	75-125%	Yes
MS	945031-3	0.0024	10.0	0.00100	0.0100	0.0114	0.0124	90.0%	75-125%	Yes
MS	945031-4	0.00040	1.06	0.00100	0.00106	0.00143	0.00146	97.2%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00492	0.00500	98.4%	90% - 110%	Yes
MRCVS#1	0.0101	0.0100	101%	90% - 110%	Yes
MRCVS#2	0.0100	0.0100	100%	90% - 110%	Yes
MRCVS#3	0.00993	0.0100	99.3%	90% - 110%	Yes
LCS	0.00495	0.00500	99.0%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

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

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Laboratory No.: 945031

Date: July 27, 2005

Collected: July 25, 2005

Received: July 25, 2005

Prep/ Analyzed: July 26, 2005

Analytical Batch: 07TDS05J

Investigation:

Total Dissolved Solids by EPA 160.1

Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
945031-1	SC-100B-72hr-1	mg/L	EPA 160.1	250	6130
945031-2	SC-700C-72hr-1	mg/L	EPA 160.1	250	4460
945031-3	SC-701-72hr-1	mg/L	EPA 160.1	500	20700
945031-4	SC-702-72hr-1	mg/L	EPA 160.1	125	3200

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	945031-2	4460	4480	0.2%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	514	500	103%	90% - 110%	Yes

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Laboratory No.: 945031

Date: July 27, 2005
Collected: July 25, 2005
Received: July 25, 2005
Prep/ Analyzed: July 26, 2005
Analytical Batch: 07EC05K

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
945031-1	SC-100B-72hr-1	µmhos/cm	EPA 120.1	1.00	2.00	9320
945031-2	SC-700C-72hr-1	µmhos/cm	EPA 120.1	1.00	2.00	7080
945031-3	SC-701-72hr-1	µmhos/cm	EPA 120.1	10.0	20.0	33900
945031-4	SC-702-72hr-1	µmhos/cm	EPA 120.1	1.00	2.00	5280

QA/QC Summary

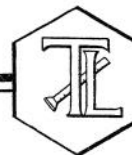
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945030-3	578	581	0.52%	≤ 10%	Yes
QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
CCS	662	706	93.8%	90% - 110%	Yes	
CVS#1	950	996	95.4%	90% - 110%	Yes	
CVS#2	948	996	95.2%	90% - 110%	Yes	
LCS	665	706	94.2%	90% - 110%	Yes	
LCSD	668	706	94.6%	90% - 110%	Yes	

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

REPORT

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

Laboratory No.: 945031

Date: July 27, 2005

Collected: July 25, 2005

Received: July 25, 2005

Prep/ Analyzed: July 26, 2005

Analytical Batch: 07PH05P

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Investigation:

pH by EPA 150.1

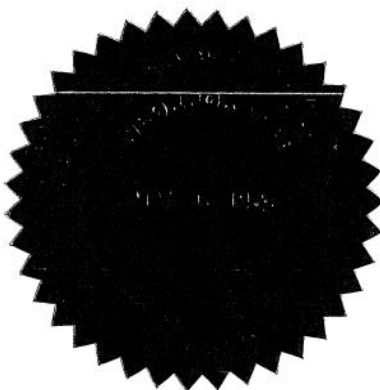
Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
945031-1	SC-100B-72hr-1	11:00	7:34	pH Units	0.0140	0.100	7.61
945031-2	SC-700C-72hr-1	11:21	7:40	pH Units	0.0140	0.100	8.11
945031-3	SC-701-72hr-1	11:35	7:44	pH Units	0.0140	0.100	7.98
945031-4	SC-702-72hr-1	11:15	7:51	pH Units	0.0140	0.100	8.03

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	945068	9.23	9.23	0.00	+ 0.100 Units	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
LCS	7.01	7.00	0.01	+ 0.100 Units	Yes
LCS #1	7.02	7.00	0.02	+ 0.100 Units	Yes
LCS #2	7.02	7.00	0.02	+ 0.100 Units	Yes



Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Julia Nayberg
Julia Nayberg, Manager
Analytical Services

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TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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REPORT

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 315994.PS.07.CW

P.O. No.: 801799

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

Laboratory No.: 945031

Date: July 27, 2005

Collected: July 25, 2005

Received: July 25, 2005

Prep/ Analyzed: July 26, 2004

Analytical Batch: 07TUC05T

Investigation:

Turbidity by Method EPA 180.1

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
945031-1	SC-100B-72hr-1	11:00	NTU	1.00	0.100	0.870
945031-2	SC-700C-72hr-1	11:21	NTU	1.00	0.100	1.45
945031-4	SC-702-72hr-1	11:15	NTU	1.00	0.100	1.77

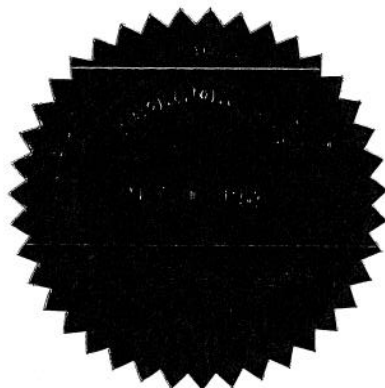
QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945020-7	0.567	0.612	7.6%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.59	8.00	94.9%	90% - 110%	Yes
LCS	7.60	8.00	95.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

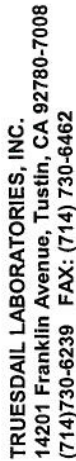
DF: Dilution Factor.



Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

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COC Number

IM3Plant72hr

945031

COC Number IM3Plant72hr
TURNAROUND TIME hardcopy Report by
DATE 7/25/05 PAGE 1 OF 1

SAMPLE I.D.	DATE	TIME	DESCRIPTION
SC-100B-72hr-1	7/25/05		Groundwater
SC-700 ^B -72hr-1	{		Groundwater
SC-701-72hr-1	}		Groundwater
SSC-702-72hr-1	}		

Rec'd 07/25/05
Sd 945031

COMPANY _____
 PROJECT NAME PG&E Topock GWM
 PHONE (510) 251-2888 FAX (510) 622-7086
 ADDRESS 155 Grand Ave Ste 1000
 Oakland, CA 94612

 P.O. NUMBER _____
 SAMPLERS (SIGNATURE) _____

Hexavalent Chromium (7199) - Lab Filtered	Metals (60108) Total Chromium	Specific Conductance (120.1)	pH (150.1)	TDS (160.1)	Turbidity (180.1)
x	x	x	x	x	x
x	x	x	x	x	x
x	x	x	x	x	
x	x	x	x	x	X

ALERT!!
Level III QC

NUMBER OF CONTAINERS	COMMENTS
23	pH=7 pH=7 pH=7 pH=7

TOTAL NUMBER OF CONTAINERS

CHAIN OF CUSTODY SIGNATURE RECORD

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



TRUESDAIL LABORATORIES, INC.



Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 945031

Date Delivered: 7/25/05 Time: 17:00 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 the 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 _____
16. Comments: _____
17. Sample Check-In completed by Truesdail Log-In/Receiving: J Brown

RUSH





CH2M HILL

PG&E Topock Project

Laboratory Number: 945145

Received: July 27, 2005

IM3 Plant 72hr

Project No.: 315994.PS.07.CW

P.O. No.: 801799



Prepared for:

**CH2M HILL
Attn: Mark Cichy
2525 Airpark Dr.
Redding, CA 96001**

Prepared by:

**TRUESDAIL LABORATORIES, INC.
TUSTIN, CALIFORNIA**

Table of Contents
TLI Laboratory Data Package
For Laboratory Number: 945145

<u>ITEM</u>	<u>Section</u>
Case Narrative	1.0
Summary Table of Final Results	2.0
Final Reports	3.0
Wet Chem Analysis/ Raw Data, Standard, Quality Control and Chain of Custody Records	4.0
Established Retention Time Window and Analytical Raw Data	5.0

Section 1.0

Case Narrative

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

August 1, 2005

CH2M HILL
Ms. Ellen Hedfield
155 Grand Ave., Suite 1000
Oakland, California 94612

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

Dear Ms. Hedfield:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM#3 PLANT PROJECT, GROUNDWATER
MONITORING,
TLI NO.: 945145

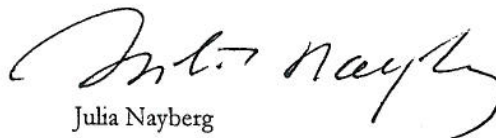
Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM#3 Plant project groundwater monitoring for Total Dissolved and Hexavalent Chromium, pH, Specific Conductivity, Total Dissolved Solids, and Turbidity. A summary table for this laboratory number is included in Section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

The samples were received and delivered with the chain of custody on June 27, 2005, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

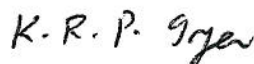
No violations or nonconformance actions occurred for this data package.

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

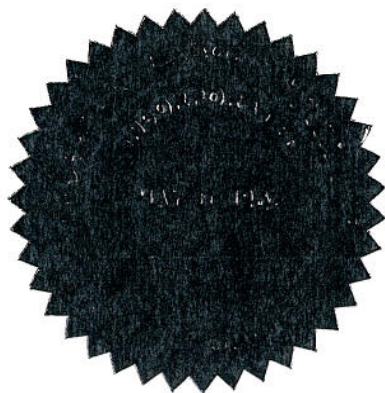
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.



Julia Nayberg
Manager, Analytical Services



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



Section 2.0

Summary Table of Final Results

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Ellen Hedfield

Laboratory No.: 945145
Date Received: July 27, 2005

Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>SW 6020</u> <i>Chromium Total mg/L</i>	<u>SW 7199</u> <i>Chromium Hexavalent mg/L</i>	<u>EPA 180.1</u> <i>Turbidity NTU</i>	<u>EPA 150.1</u> <i>pH Unit</i>	<u>EPA 120.1</u> <i>EC µmhos/cm</i>	<u>EPA 160.1</u> <i>TDS mg/L</i>
945145-1	SC-100B-72hr-2	08:30	5.00	4.23	0.154	7.60	9280	5460
945145-2	SC-700C-72hr-2	09:00	0.0027	0.0011	0.0660	8.13	10200	6260
945145-3	SC-701-72hr-2	08:35	0.0065	0.0031	---	7.93	30400	18600
945145-4	SC-702-72hr-2	09:30	0.0018	0.00041	0.190	7.97	5030	2835

ND: Non Detected (below reporting limit)

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

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Section 3.0

Final Reports

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 315994.PS.07.CW

P.O. No.: 801799

REPORT

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

Laboratory No.: 945145

Date: July 29, 2005

Collected: July 27, 2005

Received: July 27, 2005

Prep/ Analyzed: July 27, 2005

Analytical Batch: 07TDS05K

Investigation:

Total Dissolved Solids by EPA 160.1

Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
945145-1	SC-100B-72hr-2	mg/L	EPA 160.1	250	5460
945145-2	SC-700C-72hr-2	mg/L	EPA 160.1	250	6260
945145-3	SC-701-72hr-2	mg/L	EPA 160.1	500	18600
945145-4	SC-702-72hr-2	mg/L	EPA 160.1	125	2840

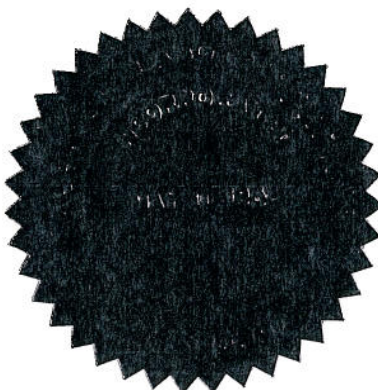
QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	945145-2	6260	6110	1.2%	≤ 5%	Yes
Duplicate	945145-4	2840	2820	0.35%	≤ 5%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
LCS 1	505	500	101%	90% - 110%	Yes
LCS 2	511	500	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.



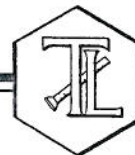
Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Julia Nayberg
Julia Nayberg, Manager
Analytical Services

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INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

REPORT

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

Laboratory No.: 945145

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799
Prep. Batch: 072805A

Date: July 29, 2005
Collected: July 27, 2005
Received: July 27, 2005
Prep/ Analyzed: July 28, 2005
Analytical Batch: 072805A

Investigation:

**Total Chromium by Inductively Coupled Argon Plasma
Mass Spectrometer Using SW 6020.**

Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
945145-1	SC-100B-72hr-2	mg/L	SW 6020	11:38	104	0.0520	5.00
945145-2	SC-700C-72hr-2	mg/L	SW 6020	11:42	2.08	0.0010	0.0027
945145-3	SC-701-72hr-2	mg/L	SW 6020	12:19	7.29	0.0036	0.0065
945145-4	SC-702-72hr-2	mg/L	SW 6020	11:46	2.08	0.0010	0.0018

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	945144-1	4.05	4.17	2.92%	≤20%	Yes

<u>QC Std I.D.</u>	<u>Lab Number</u>	<u>Conc. of unspiked sample</u>	<u>Dilution Factor</u>	<u>Added Spike Conc.</u>	<u>MS Amount</u>	<u>Measured Conc. of spiked sample</u>	<u>Theoretical Conc. of spiked sample</u>	<u>MS% Recovery</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
MS	945144-1	4.05	104	0.0500	5.20	8.65	9.25	88%	75-125%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
MRCCS	0.0483	0.0500	96.6%	90% - 110%	Yes
MRCVS#1	0.0490	0.0500	98.0%	90% - 110%	Yes
MRCVS#2	0.0489	0.0500	97.8%	90% - 110%	Yes
ICS	0.0316	0.0300	105%	80% - 120%	Yes
LCS	0.0483	0.0500	96.6%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

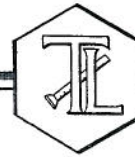
Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Julia Nayberg, Manager
Analytical Services

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TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

REPORT

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

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

Laboratory No.: 945145

Date: July 29, 2005
Collected: July 27, 2005
Received: July 27, 2005
Prep/ Analyzed: July 27, 2005
Analytical Batch: 07CrH05X

Investigation:

Hexavalent Chromium by SW 7199

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
945145-1	SC-100B-72hr-2	08:30	21:02	mg/L	200	0.0400	4.23
945145-3	SC-701-72hr-2	08:35	22:16	mg/L	5.0	0.0010	0.0031

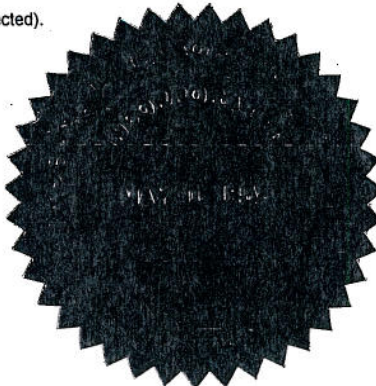
QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945144-8	0.00050	0.00053	5.83%	< 20%	Yes

QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	945145-1	0.597	50.0	0.0100	0.500	1.09	1.10	98.6%	75-125%	Yes
MS	945145-1	4.23	200	0.0200	4.00	8.32	8.23	102%	75-125%	Yes
MS	945145-3	0.0031	5.00	0.00100	0.00500	0.00795	0.00810	97.0%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00481	0.00500	96.2%	90% - 110%	Yes
MRCVS#1	0.00979	0.0100	97.9%	90% - 110%	Yes
MRCVS#2	0.0101	0.0100	101%	90% - 110%	Yes
MRCVS#3	0.0100	0.0100	100%	90% - 110%	Yes
LCS	0.00484	0.00500	96.8%	90% - 110%	Yes

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



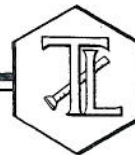
Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Julia Nayberg, Manager
Analytical Services

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REPORT

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

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

Laboratory No.: 945145

Date: July 29, 2005
Collected: July 27, 2005
Received: July 27, 2005
Prep/ Analyzed: July 28, 2005
Analytical Batch: 07CrH05Y

Investigation:

Hexavalent Chromium by SW 7199

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
945145-2	SC-700C-72hr-2	09:00	07:50	mg/L	5.00	0.0010	0.0011
945145-4	SC-702-72hr-2	09:30	07:41	mg/L	1.05	0.00020	0.00041

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945154-4	0.0163	0.0162	0.62%	< 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	945145-2	0.0011	5.00	0.00100	0.00500	0.00598	0.0061	97.6%	75-125%	Yes
MS	945145-4	0.00041	1.06	0.00100	0.00106	0.00149	0.0015	102%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00492	0.00500	98.4%	90% - 110%	Yes
MRCVS#1	0.0101	0.0100	101%	90% - 110%	Yes
MRCVS#2	0.0100	0.0100	100%	90% - 110%	Yes
MRCVS#3	0.0103	0.0100	103%	90% - 110%	Yes
LCS	0.00496	0.00500	99.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

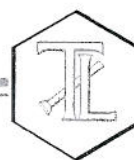
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Julia Nayberg, Manager
Analytical Services

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REPORT

Client: CH2M HILL
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 315994.PS.07.CW
P.O. No.: 801799

Laboratory No.: 945145

Date: July 29, 2005

Collected: July 27, 2005

Received: July 27, 2005

Prep/ Analyzed: July 28, 2004

Analytical Batch: 07TUC05V

Investigation:

Turbidity by Method EPA 180.1

Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
945145-1	SC-100B-72hr-2	08:30	NTU	1.00	0.100	0.154
945145-2	SC-700C-72hr-2	09:00	NTU	1.00	0.100	ND
945145-4	SC-702-72hr-2	09:30	NTU	1.00	0.100	0.190

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	945142-1	2.57	2.56	0.4%	≤ 20%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
LCS	7.82	8.00	97.8%	90% - 110%	Yes
LCS	7.75	8.00	96.9%	90% - 110%	Yes
LCS	7.80	8.00	97.5%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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Attention: Ellen Hedfield

Sample: Four (4) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 315994.PS.07.CW

P.O. No.: 801799

REPORT

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

Laboratory No.: 945145

Date: July 29, 2005

Collected: July 27, 2005

Received: July 27, 2005

Prep/ Analyzed: July 28, 2005

Analytical Batch: 07PH05R

Investigation:

pH by EPA 150.1

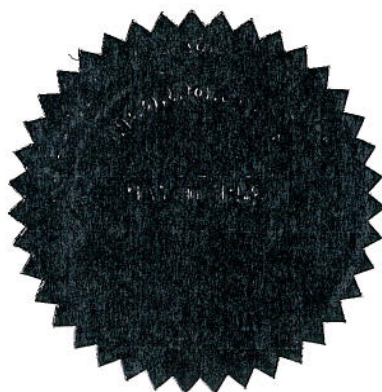
Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
945145-1	SC-100B-72hr-2	08:30	07:20	pH Units	0.0140	0.100	7.60
945145-2	SC-700C-72hr-2	09:00	07:25	pH Units	0.0140	0.100	8.13
945145-3	SC-701-72hr-2	08:35	07:30	pH Units	0.0140	0.100	7.93
945145-4	SC-702-72hr-2	09:30	07:36	pH Units	0.0140	0.100	7.97

QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	945145-3	7.93	7.93	0.00	+ 0.100 Units	Yes

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



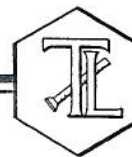
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Julia Nayberg
Julia Nayberg, Manager
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Project No.: 315994.PS.07.CW
P.O. No.: 801799

REPORT

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Laboratory No.: 945145

Date: July 29, 2005
Collected: July 27, 2005
Received: July 27, 2005
Prep/ Analyzed: July 27, 2005
Analytical Batch: 07EC05LA

Investigation:

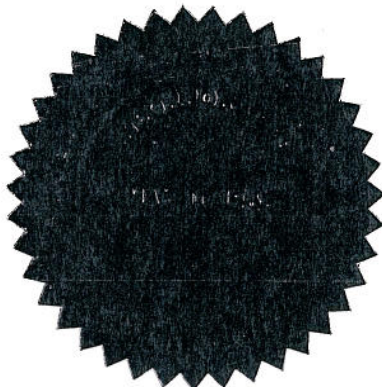
Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
945145-1	SC-100B-72hr-2	µmhos/cm	EPA 120.1	1.00	2.00	9280
945145-2	SC-700C-72hr-2	µmhos/cm	EPA 120.1	1.00	2.00	10200
945145-3	SC-701-72hr-2	µmhos/cm	EPA 120.1	10.0	20.0	30400
945145-4	SC-702-72hr-2	µmhos/cm	EPA 120.1	1.00	2.00	5030

QA/QC Summary

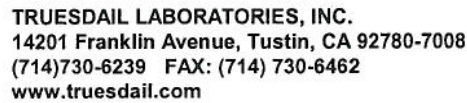
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	945145-1	9280	9300	0.22%	≤ 10%	Yes
QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
CCS	654	706	92.6%	90% - 110%	Yes	
CVS#1	952	996	95.6%	90% - 110%	Yes	
CVS#2	951	996	95.5%	90% - 110%	Yes	
LCS	674	706	95.5%	90% - 110%	Yes	
LCSD	728	706	103%	90% - 110%	Yes	



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945145
CHAIN OF CUSTODY RECORD
[IM3Plant72hr]

24hr Verbal
5 Day Hardcopy/Edata

COC Number IM3Plant72hr

TURNAROUND TIME ~~40~~ Days

DATE 7/27/05 PAGE 1 OF 1

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Hexavalent Chromium (7199) - Lab Filtered	Metals (6010B)	Specific Conductance (120.1) <i>Total Cr</i>	pH (150.1)	TDS (160.1)	Turbidity (180.1)						NUMBER OF CONTAINERS	COMMENTS
SC-100B-72hr-2	7/27/05	0830	Groundwater	x	x	x	x	x	x					6	pH=7	
SC- ^C 700B-72hr-2 SP		0900	Groundwater	x	x	x	x	x	x					6	pH=7	
SC-701-72hr-2		0835	Groundwater	x	x	x	x	x						5	pH=7	
SC-702-72hr-Z		0930	Groundwater	x	x	x	x	x	x					6	pH=7	
										For Sample Conditions See Form Attached						
														23 AZ	TOTAL NUMBER OF CONTAINERS	

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



TRUESDAIL LABORATORIES, INC.

ALERT!!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 945145

Date Delivered: 7/27/05 Time: 1530 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 the 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 _____
16. Comments: _____
17. Sample Check-In completed by Truesdail Log-In/Receiving: J Brown

ALERT!!
Level III QC