Topock Project Executive Abstract

Document Title: Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Submitting Agency: DTSC

Final Document? ☒ Yes ☐ No

Date of Document: 11/30/2010

Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)

PG&E

Priority Status: ☐ HIGH ☐ MED ☒ LOW

Is this time critical? ☐ Yes ☒ No

Type of Document:

☐ 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?

Report is required to be in compliance with DTSC requirements.

Other Justification/s:

☐ Permit ☐ Other / Explain:

Brief Summary of attached document:

This quarterly report documents the monitoring activities and performance evaluation of the Interim Measure (IM) hydraulic containment system under the IM Performance Monitoring Program and the Groundwater Monitoring Program and Surface Water Monitoring Program for the Topock Project. Hydraulic and chemical monitoring data were collected and used to evaluate IM hydraulic containment system performance based on a set of standards approved by DTSC. Key items included in this report are: (1) measured groundwater elevations and hydraulic gradient data at compliance well pairs that indicate the direction of groundwater flow is away from the Colorado River and towards the pumping centers onsite; (2) hexavalent chromium data for monitoring wells; (3) pumping rates and volumes from the IM extraction system; and (4) Groundwater Monitoring Program and Surface Water Monitoring Program activities and results.

Based on the data and evaluation presented in this report, the IM performance standard has been met for the third quarter 2010 reporting period, which includes the months of July, August, September and October 2010. On July 23, 2010 DTSC approved a revised reporting schedule for this report; this was done at the request of DTSC to minimize the time between data collection to report submittal. As a result, this quarter includes an extra month. The average pumping rate for the IM extraction system over the third quarter 2010 was 127.5 gallons per minute, and an estimated 60.3 kilograms (or 133 pounds) of chromium were removed.

Written by: PG&E

Recommendations:

This report is for information only.

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

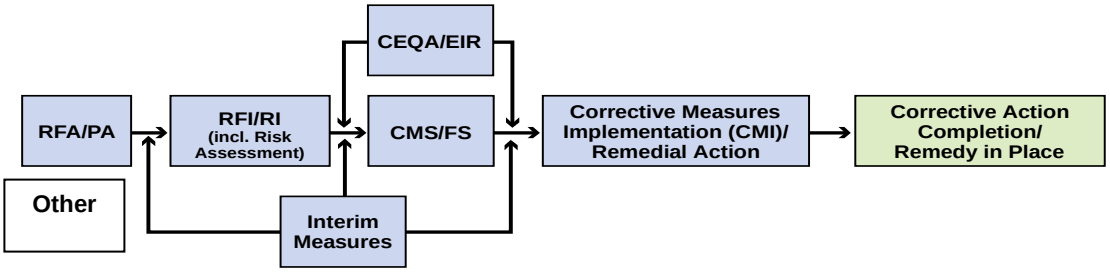
This report is required by DTSC as part of the Interim Measures Performance Monitoring Program.

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

Yvonne J. Meeks
Manager

Environmental Remediation
Gas Transmission & Distribution

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

Location
6588 Ontario Road
San Luis Obispo, CA 93405

805.234.2257
Fax: 805.546.5232
E-Mail: Yjm1@Pge.Com

November 30, 2010

Mr. Aaron Yue
Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: *Third Quarter 2010 Interim Measures Performance and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California* (Document ID: PGE20101130A)

Dear Mr. Yue:

Enclosed is the *Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California* for PG&E's Interim Measures Performance Monitoring Program and the Groundwater Monitoring Program and Surface Water Monitoring Program for the Topock project. This report presents the third quarter (July through October 2010) performance monitoring results for the IM hydraulic containment system and summarizes the operations and performance evaluation for the reporting period. This report also presents groundwater and surface water monitoring activities, results, and analyses related to the Groundwater and Surface Water Monitoring Programs during the reporting period.

The Interim Measures quarterly performance monitoring report is submitted in conformance with the reporting requirements in the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC's) Interim Measure directive dated February 14, 2005, and updates and modifications approved by DTSC in letters or emails dated October 12, 2007, July 14, 2008, July 17, 2008, March 3, 2010, April 28, 2010 and July 23, 2010.

Please contact me at (805) 234-2257 if you have any questions on the combined monitoring report. Comments regarding the new report format and contents are welcomed.

Sincerely,

Yvonne Meeks

Yvonne Meeks
Topock Project Manager

Enclosure
Third Quarter 2010 Interim Measures Performance and Site-Wide Groundwater and Surface Water Monitoring Report

cc:

Chris Guerre/DTSC
Karen Baker/DTSC
Carolyn Yee/DTSC
Taryn Nance/AECOM
Pam Innis/DOI
Susan Young/CA-SLC
Nancy Garcia/AZ-SLD

Final Report

Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report

PG&E Topock Compressor Station Needles, California

Document ID: PGE20101130A

Prepared for

California Department of Toxic Substances Control

on behalf of

Pacific Gas and Electric Company

November 30, 2010

CH2MHILL
155 Grand Ave. Ste. 1000
Oakland, CA 94612

Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report

Interim Measures Performance Monitoring Program and Groundwater Monitoring Program
PG&E Topock Compressor Station
Needles, California

Prepared for

California Department of Toxic Substances Control

On behalf of

Pacific Gas and Electric Company

November 30, 2010

This report was prepared under the supervision of a
California Professional Geologist

Isaac Wood
Project Hydrogeologist, P.G. #8747

Jay Piper
CH2M HILL Project Manager

Contents

Section **Page**

Acronyms and Abbreviations vii

1.0 Introduction 1-1
1.1 Site-wide Groundwater and Surface Water Monitoring Program 1-1
1.2 Interim Measure Performance Monitoring Program 1-3

2.0 Third Quarter 2010 Monitoring Activities 2-1
2.1 Groundwater Monitoring Program 2-1
2.1.1 Monthly 2-1
2.1.2 Quarterly 2-1
2.2 Surface Water Monitoring Program 2-1
2.3 Performance Monitoring Program 2-2

3.0 Results for Site-Wide Groundwater Monitoring and Surface Water Sampling 3-1
3.1 Groundwater Results for Cr(VI) and Chromium 3-1
3.2 Surface Water Results for Cr(VI) and Chromium 3-1
3.3 Other Monitoring Results 3-1
3.3.1 Title 22 Metals 3-1
3.3.2 Arsenic Sampling in Monitoring Wells 3-1
3.3.3 Sample Results for MW-58BR 3-2
3.4 Data Validation and Completeness 3-2

4.0 IM Performance Monitoring Program Evaluation 4-1
4.1 Water Quality Results for PMP Floodplain Wells 4-1
4.2 Cr(VI) Distribution and Trends in PMP Wells 4-1
4.3 PMP Contingency Plan Cr(VI) Monitoring 4-2
4.4 Extraction Systems Operations 4-2
4.5 Hydraulic Gradient and River Levels during Quarterly Period 4-3
4.6 Projected River Levels during Next Quarter 4-4
4.7 Quarterly PMP Evaluation Summary 4-5

5.0 Upcoming Operation and Monitoring Events 5-1
5.1 Groundwater Monitoring Program 5-1
5.1.1 Quarterly Monitoring 5-1
5.1.2 Monthly Monitoring 5-1
5.2 Surface Water Monitoring Program 5-1
5.3 Performance Monitoring Program 5-1
5.3.1 Extraction 5-1
5.3.2 Transducer Download 5-2

6.0 References 6-1

Tables

3-1 Groundwater Sampling Results, September 2009 through October 2010
3-2 Surface Water Sampling Results, July through October 2010
3-3 Title 22 Metals Results, September 2010
4-1 Pumping Rate and Extracted Volume for IM System, July through October 2010
4-2 Analytical Results for Extraction Wells, June 2009 through October 2010
4-3 Average Hydraulic Gradients Measured at Well Pairs, July through October 2010
4-4 Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3

Figures

1-1 Locations of IM-3 Facilities and Monitoring Locations
1-2 Monitoring Locations and Sampling Frequency for GMP and RMP
1-3 Locations of Wells and Cross-Sections Used for IM Performance Monitoring
3-1a Cr(VI) Sampling Results, Shallow Wells in Alluvial Aquifer and Bedrock, September - October 2010
3-1b Cr(VI) Sampling Results, Mid-depth Wells in Alluvial Aquifer and Bedrock, September - October 2010
3-1c Cr(VI) Sampling Results, Deep Wells in Alluvial Aquifer and Bedrock, September - October 2010
4-1 Maximum Cr(VI) Concentrations in Alluvial Aquifer, September - October 2010
4-2 Cr(VI) Concentrations Floodplain Cross-section B, September through October 2010
4-3 Cr(VI) Concentration Trends in Selected Performance Monitoring Wells, April 2005 through October 2010
4-4a Average Groundwater Elevations for Shallow Wells and River Elevations, July through October2010
4-4b Average Groundwater Elevations for Mid-depth Wells, July through October 2010
4-4c Average Groundwater Elevations for Deep Wells, July through October 2010
4-5 Average Groundwater Elevations for Wells in Floodplain Cross-section A, July through October 2010
4-6 Measured Hydraulic Gradients, River Elevations, and Pumping Rate, July through October 2010
4-7 Past and Predicted Future River Levels at Topock Compressor Station

Appendixes

A Lab Reports, July through October 2010 (provided on CD-ROM only with hardcopy submittal)
B Other Groundwater Monitoring Results
C Groundwater Monitoring Data for GMP and Interim Measures Monitoring Wells
D Interim Measures Extraction System Operations Log, July through October 2010
E Hydraulic Data for Interim Measures Reporting Period

Acronyms and Abbreviations

µg/L	micrograms per liter
bgs	below ground surface
BOR	United States Bureau of Reclamation
Cr(VI)	hexavalent chromium
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
ft/ft	feet per foot
GMP	Groundwater Monitoring Program
gpm	gallons per minute
IM	Interim Measure
IMCP	Interim Measures Contingency Plan
IM-3	Interim Measure Number 3
PG&E	Pacific Gas and Electric Company
PMP	Performance Monitoring Program
RCRA	Resource Conservation and Recovery Act
RMP	Surface Water Monitoring Program
TDS	total dissolved solids

1.0 Introduction

Pacific Gas and Electric Company (PG&E) is implementing Interim Measures (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The Topock Compressor Station is located in eastern San Bernardino County, 15 miles southeast of the city of Needles, California, as shown in Figure 1-1. (All figures are located at the end of the report.) This report presents the monitoring data from three key PG&E monitoring programs:

- Site-wide Groundwater Monitoring Program (GMP)
- Site-wide Surface Water Monitoring Program (RMP)
- IM-3 Performance Monitoring Program (PMP) (data and evaluations)

The data presented for the GMP were collected from September 27, 2010 through October 7, 2010. The data for the RMP were collected from October 12 through October 13, 2010. The data collected as part of the GMP and RMP are presented in Section 3.0. The data collected throughout the quarter as part of the PMP are presented in Section 4.0. This combined PMP and GMP (including RMP) reporting format was approved by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) in May 2009 (DTSC, 2009a). On July 23, 2010, DTSC approved a new sampling event timing and reporting schedule for the PMP, GMP and RMP programs (DTSC, 2010a). In compliance with this approval, the third quarter 2010 monitoring report contains data from July 2010 through October 2010.

1.1 Site-wide Groundwater and Surface Water Monitoring Program

The Topock GMP and RMP were initiated as part of a Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act facility investigation/remedial investigation groundwater investigation. These programs are being regulated under a Corrective Action Consent Agreement issued by the DTSC in 1996 for the Topock site (United States Environmental Protection Agency ID No. CAT080011729).

Groundwater monitoring data collected between July 1997 and October 2007 are presented in the *Revised Final RCRA Facility Investigation and Remedial Investigation Report, Volume 2 – Hydrogeological Characterization and Results of Groundwater and Surface Water Investigation, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California*, dated February 11, 2009 (CH2M HILL, 2009a). Select groundwater and surface water monitoring data from November 2007 through September 2008 are presented in the *Final RCRA Facility Investigation/Remedial Investigation Report, Volume 2 Addendum – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California,* dated June 29, 2009 (CH2M HILL, 2009b).

For background and descriptions of the current groundwater and surface water sampling, analyses, and monitoring programs, refer to PG&E's *Fourth Quarter 2009 and Annual Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*, dated March 15, 2010 (CH2M HILL, 2010a).

GMP and RMP Monitoring Networks

Figure 1-2 shows the current locations and sampling frequencies of the monitoring wells in the GMP. The complete GMP includes 123 groundwater monitoring wells, which consist of:

- One hundred six monitoring wells in California.
- Eight monitoring wells in Arizona.
- Two water supply wells.
- Two active extraction wells.
- Five test wells.

Sampling frequencies for the GMP wells were updated beginning in First Quarter 2010 following the DTSC directive dated March 3, 2010 (DTSC, 2010b). Figure 1-2 shows these updated frequencies. Sampling frequencies for the Arizona monitoring wells were updated following the April 23, 2010 approval from the Arizona Department of Environmental Quality (2010) and the April 28, 2010 directive from DTSC (DTSC, 2010c).

Figure 1-2 also shows the locations and sampling frequencies of the RMP. The RMP consists of:

- Ten river channel surface water monitoring locations.
- Four shoreline surface water monitoring locations.
- Two other surface water monitoring locations.

During the week of January 18, 2010, a series of storm events occurred that damaged several wells in the GMP monitoring network, including the bedrock wells of the MW-58 cluster: MW-58-115 and MW-58-205. As a result of this cluster being inundated and filled with floodwater, the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals was removed from the borehole. The MW-58 bedrock well cluster was configured as an open rock borehole and temporarily re-designated as MW-58BR. In September 2010, at the direction of DTSC, a packer system was installed into the open borehole MW-58BR at approximately 115 ft bgs, dividing the open borehole into upper and lower intervals designated as UPR and LWR respectively.

The two wells composing the MW-38 cluster, located in Bat Cave Wash adjacent to the Topock Compressor Station, were also damaged in the storm events during the week of January 18, 2010. Plans to repair monitoring well MW-38D and repair or replace monitoring well MW-38S were submitted in the technical memorandum entitled *Revised Implementation Plan for Repair of Monitoring Wells MW-38S and MW-38D and Old Well/Pipe Reconnaissance* (CH2M HILL, 2010b) to DTSC and the United States Department of the Interior on September 8, 2010. Agencies' directions on the repair of MW-38S and MW-38D are still pending.

1.2 Interim Measure Performance Monitoring Program

In compliance with the requirements for IM monitoring and reporting outlined in the DTSC IM performance directive of March 2005, and in subsequent directives from the DTSC in 2007 (DTSC, 2005a; DTSC, 2007a-c), this document presents the Third Quarter 2010 PMP evaluation report for the IM monitoring activities from July 1, 2010 through October 31, 2010.

The Topock project 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 are collectively referred to as Interim Measures Number 3 (IM-3). Currently, the IM-3 facilities include a groundwater extraction system (four extraction wells: TW-2D, TW-3D, TW-2S, and PE-1), conveyance piping, a groundwater treatment plant, and an injection well field for the discharge of the treated groundwater. Figure 1-1 shows the location of the IM-3 extraction, conveyance, treatment, and injection facilities.

In a letter dated February 14, 2005, DTSC established the criteria for evaluating the performance of the IM (DTSC, 2005c). As defined by DTSC, the performance standard for this IM is to "establish and maintain a net landward hydraulic gradient, both horizontally and vertically, that ensures that hexavalent chromium [Cr(VI)] concentrations at or greater than 20 micrograms per liter [µg/L] in the floodplain are contained for removal and treatment" (DTSC, 2005b). A draft *Performance Monitoring Plan for Interim Measures in the Floodplain Area, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California* (CH2M HILL, 2005) was submitted to DTSC on April 15, 2005 (herein referred to as the Performance Monitoring Plan).

The February 2005 DTSC directive also defined the monitoring and reporting requirements for the IM (DTSC, 2005c). In October 2007, DTSC modified the reporting requirements for the PMP (DTSC, 2007a) to discontinue monthly performance monitoring reports (the quarterly and annual reporting requirements were unchanged). Additional updates and modifications to the PMP were approved by DTSC in letters dated October 12, 2007, July 14, 2008, July 17, 2008 (DTSC, 2007a, 2008a-b), and July 23, 2010 (DTSC, 2010a).

PMP Monitoring Networks

Figure 1-3 shows the locations of wells used for IM extraction, performance monitoring, and hydraulic gradient measurements. With approval from DTSC, the list of wells included in the PMP was modified beginning August 1, 2008. The performance monitoring wells that were in service/active as of October 2010 are defined as:

- **Floodplain Wells** (monitoring wells on the Colorado River floodplain).
- **Intermediate Wells** (monitoring wells located immediately north, west, and southwest of the floodplain).
- **Interior Wells** (monitoring wells located upgradient of IM pumping).

Three extraction wells (TW-2D, TW-3D, and TW-2S) are located on the MW-20 bench. In addition, extraction well PE-1 is located on the floodplain approximately 450 feet east of

extraction well TW-3D, as shown in Figure 1-3. Currently, extraction wells TW-3D and PE-1 operate full time.

Groundwater monitoring wells installed on the Arizona side of the Colorado River are not formally part of the PMP, but some of these wells have been used to collect groundwater elevation data for evaluating the hydraulic gradient on the Arizona side of the river.

The wells screened in the unconsolidated alluvial fan and fluvial deposits, which comprise the Alluvial Aquifer, have been separated into three depth intervals to present groundwater quality and groundwater level data. The depth intervals of the Alluvial Aquifer in the floodplain area—designated upper (shallow wells), middle (mid-depth wells), and lower (deep wells)—are based on grouping the monitoring wells screened at common elevations. These divisions do not correspond to any lithostratigraphic layers within the aquifer. The floodplain aquifer is considered to be hydraulically undivided. The subdivision of the aquifer into three depth intervals is an appropriate construct for presenting and evaluating groundwater quality data in the floodplain. The three-interval concept is also useful for presenting and evaluating lateral gradients while minimizing effects of vertical gradients and observing the influence of pumping from partially penetrating wells.

2.0 Third Quarter 2010 Monitoring Activities

This section provides a summary of the monitoring and sampling activities completed during the third quarter 2010.

2.1 Groundwater Monitoring Program

2.1.1 Monthly

The active IM extraction wells (PE-1 and TW-3D) were sampled for Cr(VI) and chromium during July, August, September, and October 2010.

In addition, the MW-64 cluster was sampled monthly for Cr(VI) and chromium on August 24-25, 2010 and October 19-20, 2010 following DTSC directive dated October 5, 2009 (DTSC, 2009c). Arsenic was also analyzed in groundwater samples from the MW-64 cluster during these monthly sampling events.

2.1.2 Quarterly

Following the July 23, 2010 sampling schedule approval (DTSC, 2010a), the third quarter GMP quarterly groundwater monitoring event was conducted between September 27 and October 7, 2010 and consisted of sampling:

- Thirty-four groundwater monitoring wells, including 13 East Ravine wells (MW-58BR sampled in two zones).
- Two active IM extraction wells.

The above wells were sampled for Cr(VI), chromium, field oxidation-reduction potential, field specific conductance, and field pH.

In addition, the following monitoring activities were conducted at selected GMP wells during the third quarter 2010 sampling event:

- One well (MW-12) screened in alluvial sediments was sampled for California Code of Regulations Title 22 metals analyses, which includes arsenic.
- Seven GMP wells screened in fluvial sediments were sampled for arsenic, as directed by DTSC in its Corrective Measures Study review comment No. 186 (DTSC, 2009b).
- Arsenic was also analyzed in groundwater samples from six bedrock monitoring wells (MW-58BR sampled in two zones).

2.2 Surface Water Monitoring Program

Quarterly surface water sampling was conducted on October 12 and October 13, 2010 from the complete RMP monitoring network. Samples were analyzed for Cr(VI), chromium, specific conductance, and pH.

2.3 Performance Monitoring Program

PMP pressure transducers are downloaded in the first week of every month (July, August, September and October). The transducers in the key monitoring wells (MW-27-085, MW-31-135, MW-33-150, MW-34-100, and MW-45-095a) are downloaded weekly.

3.0 Results for Site-Wide Groundwater Monitoring and Surface Water Sampling

3.1 Groundwater Results for Cr(VI) and Chromium

Table 3-1 presents the results for Cr(VI), chromium, field oxidation-reduction potential, field specific conductance, and field pH in groundwater samples collected from September 2009 through October 2010. During Third Quarter 2010, the maximum detected Cr(VI) concentration was 10,200 µg/L at well MW-50-200. The laboratory reports for results from July through October 2010 are presented in Appendix A.

Figures 3-1a through 3-1c present the Cr(VI) results for wells monitoring the shallow (upper depth interval), mid-depth (middle depth interval), and deep (lower depth interval) wells of the Alluvial Aquifer and bedrock, respectively, from the third quarter 2010 sampling event. Figures 3-1a through 3-1c also show the approximate outlines of Cr(VI) concentration contours greater than 32 µg/L for the Alluvial Aquifer and bedrock based on results from the more comprehensive groundwater sampling event conducted in March 2010.The value of 32 µg/L is based on the calculated natural background upper tolerance limit for Cr(VI) in groundwater from the background study (CH2M HILL, 2009a).

The areas where Cr(VI) concentrations are greater than 32 µg/L in the shallow, mid-depth, and deep intervals of the Alluvial Aquifer and East Ravine bedrock wells are generally similar to the previous quarterly monitoring events (CH2M HILL, 2009c-e, 2010a,c-d).

3.2 Surface Water Results for Cr(VI) and Chromium

Table 3-2 presents results of Cr(VI), chromium, specific conductance, and lab pH from the third quarter 2010 surface water monitoring event. Cr(VI) and chromium were not detected above the reporting limit at any in-channel, shoreline, or other surface water monitoring locations during the third quarter 2010 event.

3.3 Other Monitoring Results

3.3.1 Title 22 Metals

Table 3-3 presents the Title 22 metals results for the GMP monitoring well MW-12 sampled during the third quarter 2010 event. In addition to chromium, the trace metals detected in MW-12 during the third quarter 2010 groundwater sampling event were arsenic, barium, molybdenum, selenium, and vanadium. The dissolved concentrations of the trace metals detected during the third quarter 2010 event—other than chromium and arsenic—are below the respective federal and California maximum contaminant level drinking water standards.

3.3.2 Arsenic Sampling in Monitoring Wells

Eight fluvial/alluvial wells were sampled for arsenic in the third quarter 2010 event. These results are presented in Appendix B, Table B-1. Three of the monitoring well samples had

arsenic concentrations greater than the California maximum contaminant level of 10 µg/L (MW-12, MW-33-40, and MW-42-55). The maximum concentration was detected in MW-12 at 55.4 µg/L. All eight arsenic concentrations are within the previously observed ranges for each well.

Six bedrock wells were sampled for arsenic in the third quarter 2010 event. Monitoring well MW-58BR was sampled from two depth intervals. These results are presented in Appendix B, Table B-1. One of the monitoring well samples had arsenic concentrations greater that the California maximum contaminant level of 10 µg/L, MW-62-110 at 19.5 µg/L.

The wells of the MW-64 cluster were sampled for arsenic during the August, September and October sampling events. These results are presented in Appendix B, Table B-1. In August, one well (MW-64-150) exceeded the California maximum contaminant level (MCL) of 10 µg/L with a result of 10.4 µg/L. No sample results exceeded the MCL in September. Results from the October monthly sampling at the MW-64 cluster (MW-64-150, MW-64-205, and MW-64-260) yielded arsenic results above the California MCL at 155 µg/L, 38.4 µg/L, and 29.3 µg/L respectively, however, these results were rejected. The October arsenic results (in the MW-64 cluster) were rejected and flagged "R" because these data are not consistent with previous results (Table B-1) and the FLUTe liner is known to contain arsenic (CH2M, 2009f). Review of rainfall data at the site in combination with the timing of the anomalously high arsenic concentrations (October) suggest that the spikes are likely due to the temporary influence of infiltrating rain water rinsing portions of the FLUTe liner that were previously not in hydraulic communication with the groundwater. This theory is supported by a decrease in conductivity in samples collected immediately after the rain event and the subsequent increase in conductivity associated with samples collected in November.

3.3.3 Sample Results for MW-58BR

In September 2010, at the direction of DTSC, a packer system was installed into the open borehole MW-58BR at approximately 115 ft bgs, dividing the open borehole into upper and lower intervals designated as UPR and LWR respectively. Sample results for September and October 2010 are presented in Appendix B, Table B-2.

3.4 Data Validation and Completeness

Laboratory analytical data from the third quarter 2010 GMP sampling event were reviewed by project chemists to assess data quality and to identify deviations from analytical requirements. The completeness objectives were met for all method and analyte combinations. No significant analytical deficiencies were identified in the third quarter 2010 GMP data. Additional details are provided in the data validation reports, which are kept in the project file and are available upon request.

4.0 IM Performance Monitoring Program Evaluation

4.1 Water Quality Results for PMP Floodplain Wells

Table C-1 in Appendix C presents the results of the general chemistry and stable isotope analyses for 15 PMP monitoring wells and two river stations during sampling events from March 2005 through October 2010. In July 2008, DTSC approved modifications to the PMP IM chemical performance monitoring program (DTSC, 2008b). With those modifications, there are now 10 monitoring wells and one river station sampled for IM chemical performance monitoring. Figure 1-3 shows the locations of the monitoring wells sampled for the performance monitoring parameters. Water samples from the selected performance monitoring locations are analyzed for general chemistry parameters including TDS, chloride, sulfate, nitrate, bromide, calcium, potassium, magnesium, sodium, boron, alkalinity, deuterium, and oxygen-18 to monitor the effects of IM pumping on groundwater chemistry.

4.2 Cr(VI) Distribution and Trends in PMP Wells

The September through October 2010 distribution of Cr(VI) in the upper (shallow wells), middle (mid-depth wells), and lower (deep wells) intervals of the Alluvial Aquifer is shown in plan view and cross-section in Figure 4-1[1]. Figure 4-2 presents the September through October 2010 Cr(VI) results for cross-section B, oriented parallel to the Colorado River. The location of cross-section B is shown in Figure 1-3. The Cr(VI) concentration contours shown for the Alluvial Aquifer on these figures are based on results from the most recent comprehensive groundwater sampling conducted in March 2010.

Figure 4-3 presents Cr(VI) concentration trend graphs for selected deep monitoring wells in the floodplain area through October 2010. Sampling results are plotted for wells MW-34-100, MW-36-90, MW-36-100, MW-44-115, MW-44-125, and MW-46-175. The locations of the deep wells selected for performance evaluation are shown in Figure 1-3. Appendix C includes Cr(VI) concentration trend graphs for selected monitoring well clusters through October 2010.

Wells showing marked decreases in concentration are generally in the floodplain area where IM pumping is removing chromium in groundwater. Wells with historic detections near or at reporting limits remained at these levels during the third quarter 2010 period. A review of Figure 4-3 and Appendix C indicates that Cr(VI) concentrations have remained steady or

[1] In Figures 4-1 and 4-2, the Cr(VI) concentrations are color-coded based on the groundwater background Cr(VI) concentration, which is 32 µg/L (CH2M HILL, 2009a). The 20 µg/L and 50 µg/L Cr(VI) concentration contours presented in Figures 4-1 and 4-2 are shown in accordance with DTSC's 2005 IM directive and are not based on the background Cr(VI) concentration for groundwater.

have decreased in many wells since IM and PE-1 pumping began in 2004 and 2005, respectively.

Key Trends for PMP wells sampled during the third quarter include:

- Mid-depth and deep MW-33 cluster Cr(VI) concentrations have shown stable to slightly increasing trends since 2005, as presented in Appendix C, Figure C-1.
- Monitoring well MW-33-40 results have been at or near reporting limits since 2004.
- Deep well MW-44-115 has shown an overall downward trend since July 2006, as presented in Figure 4-3 and Appendix C, Figure C-5. Well MW-44-125 has also shown an overall downward trend since November 2008, as presented in Figure 4-3 and Appendix C, Figure C-5.
- Since installation in March 2006, concentrations in deep well MW-46-175 have generally been declining with seasonal fluctuations, as shown in Figure 4-3 and Appendix C, Figure C-6. The sample result for October 2010 is below 75 µg/L, which is the lowest result since June 2009.
- MW-28-90 Cr(VI) concentrations have remained less than laboratory reporting limits since installation in May 2004, as shown in Appendix C, Figure C-6.
- At MW-34-80 Cr(VI) concentrations have been less than the reporting limits since June 2004 as shown in Figure C-2.
- As presented in Figure 4-3, well MW-34-100 has shown a fluctuating trend in Cr(VI) concentrations over the past two years. However, since June 2006 concentrations at this well have shown a general downward trend. Landward gradients have been present at this location since IM pumping began; therefore, the periodic increases in concentration observed at MW-34-100 do not indicate any movement of the plume toward the river.

4.3 PMP Contingency Plan Cr(VI) Monitoring

The Topock Interim Measures Contingency Plan (IMCP) was developed to detect and control any possible migration of the Cr(VI) plume toward the Colorado River. Currently, the IMCP consists of 24 wells. Appendix C includes Cr(VI) concentration trend graphs for the IMCP wells. The IMCP well Cr(VI) results in third quarter 2010 were all below their assigned trigger levels.

4.4 Extraction Systems Operations

Pumping data for the IM-3 groundwater extraction system for the third quarter reporting period of July 1 through October 31, 2010 are presented in Table 4-1. From July 1 through October 31, 2010, the volume of groundwater extracted and treated by the IM-3 system was 22,581,969 gallons. This resulted in removal of an estimated 60.3 kilograms (or 133 pounds) of chromium from the aquifer during the period from July 1, 2010 through September 30, 2010[2].

[2] On July 23, 2010 DTSC approved a revised reporting schedule for this report that included a revised IM-3 sample collection period from July 1, 2010 through September 30, 2010; this IM-3 sample collection period is in line with previous reports prior to combining the GMP with the PMP reports.

During the third quarter of 2010, extraction wells TW-3D and PE-1 operated at a combined pump rate of 127.5 gallons per minute (gpm), excluding periods of planned and unplanned downtime. The average monthly pumping rates were 124.7 gpm (July 2010), 121.5 gpm (August 2010), 134.3 (September 2010) and 129.7 gpm (October 2010) during the reporting period. Extraction wells TW-2S and TW-2D were not operated during the third quarter of 2010. The operational run-time percentage for the IM extraction system was 95.5 percent during this reporting period. The operations log for the extraction system during the third quarter of 2010, including planned and unplanned downtime, is included in Appendix D.

The concentrate (i.e., saline water) from the reverse osmosis system was shipped offsite as a RCRA non-hazardous waste and was transported to Liquid Environmental Solutions in Phoenix, Arizona for treatment and disposal. Four containers of solids from the IM-3 facility were disposed of at the Kettleman Hills Chemical Waste Management facility during the third quarter of 2010. Daily IM-3 inspections included general facility inspections, flow measurements, and site security monitoring. Daily logs with documentation of inspections are maintained onsite.

During the third quarter 2010 reporting period, Cr(VI) concentrations in TW-3D have remained stable, ranging from a maximum value of 1,280 µg/L in August and October 2010 to a minimum value of 1,100 µg/L in July 2010, as shown in Table 4-2. TDS concentrations in TW-3D for this period have remained relatively stable, averaging about 5,200 milligrams per liter, as shown in Table 4-2.

The Cr(VI) concentrations in the extracted groundwater at well PE-1, located on the floodplain, have ranged from 12.4 to 14.9 µg/L during the reporting period, as shown in Table 4-2. TDS concentrations in PE-1 for this period have also remained stable, averaging about 3,300 milligrams per liter.

4.5 Hydraulic Gradient and River Levels during Quarterly Period

During the reporting period, water levels were recorded at intervals of 30 minutes with pressure transducers in 53 wells and two river monitoring stations (I-3 and RRB). The data are typically continuous, with only short interruptions for sampling or maintenance. The locations of the wells monitored are shown in Figure 1-3.

Daily average groundwater and river elevations calculated from the pressure transducer data for the third quarter 2010 reporting period are summarized in Table E-1 in Appendix E. Groundwater elevations (or hydraulic heads) are adjusted for temperature and salinity differences between wells (i.e., adjusted to a common freshwater equivalent), as described in the Performance Monitoring Plan. Groundwater elevation hydrographs for the PMP wells during the third quarter 2010 reporting period are included in Appendix E. The elevation of the Colorado River measured at the I-3 gauge station (location shown in Figure 1-3) is also shown on the hydrographs in Appendix E.

Average Third Quarter 2010 groundwater elevations for the shallow, mid-depth, and deep wells are presented and contoured in plan view in Figures 4-4a through 4-4c. Average groundwater elevations for wells on floodplain cross-section A are presented and contoured in Figure 4-5. Several monitoring wells are significantly deeper than other wells in the lower

depth interval. Due to vertical gradients present at the Topock site, water levels in deeper wells tend to be higher than water levels in shallower wells. Consequently, some of the wells with screen intervals significantly deeper than most of the lower-interval wells exhibit water levels that are not contoured in the plan view in Figure 4-4c.

For the third quarter 2010 reporting period, a full set of transducer data was recorded in wells located on the Arizona side of the Colorado River. The quarterly average groundwater elevations for wells MW-55-120, MW-54-85, MW-54-140, and MW-54-195 are presented on Figure 4-4c and are used for contouring, where appropriate. With the exception of well MW-55-45, all of the wells in the MW-54 and MW-55 clusters are screened in the deep interval of the Alluvial Aquifer. Well MW-55-45 is screened over the boundary between the shallow and middle intervals.

Deep zone water levels shown in Figure 4-4c indicate that potentiometric levels in monitoring wells in Arizona are higher than those in wells across the river on the California floodplain. This means that the hydraulic gradient on the Arizona side of the river is directed to the west and, as a result, groundwater flow would also be towards the west in that area. This is consistent with the site conceptual model and with the current numerical groundwater flow model.

Hydraulic gradients were measured during the third quarter 2010 reporting period for well pairs selected for performance monitoring of the two pumping centers (TW-3D and PE-1). The following well pairs were approved by DTSC on October 12, 2007 (DTSC, 2007a) to define the gradients induced while pumping from two locations:

- MW-31-135 and MW-33-150 (northern gradient pair)
- MW-45-95 and MW-34-100 (central gradient pair)
- MW-45-95 and MW-27-85 (southern gradient pair)

Table 4-3 presents the average monthly hydraulic gradients that were measured between the gradient well pairs in July, August, September and October 2010. Figure 4-6 presents graphs of the hydraulic gradients, monthly average pumping rates, and river levels for the quarterly period. Strong landward gradients were measured each month. The overall average gradients for all well pairs ranged from 0.0043 to 0.0056 feet per foot (ft/ft). This is 4.3 to 5.6 times greater than the required gradient of 0.001 ft/ft. The gradient for the northern well pair ranged from 1.9 to 2.1 times the target gradient of 0.001 ft/ft. For the central well pair, the average landward gradient ranged from 8.0 to 10.7 times the target gradient. The southern well pair gradients averaged 2.8 to 3.9 times the target gradient for the third quarter 2010 reporting period.

4.6 Projected River Levels during Next Quarter

Colorado River stage near the Topock Compressor Station is measured at the I-3 location and is directly influenced by releases from Davis Dam and, to a lesser degree, from Lake Havasu elevations, both of which are controlled by the United States Bureau of Reclamation (BOR). Total releases from Davis Dam follow a predictable annual cycle, with largest monthly releases typically in spring and early summer and smallest monthly releases in late fall/winter (November and December). Superimposed on this annual cycle is a diurnal cycle determined primarily by daily fluctuations in electric power demand. Releases within

a given 24-hour period often fluctuate over a wider range of flows than that of monthly average flows over an entire year.

Figure 4-7 shows river stage measured at I-3 superimposed on the projected I-3 river levels. Projected river levels for future months are based on the BOR projections of Davis Dam discharge and Lake Havasu levels from the month preceding. For example, the projected river level for August 2010 is based on the July 2010 BOR projections of Davis Dam release and Lake Havasu level not the actual release and level values. The variability between measured and projected river levels is due to the difference between measured and actual Davis Dam release and Lake Havasu levels. The more recent data plotted in Figure 4-7 are summarized in Table 4-4. The future projections shown in Figure 4-7 are based on BOR long-range projections of Davis Dam releases and Lake Havasu levels from October 2010. There is more uncertainty in these projections at longer times in the future since water demand is based on various elements including climatic factors.

Current BOR projections, presented in Table 4-4, show that the average Davis Dam release for November 2010 (10,900 cubic feet per second) will be less than the actual release in October 2010 (12,463 cubic feet per second). Based on November 2010 BOR projections, it is anticipated that the Colorado River level at the I-3 gage location in November 2010 will be approximately 1.1 foot lower compared to the actual levels in October 2010. Current projections show that the water levels will decrease during the next quarterly reporting period, followed by a an increase in March and April 2011, as shown in Figure 4-7.

4.7 Quarterly PMP Evaluation Summary

The groundwater elevation and hydraulic gradient data from July through October 2010 performance monitoring indicate that the minimum landward gradient target of 0.001 ft/ft was exceeded each month during the quarterly reporting period. The overall average landward gradients during the third quarter of 2010 were 4.3 to 5.6 times the required minimum magnitude. The current gradient well pairs are adequate to define the capture of the hexavalent chromium plume while pumping from extraction wells TW-3D and PE-1. Based on the hydraulic and monitoring data and evaluation presented in this report, the IM performance standard has been met for the third quarter 2010 reporting period.

A total of 22,581,969 gallons of groundwater was extracted between July and October 2010 by the IM-3 treatment facility. The average pumping rate for the IM extraction system during the third quarter 2010, excluding system down time, was 127.5 gpm. An estimated 133 pounds (60.3 kilograms) of chromium were removed and treated during the period July 1 through September 30, 2010.

A review of the groundwater gradient maps for third quarter 2010 (Figures 4-4a to 4-4c) shows that floodplain PMP monitoring wells where Cr(VI) was detected at greater than 20 μg/L are within the IM capture zone of the pumping well(s) during the reporting period. That is, the inferred groundwater flow lines from floodplain PMP wells with Cr(VI) greater than 20 μg/L are oriented towards the TW-3D and PE-1 extraction wells.

The wells that are monitored in the IM pumping area (e.g., MW-36-100, MW-39-70, MW-39-80, and MW-39-100) generally continue to show overall declining Cr(VI)

concentrations relative to prior monitoring results, as shown in Figure 4-3 and Appendix C. Presentation and evaluation of the Cr(VI) trends observed in the performance monitoring area during the third quarter 2010 reporting period are discussed in Section 4.2.

5.0 Upcoming Operation and Monitoring Events

Reporting of the IM extraction and monitoring activities will continue as described in the PMP and under direction from DTSC. All monitoring results, operations, and performance monitoring data will be reported in the fourth quarter and annual 2010 quarterly monitoring report, which will be submitted by March 15, 2011.

5.1 Groundwater Monitoring Program

5.1.1 Quarterly Monitoring

As described in the July 23, 2010 DTSC sampling schedule approval (DTSC, 2010a), the fourth quarter/annual monitoring event will occur December 6 through 17, 2010. This sampling event will be conducted at 112 GMP wells, including the wells located in the East Ravine area.

5.1.2 Monthly Monitoring

Monthly sampling of the two active extraction wells (TW-3D and PE-1) will continue to be performed during the first two weeks of each month. Monthly sampling will continue at MW-58BR, at MW-34-100, and MW-46-175. In addition, per DTSC's direction on August 5, 2010, monthly sampling will also be conducted at the MW-64 cluster. Results will be reported in the fourth quarter and annual 2010 monitoring report.

5.2 Surface Water Monitoring Program

The fourth quarter 2010 surface water monitoring event (one of two events scheduled for the November through February period of low Colorado River water levels) will be conducted at locations in the RMP monitoring network and is scheduled to occur on November 30 and December 1, 2010. Results will be reported in the fourth quarter and annual 2010 quarterly monitoring report.

5.3 Performance Monitoring Program

5.3.1 Extraction

Per DTSC direction, PG&E will continue to operate wells TW-3D and PE-1 at a target combined pumping rate of 135 gpm during the fourth quarter of 2010, except for periods when planned and unplanned downtime occurs. Extracted groundwater treated at the IM-3 facility will be discharged into the IM-3 injection wells in accordance with Waste Discharge Requirements Order No. R7-2006-0060. Saline water and solids generated as byproducts of the treatment process will continue to be transported for offsite disposal.

PG&E will balance the pumping rates between wells TW-3D and PE-1 to maintain the target pumping rate and to maintain the DTSC-specified hydraulic gradients across the Alluvial Aquifer. Well TW-2D will serve as a backup to extraction wells TW-3D and PE-1.

5.3.2 Transducer Download

Downloads of the transducers in the key gradient control wells (MW-27-085, MW-31-135, MW-33-135, MW-34-100, and MW-45-095) will continue to be conducted weekly during the fourth quarter 2010 reporting period. Downloads of the remainder of the transducers will occur during the first week of each month during the fourth quarter reporting period.

6.0 References

ARCADIS. 2010. Third Quarter 2010 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test. November 16.

Arizona Department of Environmental Quality. 2010. Email. "Re: Reminder – sampling frequency modification for Arizona wells proposed with 4Q2009 data submittal." April 23.

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 2005a. Letter to PG&E. "Requirements for Groundwater and Surface Water Monitoring Program, Pacific Gas & Electric Company, Topock Compressor Station, Needles, California (EPA ID No. CAT080011729)." April 26.

_____. 2005b. Letter. "Criteria for Evaluating Interim Measures Performance Requirements to Hydraulically Contain Chromium Plume in Floodplain Area, Pacific Gas & Electric Company, Topock Compressor Station." May 14.

_____. 2005c. Letter. "Contingency Plan for Sentry Well Groundwater Monitoring." February 14.

_____. 2007a. Letter. "Approval of Updates and Modifications to the Interim Measures Performance Monitoring Program. Pacific Gas & Electric Company, Topock Compressor Station." October 12.

_____. 2007b. Letter. "Updates and Modifications to the PG&E's Topock Interim Measures Performance Monitoring Program. PG&E Topock Compressor Station, Needles, California." July 27.

_____. 2007c. Letter. "Conditional Approval of Updates and Modifications to the Groundwater and Surface Water Monitoring Program, Pacific Gas & Electric Company, Topock Compressor Station." September 28.

_____. 2008a. Letter. "Modifications to Hydraulic Data Collection for the Interim Measures Performance Monitoring Program at Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California." July 14.

_____. 2008b. Letter. "Modifications to Chemical Performance Monitoring and Contingency Plan for the Floodplain Interim Measures Performance Monitoring Program at Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California." July 17.

_____. 2009a. Email. "Re: Request for Combined Reporting of Topock GMP and PMP." May 26.

_____. 2009b. Letter. "Comments on January 27, 2009 Draft Corrective Measures Study/ Feasibility Study (CMS/FS) Report for SWMU1/AOC1, (EPA ID NO. CAT080011729)." March 26.

_____. 2009c. Email. "Re: Monthly sampling at MW-64" October 5.

_____. 2010a. Email. "RE: Topock GMP sampling event timing and reporting schedule." July 23.

_____. 2010b. Email. "Re: Topock GMP Monitoring Frequency Modification." March 3.

_____. 2010c. Letter. "Arizona Monitoring Well Sampling Frequency Modification. Pacific Gas and Electric Company (PG&E), Topock Compressor Station, Needles, California." April 28.

CH2M HILL. 2005. *Performance Monitoring Plan for Interim Measures in the Floodplain Area, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California*. April 15.

_____. 2009a. *Revised Final RCRA Facility Investigation/Remedial Investigation Report, Volume 2 – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California*. February 11.

_____. 2009b. *Final RCRA Facility Investigation/Remedial Investigation Report, Volume 2 Addendum – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California*. June 29.

_____. 2009c. *Performance Monitoring Report for, First Quarter 2009, February through April, 2009, PG&E Topock Compressor Station, Needles, California*. May 29.

_____. 2009d. *Second Quarter 2009 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. August 28.

_____. 2009e. *Third Quarter 2009 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. November 30.

_____. 2010a. *Fourth Quarter and Annual 2009 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. March 15.

_____. 2010b. *Revised Implementation Plan for Repair of Monitoring Wells MW-38S and MW-38D and Old Well/Pipe Reconnaissance*. September 8.

_____. 2010c. *First Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. May 28.

_____. 2010d. *Second Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. August 30.

Tables

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-9	SA	24-Sep-09	311	260	60	3,180	7.6
MW-10	SA	22-Sep-09	341	348	16	3,200	7.7
		11-Mar-10	2,880	3,140	-6.1	2,040	7.7
MW-12	SA	24-Sep-09	2,490	2,780	19	6,650	8.3
		24-Sep-09 FD	2,700	2,910	FD	FD	FD
		11-Dec-09	2,750	2,660	150	6,840	8.3
		06-Apr-10	1,960	1,900	74	6,150	8.4
		06-Apr-10 FD	1,960	1,840	FD	FD	FD
		06-May-10	2,650	2,700	84	5,820	8.4
		06-May-10 FD	2,650	2,890	FD	FD	FD
		30-Sep-10	2,930	2,810	210	6,390	8.2
		30-Sep-10 FD	3,110	2,810	FD	FD	FD
MW-13	SA	21-Sep-09	22.8	22.5	50	1,980	7.5
MW-14	SA	21-Sep-09	27.0	26.6	38	1,510	7.7
MW-15	SA	30-Sep-09	12.3	10.4	46	1,750	7.8
MW-16	SA	28-Sep-09	9.1	8.6	57	1,110	7.9
		16-Mar-10	12.0	10.8	80	1,230	8.0
MW-17	SA	30-Sep-09	10.6	10.1	27	1,760	7.9
		11-Mar-10	16.4	15.1	-15	1,710	7.9
MW-18	SA	22-Sep-09	22.3	20.2	48	1,410	7.7
MW-19	SA	22-Sep-09	192	193	51	2,370	7.5
		18-Mar-10	542	453	93	2,450	7.5
MW-20-70	SA	25-Sep-09	2,430	2,650	110	3,140	7.6
		17-Mar-10	2,740	2,870	68	3,320	7.6
MW-20-100	MA	25-Sep-09	5,760	6,790	94	3,500	7.4
		17-Mar-10	5,690	5,740	61	3,480	7.4
MW-20-130	DA	25-Sep-09	10,800	11,000	82	12,600	7.5
		18-Mar-10	11,100	11,100	110	13,100	7.5
MW-21	SA	23-Sep-09	ND (1.0)	2.7	49	12,800	7.2
		09-Dec-09	ND (1.0)	ND (1.0)	-67	11,000	6.8
		10-Mar-10	1.4	1.2	-24	8,950	7.0
		04-May-10	2.0	3.8	-30	8,420	7.1
		28-Sep-10	ND (1.0)	1.1	-84	13,100	7.1

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-22	SA	29-Sep-09	ND (1.0)	ND (1.0)	-61	20,800	6.9
		10-Dec-09	---	ND (1.0)	-52	34,200	6.8
		12-Mar-10	ND (2.1)	ND (1.0)	-87	34,300	6.8
MW-23-060	BR-S	24-Sep-09	30.5	25.6	24	17,000	9.4
		10-Dec-09	25.8	25.6	-1.9	16,200	11.3
		08-Mar-10	19.7	17.2	-9	10,700	10
		03-May-10	24.7	23.9	-32	14,700	9.1
		29-Sep-10	29.6	31.1	51	16,500	8.9
MW-23-080	BR-S	23-Sep-09	29.7	28.1	-5.4	17,700	11.3
		10-Dec-09	21.8	22.4	-41	17,700	11.1
		08-Mar-10	11.3	9.6	-46	18,100	10.8
		04-May-10	21.8	20.5	-77	18,000	10.9
		29-Sep-10	6.0	8.0	-53	17,300	10.6
MW-24BR	BR	28-Sep-09	ND (2.1)	ND (1.0)	-65	15,100	8.1
		08-Dec-09	ND (1.0)	ND (1.0)	-180	14,900	7.8
		12-Mar-10	ND (1.0)	ND (1.0)	-140	15,500	8.1
		05-May-10	ND (1.0)	ND (1.0)	-150	15,400	8.4
		30-Sep-10	ND (1.0)	1.1	-170	15,000	8.0
MW-25	SA	21-Sep-09	455	495	86	1,270	7.3
		21-Sep-09 FD	457	482	FD	FD	FD
MW-26	SA	22-Sep-09	2,140	2,180	44	3,940	7.5
		16-Mar-10	2,280	2,270	71	4,230	7.4
MW-27-20	SA	01-Oct-09	ND (0.2)	ND (1.0)	-160	1,040	7.6
MW-27-60	MA	01-Oct-09	ND (0.2)	ND (1.0)	-100	1,820	7.8
		08-Dec-09	ND (0.2)	ND (1.0)	-64	1,810	8.2
MW-27-85	DA	01-Oct-09	ND (1.0)	ND (1.0)	-32	15,200	7.1
		08-Dec-09	ND (1.0)	ND (1.0)	-36	15,100	7.0
		09-Mar-10	ND (1.0)	ND (1.0)	-24	15,200	7.2
		29-Apr-10	ND (1.0)	ND (1.0)	-29	15,400	7.2
		01-Oct-10	ND (1.0)	1.2	-37	15,100	7.2
MW-28-25	SA	24-Sep-09	ND (0.2)	ND (1.0)	-120	1,140	7.4
		09-Mar-10	ND (0.2)	ND (1.0)	-25	1,200	7.5
MW-28-90	DA	24-Sep-09	ND (1.0)	ND (1.0)	-160	7,560	7.5

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-28-90	DA	09-Dec-09	ND (1.0)	ND (1.0)	-110	7,650	7.3
		09-Mar-10	ND (0.2)	ND (1.0)	-100	8,130	7.4
		29-Apr-10	ND (1.0)	ND (1.0)	-100	7,980	7.4
		28-Sep-10	ND (0.2)	ND (1.0)	-110	7,480	7.3
MW-29	SA	24-Sep-09	ND (1.0)	ND (1.0)	-180	2,620	7.5
		11-Mar-10	ND (0.2)	ND (1.0)	-110	3,480	7.4
MW-30-30	SA	24-Sep-09	ND (1.0)	ND (1.0)	-130	19,500	7.3
MW-30-50	MA	24-Sep-09	ND (0.21)	ND (1.0)	-90	1,590	8.0
MW-31-60	SA	21-Sep-09	424	417	55	3,320	7.6
		16-Mar-10	571	531	160	3,190	7.5
MW-31-135	DA	21-Sep-09	19.6	20.4	65	11,300	7.9
MW-32-20	SA	22-Sep-09	ND (5.2)	ND (1.0)	-150	53,300	6.8
MW-32-35	SA	22-Sep-09	ND (1.0)	ND (1.0)	-190	21,900	7.0
		09-Mar-10	ND (2.1)	ND (1.0)	-160	23,400	7.1
MW-33-40	SA	24-Sep-09	ND (0.21)	ND (1.0)	-130	6,600	8.1
		09-Dec-09	ND (1.0)	2.2	12	11,400	7.8
		11-Mar-10	ND (1.0)	ND (1.0)	-25	6,820	8.3
		30-Apr-10	ND (0.2)	ND (1.0)	-37	5,920	8.3
		28-Sep-10	ND (0.2)	3.5	-26	5,490	8.2
MW-33-90	MA	29-Sep-09	22.4	21.1	62	10,500	7.6
		09-Dec-09	23.1	24.4	38	10,600	7.5
		12-Mar-10	23.7	25.2	170	11,600	7.5
		30-Apr-10	24.2	22.7	-32	10,900	7.5
		29-Sep-10	24.4	20.9	-24	10,700	7.4
MW-33-150	DA	29-Sep-09	9.3 J	8.9	140	16,900	7.6
		29-Sep-09 FD	12.3 J	9.3	FD	FD	FD
		09-Dec-09	10.1	10.5	8.2	17,600	7.6
		11-Mar-10	10.6	11.6	0.6	18,000	7.7
		11-Mar-10 FD	10.5	10.1	FD	FD	FD
		30-Apr-10	9.5	9.3	-33	17,600	7.6
		30-Apr-10 FD	10.4	9.7	FD	FD	FD
		29-Sep-10	10.8	10.8	62	17,500	7.4
		29-Sep-10 FD	11.2	11.0	FD	FD	FD

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-33-210	DA	29-Sep-09	11.8	11.4	59	19,600	7.4
		09-Dec-09	13.1	13.3	26	19,900	7.4
		11-Mar-10	14.4	15.9	9.4	20,700	7.5
		30-Apr-10	11.3	11.8	-27	20,400	7.4
		29-Sep-10	13.0	13.5	88	19,600	7.3
MW-34-55	MA	30-Sep-09	ND (0.2)	ND (1.0)	-120	1,060	7.9
		17-Nov-09	---	---	-120	1,080	7.5
MW-34-80	DA	30-Sep-09	ND (1.0)	ND (1.0)	-47	8,230	7.4
		13-Oct-09	ND (1.0)	ND (1.0)	-4.1	8,200	7.5
		02-Nov-09	ND (1.0)	ND (1.0)	-290	8,090	8.1
		09-Dec-09	ND (1.0)	ND (1.0)	-57	8,050	7.4
		11-Jan-10	ND (1.0)	1.6	-58	8,020	7.2
		08-Feb-10	ND (1.0)	ND (1.0)	-34	8,070	7.4
		10-Mar-10	ND (0.2)	ND (1.0)	-77	8,330	7.3
		29-Apr-10	ND (1.0)	ND (1.0)	-6.9	8,570	7.4
		01-Oct-10	ND (0.2)	ND (1.0)	-60	8,400	7.4
MW-34-100	DA	30-Sep-09	78.4	70.8	-6	18,400	7.5
		30-Sep-09 FD	78.9	72.6	FD	FD	FD
		14-Oct-09	211	208	-71	18,600	7.8
		02-Nov-09	152	146	-290	18,500	8.1
		02-Nov-09 FD	152	144	FD	FD	FD
		17-Nov-09	---	---	120	18,600	7.4
		09-Dec-09	211	203	23	18,400	7.6
		09-Dec-09 FD	211	211	FD	FD	FD
		11-Jan-10	243	231	67	20,000	8.0
		11-Jan-10 FD	254	235	FD	FD	FD
		08-Feb-10	312	311	-10	18,900	7.6
		08-Feb-10 FD	316	372	FD	FD	FD
		10-Mar-10	153	129	-34	19,300	7.5
		10-Mar-10 FD	152	133	FD	FD	FD
		29-Apr-10	71.3	73.5	29	19,500	7.5
		29-Apr-10 FD	78.7	73.6	FD	FD	FD
		01-Oct-10	75.1	66.6	33	18,500	7.4
		01-Oct-10 FD	75.6	67.1	FD	FD	FD
MW-35-60	SA	24-Sep-09	27.7	23.2	78	7,410	7.6

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-35-60	SA	24-Sep-09 FD	25.3	23.6	FD	FD	FD
		16-Mar-10	34.8	36.1	100	6,910	7.4
		16-Mar-10 FD	34.4	35.6	FD	FD	FD
MW-35-135	DA	24-Sep-09	33.4	30.8	100	9,920	8.0
		16-Mar-10	30.6	33.2	97	10,600	7.7
MW-36-20	SA	23-Sep-09	ND (1.0)	ND (1.0)	-190	3,920	8.1
MW-36-40	SA	30-Sep-09	ND (0.2)	ND (1.0)	-180	3,730	7.9
MW-36-50	MA	30-Sep-09	ND (0.2)	ND (1.0)	-130	1,230	7.9
MW-36-70	MA	22-Sep-09	ND (0.2)	ND (1.0)	37	12,800	3.3
MW-36-90	DA	23-Sep-09	ND (0.2)	ND (1.0)	-57	1,490	8.2
		12-Mar-10	0.25	ND (1.0)	-81	1,430	8.3
MW-36-100	DA	23-Sep-09	67.6	64.5	-170	11,500	7.1
		09-Mar-10	67.1	74.4	-140	12,600	7.2
MW-37S	MA	23-Sep-09	7.9	8.2	38	5,150	7.9
		23-Sep-09 FD	8.5	7.9	FD	FD	FD
MW-37D	DA	23-Sep-09	308	336	49	15,700	7.9
MW-39-40	SA	01-Oct-09	ND (1.0)	ND (1.0)	-130	8,490	7.4
MW-39-50	MA	01-Oct-09	ND (0.2)	ND (1.0)	5.3	1,990	8.1
MW-39-60	MA	01-Oct-09	ND (0.2)	ND (1.0)	38	2,720	7.9
MW-39-70	MA	01-Oct-09	ND (0.2)	ND (1.0)	49	4,090	7.6
MW-39-80	DA	01-Oct-09	ND (1.0)	1.4	34	10,800	7.1
MW-39-100	DA	29-Sep-09	451	451	61	20,900	6.8
MW-40S	SA	28-Sep-09	6.8	6.9	78	2,250	7.7
MW-40D	DA	28-Sep-09	116	114	53	16,300	7.5
MW-41S	SA	23-Sep-09	18.7	18.9	32	5,220	8.0
		23-Sep-09 FD	19.5	17.8	FD	FD	FD
MW-41M	DA	23-Sep-09	10.3	10.8	29	15,500	7.7
MW-41D	DA	23-Sep-09	ND (1.0)	2.2	63	22,400	7.9
		11-Mar-10	3.1	2.6	-71	23,100	7.8
MW-42-30	SA	23-Sep-09	---	---	-180	6,150	7.7

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-42-55	MA	23-Sep-09	ND (1.0)	ND (1.0)	-190	10,600	7.4
		08-Dec-09	ND (1.0)	ND (1.0)	-120	10,800	7.2
		09-Mar-10	ND (1.0)	ND (1.0)	-130	11,000	7.4
		29-Apr-10	ND (1.0)	ND (1.0)	-100	10,500	7.5
		27-Sep-10	ND (0.2)	ND (1.0)	-11	9,130	7.2
MW-42-65	MA	23-Sep-09	ND (1.0)	ND (1.0)	-110	12,800	7.1
		08-Dec-09	ND (1.0)	ND (1.0)	-25	13,200	7.0
		09-Mar-10	ND (1.0)	ND (1.0)	-40	14,300	7.2
		29-Apr-10	ND (1.0)	ND (1.0)	-31	13,600	7.2
		27-Sep-10	ND (1.0)	ND (1.0)	2.3	10,800	7.1
MW-43-25	SA	01-Oct-09	ND (0.2)	ND (1.0)	-170	1,300	7.5
MW-43-75	DA	01-Oct-09	ND (1.0)	ND (1.0)	-140	11,900	7.6
MW-43-90	DA	01-Oct-09	ND (1.0)	ND (1.0)	-95	18,900	6.9
MW-44-70	MA	21-Sep-09	ND (0.2)	ND (1.0)	-190	3,030	7.7
		07-Dec-09	ND (0.2)	ND (1.0)	-97	3,000	7.5
		08-Mar-10	ND (0.2)	ND (1.0)	-110	3,080	7.5
MW-44-115	DA	21-Sep-09	302	304	-250	12,000	8.1
		21-Sep-09 FD	303	296	FD	FD	FD
		14-Oct-09	300	295	-110	12,300	8.0
		03-Nov-09	306	293	-25	12,300	7.9
		07-Dec-09	291	284	-94	12,300	7.9
		12-Jan-10	282	279	-170	12,600	7.9
		09-Feb-10	219	256	-110	12,700	7.9
		08-Mar-10	325	269	-120	12,900	7.9
		30-Apr-10	269	270	-100	12,600	7.9
		30-Apr-10 FD	320	273	FD	FD	FD
		28-Sep-10	228	218	-200	11,800	7.9
		28-Sep-10 FD	236	219	FD	FD	FD
MW-44-125	DA	23-Sep-09	93.7	90.3	-200	12,700	8.0
		14-Oct-09	20.3	176	-120	13,400	8.1
		03-Nov-09	159	160	-250	13,100	8.1
		07-Dec-09	68.8	78.3	-97	13,400	8.2
		12-Jan-10	155	127	-190	13,800	8.0
		09-Feb-10	5.0	176	-160	14,400	8.2
		08-Mar-10	46.4 J	51.8	-160	13,300	7.9

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date		Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
						ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-44-125	DA	08-Mar-10	FD	58.0 J	54.6	FD	FD	FD
		30-Apr-10		9.4	40.8	-210	13,000	8.0
		28-Sep-10		ND (0.2)	16.0	-220	12,000	7.7
MW-45-095a	DA	29-Sep-09		---	---	-0.9	9,700	7.6
MW-46-175	DA	25-Sep-09		116	105	-120	17,600	8.4
		14-Oct-09		160	159	-99	17,700	8.6
		14-Oct-09	FD	165	155	FD	FD	FD
		02-Nov-09		150	142	-330	17,200	8.6
		08-Dec-09		169	163	-97	17,800	8.3
		12-Jan-10		200	194	-160	18,300	8.4
		08-Feb-10		177	190	-100	18,500	8.4
		11-Mar-10		177	154	-160	18,700	8.5
		30-Apr-10		81.7	79.8	-120	18,400	8.5
		28-Sep-10		74.5	72.3	-210	17,300	8.3
MW-46-205	DA	25-Sep-09		4.9	5.6	-91	21,500	8.4
		08-Dec-09		4.6	4.7	-49	21,900	8.2
		08-Dec-09	FD	4.9	4.9	FD	FD	FD
		11-Mar-10		5.7	6.5	-90	22,800	8.5
MW-47-55	SA	24-Sep-09		18.8	17.4	51	4,910	7.7
		09-Dec-09		53.3	46.4	-13	4,150	7.4
		16-Mar-10		37.4	40.8	83	4,220	7.5
MW-47-115	DA	24-Sep-09		17.2	16.3	46	13,200	7.7
		09-Dec-09		14.4	14.4	-55	14,300	7.5
		10-Mar-10		18.8	16.3	-5.6	14,100	7.7
MW-48	BR	23-Sep-09		ND (1.0)	ND (1.0)	120	18,300	7.3
		09-Dec-09		ND (1.0)	ND (1.0)	17	18,400	7.2
		08-Apr-10		ND (1.0)	ND (1.0)	89	19,200	7.0
		05-May-10		ND (1.0)	ND (1.0)	-27	19,500	7.8
		29-Sep-10		ND (1.0)	ND (1.0)	110	16,800	7.1
MW-49-135	DA	22-Sep-09		ND (1.0)	ND (1.0)	85	13,500	7.9
MW-49-275	DA	22-Sep-09		ND (2.1)	1.8	-150	24,400	8.2
MW-49-365	DA	22-Sep-09		ND (2.1)	ND (1.0)	-230	37,900	8.0
MW-50-095	MA	24-Sep-09		40.3	39.6	56	5,120	8.1
		10-Dec-09		30.9	29.5	5.0	5,220	8.2

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-50-095	MA	12-Mar-10	24.9	25.3	-18	5,330	7.8
MW-50-200	DA	25-Sep-09	6,380	7,450	77	20,900	8.0
		11-Dec-09	7,860	8,140	92	22,300	7.8
		11-Dec-09 FD	7,510	8,370	FD	FD	FD
		17-Mar-10	10,100	9,600	77	23,000	7.7
		06-May-10	10,800	9,840	110	22,400	7.8
		30-Sep-10	10,200	9,670	170	21,700	7.7
MW-51	MA	24-Sep-09	4,330	4,760	42	11,300	7.5
		17-Mar-10	4,480	4,590	59	11,500	7.4
MW-52S	MA	29-Sep-09	ND (1.0)	ND (1.0)	-130	11,300	7.4
		10-Dec-09	ND (1.0)	1.6	-160	11,000	7.6
		10-Mar-10	ND (1.0)	ND (1.0)	-170	11,500	7.5
MW-52M	DA	29-Sep-09	ND (1.0)	ND (1.0)	-150	17,400	7.7
		10-Dec-09	ND (2.1)	1.8	-200	17,200	7.8
		10-Mar-10	ND (1.0)	ND (1.0)	-170	17,700	7.8
MW-52D	DA	29-Sep-09	ND (1.0)	ND (1.0)	-150	22,600	8.0
		10-Dec-09	ND (5.2)	1.6	-200	22,100	8.3
		10-Mar-10	ND (1.0)	ND (1.0)	-210	23,000	8.3
MW-53M	DA	29-Sep-09	ND (1.0)	ND (1.0)	-160	20,700	8.4
		10-Dec-09	ND (2.1)	1.9	-210	20,600	8.3
		10-Mar-10	ND (1.0)	ND (1.0)	-220	21,200	8.4
MW-53D	DA	29-Sep-09	ND (2.1)	ND (1.0)	-200	27,300	8.6
		10-Dec-09	ND (5.2)	ND (1.0)	-220	26,900	8.7
		10-Mar-10	ND (2.1)	ND (1.0)	-200	27,800	8.4
MW-54-85	DA	22-Sep-09	ND (0.2)	ND (1.0)	-200	10,800	7.6
		08-Dec-09	ND (0.2)	ND (1.0)	-160	10,800	7.3
		09-Mar-10	ND (1.0)	ND (1.0)	-170	11,200	7.5
MW-54-140	DA	22-Sep-09	ND (0.2)	ND (1.0)	-53	13,400	7.9
		08-Dec-09	ND (1.0)	ND (1.0)	-100	13,300	7.7
		09-Mar-10	ND (2.0)	ND (1.0)	-75	13,800	7.8
MW-54-195	DA	22-Sep-09	ND (1.0)	ND (1.0)	-220	20,000	8.2
		08-Dec-09	ND (0.2)	ND (1.0)	-220	19,700	8.0
		09-Mar-10	ND (2.0)	ND (1.0)	-220	20,900	8.1

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-55-45	MA	22-Sep-09	ND (0.2)	ND (1.0)	-160	1,550	7.8
		07-Dec-09	ND (0.2)	ND (1.0)	-110	1,520	7.8
		08-Mar-10	ND (0.2)	ND (1.0)	-100	1,550	7.7
MW-55-120	DA	22-Sep-09	4.0	5.1	-89	9,400	8.0
		22-Sep-09 FD	4.0	5.1	FD	FD	FD
		07-Dec-09	4.7	6.1	-42	9,430	7.9
		07-Dec-09 FD	4.6	5.8	FD	FD	FD
		08-Mar-10	5.6	6.1	-27	9,820	7.9
		08-Mar-10 FD	5.4	6.3	FD	FD	FD
MW-56S	SA	30-Sep-09	ND (0.2)	ND (1.0)	-120	6,510	7.4
		10-Dec-09	ND (0.2)	ND (1.0)	-170	5,970	7.6
		18-Mar-10	ND (0.2)	ND (1.0)	-150	6,290	7.3
MW-56M	DA	30-Sep-09	ND (0.2)	ND (1.0)	-110	15,000	7.4
		10-Dec-09	ND (1.0)	ND (1.0)	-160	14,900	7.4
		18-Mar-10	ND (1.0)	ND (1.0)	-140	15,500	7.2
MW-56D	DA	30-Sep-09	ND (1.0)	ND (1.0)	-120	21,700	7.9
		10-Dec-09	ND (2.0)	ND (1.0)	-140	21,500	8.0
		18-Mar-10	ND (2.0)	ND (5.0)	-92	21,600	7.7
MW-57-050	PA	17-Feb-10	86.0	88.0 LF	---	1,900	7.4
MW-57-070	BR	24-Sep-09	132	139	34	3,160	7.2
		10-Dec-09	84.4	103	-32	3,270	7.3
		16-Mar-10	542	449	41	1,250	7.3
		05-May-10	452	452	3.5	1,830	7.4
		30-Sep-10	856	733	36	1,940	7.2
MW-57-185	BR-D	23-Sep-09	1.1	2.4	-42	19,000	8.9
		09-Dec-09	2.1	2.6	-190	18,900	8.5
		09-Mar-10	6.8	6.7	-38	19,200	9.5
		05-May-10	3.9	4.7	-50	19,700	8.7
		29-Sep-10	5.6	5.9	11	18,900	8.6
MW-58-065	BR-S	17-Feb-10	ND (0.2)	8.0 LF	---	737	8.0
MW-58-115	BR-M	29-Sep-09	ND (1.0)	ND (1.0)	-160	12,300	7.3
		16-Dec-09	ND (1.0)	1.4	-180	8,810	7.4
MW-58-205	BR-D	29-Sep-09	4.7	9.7	-250	4,550	7.4
		16-Dec-09	7.6	26.6	-280	5,330	7.8

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-58BR [1]	BR	25-Mar-10	9.1	15.0	---	---	---
MW-58BR-LWR	BR	16-Sep-10	200	200	---	---	---
		07-Oct-10	199	173	-66	9,890	7.5
MW-58BR-UPR	BR	14-Sep-10	3.8	3.5	---	---	---
		06-Oct-10	4.7	8.4	-78	11,800	8.0
MW-59-100	SA	24-Sep-09	4,630	5,300	63	11,900	7.0
		11-Dec-09	4,340	4,420	200	11,200	7.1
		17-Mar-10	5,320	5,270	100	13,100	6.9
		06-May-10	4,940	4,850	93	10,500	7.0
		30-Sep-10	5,140	4,630	240	10,700	6.9
MW-60-125	BR-S	24-Sep-09	570	619	-14	8,240	7.5
		10-Dec-09	532	592	-71	8,320	7.5
		17-Mar-10	657	592	77	9,480	7.5
		06-May-10	1,120	1,080	76	9,610	7.4
		30-Sep-10	806	795	-16	9,210	7.4
MW-61-110	BR-S	24-Sep-09	360	363	-20	15,900	7.7
		10-Dec-09	433	450	-76	16,400	7.7
		17-Mar-10	484	406	24	15,700	7.6
		06-May-10	480	511	110	16,600	7.5
		30-Sep-10	512	507	38	16,400	7.4
MW-62-065	BR-S	24-Sep-09	236	251	29	5,780	7.6
		10-Dec-09	219	247	-17	5,760	7.5
		16-Mar-10	397	372	64	6,170	7.3
		06-May-10	436	456	120	6,580	7.4
		30-Sep-10	500	462	130	6,640	7.3
MW-62-110	BR-M	29-Sep-09	4.4	31.3	-130	8,580	7.8
		16-Dec-09	381	460	-120	8,840	7.7
		20-Jan-10	---	---	-70	8,830	7.8
		10-Feb-10	---	---	-110	8,960	7.9
		11-Mar-10	628	684	-110	9,360	7.8
		04-May-10	579	569	-54	9,220	8.0
		29-Sep-10	414	363	-60	9,130	7.8
MW-62-190	BR-D	29-Sep-09	147	50.3	-230	18,600	7.6
		16-Dec-09	ND (1.0)	1.6	-190	18,300	7.7

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-62-190	BR-D	20-Jan-10	---	---	-160	18,700	7.8
		10-Feb-10	---	---	-150	18,700	8.0
		11-Mar-10	ND (1.0)	ND (1.0)	-140	19,600	7.9
		04-May-10	ND (1.0)	ND (1.0)	-95	19,500	8.0
		29-Sep-10	ND (1.0)	ND (1.0)	43	19,100	7.7
MW-63-065	BR-S	22-Sep-09	0.65	1.2	66	6,930	7.3
		22-Sep-09 FD	0.54	1.9	FD	FD	FD
		09-Dec-09	0.63	1.1	40	6,840	7.1
		09-Dec-09 FD	ND (1.0)	ND (1.0)	FD	FD	FD
		09-Mar-10	ND (1.0)	ND (1.0)	12	7,620	7.1
		09-Mar-10 FD	1.1	ND (1.0)	FD	FD	FD
		03-May-10	1.4	2.1	15	8,070	7.1
		03-May-10 FD	1.4	2.4	FD	FD	FD
		27-Sep-10	1.7	2.2	73	7,440	7.1
		27-Sep-10 FD	1.7	2.2	FD	FD	FD
MW-64-150	BR-S	29-Sep-09	ND (1.0)	1.5	-200	9,760	6.8
		12-Oct-09	ND (1.0)	ND (1.0)	-320	9,760	7.1
		04-Nov-09	ND (1.0)	ND (1.0)	-300	9,820	7.1
		16-Dec-09	ND (1.0)	1.8	-290	10,900	7.1
		19-Jan-10	ND (1.0)	ND (1.0)	-95	11,900	7.0
		10-Feb-10	ND (1.0)	ND (1.0)	-44	11,800	7.3
		11-Mar-10	ND (1.0)	ND (1.0)	68	11,500	6.9
		04-May-10	ND (1.0)	ND (1.0)	38	11,300	6.9
		25-Aug-10	ND (1.0)	ND (1.0)	-51	10,900	7.2
		29-Sep-10	ND (1.0)	ND (1.0)	18	10,500	6.7
		20-Oct-10	ND (0.2)	ND (1.0)	-49	8,340	7.1
MW-64-205	BR-D	29-Sep-09	ND (1.0)	2.5	-240	14,200	6.7
		12-Oct-09	1.6	6.0	-300	13,800	7.1
		04-Nov-09	1.4	5.6	-310	14,100	7.1
		16-Dec-09	ND (1.0)	5.6	-180	15,200	7.0
		19-Jan-10	ND (1.0)	3.2	-190	15,400	7.1
		10-Feb-10	ND (1.0)	ND (1.0)	-81	16,300	7.4
		11-Mar-10	ND (1.0)	ND (1.0)	-140	16,700	7.2
		04-May-10	ND (1.0)	2.6	-170	16,300	7.2
		25-Aug-10	ND (1.0)	3.9	-72	15,800	7.6
		29-Sep-10	ND (1.0)	3.8	-110	15,900	6.8

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
MW-64-205	BR-D	20-Oct-10	ND (1.0)	3.6	-46	14,900	7.0
MW-64-260	BR-D	29-Sep-09	1.4	1.4	-280	14,200	6.8
		12-Oct-09	ND (1.0)	1.3	-310	13,300	7.2
		04-Nov-09	1.9	1.2	-290	11,600	7.1
		16-Dec-09	ND (1.0)	2.2	-210	15,100	7.0
		19-Jan-10	ND (1.0)	ND (1.0)	-210	15,700	7.0
		10-Feb-10	ND (1.0)	ND (1.0)	-210	16,400	7.2
		11-Mar-10	ND (1.0)	ND (1.0)	-220	16,600	7.2
		04-May-10	ND (1.0)	ND (1.0)	-190	16,100	7.2
		25-Aug-10	ND (1.0)	ND (1.0)	-210	15,900	8.1
		29-Sep-10	ND (1.0)	ND (1.0)	-180	15,900	6.7
		20-Oct-10	ND (1.0)	ND (1.0)	-140	14,800	6.9
PE-1	DA	02-Sep-09	19.6	17.9	---	---	---
		01-Oct-09	---	---	220	5,630	7.5
		07-Oct-09	20.7	18.6 LF	---	---	---
		04-Nov-09	19.9	19.6 LF	---	---	---
		02-Dec-09	19.7	19.4	---	---	---
		06-Jan-10	20.0	19.6 LF	---	---	---
		03-Feb-10	22.6	19.1 LF	---	---	---
		03-Mar-10	20.8	17.3 LF	---	---	---
		07-Apr-10	13.7	15.4 LF	---	---	---
		04-May-10	13.0	14.6 LF	---	---	---
		02-Jun-10	14.0	13.4 UF	---	---	---
		07-Jul-10	13.7	11.4 LF	---	---	---
		04-Aug-10	12.4	11.9 LF	---	---	---
		01-Sep-10	14.9	12.4 LF	---	---	---
		05-Oct-10	13.2	12.3 LF	---	---	---
PGE-7BR	BR	16-Mar-10	ND (1.0)	ND (1.0)	-270	20,200	9.2
PGE-8	BR	08-Apr-10	ND (1.0)	3.0	-270	21,600	8.3
Park Moabi-3	MA	01-Oct-09	9.9	9.5 UF	350	1,430	7.7
Park Moabi-4	MA	01-Oct-09	21.0	18.0 UF	730	1,870	7.9
TW-1	MA	22-Sep-09	3,740	4,130	88	7,180	7.4
		15-Mar-10	3,430	4,010	50	7,520	7.2
		05-May-10	3,700	3,700	31	7,450	7.4
		28-Sep-10	3,690	3,490	2.1	7,130	7.3

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance (µS/cm)	Field pH
TW-2S	MA	01-Oct-09	831	880	230	2,530	7.7
TW-2D	DA	01-Oct-09	356	352	250	8,690	7.2
TW-3D	DA	02-Sep-09	1,220	1,360	---	---	---
		07-Oct-09	1,330	1,340 LF	---	---	---
		04-Nov-09	1,160	1,310 LF	---	---	---
		02-Dec-09	1,410	1,340	---	---	---
		06-Jan-10	1,300	1,350 LF	---	---	---
		03-Feb-10	1,400	1,320 LF	---	---	---
		03-Mar-10	1,380	1,340 LF	---	---	---
		07-Apr-10	1,380	1,310 LF	---	---	---
		04-May-10	1,000	1,240 LF	---	---	---
		02-Jun-10	1,500	1,230 UF	---	---	---
		07-Jul-10	1,100	1,130 LF	---	---	---
		04-Aug-10	1,280	1,100 LF	---	---	---
		01-Sep-10	1,130	1,160 LF	---	---	---
		05-Oct-10	1,280	1,150 LF	---	---	---
TW-4	DA	23-Sep-09	10.7	11.1	41	21,800	7.7
		23-Sep-09 FD	10.1	10.5	FD	FD	FD
		09-Dec-09	10.1	10.4	-63	21,800	7.5
TW-5	DA	23-Sep-09	10.4	9.6	-30	13,800	8.0

Refer to table footnotes for data qualifier explanation.

NOTES:

ND = not detected at listed reporting limit (RL)
FD = field duplicate sample
UF = unfiltered
LF = lab filtered
R = result exceeded analytical criteria for precision and accuracy; should not be used for project decision-making.
J = concentration or RL estimated by laboratory or data validation
(---) = data not collected, available, rejected, or field instrument malfunction
µg/L= micrograms per liter
mV = millivolts
ORP = oxidation-reduction potential
µS/cm = microSiemens per centimeter

[1] This sample collected from a borehole.

Beginning February 1, 2008, hexavalent chromium samples are field filtered per DTSC - approved change from analysis method SW7199 to E218.6.

The RLs for certain hexavalent chromium results from Method SW7199 analyses have been elevated above the standard RL of 0.2 µg/L due to required sample dilution to accommodate matrix interferences.

Monitoring wells MW-11, MW-24A, MW-24B, MW-38S, and MW-38D are currently sampled as part of the upland in-situ pilot test monitoring. Results from these wells are presented in the in-situ pilot test reports (ARCADIS, 2010) and are not included in this table.

As a results of a series of storm events in January 2010 the MW-58 cluster (MW-58-115 and MW-58-205) was inundated with flood water. This floodwater destroyed the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals and was consequently removed from the borehole. The MW-58 bedrock well cluster is now an open borehole. In September 2010 a packer system was installed in the borehole at about 115 ft bgs that divided the open borehole into upper (UPR) and lower (LWR) intervals.

ORP is reported to two significant figures. Specific Conductance is reported to three significant figures.

Wells are assigned to separate Aquifer zones for results reporting:
SA: shallow interval of Alluvial Aquifer
MA: mid-depth interval of Alluvial Aquifer
DA: deep interval of Alluvial Aquifer
PA: perched aquifer (unsaturated zone)
BR: well completed in bedrock (Miocene Conglomerate or pre-Tertiary crystalline rock)
BR-S: well completed in shallow portion of BR
BR-M: well completed in middle portion of BR
BR-D: well completed in deep portion of BR

Table 3-2
Surface Water Sampling Results, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
In-channel Locations					
C-BNS-D	07/07/2010	ND (0.2)	ND (1.0)	935	8.15 J
C-BNS-D	10/12/2010	ND (0.2)	ND (1.0)	929	8.03 J
C-CON-S	07/08/2010	ND (0.2)	ND (1.0)	934	8.26 J
C-CON-S	10/13/2010	ND (0.2)	ND (1.0)	944	8.15 J
C-CON-D	07/08/2010	ND (0.2)	ND (1.0)	929	8.28 J
C-CON-D	10/13/2010	ND (0.2)	ND (1.0)	933	8.14 J
C-I-3-S	07/07/2010	ND (0.2)	ND (1.0)	944	8.20 J
C-I-3-S	10/12/2010	ND (0.2)	ND (1.0)	921	8.10 J
C-I-3-D	07/07/2010	ND (0.2)	ND (1.0)	942	8.25 J
C-I-3-D	10/12/2010	ND (0.2)	ND (1.0)	928	8.08 J
C-MAR-S	07/07/2010	ND (0.2)	ND (1.0)	1040	7.44 J
C-MAR-S	10/12/2010	ND (0.2)	ND (1.0)	955	7.84 J
C-MAR-D	07/07/2010	ND (0.2)	ND (1.0)	1040	7.43 J
C-NR1-S	07/08/2010	ND (0.2)	ND (1.0)	929	8.23 J
C-NR1-S	10/13/2010	ND (0.2)	ND (1.0)	943	8.01 J
C-NR1-D	07/08/2010	ND (0.2)	ND (1.0)	936	8.25 J
C-NR1-D	10/13/2010	ND (0.2)	ND (1.0)	941	7.96 J
C-NR3-S	07/08/2010	ND (0.2)	ND (1.0)	930	8.19 J
C-NR3-S	10/13/2010	ND (0.2)	ND (1.0)	926	8.12 J
C-NR3-D	07/08/2010	ND (0.2)	ND (1.0)	942	8.18 J
C-NR3-D	10/13/2010	ND (0.2)	ND (1.0)	942	8.08 J
C-NR4-S	07/08/2010	ND (0.2)	ND (1.0)	937	8.18 J
C-NR4-S	10/13/2010	ND (0.2)	ND (1.0)	943	8.10 J
C-NR4-D	07/08/2010	ND (0.2)	ND (1.0)	932	8.17 J
C-NR4-D	10/13/2010	ND (0.2)	ND (1.0)	942	8.09 J
C-R22a-S	07/07/2010	ND (0.2)	ND (1.0)	937	8.30 J
C-R22a-S	10/12/2010	ND (0.2)	ND (1.0)	932	8.11 J
C-R22a-D	07/07/2010	ND (0.2)	ND (1.0)	938	8.28 J
C-R22a-D	10/12/2010	ND (0.2)	ND (1.0)	933	8.08 J
C-R27-S	07/07/2010	ND (0.2)	ND (1.0)	944	8.25 J
C-R27-S	10/12/2010	ND (0.2)	ND (1.0)	927	8.08 J
C-R27-D	07/07/2010	ND (0.2)	ND (1.0)	951	8.24 J
C-R27-D	10/12/2010	ND (0.2)	ND (1.0)	933	8.11 J
C-TAZ-S	07/07/2010	ND (0.2)	ND (1.0)	943	8.26 J
C-TAZ-S	10/12/2010	ND (0.2)	ND (1.0)	927	8.13 J
C-TAZ-D	07/07/2010	ND (0.2)	ND (1.0)	947	8.30 J

Table 3-2
Surface Water Sampling Results, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
In-channel Locations					
C-TAZ-D	10/12/2010	ND (0.2)	ND (1.0)	931	8.14 J
Shoreline Samples					
R-19	07/07/2010	ND (0.2)	ND (1.0)	943	8.30 J
R-19	10/13/2010	ND (0.2)	ND (1.0)	944	8.17 J
R-28	07/07/2010	ND (0.2)	ND (1.0)	939	8.33 J
R-28	10/12/2010	ND (0.2)	ND (1.0)	930	8.17 J
R63	07/07/2010	ND (0.2)	ND (1.0)	940	8.37 J
R63	10/12/2010	ND (0.2)	ND (1.0)	932	8.19 J
RRB	07/08/2010	ND (0.2)	ND (1.0)	947	8.12 J
RRB	10/13/2010	ND (0.2)	ND (1.0)	961	7.94 J
Other Surface Water Monitoring Locations					
SW1	07/08/2010	ND (0.2)	ND (1.0)	1000	7.58 J
SW1	10/12/2010	ND (0.2)	ND (1.0)	958	7.69 J
SW2	07/08/2010	ND (0.2)	ND (1.0)	988	7.57 J
SW2	10/12/2010	ND (0.2)	ND (1.0)	963	7.68 J

Notes:

µg/L micrograms per liter
µS/cm microSiemens per centimeter
ND not detected at listed reporting limit
J concentration or reporting limit estimated by laboratory or data validation
(---) data not collected or not available

Hexavalent chromium analytical method EPA 218.6 (reporting limit 0.2 µg/L for undiluted samples).

Other analytical methods: dissolved chromium - method SW6020A, specific conductance - EPA 120.1, pH -SM4500-HB.

Specific conductance is reported to three significant figures.

Table 3-3
Title 22 Metals Results, September 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

	California MCL:	6	10	1,000	4	5	NE	50	1,000*	15	2	NE	100	50	100*	2	NE	5,000*
Well ID	**Sample Date**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**	**Cobalt**	**Chromium**	**Copper**	**Lead**	**Mercury**	**Molybdenum**	**Nickel**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Zinc**
MW-12	09/30/2010	ND (10)	**53.4**	53.0	ND (1.0)	ND (3.0)	ND (3.0)	**2,810**	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0)	19.0	ND (3.0)	ND (0.5)	12.0	ND (10)
FD	09/30/2010	ND (10)	**55.4**	53.0	ND (1.0)	ND (3.0)	ND (3.0)	**2,810**	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0)	18.0	ND (3.0)	ND (0.5)	12.0	ND (10)

Notes:

ND not detected at listed reporting limit
FD field duplicate sample
NE not established
* Secondary USEPA MCL

Title 22 metals are the metals listed in California Code of Regulations, Title 22, Section 66261.24(a)(2)(A).

The maximum contaminant levels (MCLs) listed, in micrograms per liter (µg/L), are the California primary drinking water standards, except where noted.

All results are dissolved metals concentrations in µg/L from field-filtered samples.

Metals analyzed by Methods SW6010B or SW6020A or SW7470A.

Analytes detected above MCL are in bold.

TABLE 4-1
Pumping Rate and Extracted Volume for IM System, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and
Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Extraction Well ID	July 2010		August 2010		September 2010		October 2010		Third Quarter 2010		Project to Date [a]
	Average Pumping Rate [b] (gpm)	Volume Pumped (gal)	Average Pumping Rate [b] (gpm)	Volume Pumped (gal)	Average Pumping Rate [b] (gpm)	Volume Pumped (gal)	Average Pumping Rate [b] (gpm)	Volume Pumped (gal)	Average Pumping Rate [b] (gpm)	Volume Pumped (gal)	Cumulative Volume Pumped (gal)
TW-02S	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1,000,780
TW-02D	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	53,104,680
TW-03D	98.87	4,413,450	97.38	4,346,882	106.99	4,621,965	104.31	4,656,417	101.89	13,382,298	251,580,969
PE-01	25.83	1,152,902	24.16	1,078,640	27.28	1,178,548	25.38	1,133,164	25.66	3,410,091	72,493,248
TOTAL	**124.7**	**5,566,352**	**121.5**	**5,425,523**	**134.3**	**5,800,514**	**129.7**	**5,789,581**	**127.5**	**22,581,969**	378,179,676
										Volume Pumped from the MW-20 Well Cluster	1,527,724
										Total Volume Pumped (gal)	379,707,400
										Total Volume Pumped (ac-ft)	1,165.3

NOTES:

gpm gallons per minute
gal gallons
ac-ft acre-feet

[a] Interim measure groundwater extraction at the Topock site was initiated in March 2004.

[b] The "Average Pumping Rate" is the overall average during the reporting period, including system downtime, based on flow meter readings.

Table 4-2
Analytical Results for Extraction Wells, June 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Dissolved Solids (mg/L)
TW-3D	03-Jun-09	1,500	1,470	5,340
	01-Jul-09	1,360	1,500	5,300
	05-Aug-09	1,270	1,190	5,270
	02-Sep-09	1,360	1,220	5,140
	07-Oct-09	1,340 LF	1,330	5,530
	04-Nov-09	1,310 LF	1,160	5,810
	02-Dec-09	1,340	1,410	5,370
	06-Jan-10	1,350 LF	1,300	5,350
	03-Feb-10	1,320 LF	1,400	5,220
	03-Mar-10	1,340 LF	1,380	5,080
	07-Apr-10	1,310 LF	1,380	5,110
	04-May-10	1,240 LF	1,000	5,210
	02-Jun-10	1,230 UF	1,500	5,500
	07-Jul-10	1,130 LF	1,100	5,280
	04-Aug-10	1,100 LF	1,280	5,330
	01-Sep-10	1,160 LF	1,130	4,900
	05-Oct-10	1,150 LF	1,280	5,160
PE-1	03-Jun-09	19.8	18.7	3,490
	01-Jul-09	19.2	20.4	3,460
	05-Aug-09	17.5	19.2	3,560
	02-Sep-09	17.9	19.6	3,420
	07-Oct-09	18.6 LF	20.7	3,360
	04-Nov-09	19.6 LF	19.9	3,620
	02-Dec-09	19.4	19.7	3,430
	06-Jan-10	19.6 LF	20.0	3,110
	03-Feb-10	19.1 LF	22.6	3,330
	03-Mar-10	17.3 LF	20.8	3,080
	07-Apr-10	15.4 LF	13.7	3,120
	04-May-10	14.6 LF	13.0	3,280
	02-Jun-10	13.4 UF	14.0	3,450
	07-Jul-10	11.4 LF	13.7	3,350
	04-Aug-10	11.9 LF	12.4	3,180
	01-Sep-10	12.4 LF	14.9	3,420
	05-Oct-10	12.3 LF	13.2	3,290

NOTES:

µg/L = concentration in micrograms per liter
mg/L = concentration in milligrams per liter
LF = lab filtered
UF = unfiltered

Groundwater samples from active extraction wells are taken at sample taps in Valve Vault 1 on the MW-20 Bench.

Dissolved chromium was analyzed by Method SW6010B or SW6020, hexavalent chromium analyzed by Method SM3500-CrB and total dissolved solids were analyzed by Method SM2540C.

TABLE 4-3
Average Hydraulic Gradients Measured at Well Pairs, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring
and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well Pair [a]	Reporting Period	Mean landward Hydraulic Gradient [b] (feet/foot)	Days in Monthly Average [c]
Overall Average	July	0.0048	NA / 31
	August	0.0043	NA / 31
	September	0.0056	NA / 30
	October	0.0048	NA / 31
Northern Gradient Pair MW-31-135 / MW-33-150	July	0.0021	31 / 31
	August	0.0019	31 / 31
	September	0.0021	30 / 30
	October	0.0020	31 / 31
Central Gradient Pair MW-45-95 / MW-34-100	July	0.0090	31 / 31
	August	0.0080	31 / 31
	September	0.0107	30 / 30
	October	0.0091	31 / 31
Southern Gradient Pair MW-45-95 / MW-27-85	July	0.0031	31 / 31
	August	0.0028	31 / 31
	September	0.0039	30 / 30
	October	0.0033	31 / 31

Notes:

NA = All available data used in calculating overall average except where noted.

a Refer to Figure 1-3 for location of well pairs
b For IM pumping, the target landward gradient for the selected well pairs is 0.001 feet/foot
c Number of days transducers in both wells were operating correctly / Total number of days in month.

TABLE 4-4
Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3
Third Quarter 2010 Interim Measures Performance Monitoring and
Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

	Davis Dam Release			Colorado River Elevation at I-3		
Month	Projected (cfs)	Actual (cfs)	Difference (cfs)	Predicted (ft amsl)	Actual (ft amsl)	Difference (feet)
January 2008	9,300	8,900	400	453.5	453.6	0.1
February 2008	10,100	12,463	-2,363	454.5	454.7	0.1
March 2008	15,200	15,837	-637	455.6	455.9	0.3
April 2008	17,600	18,554	-954	456.6	457.0	0.4
May 2008	17,200	16,155	1,045	456.6	456.4	-0.3
June 2008	15,400	15,655	-255	456.2	456.5	0.3
July 2008	14,500	14,574	-74	455.8	456.0	0.2
August 2008	13,100	12,976	124	455.2	455.2	0.0
September 2008	12,300	11,731	569	454.9	455.0	0.1
October 2008	10,500	10,272	228	454.1	454.2	0.1
November 2008	10,400	10,130	270	454.1	454.03	-0.1
December 2008	5,800	5,506	294	452.3	452.45	0.2
January 2009	9,300	10,644	-1,344	452.6	454.02	1.4
February 2009	10,800	11,319	-519	454.2	454.34	0.2
March 2009	16,200	16,826	-626	456.1	456.37	0.3
April 2009	18,800	18,432	368	457.2	457.13	-0.1
May 2009	15,800	14,889	911	456.4	456.26	-0.1
June 2009	14,100	13,246	854	455.8	455.73	0.0
July 2009	13,500	13,579	-79	455.5	455.65	0.1
August 2009	11,900	12,296	-396	454.8	455.08	0.3
September 2009	12,700	12,203	497	454.9	455.24	0.4
October 2009	9,500	10,128	-628	453.8	454.04	0.3
November 2009	10,200	9,909	291	454.1	454.27	0.2
December 2009	9,000	8,650	350	453.6	453.54	-0.1
January 2010	9,900	7,415	2,485	453.9	453.36	-0.5
February 2010	7,700	7,961	-261	453.0	453.41	0.4
March 2010	14,700	14,014	686	455.5	455.40	-0.1
April 2010	16,100	14,762	1,338	455.3	455.94	0.7
May 2010	15,500	15,246	254	456.2	456.41	0.3
June 2010	15,800	15,332	468	456.4	456.45	0.0
July 2010	14,500	14,841	-341	455.9	456.34	0.4
August 2010	13,500	13,627	-127	455.4	455.87	0.5
September 2010	13,400	13,555	-155	455.2	455.79	0.6
October 2010	12,300	12,463	-163	454.7	455.41	0.7
November 2010	10,900			454.3		

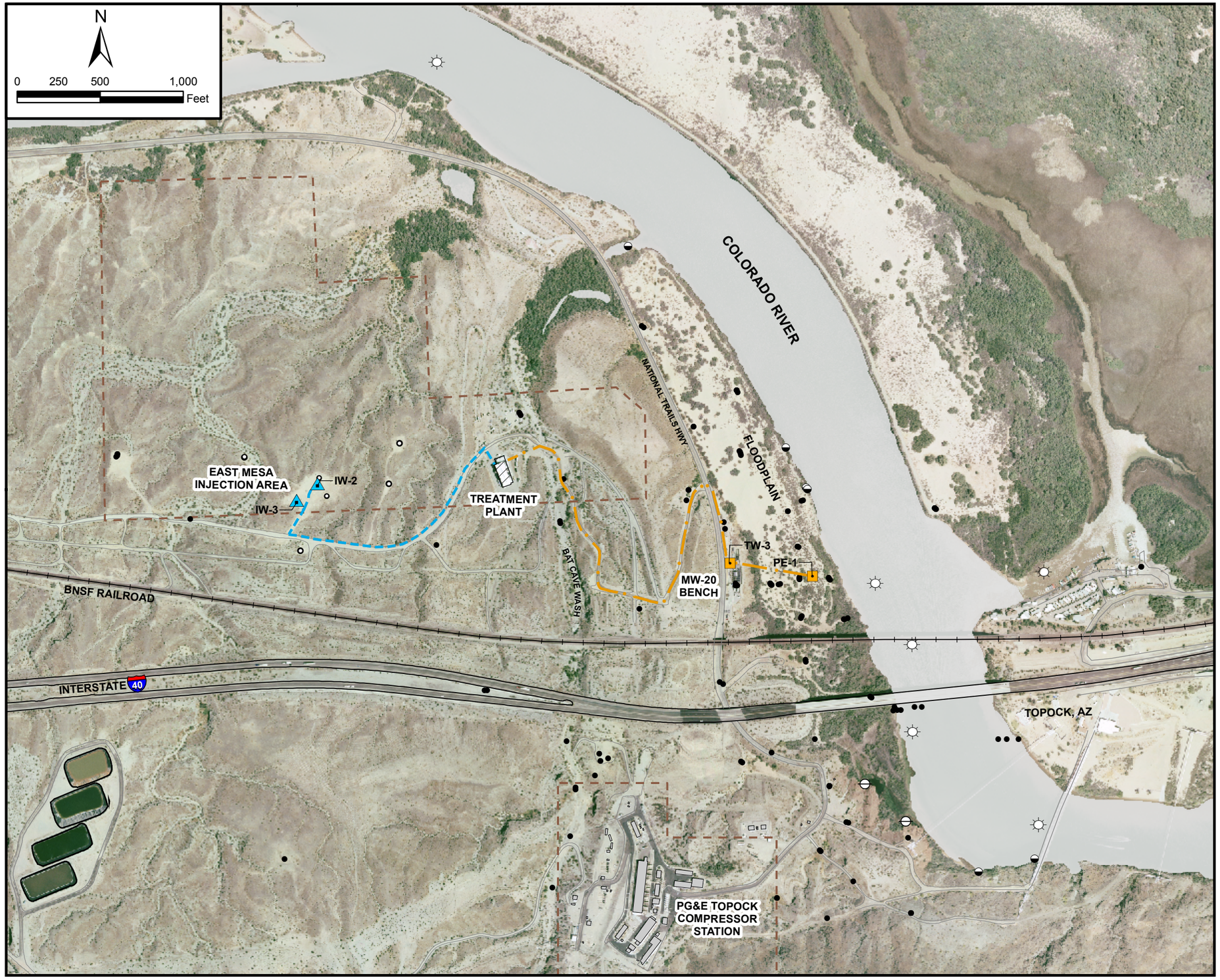
NOTES:
cfs = cubic feet per second; ft amsl = feet above mean sea level.

Projected river level for each month in the past is calculated based on the preceding months USBR projections of Davis Dam release and stage in Lake Havasu. Future projections of river level at I-3 are based upon October 2010 USBR projections. These data are reported monthly by the US Department of Interior, at http://www.usbr.gov/lc/region/g4000/24mo.pdf

The difference in I-3 elevation is the difference between the I-3 elevation predicted and the actual elevation measured at I-3. The source of this difference is differences between BOR projections and actual dam releases/Havasu reservoir levels, rather than the multiple regression error.

For data prior to 2008 please see *Fourth Quarter 2009 and Annual Interim Measure Performance Monitoring Report, PG&E Topock Compressor Station, Needles, California* (CH2M HILL, 2010a).

Figures



LEGEND

- IM-3 Extraction Well (Active)
- IM-3 Injection Well
- Monitoring Well in Site-Wide Groundwater Monitoring Program (GMP)
- Monitoring Well in IM-3 Compliance Monitoring Program
- Shoreline Surface Water Monitoring Location
- River Channel Surface Water Monitoring Location
- Other Surface Water Monitoring Location
- Groundwater Extraction/Influent Pipeline
- Treatment Plant Effluent Pipeline
- Property Line

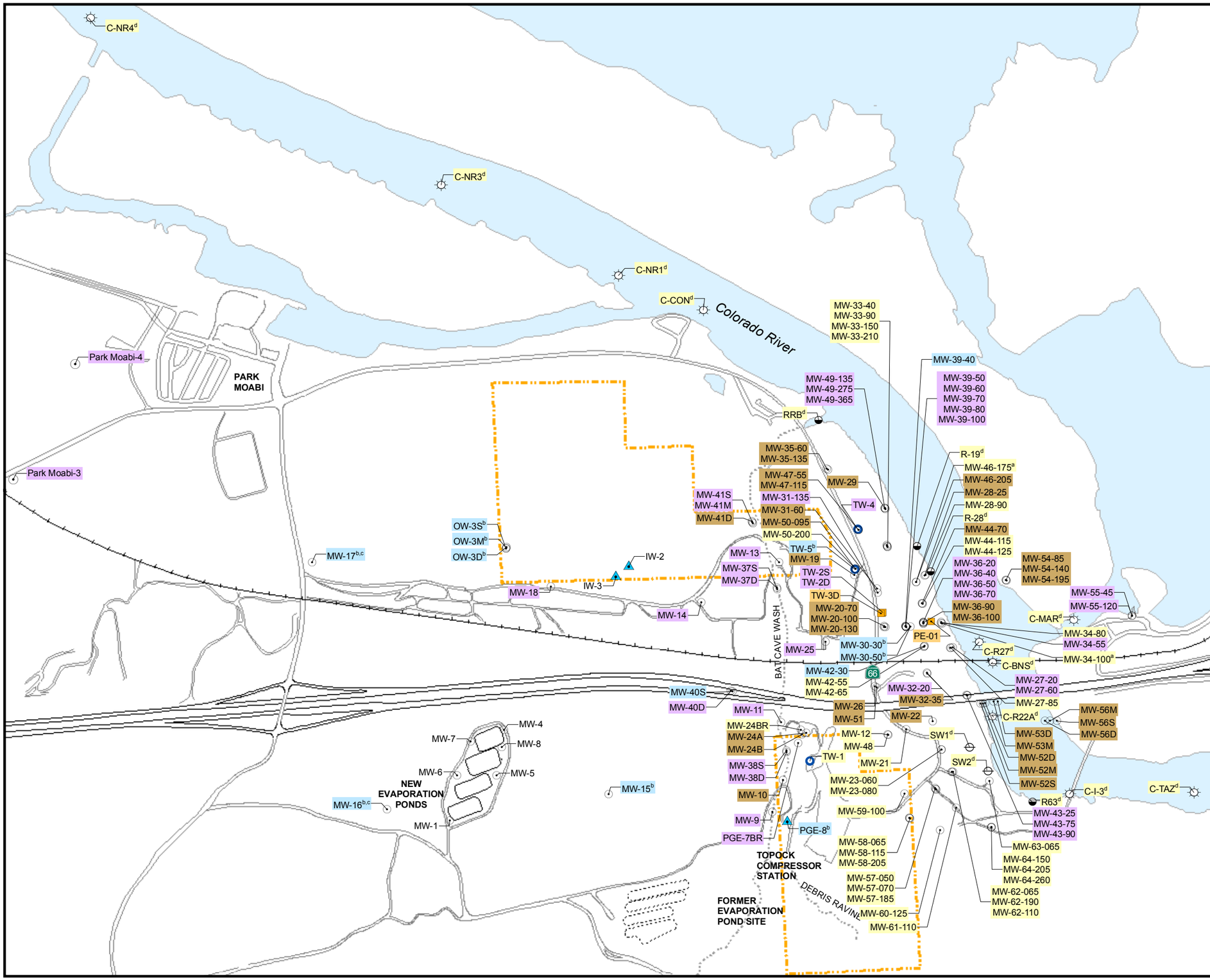
Note: 1. Location map shows Interim Measure No. 3 (IM-3) active facilities as of current report

2. See Figures 1-2 and 1-3 for complete monitoring locations and identifications.

FIGURE 1-1
LOCATIONS OF IM-3 FACILITIES AND MONITORING LOCATIONS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\PMP\THIRDQUARTER\IM3_GMP_LOCS.MXD BKAHLER 11/2/2010 10:43:41



LEGEND

- Injection Well
- Groundwater Monitoring Well
- Test Well or Supply Well (Inactive)
- Extraction Well
- Shoreline Surface Water Monitoring Location
- River Channel Surface Water Monitoring Location
- Other Surface Water Monitoring Location
- Property Boundary

Sampling Frequency for Groundwater Monitoring Program (GMP) and Surface Water Monitoring Program (RMP)

MW-17	Biennial Sampling
MW-9	Annual Sampling
MW-22	Semiannual Sampling
MW-12	Quarterly Sampling
TW-3D	Monthly Sampling

Notes:

[a] Monthly sampling November through February, otherwise quarterly.

[b] These wells required to be sampled biennially, will be sampled annually for the water quality snapshot.

[c] Background metals collected semiannually.

[d] Shoreline, river channel, and other surface water monitoring locations are sampled twice during periods of low river stage (typically November – January) otherwise quarterly.

N

0 500 1,000 Feet

California State Plane NAD83 Zone 5 US Feet

FIGURE 1-2
MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR GMP AND RMP

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\GMP\GMP_SAMPLING_FREQUENCY.MXD BKAHLER 11/16/2010 11:48:08

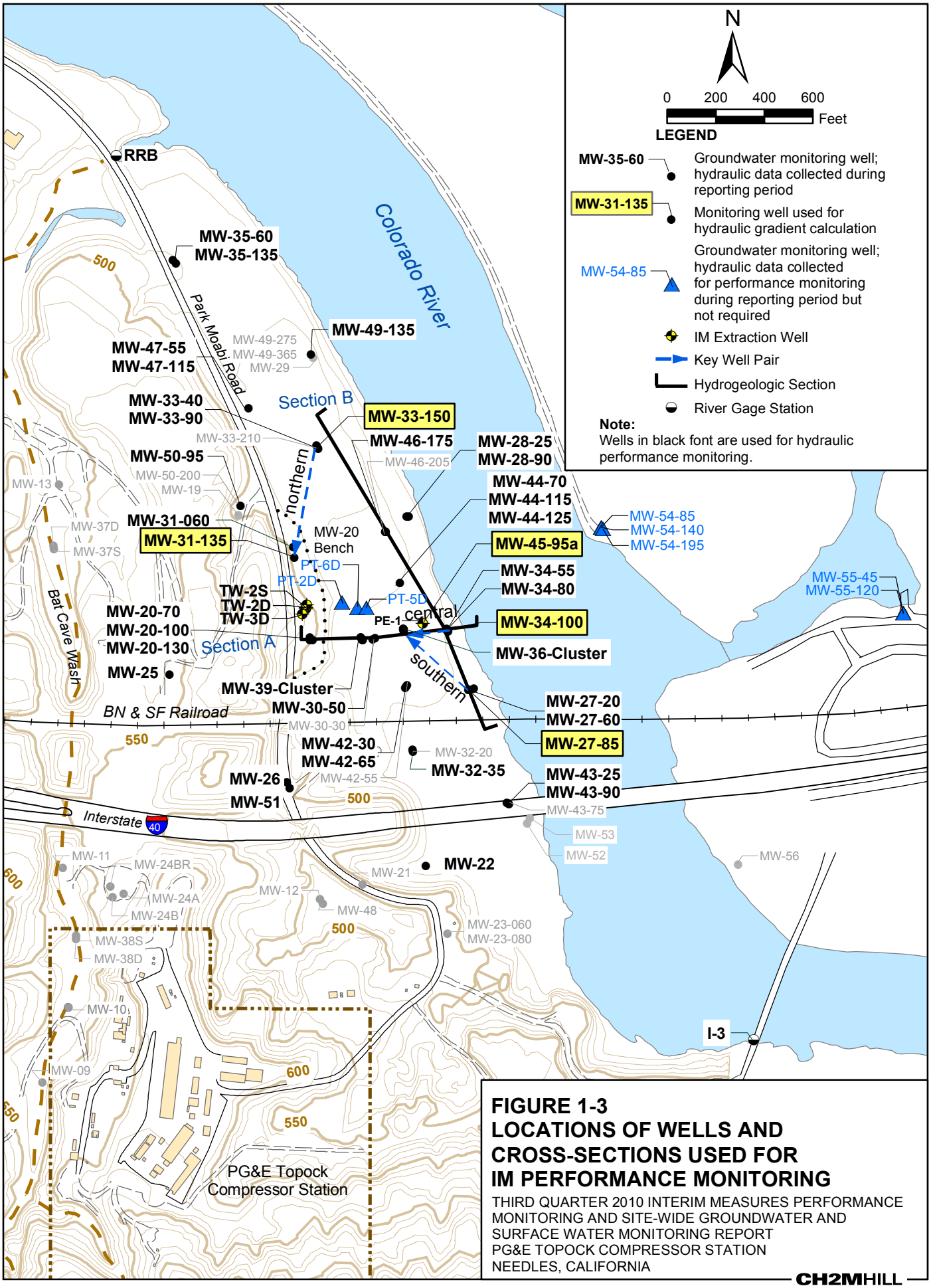
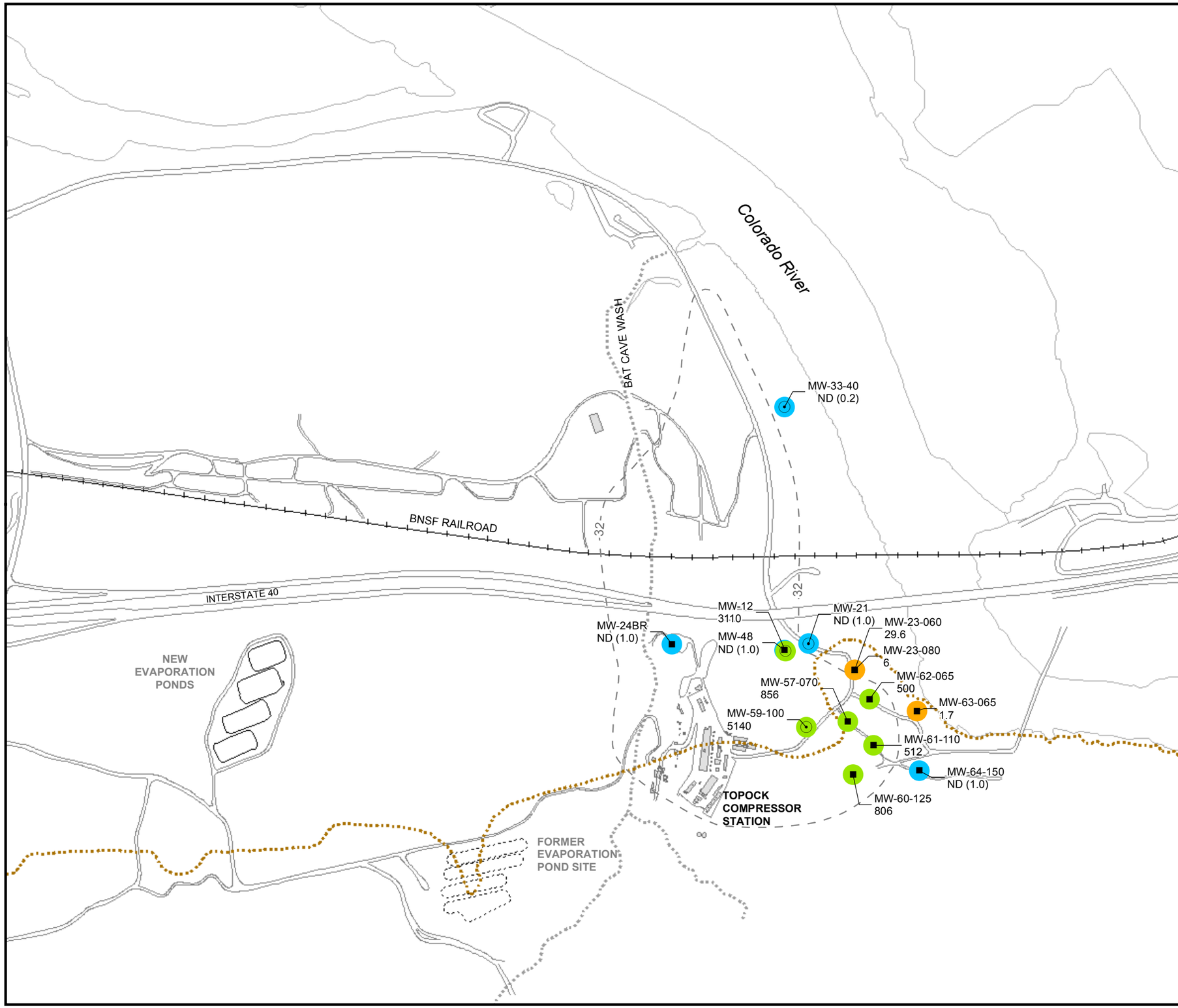


FIGURE 1-3
LOCATIONS OF WELLS AND CROSS-SECTIONS USED FOR IM PERFORMANCE MONITORING

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\PMP\THIRDQUARTER\PM_XSECTIONS.MXD BKAHLER 11/2/2010 10:58:37



LEGEND

- Alluvial Aquifer well sampled during sampling event
- Bedrock well sampled during sampling event

6.48 Concentration of hexavalent chromium [Cr(VI)] in groundwater, micrograms per liter (µg/L)

Results shown are maximum concentrations in primary and duplicate samples from wells completed in **Shallow zone** of Alluvial Aquifer and Bedrock.

ND (0.2) Cr(VI) not detected at listed reporting limit

Cr(VI) Concentrations - September - October 2010

- Not detected at analytical reporting limit
- Concentration between reporting limit and 32 µg/L
- Concentration ≥ 32 µg/L

-32- Approximate outline of monitoring wells in Alluvial Aquifer and Bedrock with Cr(VI) concentrations ≥ 32 µg/L based on March 2010 groundwater sampling.

Approximate bedrock contact at 455 feet above mean sea level.

Note:
Results plotted are maximum concentration from primary and duplicate samples, see table 3-1 for complete results.

N

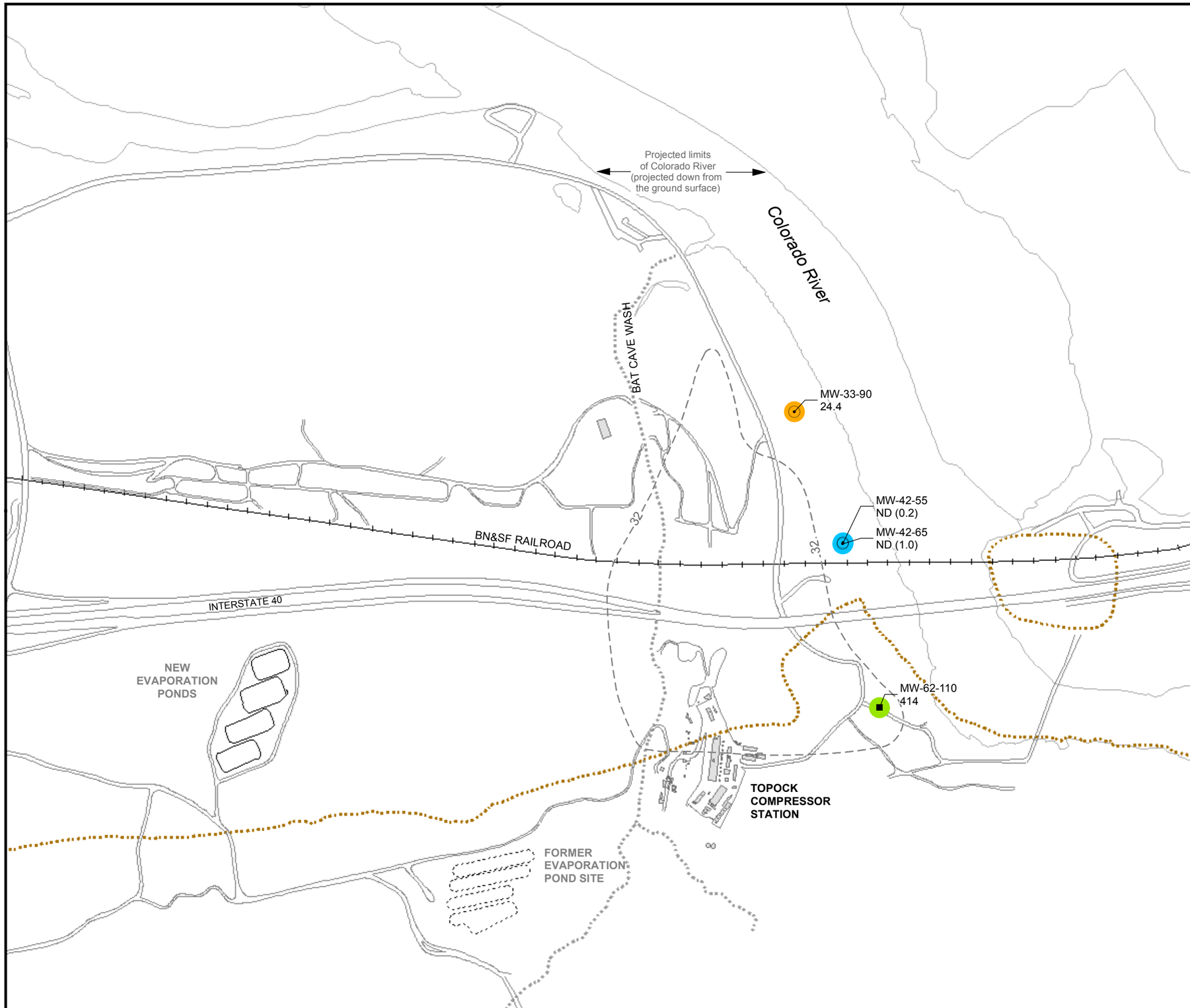
0 500 1,000 Feet

FIGURE 3-1a
Cr(VI) SAMPLING RESULTS, SHALLOW WELLS IN ALLUVIAL AQUIFER AND BEDROCK, SEPTEMBER - OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\GMP\GMP_2010Q3_CR6RESULTSMAP_UA.MXD BKAHLER 11/15/2010 09:47:50



LEGEND

- ⊙ Alluvial Aquifer well sampled during sampling event
- ■ Bedrock well sampled during sampling event

6.48 Concentration of hexavalent chromium [Cr(VI)] in groundwater, micrograms per liter (µg/L)

Results shown are maximum concentrations in primary and duplicate samples from wells completed in **Mid-Depth zone** of Alluvial Aquifer and Bedrock.

ND (0.2) Cr(VI) not detected at listed reporting limit

Cr(VI) Concentrations - September - October 2010

- Not detected at analytical reporting limit
- Concentration between reporting limit and 32 µg/L
- Concentration ≥ 32 µg/L
- Approximate outline of monitoring wells in Alluvial Aquifer and Bedrock with Cr(VI) concentrations ≥ 32 µg/L based on March 2010 groundwater sampling.
- Approximate bedrock contact at 425 feet above mean sea level.

Note:
Results plotted are maximum concentration from primary and duplicate samples, see table 3-1 for complete results.

N

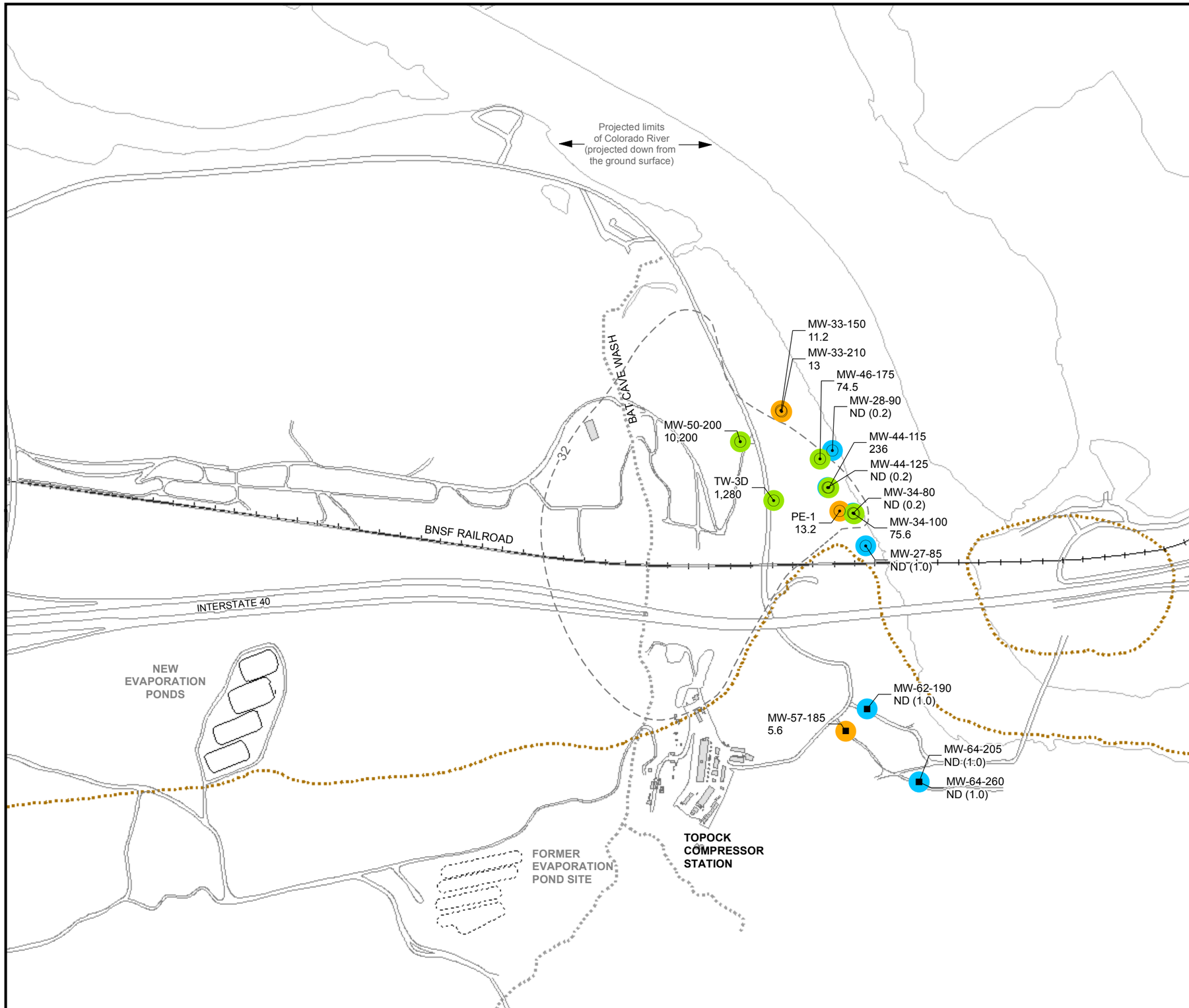
0 500 1,000 Feet

FIGURE 3-1b
Cr(VI) SAMPLING RESULTS
MID-DEPTH WELLS IN ALLUVIAL AQUIFER AND BEDROCK, SEPTEMBER - OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\GMP\GMP_2010Q3_CR6RESULTSMAP_MA.MXD BKAHLER 11/15/2010 09:50:41



LEGEND

- ⊙ Alluvial Aquifer well sampled during sampling event
- ■ Bedrock well sampled during sampling event

6.48 Concentration of hexavalent chromium [Cr(VI)] in groundwater, micrograms per liter (µg/L)

Results shown are maximum concentrations in primary and duplicate samples from wells completed in **Deep zone** of Alluvial Aquifer and Bedrock.

ND (0.2) Cr(VI) not detected at listed reporting limit

Cr(VI) Concentrations - September - October 2010

- Not detected at analytical reporting limit
- Concentration between reporting limit and 32 µg/L
- Concentration ≥ 32 µg/L

32 Approximate outline of monitoring wells in Alluvial Aquifer and Bedrock with Cr(VI) concentrations ≥ 32 µg/L based on March 2010 groundwater sampling.

Approximate bedrock contact at 395 feet above mean sea level.

Note:
1.Results plotted are maximum concentration from primary and duplicate samples, see table 3-1 for complete results.

2.In the floodplain area, the 32 µg/L line for Cr(VI) in deep zone (80-90 feet below Colorado River) is estimated based on available groundwater sampling, hydrogeologic and geochemical data. There are no data confirming the existence of Cr(VI) under the Colorado River.

N

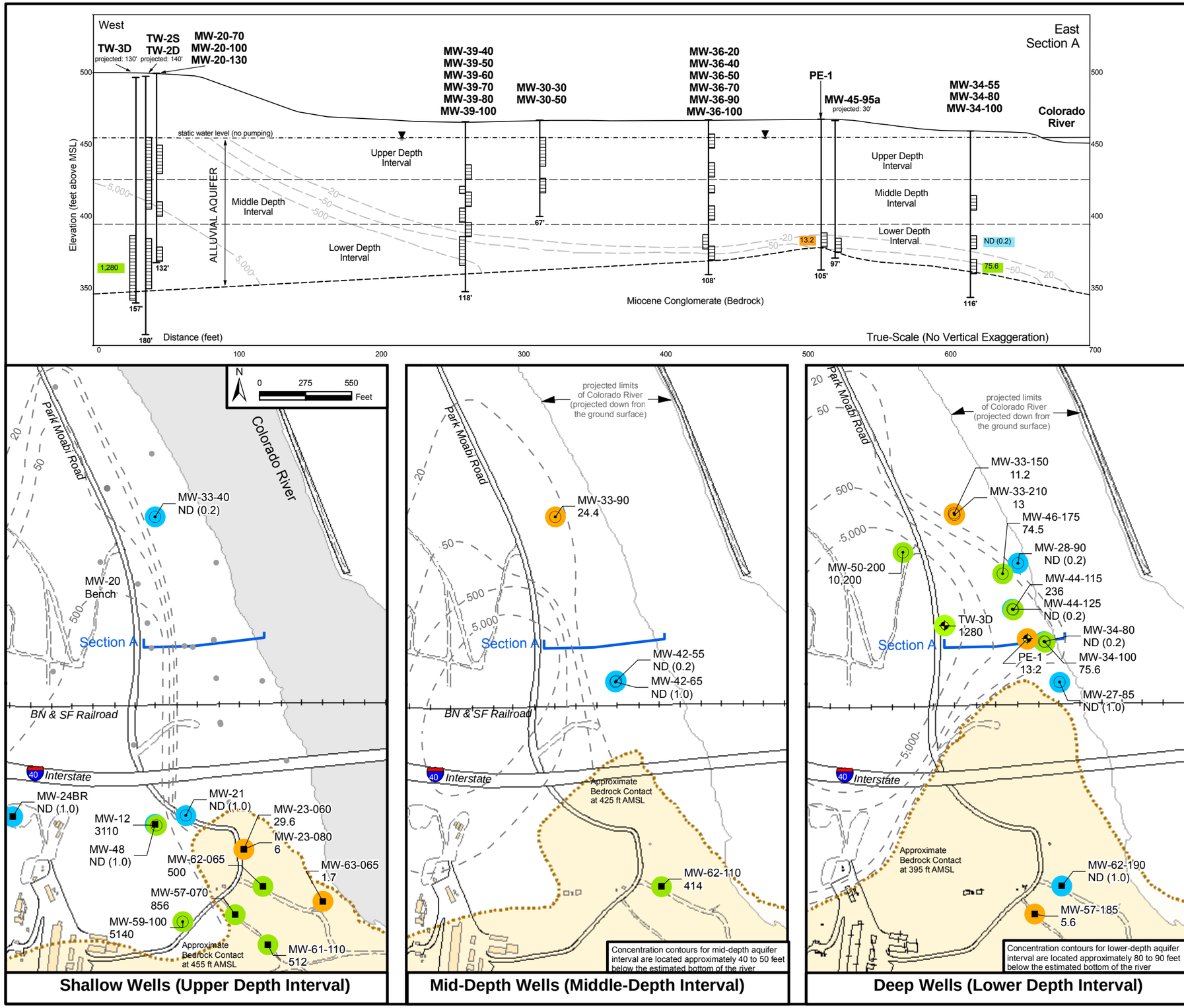
0 500 1,000 Feet

FIGURE 3-1c
Cr(VI) SAMPLING RESULTS, DEEP WELLS IN ALLUVIAL AQUIFER AND BEDROCK, SEPTEMBER - OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\GMP\GMP_2010Q3_CR6RESULTSMAP_LA.MXD BKAHLER 11/15/2010 09:51:53



Shallow Wells (Upper Depth Interval)

Mid-Depth Wells (Middle-Depth Interval)

Deep Wells (Lower Depth Interval)

LEGEND

- Alluvial Aquifer well sampled during sampling event
- Bedrock well sampled during sampling event
- Extraction wells sampled during sampling event
- Wells not sampled during sampling event

6.48 Concentration of hexavalent chromium [Cr(VI)] in groundwater, micrograms per liter (µg/L). Results posted are maximum Cr(VI) concentrations.

ND (0.2) Cr(VI) not detected at listed reporting limit

Cr(VI) Concentrations - September - October 2010

- Not detected at analytical reporting limit
- Concentrations between reporting limit and 32 µg/L
- Concentration ≥ 32 µg/L
- 50 — Inferred Cr(VI) concentration contour within Alluvial aquifer depth interval based on March 2010 sampling results.
- Hydrogeologic Section A

NOTES ON CONTOUR MAPS

1. The Cr(VI) concentration contours of 20 and 50 µg/L are shown in accordance with DTSC's 2005 IM performance monitoring directive. The IM performance standard was established for containment of Cr(VI) concentrations greater than 20 ug/L in the floodplain portion of the Alluvial Aquifer.

2. In the floodplain area, the 20 µg/L line for Cr(VI) in deep zone (80-90 feet below Colorado River) is estimated based on available groundwater sampling, hydrogeologic and geochemical data. There are no data confirming the existence of Cr(VI) under the Colorado River.

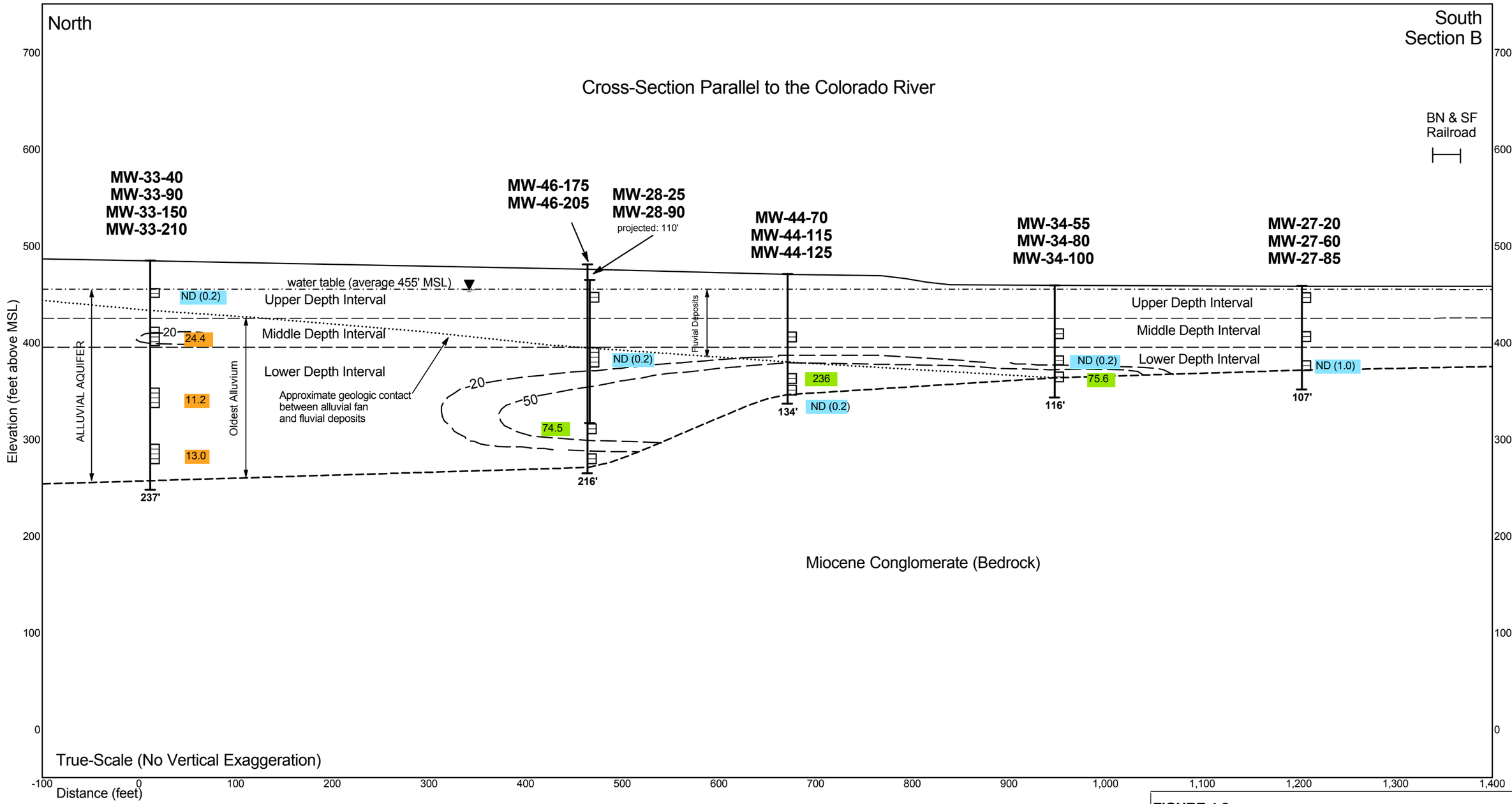
3. The beige shading shows the approximate area of bedrock groundwater.

4. Extraction wells PE-1 and TW-3D are not included in contouring. These wells draw water from a larger area and do not represent Cr(VI) concentrations at their specific locations.

FIGURE 4-1
MAXIMUM Cr(VI) CONCENTRATIONS IN ALLUVIAL AQUIFER, SEPTEMBER - OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNA

CH2MHILL



Notes:
ND = Not detected at listed reporting limit.

See Table 3-1 for additional sampling data and prior results for wells on this figure.

See Figure 1-3 for map of this cross-section.

water level

well screen 3,810

boring depth (feet) 103'

-— — 50 -— —
Inferred Cr(VI) concentration contour from March 2010 sampling.

Hexavalent Chromium [Cr(VI)] concentration in micrograms per liter (µg/L), equivalent to parts per billion (ppb).

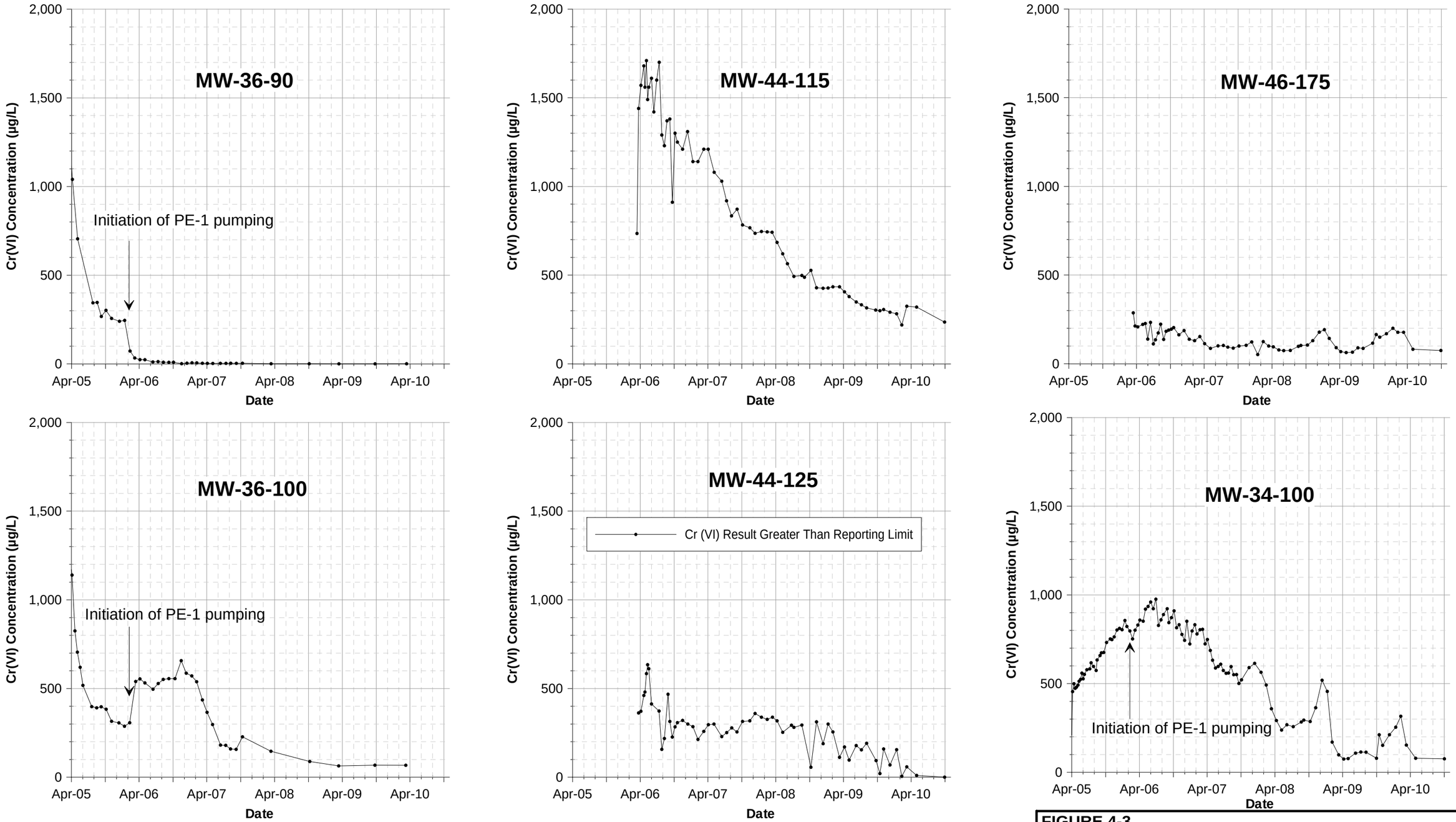
ND (1)	Not detected at listed reporting limit (ppb)
29	Less than 32 µg/L
3,810	Greater than 32 µg/L

FIGURE 4-2
Cr(VI) CONCENTRATIONS
FLOODPLAIN CROSS-SECTION B,
SEPTEMBER THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

C:\USERS\CHALL6\DOCUMENTS\GINT\2010_3Q\FIGURE_4-2_XSECB_CR.GDW;



Notes

1. Hexavalent chromium [Cr(VI)] results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. Results plotted are maximum concentrations from primary and duplicate samples; see Table 3-1 for complete results.
3. MW-36 wells selected to monitor effects of PE-1 pumping on plume west of PE-1. MW-44 wells, MW-46-175, and MW-34-100 selected to monitor concentrations within the plume.

FIGURE 4-3
Cr(VI) CONCENTRATION TRENDS IN SELECTED PERFORMANCE MONITORING WELLS, APRIL 2005 THROUGH OCTOBER 2010

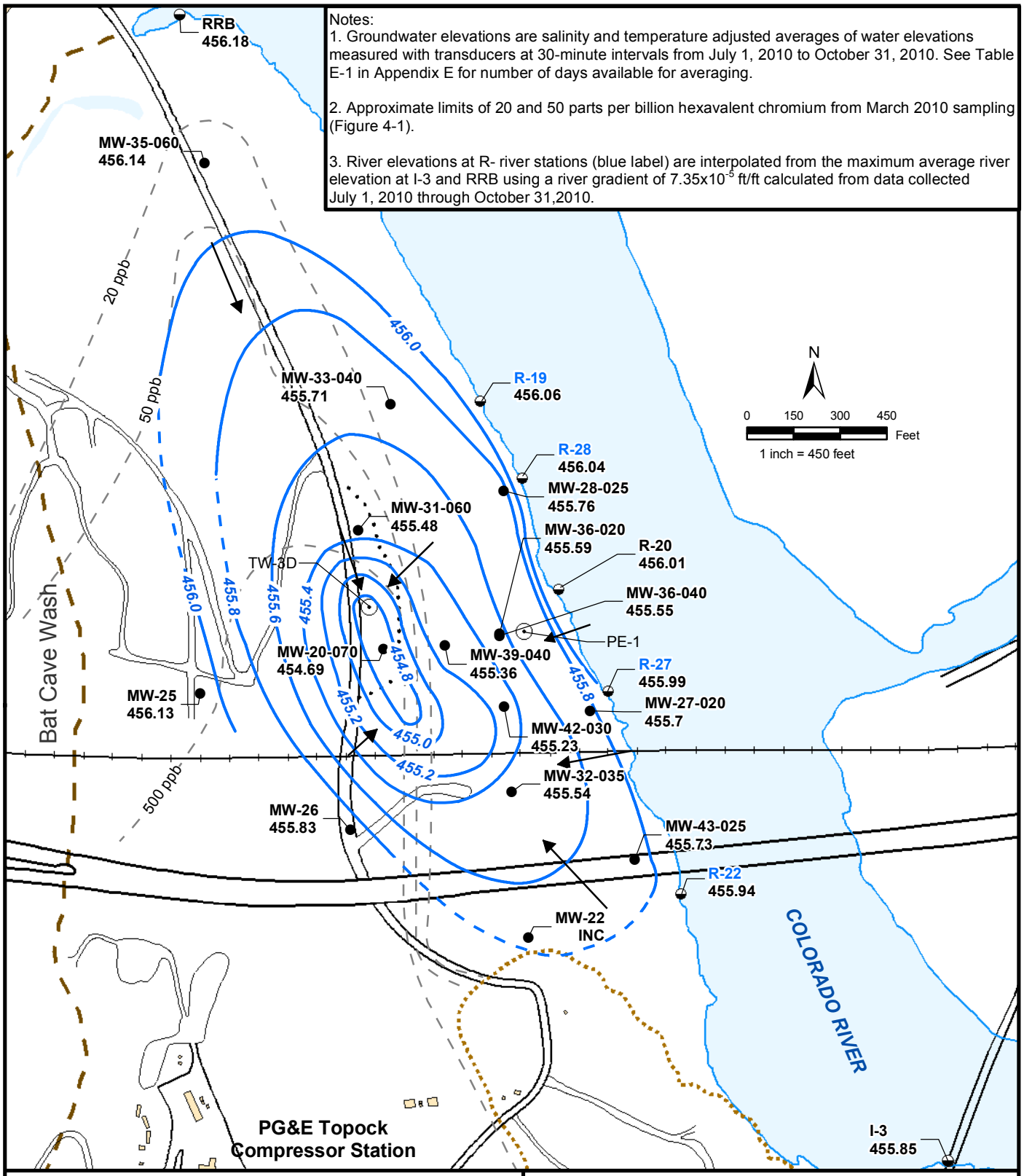
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Notes:
1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30-minute intervals from July 1, 2010 to October 31, 2010. See Table E-1 in Appendix E for number of days available for averaging.

2. Approximate limits of 20 and 50 parts per billion hexavalent chromium from March 2010 sampling (Figure 4-1).

3. River elevations at R- river stations (blue label) are interpolated from the maximum average river elevation at I-3 and RRB using a river gradient of 7.35×10^{-5} ft/ft calculated from data collected July 1, 2010 through October 31,2010.



MW-29 455.83	Average Groundwater Elevation at Monitoring Station (feet above mean sea level)
MW-29 (455.83)	Average Groundwater Elevation at Monitoring Station (ft AMSL) Not Used for Contouring
R-22 455.19	River Elevation (ft AMSL) Interpolated Average
→	Interpreted Groundwater Flow Direction
·····	Bedrock Contact at 455 ft AMSL
●	Monitoring Well
◒	River Station
⊙	Extraction Well
——	Groundwater Elevation Contour 0.2 ft (dashed where inferred)
INC	Data incomplete greater than 75% of reporting period

FIGURE 4-4a
AVERAGE GROUNDWATER ELEVATIONS FOR SHALLOW WELLS AND RIVER ELEVATIONS, JULY THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

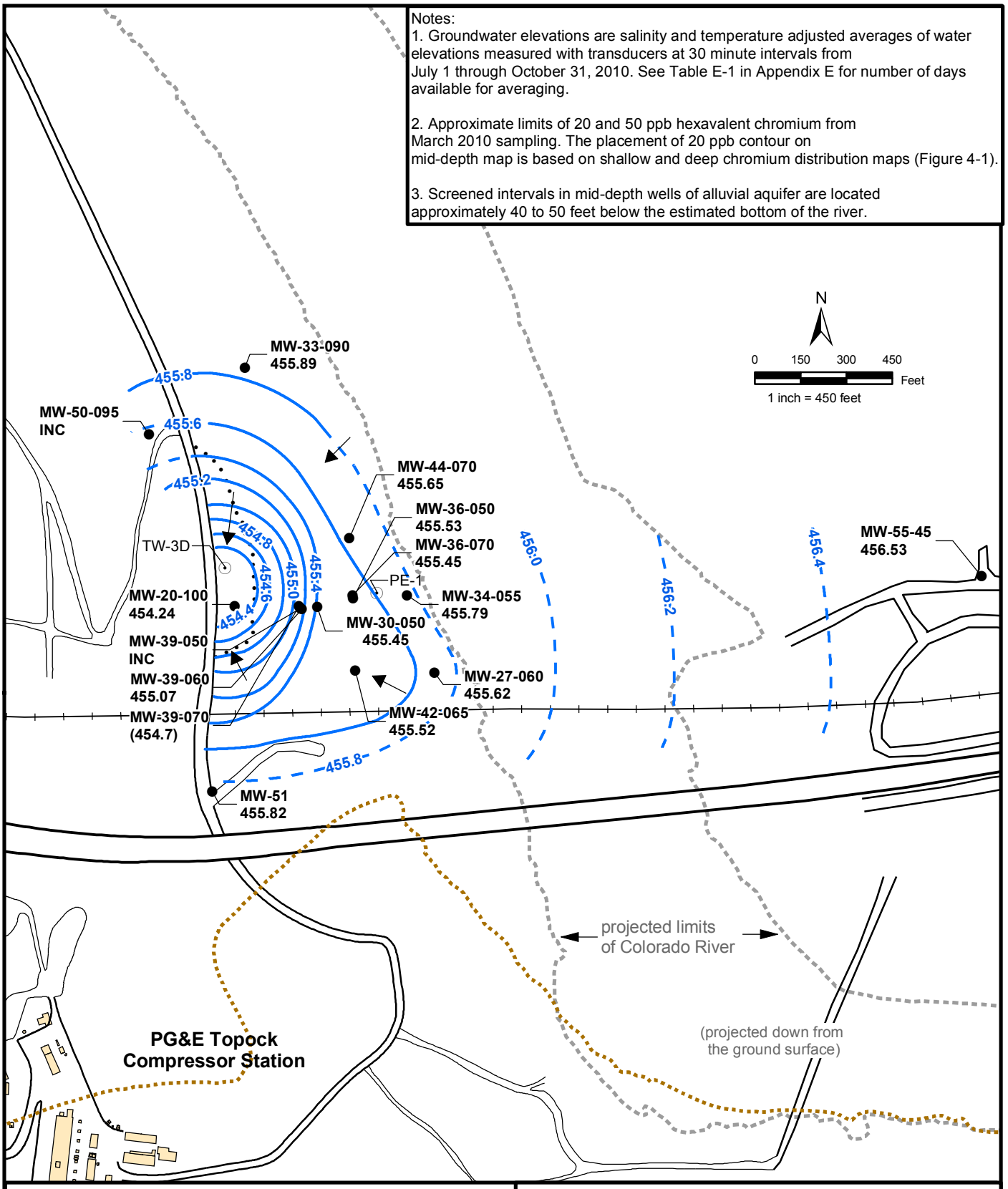
CH2MHILL

BAO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\PMR\PMR_AVERAGE_GROUNDWATER_UA_OCT10.MXD BKAHLER 11/15/2010 11:27:57

Notes:
1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30 minute intervals from July 1 through October 31, 2010. See Table E-1 in Appendix E for number of days available for averaging.

2. Approximate limits of 20 and 50 ppb hexavalent chromium from March 2010 sampling. The placement of 20 ppb contour on mid-depth map is based on shallow and deep chromium distribution maps (Figure 4-1).

3. Screened intervals in mid-depth wells of alluvial aquifer are located approximately 40 to 50 feet below the estimated bottom of the river.



MW-29 455.85	Average Groundwater Elevation at Monitoring Station (feet above mean sea level)	Monitoring Well	
MW-29 (455.85)	Average Groundwater Elevation at Monitoring Station (ft AMSL) Not Used for Contouring	Extraction Well	
	Bedrock Contact at 425 ft AMSL	Groundwater Elevation Contour 0.2 ft (dashed where inferred)	
	Interpreted Groundwater Flow Direction	INC	Data incomplete greater than 75% of reporting period

FIGURE 4-4b
AVERAGE GROUNDWATER ELEVATIONS FOR MID-DEPTH WELLS, JULY THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

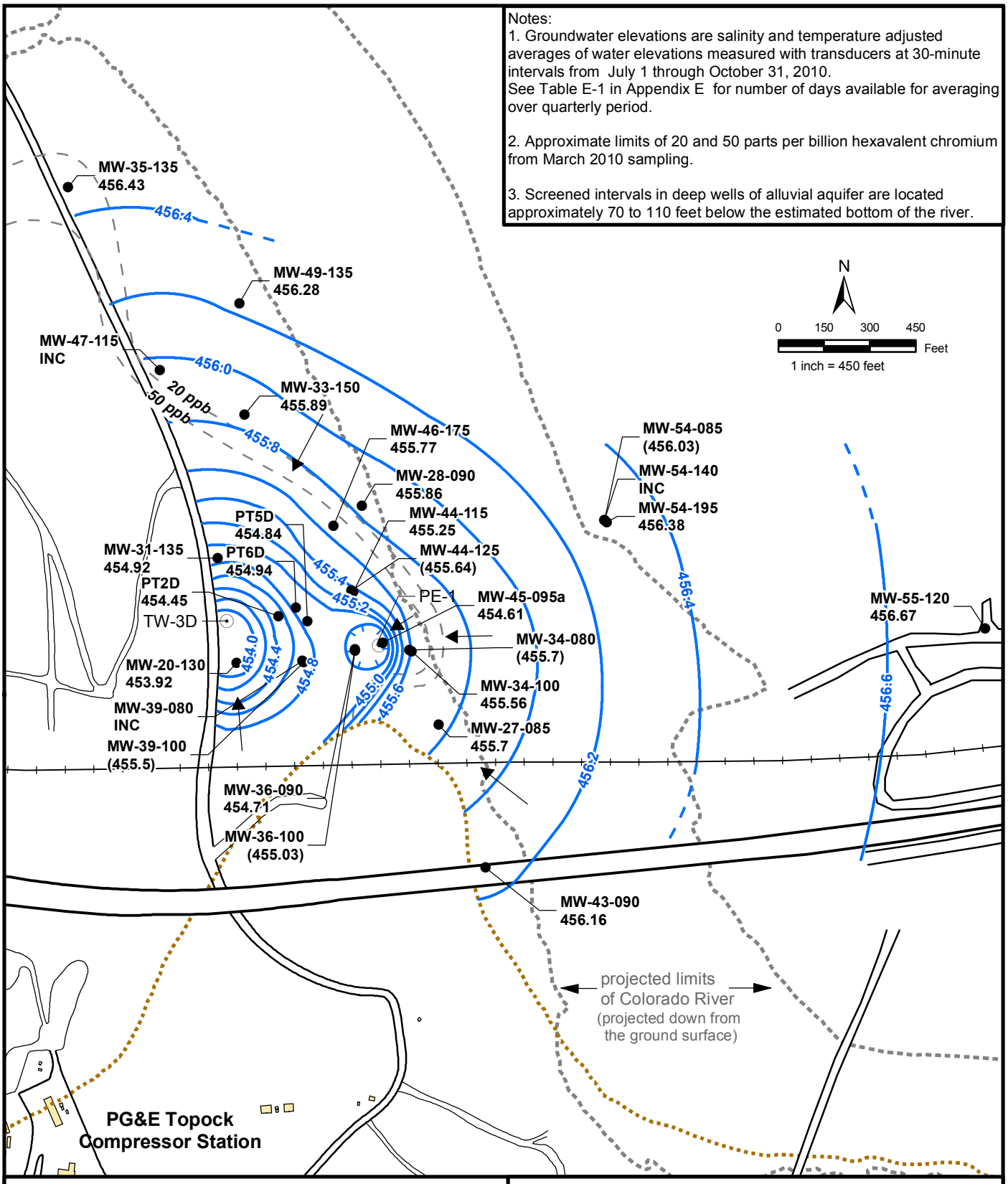
CH2MHILL

BAO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\PMR\PMR_AVERAGE_GROUNDWATER_MA_OCT10.MXD BKAHLER 11/15/2010 11:42:32

Notes:
1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30-minute intervals from July 1 through October 31, 2010.
See Table E-1 in Appendix E for number of days available for averaging over quarterly period.

2. Approximate limits of 20 and 50 parts per billion hexavalent chromium from March 2010 sampling.

3. Screened intervals in deep wells of alluvial aquifer are located approximately 70 to 110 feet below the estimated bottom of the river.



MW-29 455.85 — Average Groundwater Elevation at Monitoring Station (feet above mean sea level)

MW-29 (455.85) — Average Groundwater Elevation at Monitoring Station (ft AMSL) Not Used for Contouring

Interpreted Groundwater Flow Direction

Bedrock Contact at 395 ft AMSL

Monitoring Well

Extraction Well

Groundwater Elevation Contour 0.2 ft (dashed where inferred)

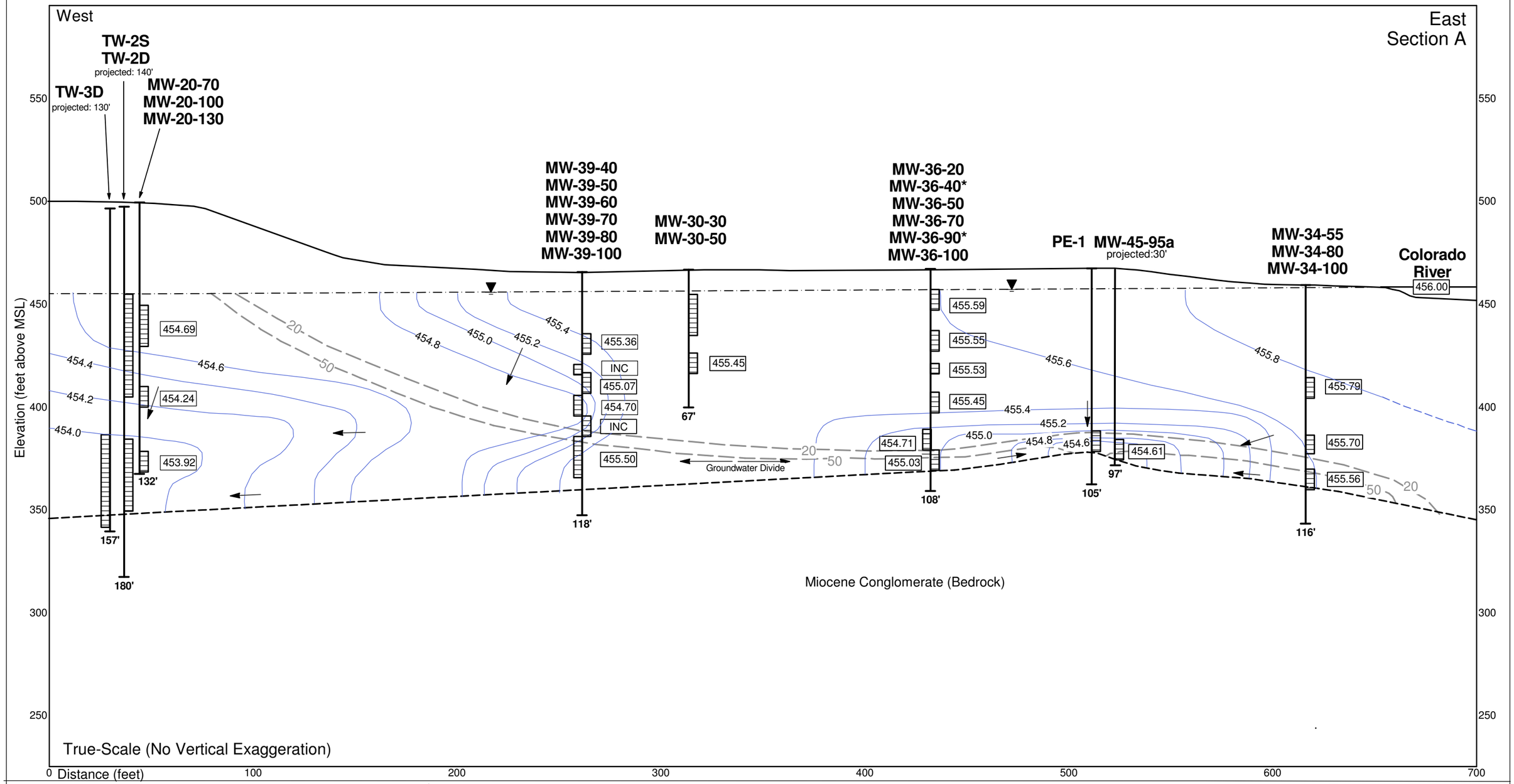
INC Data Incomplete Greater Than 75% of Reporting Period

FIGURE 4-4c
AVERAGE GROUNDWATER ELEVATIONS FOR DEEP WELLS, JULY THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

BAO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\PMR\PMR_AVERAGE_GROUNDWATER_LA_OCT10.MXD BKAHLER 11/15/2010 11:48:35



Notes:
Results show average groundwater elevations for July 1, 2010 through October 31, 2010 measured with transducers at 30 minute intervals.

Groundwater elevations adjusted for salinity and temperature.
Well MW-36-40* is excluded from contouring.
Well MW-36-90* is excluded from contouring.
River elevation (R-20) is the calculated average river level based upon the river gradient between RRB and I-3.

Legend:

MW-30-50

Inferred water table

well screen

455.23 — Average groundwater head (ft AMSL)

103 — boring depth (feet)

20 — Inferred hexavalent chromium contour (ppb) from March 2010 sampling.

453.5 — Groundwater head contour

453.5 — Inferred groundwater head contour

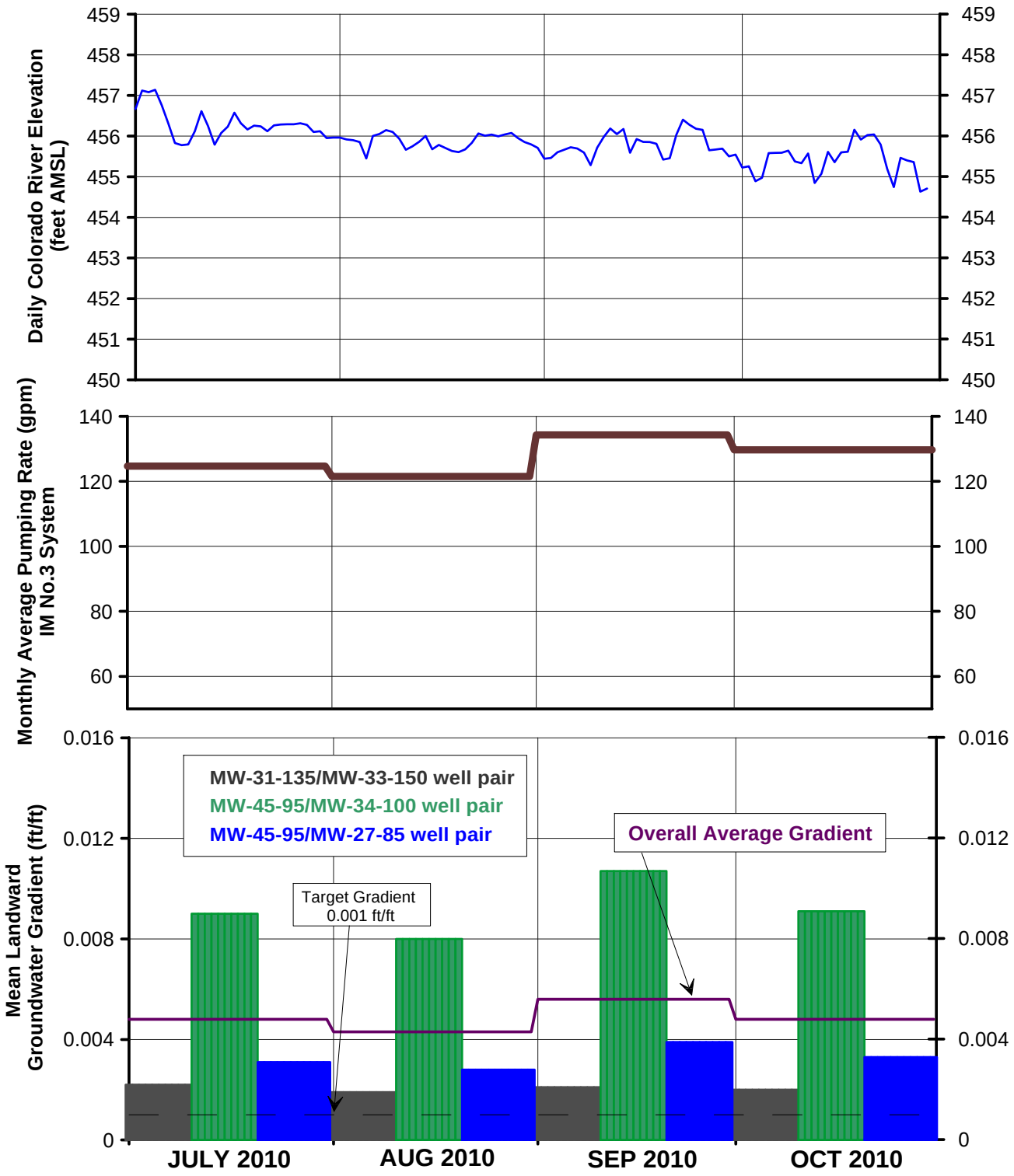
Interpreted groundwater flow direction

FIGURE 4-5
AVERAGE GROUNDWATER ELEVATIONS FOR WELLS IN FLOODPLAIN CROSS-SECTION A JULY THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

C:\USERS\CHALL6\DOCUMENTS\GINT\2010_3Q\FIGURE_4-5_XSECA_GW.GDW;



Notes:

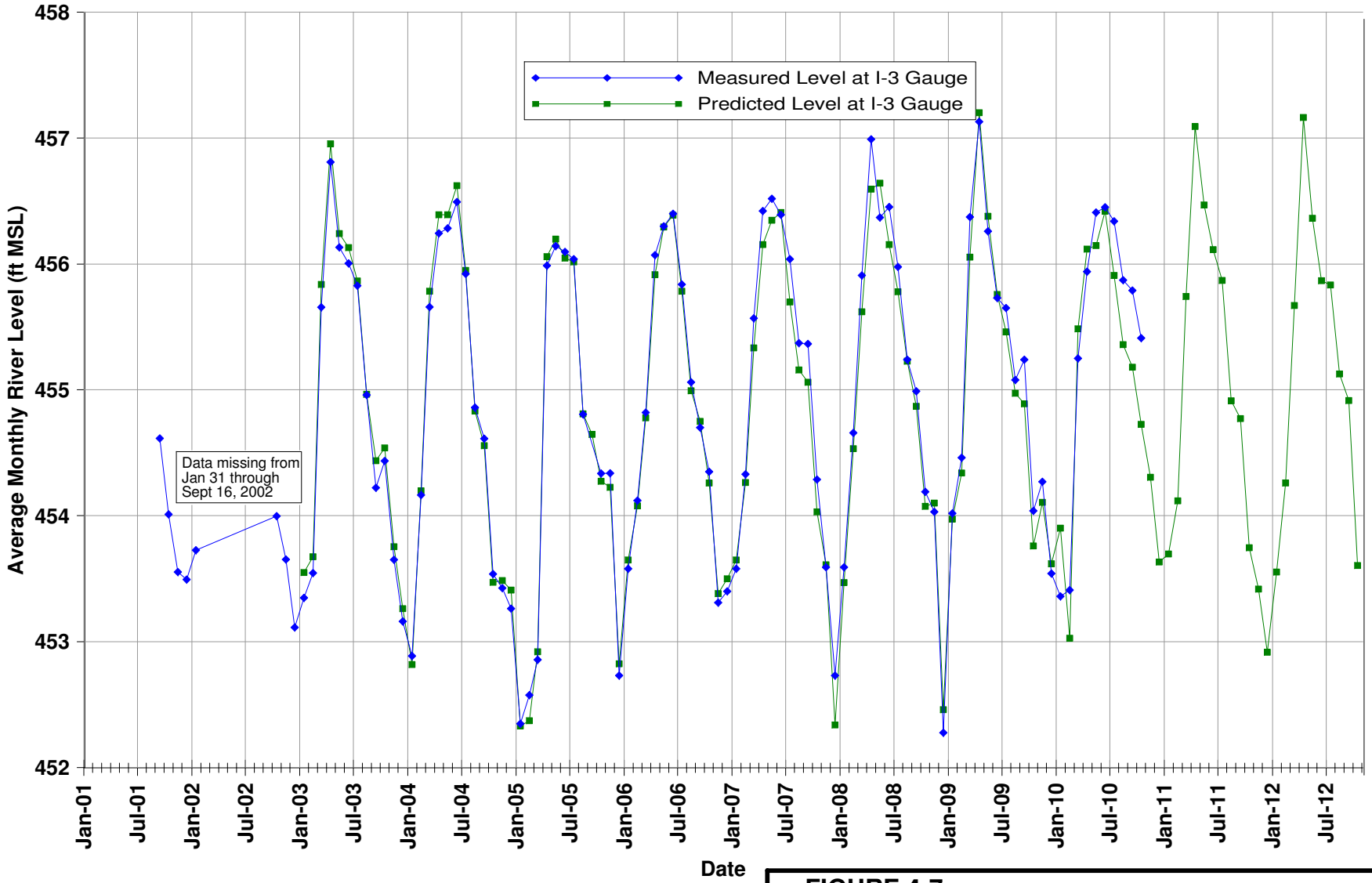
1) For IM pumping, the target landward gradient for well pairs is 0.001 feet/foot.
2) Refer to Table 4-1 and Section 4.4 for discussion of pumping data.
3) Pumping rate plotted is the combined rate of extraction wells TW-3D and PE-1 in operation each month.
4) Refer to Table 4-3 and Section 4.5 for discussion of gradient data.

FIGURE 4-6
MEASURED HYDRAULIC GRADIENTS, RIVER ELEVATIONS, AND PUMPING RATE, JULY THROUGH OCTOBER 2010

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\zinfandel\proj\PacificGasElectricCo\TopockProgram\Project_2010_Combined_Monitoring\Reporting\GMP_PMP\2010_Q3\Draft_2010_Q3_GMP_PMP\Figures\Grapher_Files



Note:
Projected river level for each month in the past is calculated based on the preceding months USBR projections of Davis Dam release and stage in Lake Havasu. Future projections of river level at I-3 are based upon October 2010 USBR projections. These data are reported monthly by the US Department of Interior, at http://www.usbr.gov/lc/region/g4000/24mo.pdf

FIGURE 4-7
PAST AND PREDICTED FUTURE RIVER LEVELS AT TOPOCK COMPRESSOR STATION

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

Appendix A
Lab Reports, July through October 2010
(Provided on CD-ROM with hardcopy submittal)

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

July 21, 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-EW-172, GROUNDWATER MONITORING PROJECT, TLI NO.: 990069

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-172 groundwater-monitoring project for Total Dissolved and Hexavalent Chromium, Total Dissolved Solids, and Specific Conductivity. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, wet chemistry raw data, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.

The samples were received and delivered with the chain of custody on July 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.

Samples for Total Dissolved Chromium were analyzed by method EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with the approval of Mr. Shawn Duffy of CH2M Hill.

Per Mr. Shawn Duffy's request, the pH analysis was cancelled.

No other violations or non-conformance 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) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 990069
Date: July 21, 2010
Collected: July 7, 2010
Received: July 7, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky
SM 3500-CrB	Hexavalent Chromium	Ethel Suico

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

Laboratory No.: 990069
Date Received: July 7, 2010

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990069-001	PE-01-172	E120.1	NONE	7/7/10	8:25	EC	5500	umhos/cm	2.00
990069-001	PE-01-172	E200.8	LABFLT	7/7/10	8:25	Chromium	11.4	ug/L	1.0
990069-001	PE-01-172	E218.6	LABFLT	7/7/10	8:25	Chromium, hexavalent	13.7	ug/L	0.20
990069-001	PE-01-172	SM2540C	NONE	7/7/10	8:25	Total Dissolved Solids	3350	mg/L	250
990069-002	TW-03D-172	E120.1	NONE	7/7/10	8:25	EC	8480	umhos/cm	2.00
990069-002	TW-03D-172	E200.8	LABFLT	7/7/10	8:25	Chromium	1130	ug/L	1.0
990069-002	TW-03D-172	SM2540C	NONE	7/7/10	8:25	Total Dissolved Solids	5280	mg/L	250
990069-002	TW-03D-172	SM3500-CrB	LABFLT	7/7/10	8:25	Chromium, hexavalent	1100	ug/L	250

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.

005

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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 300
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 392895.AA.DM
Project Number: 392895.AA.DM

Laboratory No. 990069

Printed 7/21/10

Samples Received on 7/7/10 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-172	990069-001	07/07/2010 08:25	Water
TW-03D-172	990069-002	07/07/2010 08:25	Water

Specific Conductivity - EPA 120.1 Batch 07EC10F 7/19/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990069-001 Specific Conductivity	umhos/cm	07/19/2010	1.00	0.0380	2.00	5500
990069-002 Specific Conductivity	umhos/cm	07/19/2010	1.00	0.0380	2.00	8480

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8550	8480	0.822	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	709.	706.	100	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	687.	706.	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	952.	1000	95.2	90 - 110

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

Chrome VI by EPA 218.6

Batch 07CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990069-001 Chromium, Hexavalent	ug/L	07/08/2010 13:25	1.05	0.0190	0.20	13.7

Method Blank

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

Duplicate — Lab ID = 990068-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1020	1010	0.985	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.90	5.00	98.0	90 - 110

Matrix Spike — Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.30(1.06)	96.2	90 - 110

Matrix Spike — Lab ID = 990068-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2020	2060(1050)	96.2	90 - 110

Matrix Spike — Lab ID = 990069-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	29.9	30.1(16.4)	98.8	90 - 110

Matrix Spike — Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.53	5.25(5.25)	105	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.97	5.00	99.4	90 - 110

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	10.4	10.0	104.	95 - 105

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

Chromium, Hexavalent by SM 3500-Cr B

Batch 07CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990069-002 Chromium, Hexavalent	ug/L	07/08/2010 11:18	25.0	87.5	250.	1100

Method Blank

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

Duplicate — Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	1160	1100	5.31	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	108.	100.	108.	90 - 110

Matrix Spike — Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3330	3600(2500)	89.2	85 - 115

Matrix Spike Duplicate — Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3480	3600(2500)	95.2	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	65.0	60.0	108	90 - 110

MRCVS - Primery

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.5	60.0	104	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 392895.AA.DM Printed 7/21/10

Total Dissolved Solids by SM 2540 C Batch 07TDS10C 7/7/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990069-001 Total Dissolved Solids	mg/L	07/07/2010	1.00	0.434	250.	3350
990069-002 Total Dissolved Solids	mg/L	07/07/2010	1.00	0.434	250.	5280

Method Blank

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

Duplicate Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	5140	5280	2.69	0 - 5

Lab Control Sample

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

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

Metals by EPA 200.8, Dissolved Batch 071410A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990069-001 Chromium	ug/L	07/14/2010 10:29	5.00	0.0960	1.0	11.4
990069-002 Chromium	ug/L	07/14/2010 11:10	5.00	0.0960	1.0	1130

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 990069-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	11.8	11.4	3.45	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

Matrix Spike — Lab ID = 990069-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	245.	261(250)	93.4	75 - 125

Matrix Spike Duplicate — Lab ID = 990069-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248.	261(250)	94.6	75 - 125

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.8	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
Chromium	ug/L	1.00	47.9	50.0	95.8	90 - 110

Interference Check Standard A

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

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 392895.AA.DM Printed 7/21/10

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	46.9	50.0	93.8	80 - 120

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

Ez Scan

4

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 07TDS10C

Date Calculated: 7/12/10

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	68.1215	68.1220	68.1218	0.0002	No	0.0003	3.0	25.0	ND	1
990024	50	75.0552	75.1348	75.1348	0.0000	No	0.0796	1592.0	50.0	1592.0	1
990036-16	50	69.8214	69.8652	69.865	0.0002	No	0.0436	872.0	50.0	872.0	1
990071	475	110.3648	110.3667	110.3667	0.0000	No	0.0019	4.0	5.3	ND	1
990068-1	10	47.9726	48.0185	48.0181	0.0004	No	0.0455	4550.0	250.0	4550.0	1
990068-2	10	49.5594	49.6088	49.6086	0.0002	No	0.0492	4920.0	250.0	4920.0	1
990069-1	10	47.2935	47.3274	47.327	0.0004	No	0.0335	3350.0	250.0	3350.0	1
990069-2	10	48.1860	48.2389	48.2388	0.0001	No	0.0528	5280.0	250.0	5280.0	1
990069-2d	10	50.5850	50.6367	50.6364	0.0003	No	0.0514	5140.0	250.0	5140.0	1
LCS	100	68.5299	68.5793	68.579	0.0003	No	0.0491	491.0	25.0	491.0	1

Calculation as follows:

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

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_0310.xls

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 07TDS10C

Date Calculated: 7/12/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990024	2210	0.72	1436.5	1.11
990036-16	1440	0.61	936	0.93
990071	7.97	ND	5.1805	ND
990068-1	7500	0.61	4875	0.93
990068-2	7880	0.62	5122	0.96
990069-1	5520	0.61	3588	0.93
990069-2	8580	0.62	5577	0.95
990069-2d	8580	0.60	5577	0.92

ES 7/12/10

WetChem TDS_0310.xls

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-EW-172] 990069

COC Number
TURNAROUND TIME 10 Days
DATE 07/07/10 PAGE 1 OF 1

COMPANY: CH2M HILL /E2
PROJECT NAME: PG&E Topock IM3Plant-EW
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: [signature]

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Dissolved Cr (200.7) Lab filtered	Cr(VI) (3500-Cr B)	pH (150.0) EC (120.1)	TDS (160.1)	Cr(VI) (218.6)										NUMBER OF CONTAINERS	COMMENTS
-1	PE-01-172	07/07/10	0825	Ground water	X		X	X	X										4	pH=7
-2	TW-03D-172	07/07/10	0825	Ground water	X	X	X	X											4	pH=7
	ANALYSIS	pH	EC	TEMP															8	TOTAL NUMBER OF CONTAINERS
PE-1	0830	7.5	5.62	72.5																
TW3D	0835	7.3	8.79	79.5																

CHAIN OF CUSTODY SIGNATURE RECORD

7-7-10

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
[signature]	JAIME	OMI	1530
Rafael Davila	Rafael	T.L.I	7-7-10 15:30
Rafael Davila	Rafael	T.L.I	7-7-10 21:30
Shabunina	Shabunina	TLI	JUL 07 2010 21:30

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

SPECIAL REQUIREMENTS:

For Sample Conditions See Form Attached

ALERT!! Level III QC

036

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 990069

Date Delivered: 7 / 7 /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? ☑Yes ☐No ☐N/A
   Temperature (if yes)? 4°C
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? ☐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_____
16. Comments: _____
17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

\\MATRIX\qaw\Discrp.FormBlank.doc

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

August 17, 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-EW-173, GROUNDWATER MONITORING PROJECT, TLI NO.: 990498

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-173 groundwater-monitoring project for Total Dissolved and Hexavalent Chromium, Total Dissolved Solids, and Specific Conductivity. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, wet chemistry raw data, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.

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

Samples for Total Dissolved Chromium were analyzed by method EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with the approval of Mr. Shawn Duffy of CH2M Hill.

Per Mr. Shawn Duffy's request, the pH analysis was cancelled.

No other violations or non-conformance 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.
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) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 990498
Date: August 17, 2010
Collected: August 4, 2010
Received: August 4, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky
SM 3500-CrB	Hexavalent Chromium	Ethel Suico

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

Laboratory No.: 990498
Date Received: August 4, 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
990498-001	PE-01-173	E120.1	NONE	8/4/2010	9:25	EC	5490	umhos/cm	2.00
990498-001	PE-01-173	E200.8	LABFLT	8/4/2010	9:25	Chromium	11.9	ug/L	1.0
990498-001	PE-01-173	E218.6	LABFLT	8/4/2010	9:25	Chromium, hexavalent	12.4	ug/L	0.20
990498-001	PE-01-173	SM2540C	NONE	8/4/2010	9:25	Total Dissolved Solids	3180	mg/L	125
990498-002	TW-03D-173	E120.1	NONE	8/4/2010	9:25	EC	8530	umhos/cm	2.00
990498-002	TW-03D-173	E200.8	LABFLT	8/4/2010	9:25	Chromium	1100	ug/L	1.0
990498-002	TW-03D-173	SM2540C	NONE	8/4/2010	9:25	Total Dissolved Solids	5330	mg/L	250
990498-002	TW-03D-173	SM3500-CrB	LABFLT	8/4/2010	9:25	Chromium, hexavalent	1280	ug/L	250

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.

005

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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 408401.01.DM
Project Number: 408401.01.DM

Laboratory No. 990498

Printed 8/17/2010

Samples Received on 8/4/2010

Field ID	Lab ID	Collected	Matrix
PE-01-173	990498-001	08/04/2010 09:25	Water
TW-03D-173	990498-002	08/04/2010 09:25	Water

Specific Conductivity - EPA 120.1 Batch 08EC10B 8/5/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990498-001 Specific Conductivity	umhos/cm	08/05/2010	1.00	0.0380	2.00	5490
990498-002 Specific Conductivity	umhos/cm	08/05/2010	1.00	0.0380	2.00	8530

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	5490	5490	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	712.	706.	101	90 - 110

Lab Control Sample Duplicate

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	711.	706.	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	1000	99.5	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 2 of 7
Project Number: 408401.01.DM Printed 8/17/2010

Chrome VI by EPA 218.6

Batch 08CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990498-001 Chromium, Hexavalent	ug/L	08/05/2010 09:40	1.05	0.0210	0.20	12.4

Method Blank

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

Duplicate — Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	12.8	12.4	3.17	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.83	5.00	96.6	90 - 110

Matrix Spike — Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.36	1.26(1.06)	109	90 - 110

Matrix Spike — Lab ID = 990512-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.95	8.80(5.30)	103	90 - 110

Matrix Spike — Lab ID = 990512-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.42	9.00(5.30)	108	90 - 110

Matrix Spike — Lab ID = 990512-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.06	8.80(5.30)	105	90 - 110

Matrix Spike — Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.32	1.26(1.06)	106	90 - 110

Matrix Spike — Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2120	2030(1050)	108	90 - 110

Matrix Spike — Lab ID = 990501-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	16.7	15.8(10.6)	108	90 - 110

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

Matrix Spike — Lab ID = 990504-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.01	8.30(5.30)	94.5	90 - 110

Matrix Spike — Lab ID = 990501-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.13(1.06)	105	90 - 110

Matrix Spike — Lab ID = 990502-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	19.8	19.5(10.6)	103	90 - 110

Matrix Spike — Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	29.4	28.8(16.4)	104	90 - 110

Matrix Spike — Lab ID = 990506-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.87	7.50(5.30)	107	90 - 110

Matrix Spike — Lab ID = 990506-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.9	15.9(10.6)	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	9.78	10.0	97.8	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.74	10.0	97.4	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

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

Chromium, Hexavalent by SM 3500-Cr B Batch 08CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990498-002 Chromium, Hexavalent	ug/L	08/05/2010 11:18	25.0	87.5	250.	1280

Method Blank

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

Duplicate — Lab ID = 990498-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	1250	1280	2.37	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	94.7	100.	94.7	90 - 110

Matrix Spike — Lab ID = 990498-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3950	3780(2500)	107	85 - 115

Matrix Spike Duplicate — Lab ID = 990498-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	4070	3780(2500)	112	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	60.0	60.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	60.0	60.0	100.	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM Printed 8/17/2010

Total Dissolved Solids by SM 2540 C Batch 08TDS10C 8/9/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990498-001 Total Dissolved Solids	mg/L	08/09/2010	1.00	0.434	125.	3180
990498-002 Total Dissolved Solids	mg/L	08/09/2010	1.00	0.434	250.	5330

Method Blank

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

Duplicate — Lab ID = 990499-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1010	998.	1.20	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	498.	500.	99.6	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM Printed 8/17/2010

Metals by EPA 200.8, Dissolved Batch 080610C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990498-001 Chromium	ug/L	08/06/2010 20:53	5.00	0.0960	1.0	11.9
990498-002 Chromium	ug/L	08/06/2010 21:00	5.00	0.0960	1.0	1100

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 990498-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	1070	1100	2.76	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

Matrix Spike — Lab ID = 990498-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	1310	1350(250)	84.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.5	50.0	101.	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
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	47.5	50.0	95.0	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		

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM Printed 8/17/2010

Interference Check Standard AB

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.4	80 - 120

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

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

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 08TDS10C

Date Calculated: 8/11/10

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	111.1485	111.1484	111.1484	0.0000	No	-0.0001	-1.0	25.0	ND	1
990466	50	68.7792	68.8161	68.8161	0.0000	No	0.0369	738.0	50.0	738.0	1
990489-1	100	105.3634	105.4209	105.4209	0.0000	No	0.0575	575.0	25.0	575.0	1
990489-2	100	105.6342	105.6934	105.6931	0.0003	No	0.0589	589.0	25.0	589.0	1
990497-1	10	49.3572	49.4056	49.4056	0.0000	No	0.0484	4840.0	250.0	4840.0	1
990497-2	10	50.5773	50.6277	50.6277	0.0000	No	0.0504	5040.0	250.0	5040.0	1
990498-1	20	72.8350	72.8985	72.8985	0.0000	No	0.0635	3175.0	125.0	3175.0	1
990498-2	10	72.5438	72.5971	72.5971	0.0000	No	0.0533	5330.0	250.0	5330.0	1
990499-6	50	69.3236	69.3950	69.3948	0.0002	No	0.0712	1424.0	50.0	1424.0	1
990499-7	50	69.2466	69.2972	69.2972	0.0000	No	0.0507	1014.0	50.0	1014.0	1
990499-8	50	68.2342	68.2841	68.2841	0.0000	No	0.0499	998.0	50.0	998.0	1
990499-8D	50	72.9865	73.0371	73.0371	0.0000	No	0.0506	1012.0	50.0	1012.0	1
LCS	100	112.1740	112.2235	112.2235	0.0000	No	0.0495	495.0	25.0	495.0	1
LCSD	100	92.1062	92.1560	92.156	0.0000	No	0.0498	498.0	25.0	498.0	1
LCS1	100	115.2493	115.3008	115.3008	0.0000	No	0.0515	515.0	25.0	515.0	1
990505-1	50	76.5591	76.6045	76.6045	0.0000	No	0.0454	908.0	50.0	908.0	1
990507-1	20	47.9741	48.0540	48.054	0.0000	No	0.0799	3995.0	125.0	3995.0	1
990507-2	20	48.1873	48.2762	48.2762	0.0000	No	0.0889	4445.0	125.0	4445.0	1
990507-4	100	110.7179	110.7502	110.7502	0.0000	No	0.0323	323.0	25.0	323.0	1
990507-8	100	114.3506	114.3833	114.3833	0.0000	No	0.0327	327.0	25.0	327.0	1
990507-11	100	102.7368	102.7925	102.7925	0.0000	No	0.0557	557.0	25.0	557.0	1
990566-3	100	66.0735	66.1235	66.1235	0.0000	No	0.0500	500.0	25.0	500.0	1
990566-3D	100	74.7522	74.8022	74.8022	0.0000	No	0.0500	500.0	25.0	500.0	1
LCS2	100	108.6960	108.7430	108.743	0.0000	No	0.0470	470.0	25.0	470.0	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: 08TDS10C

Date Calculated: 8/11/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990466	1300	0.57	845	0.87
990489-1	930	0.62	604.5	0.95
990489-2	950	0.62	617.5	0.96
990497-1	7490	0.65	4868.5	0.99
990497-2	7960	0.63	5174	0.97
990498-1	5490	0.58	3568.5	0.89
990498-2	8530	0.62	5544.5	0.96
990499-6	2000	0.71	1300	1.10
990499-7	1557	0.65	1012.05	1.00
990499-8	1580	0.63	1027	0.97
990499-8D	1580	0.64	1027	0.99
LCS				
LCSD				
LCS1				
990505-1	1397	0.65	908.05	1.00
990507-1	5300	0.75	3445	1.16
990507-2	5820	0.76	3783	1.17
990507-4	534	0.60	347.1	0.93
990507-8	565	0.58	367.25	0.89
990507-11	927	0.60	602.55	0.92
990566-3	832	0.60	540.8	0.92
990566-3D	832	0.60	540.8	0.92

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-EW-173]

COC Number 990498

TURNAROUND TIME 10 Days

DATE 08/04/10

PAGE 1 OF 1

COMPANY: CH2M HILL /E2

PROJECT NAME: PG&E Topock IM3Plant-EW

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): [signature]

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Dissolved Cr (200.7) Lab filtered	Cr(VI) (3500-Cr B)	pH (150.0)	EC (120.1)	TDS (160.1)	Cr(VI) (218.6)	NUMBER OF CONTAINERS	COMMENTS
-1	PE-01-173	08/04/10	0925	Ground water	X		X	X	X		4	pH = 7
-2	TW-03D-173	08/04/10	0925	Ground water	X	X	X	X			4	
											8	TOTAL NUMBER OF CONTAINERS

ALERT!! LOW VOL QC 200.7

For Sample Condition See Form Attached

	TIME	ANALYSIS	pH	EC	Cr6	TOTAL	Temp.
PE1	0925	0939	7.5	5.59	—	—	78.4
TW3D	0925	0934	7.2	8.76	—	—	82.4

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	[signature]	[illegible]	CH2M	8-4-10 1600
Received	Rafael Davila	Rafael	T.L.I	8-4-10 16:00
Relinquished	Rafael Davila	Rafael	T.L.I	8-4-10 21:30
Received	Shakunina	Luda	TLI	8/4/10 21:30
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

042

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
07/29/10	990410	7.0	5.00	9.5	7:30	SB
07/30/10	990426	7.0	5.00	9.5	15:00	SB
08/05/10	990497-1	7.0	5.00	9.5	7:30	SB
↓	↓ -2	↓	↓	↓	↓	↓
08/05/10	990498-1	7.0	5.00	9.5	7:45	SB
08/05/10	990512-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
08/05/10	990499-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
08/05/10	990500-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9	7.0	5.00	9.5	12:30	

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 990498

Date Delivered: 8 / 4 /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°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_____

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Recaiving: Rafael Davila

\\MATRIX\en\Discrp.FormBlank.doc

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

September 14, 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 2010-GMP-168, GROUNDWATER MONITORING PROJECT, TLI NO.: 990908

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-GMP-168 groundwater-monitoring project for Hexavalent Chromium, Dissolved Chromium, and Dissolved Arsenic. 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 are under Section 5.

The samples were received and delivered with the chain of custody on August 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.

No violations or non-conformance 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.
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

Laboratory No.: 990908
Date Received: August 27, 2010

Project Name: PG&E Topock Project
Project No.: 405681.MP.02.GM.04
P.O. No.: 405681.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990908-001	MW-64-150-168	E218.6	FLDFLT	8/25/2010	15:03	Chromium, hexavalent	ND	ug/L	1.0
990908-001	MW-64-150-168	SW6020	FLDFLT	8/25/2010	15:03	Arsenic	10.4	ug/L	1.0
990908-001	MW-64-150-168	SW6020	FLDFLT	8/25/2010	15:03	Chromium	ND	ug/L	1.0
990908-002	MW-64-205-168	E218.6	FLDFLT	8/25/2010	15:11	Chromium, hexavalent	ND	ug/L	1.0
990908-002	MW-64-205-168	SW6020	FLDFLT	8/25/2010	15:11	Arsenic	6.3	ug/L	1.0
990908-002	MW-64-205-168	SW6020	FLDFLT	8/25/2010	15:11	Chromium	3.9	ug/L	1.0
990908-003	MW-64-260-168	E218.6	FLDFLT	8/25/2010	15:19	Chromium, hexavalent	ND	ug/L	1.0
990908-003	MW-64-260-168	SW6020	FLDFLT	8/25/2010	15:19	Arsenic	3.4	ug/L	1.0
990908-003	MW-64-260-168	SW6020	FLDFLT	8/25/2010	15:19	Chromium	ND	ug/L	1.0

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.

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 405681.MP.02.GM.04
Project Number: 405681.MP.02.GM.04

Laboratory No. 990908

Printed 9/14/2010

Samples Received on 8/27/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-64-150-168	990908-001	08/25/2010 15:03	Water
MW-64-205-168	990908-002	08/25/2010 15:11	Water
MW-64-260-168	990908-003	08/25/2010 15:19	Water

Chrome VI by EPA 218.6 Batch 09CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990908-001 Chromium, Hexavalent	ug/L	09/02/2010 11:36	5.25	0.110	1.0	ND
990908-002 Chromium, Hexavalent	ug/L	09/02/2010 11:46	5.25	0.110	1.0	ND
990908-003 Chromium, Hexavalent	ug/L	09/02/2010 11:57	5.25	0.110	1.0	ND

Method Blank

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

Duplicate — Lab ID = 990810-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	28.9	28.1	2.95	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.99	5.00	99.9	90 - 110

Matrix Spike — Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.40	5.25(5.25)	103	90 - 110

Matrix Spike — Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.939	1.06(1.06)	88.6	90 - 110

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

Matrix Spike — Lab ID = 990908-002

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 = 990908-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.43	5.25(5.25)	103	90 - 110

Matrix Spike — Lab ID = 990908-003

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 = 990908-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.25(5.25)	101	90 - 110

Matrix Spike — Lab ID = 990909-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.06(1.06)	103	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.98	5.00	99.7	90 - 110

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	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.68	10.0	96.8	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

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 405681.MP.02.GM.04 Printed 9/14/2010

Metals by EPA 6020A, Dissolved

Batch 090210B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990908-001 Arsenic	ug/L	09/02/2010 16:11	1.00	0.0520	1.0	10.4
Chromium	ug/L	09/02/2010 16:11	1.00	0.0190	1.0	ND
990908-002 Arsenic	ug/L	09/02/2010 17:05	1.00	0.0520	1.0	6.3
Chromium	ug/L	09/02/2010 17:05	1.00	0.0190	1.0	3.9
990908-003 Arsenic	ug/L	09/02/2010 17:12	1.00	0.0520	1.0	3.4
Chromium	ug/L	09/02/2010 17:12	1.00	0.0190	1.0	ND

Method Blank

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

Duplicate — Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	1.00	10.5	10.4	0.478	0 - 20
Chromium	ug/L	1.00	ND	0	0	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
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110

Matrix Spike — Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	1.00	62.2	60.4(50.0)	104	75 - 125
Chromium	ug/L	1.00	52.4	50.0(50.0)	105	75 - 125

Matrix Spike Duplicate — Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	1.00	62.6	60.4(50.0)	104	75 - 125
Chromium	ug/L	1.00	53.3	50.0(50.0)	107	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.0	50.0	97.9	90 - 110
Chromium	ug/L	1.00	46.4	50.0	92.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.1	50.0	102	90 - 110
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110

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

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
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
Arsenic	ug/L	1.00	49.4	50.0	98.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	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	46.8	50.0	93.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.1	50.0	92.1	80 - 120

Serial Dilution — Lab ID = 990856-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	25.7	27.5	6.69	0 - 10

Serial Dilution — Lab ID = 990856-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	25.7	27.2	5.67	0 - 10

Serial Dilution — Lab ID = 990856-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	100	108.	7.49	0 - 10

Serial Dilution — Lab ID = 990856-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	104	108	3.57	0 - 10

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

Rec'd 08/27/10

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

CHAIN OF CUSTODY RECORD

[2010-GMP-168]

990908

COC Number 990908
Turnaround Time 10 Days
Date 8-25-10 Page 1 OF 1

COMPANY E2
PROJECT PG&E Topock
ADDRESS 155 Grand Ave Ste 1000, Oakland, CA 94612
PHONE (530) 229-3303 FAX (530) 339-3303
P.O. NUM ~~390378~~ MP.02.GM.04 405681. TEAM 1
SAMPLERS (SIGNATURE

	Container:	500 ml Poly	250 ml Poly	250 ml Poly		
	Preservatives:	HNO3	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
	Filtered:	Field	Field	Field		
	Holding Time:	7	28	180		
SAMPLE I.D.	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered Chromium	Number of Containers	COMMENTS
-1 MW-64-150-168	8-25-10	1503	water	X	X	X	2	PH-2
-2 MW-64-205-168		1511		X	X	X	2	PH-2
-3 MW-64-260-168		1519		X	X	X	2	PH-2

6020/6010B

ALERT !!
Level III QC

TOTAL NUMBER OF CONTAINERS ~~9~~ 6

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Barry Cellom	CH2M Hill	8-26-10
Signature (Received) Rafael Davila	Rafael	T.L.I	8-27-10 16:00
Signature (Relinquished) Rafael Davila	Rafael	T.L.I	8-27-10 21:30
Signature (Received)	Amir Harivar	TLI	8-27-10 21:30
Signature (Relinquished)			
Signature (Received)			

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

025

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
08/27/10	990893-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
08/27/10	990902	7.0	5.00	9.5	11:00	SB
08/27/10	990908-1	7.0	5.00	9.5	19:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
08/27/10	990909	7.0	5.00	9.5	19:00	SB
09/02/10	990966-1	7.0	5.00	9.5	8:15	SB
09/02/10	990967-1	7.0	5.00	9.5	8:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓

ab

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E 2 **Lab #** 990908

Date Delivered: 8/27/10 **Time:** 21:30 **By:** ☐Mail ☑Field Service ☐Client

1. Was a Chain of Custody received and signed? ☑Yes ☐No ☐N/A RD
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 (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? ☑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: Rafael Davila

\\MATRIXnew\Discrp.FormBlank.doc

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

September 27, 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-EW-174, GROUNDWATER MONITORING PROJECT, TLI NO.: 990966

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-174 groundwater-monitoring project for Total Dissolved and Hexavalent Chromium, Total Dissolved Solids, and Specific Conductivity. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, wet chemistry raw data, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.

The samples were received and delivered with the chain of custody on September 1, 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 containers for Total Dissolved Chromium were received preserved with a pH of 2. Mr. Shawn Duffy of CH2M Hill was notified and he requested that sample from the TDS containers be filtered, preserved, and analyzed for Total Dissolved Chromium.

Samples for Total Dissolved Chromium were analyzed by methods EPA 200.8 and EPA 200.7 with the approval of Mr. Shawn Duffy of CH2M Hill.

Per Mr. Shawn Duffy's request, the pH analysis was cancelled.

No other violations or non-conformance 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) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 990966
Date: October 1, 2010
Collected: September 1, 2010
Received: September 1, 2010
Revision 1

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
EPA 200.8	Total Chromium	Linda Saetern
EPA 200.7	Total Chromium	Ethel Suico
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky
SM 3500-CrB	Hexavalent Chromium	Ethel Suico

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

Laboratory No.: 990966
Date Received: September 1, 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
990966-001	PE-01-174	E120.1	NONE	9/1/2010	8:44	EC	5400	umhos/cm	2.00
990966-001	PE-01-174	E200.8	LABFLT	9/1/2010	8:44	Chromium	12.4	ug/L	1.0
990966-001	PE-01-174	E218.6	LABFLT	9/1/2010	8:44	Chromium, hexavalent	14.9	ug/L	0.20
990966-001	PE-01-174	SM2540C	NONE	9/1/2010	8:44	Total Dissolved Solids	3420	mg/L	125
990966-002	TW-03D-174	E120.1	NONE	9/1/2010	8:44	EC	8620	umhos/cm	2.00
990966-002	TW-03D-174	E200.7	LABFLT	9/1/2010	8:44	Chromium	1160	ug/L	10.0
990966-002	TW-03D-174	SM2540C	NONE	9/1/2010	8:44	Total Dissolved Solids	4900	mg/L	250
990966-002	TW-03D-174	SM3500-CrB	LABFLT	9/1/2010	8:44	Chromium, hexavalent	1130	ug/L	250

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 Truesdail Laboratories.

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

Laboratory No. 990966

Printed 9/27/2010

Samples Received on 9/1/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-174	990966-001	09/01/2010 08:44	Water
TW-03D-174	990966-002	09/01/2010 08:44	Water

Specific Conductivity - EPA 120.1 Batch 09EC10A 9/2/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-001 Specific Conductivity	umhos/cm	09/02/2010	1.00	0.0380	2.00	5400
990966-002 Specific Conductivity	umhos/cm	09/02/2010	1.00	0.0380	2.00	8620

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	1210	1210	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	702.	706.	99.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708.	706.	100	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	737.	706.	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	992.	1000	99.2	90 - 110

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

Chrome VI by EPA 218.6 Batch 09CrH10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-001 Chromium, Hexavalent	ug/L	09/03/2010 09:44	1.05	0.0210	0.20	14.9

Method Blank

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

Duplicate — Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1210	1200	0.675	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.05	5.00	101	90 - 110

Matrix Spike — Lab ID = 990966-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	32.2	31.3(16.4)	105	90 - 110

Matrix Spike — Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.71	5.91(5.25)	96.2	90 - 110

Matrix Spike — Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.63	1.54(1.06)	109	90 - 110

Matrix Spike — Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2820	2780(1580)	102	90 - 110

Matrix Spike — Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.06(1.06)	111	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.16	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

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	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

Chromium, Hexavalent by SM 3500-Cr B Batch 09CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-002 Chromium, Hexavalent	ug/L	09/08/2010 15:48	25.0	87.5	250.	1130

Method Blank

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

Duplicate Lab ID = 990966-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	1100	1130	2.76	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	102	100.	102	90 - 110

Matrix Spike Lab ID = 990966-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3670	3630(2500)	102	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	59.8	60.0	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	59.8	60.0	99.7	90 - 110

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

Client: E2 Consulting Engineeres, Inc. Project Name: PG&E Topock Priject
Project Number: 408401.01.DM Printed 9/27/2010

Total Dissolved Solids by SM 2540 C Batch 09TDS10A 9/7/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-001 Total Dissolved Solids	mg/L	09/07/2010	1.00	0.434	125.	3420
990966-002 Total Dissolved Solids	mg/L	09/07/2010	1.00	0.434	250.	4900

Method Blank

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

Duplicate Lab ID = 991017-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	576.	583.	1.21	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

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

Metals by EPA 200.8, Dissolved

Batch 092210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-001 Chromium	ug/L	09/22/2010 13:27	5.00	0.0950	1.0	12.4

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	1.04	1.22	16.3	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.7	90 - 110

Matrix Spike — Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	237	251(250.)	94.4	75 - 125

Matrix Spike Duplicate — Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	239	251(250.)	95.3	75 - 125

MRCCS - Secondary

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	47.0	50.0	94.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	95.1	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		

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

Client: E2 Consulting Engineeres, Inc. Project Name: PG&E Topock Priject
Project Number: 408401.01.DM Printed 9/27/2010

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	44.5	50.0	89.0	80 - 120

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

Metals by 200.7, Dissolved

Batch 091610A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990966-002 Chromium	ug/L	09/16/2010 14:24	1.00	3.00	10.0	1160

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 990966-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	1.00	1220	1160	5.21	0 - 20

Lab Control Sample

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

Matrix Spike — Lab ID = 990966-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	3220	3160(2000)	103	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	5020	5000	100	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	5250	5000	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 AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	2000	2000	100	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	2030	2000	102	80 - 120

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

Client: E2 Consulting Engineeres, Inc.

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

Printed 9/27/2010

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

6

Ez Seam

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 09TDS10A

Date Calculated: 9/9/10

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	122.0336	122.0337	122.0337	0.0000	No	0.0001	1.0	25.0	ND	1
990966-1	20	50.5021	50.5708	50.5704	0.0004	No	0.0683	3415.0	125.0	3415.0	1
990966-2	10	49.4138	49.4628	49.4628	0.0000	No	0.0490	4900.0	250.0	4900.0	1
990967-1	10	49.9005	49.9464	49.946	0.0004	No	0.0455	4550.0	250.0	4550.0	1
990967-2	10	49.7273	49.7828	49.7828	0.0000	No	0.0555	5550.0	250.0	5550.0	1
990967-3	50	75.5468	75.5874	75.5870	0.0004	No	0.0402	804.0	50.0	804.0	1
990995	100	73.6657	73.7185	73.7185	0.0000	No	0.0528	528.0	25.0	528.0	1
991013-2	200	105.3616	105.3815	105.3811	0.0004	No	0.0195	97.5	12.5	97.5	1
991013-3	100	114.3497	114.3638	114.3638	0.0000	No	0.0141	141.0	25.0	141.0	1
991014-1	50	72.4784	72.5292	72.5291	0.0001	No	0.0507	1014.0	50.0	1014.0	1
991014-2	50	65.8331	65.8633	65.863	0.0003	No	0.0299	598.0	50.0	598.0	1
990995D	100	68.7064	68.7600	68.76	0.0000	No	0.0536	536.0	25.0	536.0	1
991014-3	100	69.2827	69.3311	69.3311	0.0000	No	0.0484	484.0	25.0	484.0	1
991014-4	100	67.8875	67.9296	67.9293	0.0003	No	0.0418	418.0	25.0	418.0	1
991017-10	100	67.8134	67.8740	67.8737	0.0003	No	0.0603	603.0	25.0	603.0	1
991017-11	100	68.4740	68.5327	68.5323	0.0004	No	0.0583	583.0	25.0	583.0	1
991017-11D	100	67.9305	67.9881	67.9881	0.0000	No	0.0576	576.0	25.0	576.0	1
LCS	100	112.1689	112.2187	112.2184	0.0003	No	0.0495	495.0	25.0	495.0	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: 09TDS10A

Date Calculated: 9/9/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990966-1	5900	0.58	3835	0.89
990966-2	8620	0.57	5603	0.87
990967-1	7360	0.62	4784	0.95
990967-2	7930	0.70	5154.5	1.08
990967-3	1210	0.66	786.5	1.02
990995	854	0.62	555.1	0.95
991013-2	177	0.55	115.05	0.85
991013-3	277	0.51	180.05	0.78
991014-1	1790	0.57	1163.5	0.87
991014-2	1010	0.59	656.5	0.91
990995D	854	0.63	555.1	0.97
991014-3	926	0.52	601.9	0.80
991014-4	827	0.51	537.55	0.78
991017-10	928	0.65	603.2	1.00
991017-11	930	0.63	604.5	0.96
991017-11D	930	0.62	604.5	0.95

990 966

Rec'd 09/01/10
990966

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-EW-174]

COC Number

TURNAROUND TIME 10 Days

DATE 09/01/10 PAGE 1 OF 1

COMPANY: CH2M HILL /E2

PROJECT NAME: PG&E Topock IM3Plant-EW

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):

ALERT !! Level III QC

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Dissolved Cr (200.7) Lab filtered	Cr(VI) (3500-Cr B)	pH (150.0) EC (120.1)	TDS (160.1)	Cr(VI) (218.6)										NUMBER OF CONTAINERS	COMMENTS
-1	PE-01-172	09/01/10	0844	Ground water	X		X	X	X										4	pH→2 (200.7)
-2	TW-03D-172	09/01/10	0844	Ground water	X	X	X	X											4	
																			8	TOTAL NUMBER OF CONTAINERS

For Sample Conditions See Form Attached

DATA ON BACK.

CHAIN OF CUSTODY SIGNATURE RECORD

9-1-10

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished		JAIDE	OMT	1534
Received	Rafael Davila	Rafael	T.L.I	9-1-10 15:30
Relinquished	Rafael Davila	Rafael	T.L.I	9-1-10 21:30
Received		Ami Harivan	TLI	9.1.10 21:30
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

041

Subject: Emailing: 990966 - COC - IM3Plant-EW-174 - Topock[TLI]2010.09.10.pdf
From: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>
Date: Fri, 17 Sep 2010 17:19:40 -0400
To: Sean Condon <seanc@truesdail.com>
CC: "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>

Hi Sean,

It was brought to my attention that the IDs on COC 990966 have an incorrect suffix of "-172". Please amend with "-174". Update from PE-01-172 to PE-01-174 and TW-03D-172 to TW-03D-174.

Thanks,
Erlene

The message is ready to be sent with the following file or link attachments:

990966 - COC - IM3Plant-EW-174 - Topock[TLI]2010.09.10.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

990966 - COC - IM3Plant-EW-174 - Topock[TLI]2010.09.10.pdf	**Content-Description:**	990966 - COC - IM3Plant-EW-174 - Topock[TLI]2010.09.10.pdf
	Content-Type:	application/pdf
	Content-Encoding:	base64

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
08/27/10	990893-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
08/27/10	990902	7.0	5.00	9.5	11:00	SB
08/27/10	990908-1	7.0	5.00	9.5	19:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
08/27/10	990909	7.0	5.00	9.5	19:00	SB
09/02/10	990966-1	7.0	5.00	9.5	8:15	SB
09/02/10	990967-1	7.0	5.00	9.5	8:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 990966

Date Delivered: 9 / 1 /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? ☑ Yes ☐ No ☐ N/A
   Temperature (if yes)? 3 °C
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? ☑ 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: Rafael Davila

\\MATRIX\nav\Discrp.FormBlank.doc

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 27, 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 2010-GMP-169-Q3, GROUNDWATER MONITORING PROJECT, TLI NO.: 991359

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-GMP-169-Q3 groundwater-monitoring project for Hexavalent Chromium, Dissolved Chromium, and Dissolved Arsenic. 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 are under Section 5.

The samples were received and delivered with the chain of custody on September 29, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight runs for the matrix spikes for samples MW-42-055-169 and MW-28-090-169 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recoveries were within acceptable limits and the results from the 5x dilutions agreed with those of the straight runs, the data from the straight runs are reported.

Total Dissolved Chromium, for sample MW-44-115-169, was re-analyzed from both the Total Dissolved Chromium and Hexavalent Chromium bottles due to the discrepancy between the Total Dissolved Chromium and Hexavalent Chromium results. The results from the re-analysis from both bottles matched the original Total Dissolved Chromium result. Therefore, the Hexavalent Chromium was re-analyzed and the result is reported. The discrepancy between the first and second Hexavalent Chromium runs may have been to a dilution error during the first run.

Total Dissolved Chromium, for sample MW-44-125-169, was re-analyzed from both the Total Dissolved Chromium bottle (16.9 ug/L) and Hexavalent Chromium bottle (7.0 ug/L) due to the discrepancy between the original Total Dissolved Chromium (16.0 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results. After discussing this with Mr. Shawn Duffy of CH2M Hill, the original results for both Total Dissolved Chromium and Hexavalent Chromium are reported.

TRUESDAIL LABORATORIES, INC.

October 27, 2010

No other violations or non-conformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

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

Laboratory No.: 991359
Date Received: September 29, 2010

Project Name: PG&E Topock Project
Project No.: 390378.MP.02.GM.04
P.O. No.: 390378.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991359-001	MW-42-055-169	E218.6	FLDFLT	9/27/2010	13:05	Chromium, hexavalent	ND	ug/L	0.20
991359-001	MW-42-055-169	SW6020	FLDFLT	9/27/2010	13:05	Arsenic	12.5	ug/L	1.0
991359-001	MW-42-055-169	SW6020	FLDFLT	9/27/2010	13:05	Chromium	ND	ug/L	1.0
991359-002	MW-42-065-169	E218.6	FLDFLT	9/27/2010	14:45	Chromium, hexavalent	ND	ug/L	1.0
991359-002	MW-42-065-169	SW6020	FLDFLT	9/27/2010	14:45	Arsenic	3.0	ug/L	1.0
991359-002	MW-42-065-169	SW6020	FLDFLT	9/27/2010	14:45	Chromium	ND	ug/L	1.0
991359-003	MW-63-065-169	E218.6	FLDFLT	9/27/2010	15:46	Chromium, hexavalent	1.7	ug/L	1.0
991359-003	MW-63-065-169	SW6020	FLDFLT	9/27/2010	15:46	Chromium	2.2	ug/L	1.0
991359-004	MW-94-169	E218.6	FLDFLT	9/27/2010	15:47	Chromium, hexavalent	1.7	ug/L	1.0
991359-004	MW-94-169	SW6020	FLDFLT	9/27/2010	15:47	Chromium	2.2	ug/L	1.0
991359-005	MW-21-169	E218.6	FLDFLT	9/28/2010	10:35	Chromium, hexavalent	ND	ug/L	1.0
991359-005	MW-21-169	SW6020	FLDFLT	9/28/2010	10:35	Chromium	1.1	ug/L	1.0
991359-006	MW-28-090-169	E218.6	FLDFLT	9/28/2010	14:23	Chromium, hexavalent	ND	ug/L	0.20
991359-006	MW-28-090-169	SW6020	FLDFLT	9/28/2010	14:23	Arsenic	2.3	ug/L	1.0
991359-006	MW-28-090-169	SW6020	FLDFLT	9/28/2010	14:23	Chromium	ND	ug/L	1.0
991359-007	MW-33-040-169	E218.6	FLDFLT	9/28/2010	16:10	Chromium, hexavalent	ND	ug/L	0.20
991359-007	MW-33-040-169	SW6020	FLDFLT	9/28/2010	16:10	Arsenic	19.4	ug/L	1.0
991359-007	MW-33-040-169	SW6020	FLDFLT	9/28/2010	16:10	Chromium	3.5	ug/L	1.0
991359-008	MW-44-115-169	E218.6	FLDFLT	9/28/2010	9:02	Chromium, hexavalent	228	ug/L	5.2
991359-008	MW-44-115-169	SW6020	FLDFLT	9/28/2010	9:02	Chromium	218	ug/L	1.0
991359-009	MW-44-125-169	E218.6	FLDFLT	9/28/2010	11:23	Chromium, hexavalent	ND	ug/L	0.20
991359-009	MW-44-125-169	SW6020	FLDFLT	9/28/2010	11:23	Chromium	16.0	ug/L	1.0

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991359-010	MW-46-175-169	E218.6	FLDFLT	9/28/2010	13:23	Chromium, hexavalent	74.5	ug/L	2.1
991359-010	MW-46-175-169	SW6020	FLDFLT	9/28/2010	13:23	Chromium	72.3	ug/L	1.0
991359-011	MW-93-169	E218.6	FLDFLT	9/28/2010	8:40	Chromium, hexavalent	236	ug/L	10.5
991359-011	MW-93-169	SW6020	FLDFLT	9/28/2010	8:40	Chromium	219	ug/L	1.0
991359-012	TW-01-169	SM3500-CrB	FLDFLT	9/28/2010	12:21	Chromium, hexavalent	3690	ug/L	100
991359-012	TW-01-169	SW6020	FLDFLT	9/28/2010	12:21	Chromium	3490	ug/L	2.0
991359-013	MW-23-060-169	E218.6	FLDFLT	9/29/2010	10:21	Chromium, hexavalent	29.6	ug/L	1.0
991359-013	MW-23-060-169	SW6020	FLDFLT	9/29/2010	10:21	Chromium	31.1	ug/L	1.0
991359-014	MW-23-080-169	E218.6	FLDFLT	9/29/2010	11:47	Chromium, hexavalent	6.0	ug/L	1.0
991359-014	MW-23-080-169	SW6020	FLDFLT	9/29/2010	11:47	Chromium	8.0	ug/L	1.0
991359-015	MW-33-150-169	E218.6	FLDFLT	9/29/2010	10:58	Chromium, hexavalent	10.8	ug/L	1.0
991359-015	MW-33-150-169	SW6020	FLDFLT	9/29/2010	10:58	Chromium	10.8	ug/L	1.0
991359-016	MW-33-210-169	E218.6	FLDFLT	9/29/2010	12:07	Chromium, hexavalent	13.0	ug/L	1.0
991359-016	MW-33-210-169	SW6020	FLDFLT	9/29/2010	12:07	Chromium	13.5	ug/L	1.0
991359-017	MW-48-169	E218.6	FLDFLT	9/29/2010	8:28	Chromium, hexavalent	ND	ug/L	1.0
991359-017	MW-48-169	SW6020	FLDFLT	9/29/2010	8:28	Chromium	ND	ug/L	1.0
991359-018	MW-91-169	E218.6	FLDFLT	9/29/2010	9:39	Chromium, hexavalent	11.2	ug/L	1.0
991359-018	MW-91-169	SW6020	FLDFLT	9/29/2010	9:39	Chromium	11.0	ug/L	1.0

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.

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 390378.MP.02.GM.04
Project Number: 390378.MP.02.GM.04

Laboratory No. 991359

Printed 10/27/2010

Samples Received on 9/29/2010 8:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-42-055-169	991359-001	09/27/2010 13:05	Water
MW-42-065-169	991359-002	09/27/2010 14:45	Water
MW-63-065-169	991359-003	09/27/2010 15:46	Water
MW-94-169	991359-004	09/27/2010 15:47	Water
MW-21-169	991359-005	09/28/2010 10:35	Water
MW-28-090-169	991359-006	09/28/2010 14:23	Water
MW-33-040-169	991359-007	09/28/2010 16:10	Water
MW-44-115-169	991359-008	09/28/2010 09:02	Water
MW-44-125-169	991359-009	09/28/2010 11:23	Water
MW-46-175-169	991359-010	09/28/2010 13:23	Water
MW-93-169	991359-011	09/28/2010 08:40	Water
TW-01-169	991359-012	09/28/2010 12:21	Water
MW-23-060-169	991359-013	09/29/2010 10:21	Water
MW-23-080-169	991359-014	09/29/2010 11:47	Water
MW-33-150-169	991359-015	09/29/2010 10:58	Water
MW-33-210-169	991359-016	09/29/2010 12:07	Water
MW-48-169	991359-017	09/29/2010 08:28	Water
MW-91-169	991359-018	09/29/2010 09:39	Water

Chrome VI by EPA 218.6 Batch 10CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-001 Chromium, Hexavalent	ug/L	10/01/2010 09:23	1.05	0.0210	0.20	ND
991359-002 Chromium, Hexavalent	ug/L	10/01/2010 14:59	5.25	0.110	1.0	ND
991359-003 Chromium, Hexavalent	ug/L	10/01/2010 12:43	5.25	0.110	1.0	1.7
991359-004 Chromium, Hexavalent	ug/L	10/01/2010 12:54	5.25	0.110	1.0	1.7
991359-005 Chromium, Hexavalent	ug/L	10/01/2010 13:04	5.25	0.110	1.0	ND
991359-006 Chromium, Hexavalent	ug/L	10/01/2010 10:15	1.05	0.0210	0.20	ND
991359-007 Chromium, Hexavalent	ug/L	10/01/2010 15:51	1.05	0.0210	0.20	ND

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

Method Blank

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

Duplicate — Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	1.66	1.72	3.31	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00	106	90 - 110

Matrix Spike — Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.27(1.06)	92.5	90 - 110

Matrix Spike — Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.33	1.38(1.06)	96.0	90 - 110

Matrix Spike — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.09	5.25(5.25)	96.9	90 - 110

Matrix Spike — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.992	1.06(1.06)	93.6	90 - 110

Matrix Spike — Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.25	5.25(5.25)	100.	90 - 110

Matrix Spike — Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.927	1.06(1.06)	87.5	90 - 110

Matrix Spike — Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.26	6.97(5.25)	105	90 - 110

Matrix Spike — Lab ID = 991359-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.36	6.99(5.25)	107	90 - 110

Matrix Spike — Lab ID = 991359-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.39	6.13(5.25)	105	90 - 110

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

Matrix Spike — Lab ID = 991359-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.54(5.25)	95.4	90 - 110

Matrix Spike — Lab ID = 991359-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.984	1.06(1.06)	92.8	90 - 110

Matrix Spike — Lab ID = 991359-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.989	1.06(1.06)	93.3	90 - 110

Matrix Spike — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	757	794(525.)	92.9	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.21	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	10.4	10.0	104	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

MRCVS - Primary

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

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

Chrome VI by EPA 218.6

Batch 10CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-009 Chromium, Hexavalent	ug/L	10/04/2010 12:42	1.05	0.0210	0.20	ND
991359-010 Chromium, Hexavalent	ug/L	10/04/2010 12:52	10.5	0.220	2.1	74.5
991359-011 Chromium, Hexavalent	ug/L	10/04/2010 13:02	52.5	1.10	10.5	236
991359-013 Chromium, Hexavalent	ug/L	10/04/2010 13:23	5.25	0.110	1.0	29.6
991359-014 Chromium, Hexavalent	ug/L	10/04/2010 15:54	5.25	0.110	1.0	6.0
991359-015 Chromium, Hexavalent	ug/L	10/04/2010 16:35	5.25	0.110	1.0	10.8
991359-016 Chromium, Hexavalent	ug/L	10/04/2010 16:46	5.25	0.110	1.0	13.0

Method Blank

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

Duplicate — Lab ID = 991359-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	225	236	4.71	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.38	5.00	108	90 - 110

Matrix Spike — Lab ID = 991359-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.01	1.06(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 991359-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	176	179(105.)	96.7	90 - 110

Matrix Spike — Lab ID = 991359-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	505	498(262)	103	90 - 110

Matrix Spike — Lab ID = 991359-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	85.9	82.1(52.5)	107	90 - 110

Matrix Spike — Lab ID = 991359-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	32.0	32.2(26.2)	99.5	90 - 110

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

Matrix Spike — Lab ID = 991359-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	36.5	37.0(26.2)	98.0	90 - 110

Matrix Spike — Lab ID = 991359-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	37.5	39.2(26.2)	93.5	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.42	5.00	108	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	10.1	10.0	101	95 - 105

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

Chrome VI by EPA 218.6 Batch 10CrH10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-017 Chromium, Hexavalent	ug/L	10/05/2010 12:33	5.25	0.110	1.0	ND
991359-018 Chromium, Hexavalent	ug/L	10/05/2010 12:23	5.25	0.110	1.0	11.2

Method Blank

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

Duplicate — Lab ID = 991393-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	18.1	18.3	1.21	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.36	5.00	107	90 - 110

Matrix Spike — Lab ID = 991359-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.85	5.25(5.25)	92.5	90 - 110

Matrix Spike — Lab ID = 991359-017

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 = 991359-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	37.0	37.4(26.2)	98.8	90 - 110

Matrix Spike — Lab ID = 991393-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	8.02	7.54(5.25)	109	90 - 110

Matrix Spike — Lab ID = 991393-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	9.37	8.90(5.25)	109	90 - 110

Matrix Spike — Lab ID = 991393-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	40.4	39.9(21.6)	102	90 - 110

Matrix Spike — Lab ID = 991393-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	40.1	39.9(21.6)	101	90 - 110

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.36	5.00	107	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.5	10.0	105	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	9.68	10.0	96.8	95 - 105

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

Chrome VI by EPA 218.6

Batch 10CrH10L

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-008 Chromium, Hexavalent	ug/L	10/26/2010 12:02	26.2	0.550	5.2	228

Method Blank

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

Duplicate — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	230	228	1.10	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00	100	90 - 110

Matrix Spike — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	488	490(262)	99.4	90 - 110

Matrix Spike — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.39	5.25(5.25)	103	90 - 110

Matrix Spike — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.00	1.06(1.06)	94.6	90 - 110

Matrix Spike — Lab ID = 991776-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.07	5.25(5.25)	96.5	90 - 110

Matrix Spike — Lab ID = 991776-002

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 = 991776-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.15	5.25(5.25)	98.0	90 - 110

Matrix Spike — Lab ID = 991776-003

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

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	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	9.53	10.0	95.3	95 - 105

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

Metals by EPA 6020A, Dissolved

Batch 093010A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-001 Arsenic	ug/L	09/30/2010 12:44	5.00	0.260	1.0	12.5
Chromium	ug/L	09/30/2010 12:44	5.00	0.0950	1.0	ND
991359-002 Arsenic	ug/L	09/30/2010 13:11	5.00	0.260	1.0	3.0
Chromium	ug/L	09/30/2010 13:11	5.00	0.0950	1.0	ND
991359-003 Chromium	ug/L	09/30/2010 13:18	5.00	0.0950	1.0	2.2
991359-004 Chromium	ug/L	09/30/2010 13:38	5.00	0.0950	1.0	2.2
991359-005 Chromium	ug/L	09/30/2010 13:45	5.00	0.0950	1.0	1.1
991359-006 Arsenic	ug/L	09/30/2010 13:52	5.00	0.260	1.0	2.3
Chromium	ug/L	09/30/2010 13:52	5.00	0.0950	1.0	ND
991359-007 Arsenic	ug/L	09/30/2010 13:58	5.00	0.260	1.0	19.4
Chromium	ug/L	09/30/2010 13:58	5.00	0.0950	1.0	3.5
991359-008 Chromium	ug/L	09/30/2010 14:05	5.00	0.0950	1.0	218.
991359-009 Chromium	ug/L	09/30/2010 14:12	5.00	0.0950	1.0	16.0
991359-010 Chromium	ug/L	09/30/2010 14:19	5.00	0.0950	1.0	72.3
991359-011 Chromium	ug/L	09/30/2010 14:26	5.00	0.0950	1.0	219
991359-012 Chromium	ug/L	09/30/2010 15:54	10.0	0.190	2.0	3490
991359-013 Chromium	ug/L	09/30/2010 16:37	1.00	0.0190	1.0	31.1
991359-014 Chromium	ug/L	09/30/2010 14:59	5.00	0.0950	1.0	8.0
991359-015 Chromium	ug/L	09/30/2010 15:06	5.00	0.0950	1.0	10.8
991359-016 Chromium	ug/L	09/30/2010 15:13	5.00	0.0950	1.0	13.5
991359-017 Chromium	ug/L	09/30/2010 15:20	5.00	0.0950	1.0	ND
991359-018 Chromium	ug/L	09/30/2010 15:27	5.00	0.0950	1.0	11.0

Method Blank

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

Duplicate — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	12.6	12.5	0.636	0 - 20

Duplicate — Lab ID = 991359-001

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

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.2	50.0	98.4	90 - 110
Chromium	ug/L	1.00	49.6	50.0	99.2	90 - 110

Matrix Spike — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	284	263(250.)	108	75 - 125

Matrix Spike — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	258	250.(250.)	103.	75 - 125

Matrix Spike Duplicate — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	275	263(250.)	105	75 - 125

Matrix Spike Duplicate — Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	252.	250.(250.)	101	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.2	50.0	100	90 - 110
Chromium	ug/L	1.00	49.6	50.0	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.9	50.0	97.8	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.9	50.0	97.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.9	50.0	95.7	90 - 110

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

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
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	46.7	50.0	93.3	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
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
Arsenic	ug/L	1.00	47.6	50.0	95.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	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	47.5	50.0	94.9	80 - 120

Interference Check Standard AB

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

Serial Dilution — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	208.	218.	4.69	0 - 10

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

Serial Dilution — Lab ID = 991359-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	69.0	72.3	4.64	0 - 10

Serial Dilution — Lab ID = 991359-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	204	219	7.00	0 - 10

Serial Dilution — Lab ID = 991359-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	3510	3490	0.371	0 - 10

Serial Dilution — Lab ID = 991359-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	30.1	31.1	3.17	0 - 10

Chromium, Hexavalent by SM 3500-Cr B

Batch 09CrH10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991359-012 Chromium, Hexavalent	ug/L	09/30/2010 15:33	10.0	35.0	100.	3690

Method Blank

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

Duplicate — Lab ID = 991359-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	3660	3690	0.667	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	104	100.	104	90 - 110

Matrix Spike — Lab ID = 991359-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	4540	4690(1000)	85.8	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	59.8	60.0	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.3	60.0	104	90 - 110

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

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

991359

CH2MHILL

CHAIN OF CUSTODY RECORD

9/29/2010 2:52:25 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: TLI

				Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered		Number of Containers	COMMENTS
			Container:	250 ml Poly	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly			
			Preservatives:	HNO3, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
			Filtered:	Field	Field	Field	Field	Field			
			Holding Time:	180	28	28	28	180			
	DATE	TIME	Matrix								
MW-21-169-EB	9/27/2010	13:48	Water		X					1	Hold
-1 MW-42-055-169	9/27/2010	13:05	Water	X			X	X		~~5~~ 4 ~~Bac~~ pH=2	
MW-42-055-169-EB	9/27/2010	12:10	Water		X					1	Hold
-2 MW-42-065-169	9/27/2010	14:45	Water	X			X	X		5	pH=2
MW-42-065-169-EB	9/27/2010	13:28	Water		X					1	Hold
-3 MW-63-065-169	9/27/2010	15:46	Water		X			X		2	pH=2
MW-72-169	9/27/2010	15:20	Water		X					1	Hold
MW-73-169	9/27/2010	16:04	Water		X					1	Hold
-4 MW-94-169	9/27/2010	15:47	Water		X			X		2	pH=2
-5 MW-21-169	9/28/2010	10:35	Water				X	X		3	
-6 MW-28-090-169	9/28/2010	14:23	Water	X			X	X		~~5~~ 4 ~~Bac~~	
MW-28-090-169-EB	9/28/2010	13:43	Water		X					1	Hold
-7 MW-33-040-169	9/28/2010	16:10	Water	X			X	X		~~5~~ 4 ~~Bac~~ pH=2	
MW-33-040-169-EB	9/28/2010	14:45	Water		X					1	Hold
-8 MW-44-115-169	9/28/2010	9:02	Water		X			X		2	pH=2

Where provided w/ 2 Cr6 bottles, please analyze one + hold 1

pH for 6020/6010B

For Sample Condition See Form Attached

ALERT !! Level III QC

	Signatures	Date/Time
Approved by		9-29-10 1510
Sampled by		
Relinquished by		
Received by	Bonifacio Dayag	9-29-10 1510
Relinquished by	Bonifacio Dayag	9-29-10 2030
Received by	Shabunina	9/29/10 20:30

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

075

CH2MHILL CHAIN OF CUSTODY RECORD 991359 9/29/2010 2:52:26 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: TLI

				Container:	250 ml Poly	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly			
				Preservatives:	HNO3, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field	Field			
				Holding Time:	180	28	28	28	180			
		DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered		Number of Containers	pH for 6020/6010B COMMENTS
-9	MW-44-125-169	9/28/2010	11:23	Water		X			X		2	pH=2
-10	MW-46-175-169	9/28/2010	13:23	Water		X			X		2	
	MW-74-169	9/28/2010	16:50	Water		X					1	Hold
-11	MW-93-169	9/28/2010	8:40	Water		X			X		2	
-12	TW-01-169	9/28/2010	12:21	Water			X		X		2	
-13	MW-23-060-169	9/29/2010	10:21	Water		X			X		2	
-14	MW-23-080-169	9/29/2010	11:47	Water		X			X		2	pH=2
-15	MW-33-150-169	9/29/2010	10:58	Water		X			X		2	
-16	MW-33-210-169	9/29/2010	12:07	Water		X			X		2	
-17	MW-48-169	9/29/2010	8:28	Water		X			X		2	
	MW-77-169	9/29/2010	12:09	Water		X					1	Hold
-18	MW-91-169	9/29/2010	9:39	Water		X			X		2	pH=2
										TOTAL NUMBER OF CONTAINERS	58	

Where provided with 2 Cr6 bottles, please analyze 1 + hold 1

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		9-29-10
Sampled by		1510
Relinquished by	[signature]	
Received by	Bonifacio Dayag	9-29-10 1510
Relinquished by	Bonifacio Dayag	9-29-10 2030
Received by	Shakeenine	9/29/10 20:30

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

076

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
08/27/10	990893-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
08/27/10	990902	7.0	5.00	9.5	11:00	SB
08/27/10	990908-1	7.0	5.00	9.5	19:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
08/27/10	990909	7.0	5.00	9.5	19:00	SB
09/02/10	990966-1	7.0	5.00	9.5	8:15	SB
09/02/10	990967-1	7.0	5.00	9.5	8:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
09/09/10	991053	7.0	5.00	9.5	7:00	SB
09/09/10	991070	9.5	N/A	N/A	N/A	SB
09/15/10	991140	7.0	5.00	9.5	8:00	SB
09/15/10	991141-1	7.0	5.00	9.5	8:05	SB
↓	↓ -2	↓	↓	↓	8:10	↓
↓	↓ -3	↓	↓	↓	8:15	↓
↓	↓ -4	↓	↓	↓	8:20	↓
↓	↓ -5	↓	↓	↓	8:25	↓
↓	↓ -6	↓	↓	↓	8:30	↓
09/16/10	991173-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
09/23/10	991276	7.0	5.00	9.5	7:30	SB
09/30/10	991358	7.0	5.00	9.5	7:35	SB
09/30/10	991359-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓

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
08/30/10	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					

ah

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991209	<1	<2	9/28/10	ES	NO	—
310	↓	↓	↓	↓	↓	—
991318	—	— solid	↓	↓	Yes	TTLC
320	<1	>2	↓	↓	No	yes @ 1:00 p.m
322	<1	<2	↓	↓	↓	—
991326 (4)	<1	>2	9/29/10	MS	No	Yes 10:40 am MS
991327 (3)	<1	>2	↓	MS	No	Yes 10:45
991350 (1-10)	<1	>2	9/29/10	DK	No	Yes 14:00
991351	↓	↓	↓	↓	↓	↓
991358-1	<1	>2	9/30/10	MS	No	Yes 8:50 am
991359 (1-18)	<1	<2	↓	MS	No	—
991360	<1	~~>~~2	↓	↓	NO	Yes 10:20 am
991352	<1	>2	9/30/10	DK	No	Yes 11:00 am
991355	↓	↓	↓	↓	↓	↓
991363	>1	>2	↓	↓	Yes TTLC	
991371	>1	↓	↓	↓	Yes TTLC/TCLP	
991373 (1-6)	—	solid				TCLP
991373 (1-2)	<1	<2	10/1/10	DK	No	—
399	<1	<2	↓	ES	↓	—
991394	<1	<2	10/4/10	MS	↓	—
1393	<1	<2	↓	↓	↓	—
991409 (1-4)	<1	>2	10/5/10	ES	NO	yes @ 11:30 a.m
410 (1-3)	<1	>2	↓	↓	↓	yes @ 11:30 a.m
417	<1	<2	↓	↓	↓	—
418	<1	<2	↓	↓	↓	—
419 (1-2)	>1	<2	↓	↓	Yes	—
401	>1	<2	↓	↓	↓	—
991439	<1	<2	↓	↓	NO	—
442	<1	<2	↓	↓	↓	—
443	↓	↓	↓	↓	↓	—
444	↓	↓	↓	↓	↓	—
445	↓	↓	↓	↓	↓	—
446	↓	↓	↓	↓	↓	—
447	>1	↓	↓	↓	Yes	—
1448 (2)	<1	>2	10/6	MS	No	Yes 2:00
991458	—	—	↓	↓	Solid TTLC	
1463 (2)	>1	<2	↓	↓	Yes	3010A
1464 (1)	↓	↓	↓	↓	↓	↓
1465 (4)	↓	↓	↓	↓	↓	↓
481	~~>~~1	<2	↓	ES	~~No~~	↓
991486 (7,8,9)	<1	>2	10/7	ES	NO	yes @ 1:30 p.m
991483 ~~(1-5)~~	~~<1~~	<2	↓	↓	~~No~~	~~3010A~~
484 (1-75)	↓	↓	↓	↓	↓	3010A
485 (1-4)	↓	↓	↓	↓	↓	↓
493-4	↓	↓	↓	↓	↓	↓
494-4	↓	↓	↓	↓	↓	↓
991487	>1	>2	10/7	DK	Yes	TTLC (Plant)
991488	↓	↓	↓	↓	↓	↓
991456 (9)	<1	<2	↓	MS	NO	—
BLK 991490 (3)	<1	<2	10/7	MS	NO	—

leached by → Gen chem + MB; decantum

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 991359

Date Delivered: 9/29/10 **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? ☑Yes ☐No ☐N/A
   Temperature (if yes)? 3.4°C
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? ☑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: Rafael Davila

\\MATRIX\Lab\Discp.FormBlank.doc

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 27, 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 2010-GMP-169-Q3, GROUNDWATER MONITORING PROJECT, TLI NO.: 991394

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-GMP-169-Q3 groundwater-monitoring project for Hexavalent Chromium, Dissolved Chromium, and Dissolved Arsenic. 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 are under Section 5.

The samples were received and delivered with the chain of custody October 1, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spikes for sample MW-34-080-169 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 agreed with those of the straight run, the data from the straight run is reported.

Total Dissolved Chromium, for sample MW-59-100-169, was re-analyzed due to the discrepancy between the Total Dissolved Chromium and Hexavalent Chromium results. The result from the re-analysis is reported. The discrepancy between the original run and the re-analysis may have been due to a dilution error.

No other violations or non-conformance 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.
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

Laboratory No.: 991394
Date Received: October 1, 2010

Project Name: PG&E Topock Project
Project No.: 390378.MP.02.GM.04
P.O. No.: 390378.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991394-001	MW-33-090-169	E218.6	FLDFLT	9/29/2010	14:58	Chromium, hexavalent	24.4	ug/L	1.0
991394-001	MW-33-090-169	SW6020	FLDFLT	9/29/2010	14:58	Chromium	20.9	ug/L	1.0
991394-002	MW-57-185-169	E218.6	FLDFLT	9/29/2010	15:46	Chromium, hexavalent	5.6	ug/L	1.0
991394-002	MW-57-185-169	SW6020	FLDFLT	9/29/2010	15:46	Chromium	5.9	ug/L	1.0
991394-003	MW-62-110-169	SM3500-CrB	FLDFLT	9/29/2010	15:45	Chromium, hexavalent	414	ug/L	100
991394-003	MW-62-110-169	SW6020	FLDFLT	9/29/2010	15:45	Arsenic	19.5	ug/L	1.0
991394-003	MW-62-110-169	SW6020	FLDFLT	9/29/2010	15:45	Chromium	363	ug/L	1.0
991394-004	MW-62-190-169	E218.6	FLDFLT	9/29/2010	16:02	Chromium, hexavalent	ND	ug/L	1.0
991394-004	MW-62-190-169	SW6020	FLDFLT	9/29/2010	16:02	Arsenic	9.5	ug/L	1.0
991394-004	MW-62-190-169	SW6020	FLDFLT	9/29/2010	16:02	Chromium	ND	ug/L	1.0
991394-005	MW-64-150-169	E218.6	FLDFLT	9/29/2010	16:45	Chromium, hexavalent	ND	ug/L	1.0
991394-005	MW-64-150-169	SW6020	FLDFLT	9/29/2010	16:45	Arsenic	8.2	ug/L	1.0
991394-005	MW-64-150-169	SW6020	FLDFLT	9/29/2010	16:45	Chromium	ND	ug/L	1.0
991394-006	MW-64-205-169	E218.6	FLDFLT	9/29/2010	17:00	Chromium, hexavalent	ND	ug/L	1.0
991394-006	MW-64-205-169	SW6020	FLDFLT	9/29/2010	17:00	Arsenic	6.6	ug/L	1.0
991394-006	MW-64-205-169	SW6020	FLDFLT	9/29/2010	17:00	Chromium	3.8	ug/L	1.0
991394-007	MW-64-260-169	E218.6	FLDFLT	9/29/2010	17:15	Chromium, hexavalent	ND	ug/L	1.0
991394-007	MW-64-260-169	SW6020	FLDFLT	9/29/2010	17:15	Arsenic	2.6	ug/L	1.0
991394-007	MW-64-260-169	SW6020	FLDFLT	9/29/2010	17:15	Chromium	ND	ug/L	1.0
991394-008	MW-12-169	SM3500-CrB	FLDFLT	9/30/2010	10:37	Chromium, hexavalent	2930	ug/L	500
991394-008	MW-12-169	SW6020	FLDFLT	9/30/2010	10:37	Arsenic	53.4	ug/L	1.0
991394-008	MW-12-169	SW6020	FLDFLT	9/30/2010	10:37	Chromium	2810	ug/L	10.0

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991394-009	MW-24BR-169	E218.6	FLDFLT	9/30/2010	14:43	Chromium, hexavalent	ND	ug/L	1.0
991394-009	MW-24BR-169	SW6020	FLDFLT	9/30/2010	14:43	Chromium	1.1	ug/L	1.0
991394-010	MW-50-200-169	SM3500-CrB	FLDFLT	9/30/2010	12:50	Chromium, hexavalent	10200	ug/L	500
991394-010	MW-50-200-169	SW6020	FLDFLT	9/30/2010	12:50	Chromium	9670	ug/L	20.0
991394-011	MW-57-070-169	E218.6	FLDFLT	9/30/2010	11:26	Chromium, hexavalent	856	ug/L	10.5
991394-011	MW-57-070-169	SW6020	FLDFLT	9/30/2010	11:26	Chromium	733	ug/L	2.0
991394-012	MW-59-100-169	SM3500-CrB	FLDFLT	9/30/2010	11:38	Chromium, hexavalent	5140	ug/L	500
991394-012	MW-59-100-169	SW6020	FLDFLT	9/30/2010	11:38	Chromium	4630	ug/L	4.0
991394-013	MW-60-125-169	SM3500-CrB	FLDFLT	9/30/2010	13:14	Chromium, hexavalent	806	ug/L	100
991394-013	MW-60-125-169	SW6020	FLDFLT	9/30/2010	13:14	Chromium	795	ug/L	2.0
991394-014	MW-61-110-169	SM3500-CrB	FLDFLT	9/30/2010	10:05	Chromium, hexavalent	512	ug/L	100
991394-014	MW-61-110-169	SW6020	FLDFLT	9/30/2010	10:05	Chromium	507	ug/L	2.0
991394-015	MW-62-065-169	SM3500-CrB	FLDFLT	9/30/2010	9:32	Chromium, hexavalent	500	ug/L	100
991394-015	MW-62-065-169	SW6020	FLDFLT	9/30/2010	9:32	Chromium	462	ug/L	2.0
991394-016	MW-90-169	SM3500-CrB	FLDFLT	9/30/2010	8:45	Chromium, hexavalent	3110	ug/L	500
991394-016	MW-90-169	SW6020	FLDFLT	9/30/2010	8:45	Arsenic	55.4	ug/L	10.0
991394-016	MW-90-169	SW6020	FLDFLT	9/30/2010	8:45	Chromium	2810	ug/L	10.0
991394-017	MW-27-085-169	E218.6	FLDFLT	10/1/2010	9:07	Chromium, hexavalent	ND	ug/L	1.0
991394-017	MW-27-085-169	SW6020	FLDFLT	10/1/2010	9:07	Arsenic	1.8	ug/L	1.0
991394-017	MW-27-085-169	SW6020	FLDFLT	10/1/2010	9:07	Chromium	1.2	ug/L	1.0
991394-018	MW-34-080-169	E218.6	FLDFLT	10/1/2010	10:33	Chromium, hexavalent	ND	ug/L	0.20
991394-018	MW-34-080-169	SW6020	FLDFLT	10/1/2010	10:33	Arsenic	1.5	ug/L	1.0
991394-018	MW-34-080-169	SW6020	FLDFLT	10/1/2010	10:33	Chromium	ND	ug/L	1.0
991394-019	MW-34-100-169	E218.6	FLDFLT	10/1/2010	11:14	Chromium, hexavalent	75.1	ug/L	2.1
991394-019	MW-34-100-169	SW6020	FLDFLT	10/1/2010	11:14	Arsenic	1.7	ug/L	1.0
991394-019	MW-34-100-169	SW6020	FLDFLT	10/1/2010	11:14	Chromium	66.6	ug/L	1.0
991394-020	MW-92-169	E218.6	FLDFLT	10/1/2010	11:17	Chromium, hexavalent	75.6	ug/L	2.1
991394-020	MW-92-169	SW6020	FLDFLT	10/1/2010	11:17	Arsenic	1.7	ug/L	1.0
991394-020	MW-92-169	SW6020	FLDFLT	10/1/2010	11:17	Chromium	67.1	ug/L	1.0

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.

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 390378.MP.02.GM.04
Project Number: 390378.MP.02.GM.04

Laboratory No. 991394

Printed 10/27/2010

Samples Received on 10/1/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-33-090-169	991394-001	09/29/2010 14:58	Water
MW-57-185-169	991394-002	09/29/2010 15:46	Water
MW-62-110-169	991394-003	09/29/2010 15:45	Water
MW-62-190-169	991394-004	09/29/2010 16:02	Water
MW-64-150-169	991394-005	09/29/2010 16:45	Water
MW-64-205-169	991394-006	09/29/2010 17:00	Water
MW-64-260-169	991394-007	09/29/2010 17:15	Water
MW-12-169	991394-008	09/30/2010 10:37	Water
MW-24BR-169	991394-009	09/30/2010 14:43	Water
MW-50-200-169	991394-010	09/30/2010 12:50	Water
MW-57-070-169	991394-011	09/30/2010 11:26	Water
MW-59-100-169	991394-012	09/30/2010 11:38	Water
MW-60-125-169	991394-013	09/30/2010 13:14	Water
MW-61-110-169	991394-014	09/30/2010 10:05	Water
MW-62-065-169	991394-015	09/30/2010 09:32	Water
MW-90-169	991394-016	09/30/2010 08:45	Water
MW-27-085-169	991394-017	10/01/2010 09:07	Water
MW-34-080-169	991394-018	10/01/2010 10:33	Water
MW-34-100-169	991394-019	10/01/2010 11:14	Water
MW-92-169	991394-020	10/01/2010 11:17	Water

Chrome VI by EPA 218.6 Batch 10CrH10D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-001 Chromium, Hexavalent	ug/L	10/07/2010 08:52	5.25	0.110	1.0	24.4
991394-002 Chromium, Hexavalent	ug/L	10/07/2010 09:44	5.25	0.110	1.0	5.6
991394-004 Chromium, Hexavalent	ug/L	10/07/2010 11:11	5.25	0.110	1.0	ND
991394-005 Chromium, Hexavalent	ug/L	10/07/2010 12:35	5.25	0.110	1.0	ND
991394-006 Chromium, Hexavalent	ug/L	10/07/2010 12:45	5.25	0.110	1.0	ND
991394-007 Chromium, Hexavalent	ug/L	10/07/2010 13:27	5.25	0.110	1.0	ND

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

991394-009 Chromium, Hexavalent	ug/L	10/07/2010 15:31	5.25	0.110	1.0	ND
991394-011 Chromium, Hexavalent	ug/L	10/07/2010 14:19	52.5	1.10	10.5	856
991394-017 Chromium, Hexavalent	ug/L	10/07/2010 15:42	5.25	0.110	1.0	ND
991394-018 Chromium, Hexavalent	ug/L	10/07/2010 15:52	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate — Lab ID = 991394-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	25.1	24.4	3.15	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.47	5.00	109	90 - 110

Matrix Spike — Lab ID = 991394-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	52.3	50.6(26.2)	107	90 - 110

Matrix Spike — Lab ID = 991394-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	31.8	31.8(26.2)	100	90 - 110

Matrix Spike — Lab ID = 991394-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.96	5.25(5.25)	94.5	90 - 110

Matrix Spike — Lab ID = 991394-004

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 = 991394-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.96	5.25(5.25)	94.5	90 - 110

Matrix Spike — Lab ID = 991394-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.907	1.06(1.06)	85.6	90 - 110

Matrix Spike — Lab ID = 991394-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.06	5.25(5.25)	96.5	90 - 110

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

Matrix Spike — Lab ID = 991394-006

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 = 991394-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.16	5.25(5.25)	98.2	90 - 110

Matrix Spike — Lab ID = 991394-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.409	1.06(1.06)	38.6	90 - 110

Matrix Spike — Lab ID = 991394-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.83	5.25(5.25)	92.0	90 - 110

Matrix Spike — Lab ID = 991394-009

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 = 991394-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1920	1910(1050)	101	90 - 110

Matrix Spike — Lab ID = 991394-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.26	5.25(5.25)	100	90 - 110

Matrix Spike — Lab ID = 991394-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.548	1.06(1.06)	51.7	90 - 110

Matrix Spike — Lab ID = 991394-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.01	1.06(1.06)	95.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.26	5.00	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.86	10.0	98.6	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.65	10.0	96.5	95 - 105

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 390378.MP.02.GM.04 Printed 10/27/2010

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.60	10.0	96.0	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.51	10.0	95.1	95 - 105

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

Chrome VI by EPA 218.6

Batch 10CrH10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-019 Chromium, Hexavalent	ug/L	10/08/2010 09:07	10.5	0.220	2.1	75.1
991394-020 Chromium, Hexavalent	ug/L	10/08/2010 09:17	10.5	0.220	2.1	75.6

Method Blank

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

Duplicate — Lab ID = 991394-019

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	75.3	75.1	0.319	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.45	5.00	109	90 - 110

Matrix Spike — Lab ID = 991394-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.96	5.25(5.25)	94.5	90 - 110

Matrix Spike — Lab ID = 991394-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	188	180(105.)	107	90 - 110

Matrix Spike — Lab ID = 991394-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	175	181(105.)	95.0	90 - 110

Matrix Spike — Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.75	5.25(5.25)	110	90 - 110

Matrix Spike — Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.47	1.53(1.06)	94.4	90 - 110

Matrix Spike — Lab ID = 991456-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	9.29	9.59(5.25)	94.3	90 - 110

Matrix Spike — Lab ID = 991456-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.71	5.25(5.25)	109	90 - 110

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

Matrix Spike — Lab ID = 991456-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.38	1.46(1.06)	92.5	90 - 110

Matrix Spike — Lab ID = 991456-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	38.3	36.0(26.2)	109	90 - 110

Matrix Spike — Lab ID = 991456-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.84	7.12(5.25)	94.7	90 - 110

Matrix Spike — Lab ID = 991456-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	31.1	30.1(16.4)	106	90 - 110

Matrix Spike — Lab ID = 991456-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.92	1.94(1.06)	98.2	90 - 110

Matrix Spike — Lab ID = 991456-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	9.27	9.28(5.25)	99.8	90 - 110

Matrix Spike — Lab ID = 991456-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	84.8	86.8(52.5)	96.2	90 - 110

Matrix Spike — Lab ID = 991456-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	39.3	37.3(26.2)	108	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.19	5.00	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.93	10.0	99.3	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	9.69	10.0	96.9	95 - 105

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 390378.MP.02.GM.04 Printed 10/27/2010

MRCVS - Primary

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

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

Metals by EPA 6020A, Dissolved Batch 100710A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-001 Chromium	ug/L	10/07/2010 15:02	5.00	0.0950	1.0	20.9
991394-002 Chromium	ug/L	10/07/2010 15:29	5.00	0.0950	1.0	5.9
991394-003 Chromium	ug/L	10/07/2010 16:50	5.00	0.0950	1.0	363
991394-004 Arsenic	ug/L	10/07/2010 15:56	5.00	0.260	1.0	9.5
Chromium	ug/L	10/07/2010 15:56	5.00	0.0950	1.0	ND
991394-005 Arsenic	ug/L	10/07/2010 16:02	5.00	0.260	1.0	8.2
Chromium	ug/L	10/07/2010 16:02	5.00	0.0950	1.0	ND
991394-006 Arsenic	ug/L	10/07/2010 16:09	5.00	0.260	1.0	6.6
Chromium	ug/L	10/07/2010 16:09	5.00	0.0950	1.0	3.8
991394-007 Arsenic	ug/L	10/07/2010 16:16	5.00	0.260	1.0	2.6
Chromium	ug/L	10/07/2010 16:16	5.00	0.0950	1.0	ND
991394-008 Chromium	ug/L	10/07/2010 16:23	50.0	0.950	10.0	2810
991394-009 Chromium	ug/L	10/07/2010 16:30	5.00	0.0950	1.0	1.1
991394-010 Chromium	ug/L	10/07/2010 16:36	100	1.90	20.0	9670
991394-011 Chromium	ug/L	10/07/2010 16:43	10.0	0.190	2.0	733
991394-013 Chromium	ug/L	10/07/2010 17:17	10.0	0.190	2.0	795
991394-014 Chromium	ug/L	10/07/2010 17:24	10.0	0.190	2.0	507.
991394-015 Chromium	ug/L	10/07/2010 17:31	10.0	0.190	2.0	462
991394-016 Arsenic	ug/L	10/07/2010 17:37	50.0	2.60	10.0	55.4
Chromium	ug/L	10/07/2010 17:37	50.0	0.950	10.0	2810
991394-017 Arsenic	ug/L	10/07/2010 17:44	5.00	0.260	1.0	1.8
Chromium	ug/L	10/07/2010 17:44	5.00	0.0950	1.0	1.2
991394-018 Arsenic	ug/L	10/07/2010 17:51	5.00	0.260	1.0	1.5
Chromium	ug/L	10/07/2010 17:51	5.00	0.0950	1.0	ND
991394-019 Arsenic	ug/L	10/07/2010 17:58	5.00	0.260	1.0	1.7
Chromium	ug/L	10/07/2010 17:58	5.00	0.0950	1.0	66.6
991394-020 Arsenic	ug/L	10/07/2010 18:04	5.00	0.260	1.0	1.7
Chromium	ug/L	10/07/2010 18:04	5.00	0.0950	1.0	67.1

Method Blank

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

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

Duplicate — Lab ID = 991394-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	1.73	1.60	8.24	0 - 20
Chromium	ug/L	5.00	21.3	20.9	2.08	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.5	50.0	101	90 - 110
Chromium	ug/L	1.00	52.3	50.0	105	90 - 110

Matrix Spike — Lab ID = 991394-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	240	252(250.)	95.4	75 - 125
Chromium	ug/L	5.00	258	271(250.)	94.7	75 - 125

Matrix Spike Duplicate — Lab ID = 991394-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	240	252(250.)	95.5	75 - 125
Chromium	ug/L	5.00	260	271(250.)	95.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.4	50.0	105	90 - 110
Chromium	ug/L	1.00	54.8	50.0	110	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.0	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.5	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.8	50.0	102	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.8	50.0	104	90 - 110

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.0	50.0	102	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
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
Arsenic	ug/L	1.00	45.8	50.0	91.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	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	45.8	50.0	91.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.0	50.0	102	80 - 120

Serial Dilution Lab ID = 991394-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	401	363	9.89	0 - 10

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

Metals by EPA 6020A, Dissolved

Batch 102010B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-008 Arsenic	ug/L	10/20/2010 21:09	5.00	0.260	1.0	53.4

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate — Lab ID = 991599-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	2.34	1.93	19.3	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.9	50.0	97.8	90 - 110

Matrix Spike — Lab ID = 991599-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	246	252(250.)	97.5	75 - 125

Matrix Spike Duplicate — Lab ID = 991599-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	256	252(250.)	102	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.5	50.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.4	50.0	94.8	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

Interference Check Standard A

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

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

Interference Check Standard A

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.0	50.0	98.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.0	50.0	93.9	80 - 120

Serial Dilution — Lab ID = 991394-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	25.0	53.8	53.4	0.708	0 - 10

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

Metals by EPA 6020A, Dissolved

Batch 102510D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-012 Chromium	ug/L	10/25/2010 17:57	20.0	0.380	4.0	4630

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 991486-007

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	48.2	50.0	96.4	90 - 110

Matrix Spike — Lab ID = 991486-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	232	250.(250.)	93.0	75 - 125

Matrix Spike Duplicate — Lab ID = 991486-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	231	250.(250.)	92.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.3	50.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.7	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		

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	44.1	50.0	88.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.7	80 - 120

Serial Dilution — Lab ID = 991394-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	100	4630	4630	0.0432	0 - 10

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

Metals by EPA 6020A, Dissolved

Batch 102010A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-003 Arsenic	ug/L	10/20/2010 16:38	5.00	0.260	1.0	19.5

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate — Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	3.31	3.51	5.83	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.4	50.0	96.7	90 - 110

Matrix Spike — Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	235	254(250.)	92.5	75 - 125

Matrix Spike Duplicate — Lab ID = 991456-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	230	254(250.)	90.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.6	50.0	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.2	50.0	94.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.5	50.0	97.0	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

Interference Check Standard A

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

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

Interference Check Standard A

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.8	50.0	93.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.3	50.0	96.6	80 - 120

Chromium, Hexavalent by SM 3500-Cr B

Batch 10CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-008 Chromium, Hexavalent	ug/L	10/06/2010 17:40	50.0	175.	500.	2930
991394-010 Chromium, Hexavalent	ug/L	10/06/2010 17:41	50.0	175.	500.	10200
991394-012 Chromium, Hexavalent	ug/L	10/06/2010 17:42	50.0	175.	500.	5140
991394-013 Chromium, Hexavalent	ug/L	10/06/2010 17:43	10.0	35.0	100.	806
991394-014 Chromium, Hexavalent	ug/L	10/06/2010 17:44	10.0	35.0	100.	512

Method Blank

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

Duplicate — Lab ID = 991455-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	115	117	2.07	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	104	100.	104	90 - 110

Matrix Spike — Lab ID = 991455-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	226	217(100.)	109.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.3	60.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.0	60.0	102	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 390378.MP.02.GM.04 Printed 10/27/2010

Chromium, Hexavalent by SM 3500-Cr B Batch 10CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991394-003 Chromium, Hexavalent	ug/L	10/20/2010 18:20	10.0	35.0	100.	414
991394-015 Chromium, Hexavalent	ug/L	10/20/2010 18:22	10.0	35.0	100.	500
991394-016 Chromium, Hexavalent	ug/L	10/20/2010 18:23	50.0	175.	500.	3110

Method Blank

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

Duplicate — Lab ID = 991394-016

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	3360	3110	7.57	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	109	100.	109	90 - 110

Matrix Spike — Lab ID = 991394-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	8140	8110(5000)	100	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.7	60.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.7	60.0	108	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

GMP-169 TLI # 2 pg 1 991394

CH2MHILL

CHAIN OF CUSTODY RECORD

10/1/2010 2:31:49 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: TLI

Rec'd 10/01/10
s 991394

Where provided w/ 2 Cr6 bottles, please analyze 1 + hold 1

ALERT !!
Level III QC

For Sample Condition: See Form Attached

			Container:	250 ml Poly	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly			
			Preservatives:	HNO3, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
			Filtered:	Field	Field	Field	Field	Field			
			Holding Time:	180	28	28	28	180			
				Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered		Number of Containers	COMMENTS
	DATE	TIME	Matrix								
~~MW-63-065-169~~	~~9/27/2010~~	~~15:48~~	~~Water~~		~~X~~			~~X~~	~~Bee~~	~~2~~	
-1 MW-33-090-169	9/29/2010	14:58	Water		X			X		2	
-2 MW-57-185-169	9/29/2010	15:46	Water		X			X		2	6020/6010B pH=2
-3 MW-62-110-169	9/29/2010	15:45	Water	X		X		X		~~4~~ 3	
-4 MW-62-190-169	9/29/2010	16:02	Water	X	X			X		~~4~~ 3	
-5 MW-64-150-169	9/29/2010	16:46	Water	X	X			X		~~4~~ 3	
-6 MW-64-205-169	9/29/2010	17:00	Water	X	X			X		~~4~~ 3	
-7 MW-64-260-169	9/29/2010	17:15	Water	X	X			X		~~4~~ 3	
MW-75-169	9/29/2010	16:46	Water		X					1	Hold
MW-78-169	9/29/2010	17:07	Water		X					1	Hold
-8 MW-12-169	9/30/2010	10:37	Water	X		X		X		~~4~~ 3	
-9 MW-24BR-169	9/30/2010	14:43	Water		X			X		2	6020/6010B pH=2
-10 MW-50-200-169	9/30/2010	12:50	Water			X		X		2	
-11 MW-57-070-169	9/30/2010	11:26	Water		X			X		2	
-12 MW-59-100-169	9/30/2010	11:38	Water			X		X		2	

	Signatures	Date/Time
Approved by		10-1-10
Sampled by		
Relinquished by		
Received by	Rafael Davila T.L.I.	10-1-10 15:30
Relinquished by	Rafael Davila T.L.I.	10-1-10 21:30
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

GMP-169 TLI #2 pg 2

991394

CH2MHILL

CHAIN OF CUSTODY RECORD

10/1/2010 2:31:50 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: TLI

				Container:	250 ml Poly	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		
				Preservatives:	HNO3, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field	Field	Field		
				Holding Time:	180	28	28	28	180		
		DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered	Number of Containers	COMMENTS
-12	MW-60-125-169	9/30/2010	13:14	Water			X		X	2	
-13	MW-61-110-169	9/30/2010	10:05	Water			X		X	2	pH=2
-15	MW-62-065-169	9/30/2010	9:32	Water			X		X	2	
1	MW-76-169	9/30/2010	13:50	Water		X				1	Hold
0	MW-79-169	9/30/2010	13:32	Water		X				1	Hold
-16	MW-90-169	9/30/2010	8:45	Water	X		X		X	~~4~~ 3	pH=2
-17	MW-27-085-169	10/1/2010	9:07	Water	X			X	X	~~5~~ 4	
	MW-27-085-169-EB	10/1/2010	7:58	Water		X				1	Hold
-18	MW-34-080-169	10/1/2010	10:33	Water	X			X	X	~~3~~ 4	pH=2
-19	MW-34-100-169	10/1/2010	11:14	Water	X			X	X	~~5~~ 4	
	MW-80-169	10/1/2010	10:00	Water		X				1	Hold
-20	MW-92-169	10/1/2010	11:17	Water	X			X	X	~~5~~ 4	pH=2
									TOTAL NUMBER OF CONTAINERS	72	

Where provided w/2 Cr6 bottles, please analyze 1 + hold 1

ALERT !!
Level III QC

PHL - 6020/6010B

	Signatures	Date/Time
Approved by		10-1-10
Sampled by		
Relinquished by	[signature]	
Received by	Rafael Davila T.L.I	10-1-10 15:30
Relinquished by	Rafael Davila T.L.I	10-1-10 21:30
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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
08/30/10	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					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
991309	<1	<2	9/28/10	ES	NO	—
310	↓	↓	↓		↓	—
991318	—	— solid			Yes	TTLC
320	<1	>2			No	yes @ 1:00 p.m
322	<1	<2			↓	—
991326 (4)	<1	>2	9/29/10	MT	No	Yes 10:40 am MT
991327 (3)	<1	>2	↓	MT	No	Yes 10:45
991350 (1-10)	<1	>2	9/29/10	DK	No	Yes 14:00
991351	↓	↓	↓	↓	↓	↓
991358-1	<1	>2	9/30/10	MT	No	Yes 8:50 am
991359 (1-18)	<1	<2	↓	MT	No	—
991360	<1	<2	↓	↓	NO	Yes 10:20 am
991352	<1	>2	9/30/10	DK	No	Yes 11:00
991355	↓	↓	↓	↓	↓	↓
991363	>1	>2	↓	↓	Yes TTLC	
991371	>1	↓	↓	↓	Yes TTLC/TCLP	
991377 (1-6)	—	solid				TCLP
991373 (1-2)	<1	<2	10/1/10	DK	No	—
369	<1	<2		ES	↓	—
991394	<1	<2	10/4/10	MT	↓	—
1393	<1	<2	↓	↓	↓	—
991409 (1-4)	<1	>2	10/5/10	ES	NO	yes @ 11:30 a.m
410 (1-3)	<1	>2	↓	↓	↓	yes @ 11:30 a.m
417	<1	<2	↓	↓	↓	—
418	<1	<2	↓	↓	↓	—
419 (1-2)	>1	<2	↓	↓	Yes	—
401	>1	<2	↓	↓	↓	—
991439	<1	<2	↓	↓	NO	—
442	<1	<2	↓	↓	↓	—
443	↓	↓	↓	↓	↓	—
444	↓	↓	↓	↓	↓	—
445	↓	↓	↓	↓	↓	—
446	↓	↓	↓	↓	↓	—
447	>1	↓	↓	↓	Yes	—
1448 (2)	<1	>2	10/6	MT	No	Yes 2:00
991458	—	—	↓	↓	Solid TTLC	
1463 (2)	>1	<2	↓	↓	Yes	3010 A
1464 (1)	↓	↓	↓	↓	↓	↓
1465 (4)	↓	↓	↓	↓	↓	↓
481	>1	<2	↓	ES	↓	↓
991486 (7,6,9)	<1	>2	10/7	ES	No	yes @ 1:30 p.m
991483 ~~(1-5)~~	>1	<2			~~No~~	~~3010A~~
484 (1-15)	↓	↓	↓	↓	↓	3010 A
485 (1-4)	↓	↓	↓	↓	↓	↓
493-4	↓	↓	↓	↓	↓	↓
494-4	↓	↓	↓	↓	↓	↓
991487	>1	>2	10/7	DK	Yes	TTLC (Plant)
991488	↓	↓	↓	↓	↓	↓
991456 (9)	<1	<2	↓	MT	NO	—
BK 991490 (3)	<1	<2	10/7	MT	NO	—

leached by Gen chem + MB; decontam

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2 **Lab #** 99139Y

Date Delivered: 10/01/10 **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? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 4.3° C
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 IDs? ☒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: Shabnina

ALERT!! Level III QC

\\MATRIX\conv\Discrp.FormBlank.doc

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 21, 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-EW-175, GROUNDWATER MONITORING PROJECT, TLI NO.: 991455

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-175 groundwater-monitoring project for Total Dissolved and Hexavalent Chromium, Total Dissolved Solids, and Specific Conductivity. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, wet chemistry raw data, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are 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.

Samples for Total Dissolved Chromium were analyzed by method EPA 200.8 with the approval of Mr. Shawn Duffy of CH2M Hill.

Per Mr. Shawn Duffy's request, the pH analysis was cancelled.

No other violations or non-conformance 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.
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) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 408401.01.DM

Laboratory No.: 991455
Date: October 21, 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
EPA 200.8	Total Dissolved Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky
SM 3500-CrB	Hexavalent Chromium	Jenny Tankunakorn

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

Laboratory No.: 991455
Date Received: October 5, 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
991455-001	PE-01-175	E120.1	NONE	10/5/2010	8:00	EC	5350	umhos/cm	2.00
991455-001	PE-01-175	E200.8	LABFLT	10/5/2010	8:00	Chromium	12.3	ug/L	1.0
991455-001	PE-01-175	E218.6	LABFLT	10/5/2010	8:00	Chromium, hexavalent	13.2	ug/L	0.20
991455-001	PE-01-175	SM2540C	NONE	10/5/2010	8:00	Total Dissolved Solids	3290	mg/L	125
991455-002	TW-03D-175	E120.1	NONE	10/5/2010	8:00	EC	8560	umhos/cm	2.00
991455-002	TW-03D-175	E200.8	LABFLT	10/5/2010	8:00	Chromium	1150	ug/L	1.0
991455-002	TW-03D-175	SM2540C	NONE	10/5/2010	8:00	Total Dissolved Solids	5160	mg/L	250
991455-002	TW-03D-175	SM3500-CrB	LABFLT	10/5/2010	8:00	Chromium, hexavalent	1280	ug/L	100

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 Truesdail Laboratories.

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

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

Laboratory No. 991455

Printed 10/21/2010

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

Field ID	Lab ID	Collected	Matrix
PE-01-175	991455-001	10/05/2010 08:00	Water
TW-03D-175	991455-002	10/05/2010 08:00	Water

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

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-001 Specific Conductivity	umhos/cm	10/06/2010	1.00	0.0380	2.00	5350
991455-002 Specific Conductivity	umhos/cm	10/06/2010	1.00	0.0380	2.00	8560

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

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

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

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

Chrome VI by EPA 218.6 Batch 10CrH10F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-001 Chromium, Hexavalent	ug/L	10/11/2010 12:47	1.05	0.0210	0.20	13.2

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

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

MRCVS - Primary

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

Chromium, Hexavalent by SM 3500-Cr B Batch 10CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-002 Chromium, Hexavalent	ug/L	10/20/2010 18:15	10.0	35.0	100.	1280

Method Blank

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

Duplicate — Lab ID = 991394-016

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	3360	3110	7.57	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	109	100.	109	90 - 110

Matrix Spike — Lab ID = 991394-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	8140	8110(5000)	100	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.7	60.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.7	60.0	108	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 408401.01.DM Printed 10/21/2010

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

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-001 Total Dissolved Solids	mg/L	10/07/2010	1.00	0.434	125.	3290
991455-002 Total Dissolved Solids	mg/L	10/07/2010	1.00	0.434	250.	5160

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

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

Metals by EPA 200.8, Dissolved

Batch 101110B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-001 Chromium	ug/L	10/11/2010 17:59	5.00	0.0950	1.0	12.3

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 991393-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.36	2.85	18.8	0 - 20

Lab Control Sample

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

Matrix Spike — Lab ID = 991393-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	246	253(250.)	97.4	75 - 125

Matrix Spike Duplicate — Lab ID = 991393-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248	253(250.)	98.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.4	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		

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.1	50.0	98.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.2	50.0	100	80 - 120

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

Metals by EPA 200.8, Dissolved Batch 101210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991455-002 Chromium	ug/L	10/12/2010 20:18	5.00	0.0950	1.0	1150

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.70	2.60	3.70	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.9	50.0	95.8	90 - 110

Matrix Spike — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	245	253(250.)	97.1	75 - 125

Matrix Spike Duplicate — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	250	253(250.)	98.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	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	48.2	50.0	96.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	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	48.0	50.0	96.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.5	90 - 110

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

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	48.6	50.0	97.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.7	80 - 120

Serial Dilution — Lab ID = 991455-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	1160	1150	1.13	0 - 10

Serial Dilution — Lab ID = 991456-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	27.9	29.3	4.89	0 - 10

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

$\bar{C}_2$ 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:

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

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: 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

991455

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-EW-175]

COC Number

TURNAROUND TIME 10 Days

DATE 10/05/10 PAGE 1 OF 1

COMPANY: CH2M HILL /E2

PROJECT NAME: PG&E Topock IM3Plant-EW

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.Leutz

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Dissolved Cr (200.7) Lab filtered	Cr(VI) (3500-Cr B)	pH (150.0) EC (120.1)	TDS (160.1)	Cr(VI) (218.6)									NUMBER OF CONTAINERS	COMMENTS
1	PE-01-175	10/05/10	08:00	Ground water	X		X	X	X									4	pH=7 } 200.7
2	TW-03D-175	10/05/10	08:00	Ground water	X	X	X	X										4	pH=7 }
																		8	TOTAL NUMBER OF CONTAINERS

ALERT !! Level III QC

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	C.Knight	C.Knight	OMI	10-5-10 14:43
Signature (Received)	Rafael Dowle	Rafael	T.L.I	10-5-10 15:30
Signature (Relinquished)	Rafael Dowle	Rafael	T.L.I	10-5-10 21:30
Signature (Received)	Shabenirne	Linda	TLI	10/5/10 21:30
Signature (Relinquished)				
Signature (Received)				

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 4.4°C°F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

044

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
10/06/10	991455-1	7.0	5.00	9.5	7:40	SB
10/06/10	991456-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
10/07/10	991489-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
10/07/10	991490-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
10/07/10	991491-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
10/07/10	991492	9.5	N/A	N/A	N/A	SB
10/08/10	991553-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					

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	2:00 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 (2)	<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	>1	<2			Yes	—
588-4	>1	<2				—
591	<1	<2			NO	—
597 (1-3)	<1	>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 (1-3)	<1	>2	10/15/10	ES	NO	yes @5:00 pm
991600 (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: E 2 **Lab #** 991455

Date Delivered: 10/05/10 **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? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 4.4°C
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? ☒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 _____
16. Comments: _____
17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Shabunine

ALERT !! Level III QC

©MATRIX\envDiscrp.FormBlank.doc

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 19, 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 2010-GMP-169-Q3, GROUNDWATER MONITORING PROJECT, TLI NO.: 991554

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-GMP-169-Q3 groundwater-monitoring project for Hexavalent Chromium, Dissolved Chromium, and Dissolved Arsenic. 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 are under Section 5.

The samples were received and delivered with the chain of custody on October 8, 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.

No violations or non-conformance 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.
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

Laboratory No.: 991554
Date Received: October 8, 2010

Project Name: PG&E Topock Project
Project No.: 390378.MP.02.GM.04
P.O. No.: 390378.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991554-001	MW-58BR-UPR-169	E218.6	FLDFLT	10/6/2010	15:40	Chromium, hexavalent	4.7	ug/L	1.0
991554-001	MW-58BR-UPR-169	SW6020	FLDFLT	10/6/2010	15:40	Arsenic	5.6	ug/L	1.0
991554-001	MW-58BR-UPR-169	SW6020	FLDFLT	10/6/2010	15:40	Chromium	8.4	ug/L	1.0
991554-002	MW-58BR-LWR-169	E218.6	FLDFLT	10/7/2010	14:20	Chromium, hexavalent	199	ug/L	5.2
991554-002	MW-58BR-LWR-169	SW6020	FLDFLT	10/7/2010	14:20	Arsenic	3.2	ug/L	1.0
991554-002	MW-58BR-LWR-169	SW6020	FLDFLT	10/7/2010	14:20	Chromium	173	ug/L	1.0

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.

004

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 390378.MP.02.GM.04
Project Number: 390378.MP.02.GM.04

Laboratory No. 991554

Printed 10/19/2010

Samples Received on 10/6/2010 2:40:00 PM

Field ID	Lab ID	Collected	Matrix
MW-58BR-UPR-169	991554-001	10/06/2010 15:40	Water
MW-58BR-LWR-169	991554-002	10/07/2010 14:20	Water

Chrome VI by EPA 218.6 Batch 10CrH10G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991554-001 Chromium, Hexavalent	ug/L	10/12/2010 14:36	5.25	0.110	1.0	4.7
991554-002 Chromium, Hexavalent	ug/L	10/12/2010 14:47	26.25	0.551	5.2	199

Method Blank

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

Duplicate — Lab ID = 991553-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	21.2	20.3	4.32	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.99	5.00	99.8	90 - 110

Matrix Spike — Lab ID = 991553-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.13	7.40(5.25)	94.7	90 - 110

Matrix Spike — Lab ID = 991553-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	9.16	9.10(5.25)	101	90 - 110

Matrix Spike — Lab ID = 991553-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.51	6.40(5.25)	102	90 - 110

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

Matrix Spike — Lab ID = 991553-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.72	7.45(5.25)	105	90 - 110

Matrix Spike — Lab ID = 991553-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	47.8	46.5(26.2)	105	90 - 110

Matrix Spike — Lab ID = 991554-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	10.2	9.97(5.25)	104	90 - 110

Matrix Spike — Lab ID = 991554-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.25	458	461(262)	98.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.97	5.00	99.5	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	9.92	10.0	99.2	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.85	10.0	98.5	95 - 105

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

Metals by EPA 6020A, Dissolved

Batch 101210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991554-001 Arsenic	ug/L	10/12/2010 21:39	5.00	0.260	1.0	5.6
Chromium	ug/L	10/12/2010 21:39	5.00	0.0950	1.0	8.4
991554-002 Arsenic	ug/L	10/12/2010 22:06	5.00	0.260	1.0	3.2
Chromium	ug/L	10/12/2010 22:06	5.00	0.0950	1.0	173

Method Blank

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

Duplicate — Lab ID = 991554-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	5.63	5.57	1.02	0 - 20
Chromium	ug/L	5.00	7.89	8.36	5.85	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.2	50.0	94.4	90 - 110
Chromium	ug/L	1.00	47.9	50.0	95.8	90 - 110

Matrix Spike — Lab ID = 991554-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	246	256(250.)	96.1	75 - 125
Chromium	ug/L	5.00	250	258(250.)	96.9	75 - 125

Matrix Spike Duplicate — Lab ID = 991554-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	247.	256(250.)	96.6	75 - 125
Chromium	ug/L	5.00	249	258(250.)	96.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.8	50.0	95.5	90 - 110
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.4	50.0	92.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.3	50.0	92.5	90 - 110

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.8	50.0	93.7	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	96.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.5	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
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
Arsenic	ug/L	1.00	45.6	50.0	91.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.1	50.0	92.3	80 - 120

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 390378.MP.02.GM.04 Printed 10/19/2010

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.7	80 - 120

Serial Dilution — Lab ID = 991455-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	1160	1150	1.13	0 - 10

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

GMP-169 TLI MW58BR- 991554

CH2MHILL

CHAIN OF CUSTODY RECORD

10/7/2010 1:54:33 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: TLI

			Container:	250 ml Poly	250 ml Poly	500 ml Poly			
			Preservatives:	HNO3, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
			Filtered:	Field	Field	Field			
			Holding Time:	180	28	180			
	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Cr6 (E218.6) Field Filtered	Dissolved Chromium (6010BCRFF) Field Filtered		Number of Containers	COMMENTS
1 MW-58BR-UPR-169	10/6/2010	15:40	Water	X	X	X		~~4~~ 3	PM2 6/10/13
2 MW-58BR-LWR-169	10/7/2010	1420	Water	X	X	X		~~4~~ 3	PM2 6/10/13
							TOTAL NUMBER OF CONTAINERS	~~8~~ 6	PC

For Sample Conditions See Form Attached

ALERT !! Level III QC

	Signatures	Date/Time
Approved by		
Sampled by		10-7-10 1600
Relinquished by		
Received by	Rafael Davila	10-8-10 9:00AM
Relinquished by	Rafael Davila	10-8-10
Received by	[illegible]	10/8/10 14:40

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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	↓	↓	↓	↓	↓

al

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	2/10 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 (1-3)	>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	>1	<2			Yes	—
588-4	>1	<2				—
591	<1	<2			NO	—
597 (1-3)	<1	>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 (1-3)	<1	>2	10/15/10	ES	NO	yes @ 5:00 pm

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 991554

Date Delivered: 10/8/10 **Time:** 14:40 **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)? 4.2° C
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? ☒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: [signature]

ALERT!!
Level III QC

\MATRIX\env\Discrp.FormBlank.doc

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 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 2010-GMP-170, GROUNDWATER MONITORING PROJECT, TLI NO.: 991776

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-GMP-170 groundwater-monitoring project for Hexavalent Chromium, Dissolved Chromium, and Dissolved Arsenic. 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 are under Section 5.

The samples were received and delivered with the chain of custody on October 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.

The matrix spike for sample MW-64-150-170 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.

No other violations or non-conformance 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

Laboratory No.: 991776
Date Received: October 21, 2010

Project Name: PG&E Topock Project
Project No.: 405681.MP.02.GM.04
P.O. No.: 405681.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991776-001	MW-64-150-170	E218.6	FLDFLT	10/20/2010	14:28	Chromium, hexavalent	ND	ug/L	0.20
991776-001	MW-64-150-170	SW6020	FLDFLT	10/20/2010	14:28	Arsenic	155	ug/L	1.0
991776-001	MW-64-150-170	SW6020	FLDFLT	10/20/2010	14:28	Chromium	ND	ug/L	1.0
991776-002	MW-64-205-170	E218.6	FLDFLT	10/20/2010	14:40	Chromium, hexavalent	ND	ug/L	1.0
991776-002	MW-64-205-170	SW6020	FLDFLT	10/20/2010	14:40	Arsenic	38.4	ug/L	1.0
991776-002	MW-64-205-170	SW6020	FLDFLT	10/20/2010	14:40	Chromium	3.6	ug/L	1.0
991776-003	MW-64-260-170	E218.6	FLDFLT	10/20/2010	14:49	Chromium, hexavalent	ND	ug/L	1.0
991776-003	MW-64-260-170	SW6020	FLDFLT	10/20/2010	14:49	Arsenic	29.3	ug/L	1.0
991776-003	MW-64-260-170	SW6020	FLDFLT	10/20/2010	14:49	Chromium	ND	ug/L	1.0

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.

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

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 405681.MP.02.GM.04
Project Number: 405681.MP.02.GM.04

Laboratory No. 991776

Printed 11/5/2010

Samples Received on 10/21/2010 3:00:00 PM

Field ID	Lab ID	Collected	Matrix
MW-64-150-170	991776-001	10/20/2010 14:28	Water
MW-64-205-170	991776-002	10/20/2010 14:40	Water
MW-64-260-170	991776-003	10/20/2010 14:49	Water

Chrome VI by EPA 218.6

Batch 10CrH10L

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991776-001 Chromium, Hexavalent	ug/L	10/26/2010 12:44	1.05	0.0210	0.20	ND
991776-002 Chromium, Hexavalent	ug/L	10/26/2010 14:44	5.25	0.110	1.0	ND
991776-003 Chromium, Hexavalent	ug/L	10/26/2010 15:05	5.25	0.110	1.0	ND

Method Blank

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

Duplicate — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	230	228	1.10	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00	100	90 - 110

Matrix Spike — Lab ID = 991359-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	488	490(262)	99.4	90 - 110

Matrix Spike — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.39	5.25(5.25)	103	90 - 110

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

Matrix Spike — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.00	1.06(1.06)	94.6	90 - 110

Matrix Spike — Lab ID = 991776-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.07	5.25(5.25)	96.5	90 - 110

Matrix Spike — Lab ID = 991776-002

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 = 991776-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.15	5.25(5.25)	98.0	90 - 110

Matrix Spike — Lab ID = 991776-003

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	4.95	5.00	99.0	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	9.53	10.0	95.3	95 - 105

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 405681.MP.02.GM.04 Printed 11/5/2010

Metals by EPA 6020A, Dissolved

Batch 110510A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991776-001 Arsenic	ug/L	11/05/2010 15:23	5.00	0.260	1.0	155
Chromium	ug/L	11/05/2010 15:23	5.00	0.0950	1.0	ND
991776-002 Arsenic	ug/L	11/05/2010 16:17	5.00	0.260	1.0	38.4
Chromium	ug/L	11/05/2010 16:17	5.00	0.0950	1.0	3.6
991776-003 Arsenic	ug/L	11/05/2010 16:24	5.00	0.260	1.0	29.3
Chromium	ug/L	11/05/2010 16:24	5.00	0.0950	1.0	ND

Method Blank

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

Duplicate — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	157	155	1.06	0 - 20
Chromium	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
Chromium	ug/L	1.00	49.3	50.0	98.6	90 - 110

Matrix Spike — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	378	405(250.)	89.3	75 - 125
Chromium	ug/L	5.00	221	250.(250.)	88.5	75 - 125

Matrix Spike Duplicate — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	380	405(250.)	89.9	75 - 125
Chromium	ug/L	5.00	221	250.(250.)	88.3	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
Chromium	ug/L	1.00	51.4	50.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.0	50.0	92.0	90 - 110

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	45.7	50.0	91.4	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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.5	50.0	90.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	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	46.2	50.0	92.4	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
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
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	46.2	50.0	92.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.9	80 - 120

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 405681.MP.02.GM.04 Printed 11/5/2010

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.1	80 - 120

Serial Dilution — Lab ID = 991776-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	25.0	154	155	0.518	0 - 10

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

GMP 170 MW-64 only 991776

CH2MHILL

CHAIN OF CUSTODY RECORD

10/12/2010 12:01:45 PM

Project Name PG&E Topock
Location Topock
Project Number 405681.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-170
Turnaround Time 10 Days
Shipping Date:
COC Number:

				Container:	250 ml Poly	500 ml Poly		
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
				Filtered:	Field	Field		
				Holding Time:	28	180		
SAMPLE ID	DATE	TIME	Matrix		Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A) Field Filtered Arsenic,Chromium	Number of Containers	COMMENTS
-1 MW-64-150-170	10-20-10	1428	water		X	X	2	pH=2
-2 MW-64-205-170		1440			X	X	2	
3 MW-64-260-170		1449			X	X	2	
						TOTAL NUMBER OF CONTAINERS	6	

For Sample Conditions See Form Attached

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		10-21-10
Sampled by		0920
Relinquished by		
Received by	Hipolito	Cerp 10-21-10 9:20
Relinquished by	Hipolito	Cerp 10-21-10 3:00
Received by	Shawn Duffy	10/21/10 3:00 pm

Shipping Details
Method of Shipment:
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:

Special Instructions:
Oct 19-20, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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
10/27/10	991842-1	9.5	N.A	N.A	N.A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
10/22/10	991876-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
10/27/10	991845-1	9.5	N.A	N.A	N.A	Ali
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	991846-1	9.5	N.A.	N.A	N.A	Ali
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
10/27/10	991847-1	9.5	N.A	N.A	N.A	Ali
	-2					
	-3					
	-4					
	-5					

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
738	<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	@ 1:30 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~~		↓	↓	↓	—
~~1565-3~~	~~<1~~		↓	↓	↓	—
991776 (1-3)	<1	<2	10/25/10	KK	NO	—
991646 (1-3)	>1	<2	↓	↓	↓	—
1721	<1	<2	↓	↓	↓	@ 1:45 pm
991808 (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	>2	↓	↓	↓	yes	—
1838	<2	<2	↓	↓	NO	—
991~~721~~ 1840 (1-6)	<1	<2	10/27	KK	NO	—
991841 (1-9)	<1	<2	10/27	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 991776

Date Delivered: 10/21/10 **Time:** 15:00 **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? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 3.8° C
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? ☒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: Shabunina

ALERT!! Level III QC

\\MATRIX\env\Discrp.FormBlank.doc

September 25, 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.: N004613

RE: PG&E Topock

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on September 15, 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,

for

Jose Tenorio Jr.
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

Advanced Technology Laboratories - Las Vegas **Date:** *25-Sep-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004613

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 SM 5310C:

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. LCS/LCSD was used instead to measure precision.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria on QC samples N004613-001DMS for Acrolein, Acrylonitrile and N004613-001DMSD for 1,2,4-Trimethylbenzene, Acrolein, Acrylonitrile, Styrene. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories

3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories - Las Vega

Date: *25-Sep-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004613
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004613-001A	MW-58BR-UPR-001	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010
N004613-001B	MW-58BR-UPR-001	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010
N004613-001C	MW-58BR-UPR-001	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010
N004613-001D	MW-58BR-UPR-001	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010
N004613-001E	MW-58BR-UPR-001	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010
N004613-002A	MW-58BR-TB-002	Water	9/14/2010 3:00:00 PM	9/15/2010	9/22/2010

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-001
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: **IC1_100916A**	QC Batch: **R77768**				PrepDate:		Analyst: **QBM**
Hexavalent Chromium	3.8	0.14	1.0		µg/L	5	9/16/2010 12:31 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: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID: **MB-R77768** SampType: **MBLK** TestCode: **218.6_W** Units: **µg/L** Prep Date: RunNo: **77768**
Client ID: **PBW** Batch ID: **R77768** TestNo: **EPA 218.6** Analysis Date: **9/16/2010** SeqNo: **1210363**

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-R77768** SampType: **LCS** TestCode: **218.6_W** Units: **µg/L** Prep Date: RunNo: **77768**
Client ID: **LCSW** Batch ID: **R77768** TestNo: **EPA 218.6** Analysis Date: **9/16/2010** SeqNo: **1210364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	101	90	110				

Sample ID: **N004609-001AMS** SampType: **MS** TestCode: **218.6_W** Units: **µg/L** Prep Date: RunNo: **77768**
Client ID: **ZZZZZZ** Batch ID: **R77768** TestNo: **EPA 218.6** Analysis Date: **9/16/2010** SeqNo: **1210366**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Sample ID: **N004613-001ADUP** SampType: **DUP** TestCode: **218.6_W** Units: **µg/L** Prep Date: RunNo: **77768**
Client ID: **ZZZZZZ** Batch ID: **R77768** TestNo: **EPA 218.6** Analysis Date: **9/16/2010** SeqNo: **1210368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.930	1.0						3.840	2.32	20	

Sample ID: **N004613-001AMS** SampType: **MS** TestCode: **218.6_W** Units: **µg/L** Prep Date: RunNo: **77768**
Client ID: **ZZZZZZ** Batch ID: **R77768** TestNo: **EPA 218.6** Analysis Date: **9/16/2010** SeqNo: **1210369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.970	1.0	5.000	3.840	103	90	110				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID: N004613-001AMSD	SampType: MSD	TestCode: 218.6_W	Units: µg/L	Prep Date:	RunNo: 77768
Client ID: ZZZZZZ	Batch ID: R77768	TestNo: EPA 218.6		Analysis Date: 9/16/2010	SeqNo: 1210370

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.170	1.0	5.000	3.840	107	90	110	8.970	2.21	20	

Sample ID: N004609-003AMS	SampType: MS	TestCode: 218.6_W	Units: µg/L	Prep Date:	RunNo: 77768
Client ID: ZZZZZZ	Batch ID: R77768	TestNo: EPA 218.6		Analysis Date: 9/16/2010	SeqNo: 1210374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	290.160	4.0	100.0	191.4	98.7	90	110				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-001
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_100916A**	QC Batch: **R77770**				PrepDate:		Analyst: **QBM**
Chloride	3600	110	250		mg/L	500	9/16/2010 08:51 AM
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_100916A**	QC Batch: **R77770**				PrepDate:		Analyst: **QBM**
Nitrogen, Nitrate (As N)	ND	0.097	1.0		mg/L	2	9/16/2010 09:35 AM

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: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R77770_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **PBW** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R77770_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **LCSW** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.365	0.50	2.500	0	94.6	90	110				

Sample ID: **N004613-001EDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3550.000	250						3578	0.772	20	

Sample ID: **N004613-001EMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4865.500	250	1250	3578	103	80	120				

Sample ID: **N004613-001EMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4904.000	250	1250	3578	106	80	120	4866	0.788	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO3PGE

Sample ID: **MB-R77770_NO3** SampType: **MBLK** TestCode: **300_W_NO3P** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **PBW** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.50									

Sample ID: **LCS-R77770_NO3** SampType: **LCS** TestCode: **300_W_NO3P** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **LCSW** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.409	0.50	2.500	0	96.4	90	110				

Sample ID: **N004613-001EDUP** SampType: **DUP** TestCode: **300_W_NO3P** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	0.602	1.0						0.5960	0	20	

Sample ID: **N004613-001EMS** SampType: **MS** TestCode: **300_W_NO3P** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.292	1.0	5.000	0.5960	93.9	80	120				

Sample ID: **N004613-001EMSD** SampType: **MSD** TestCode: **300_W_NO3P** Units: **mg/L** Prep Date: RunNo: **77770**
Client ID: **ZZZZZZ** Batch ID: **R77770** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1210416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.288	1.0	5.000	0.5960	93.8	80	120	5.292	0.0756	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-001
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP1_100921A**	QC Batch: **35268**				PrepDate:	**9/20/2010**	Analyst: **NS**
Chromium	3.5	0.37	1.0		µg/L	1	9/21/2010 11:16 AM

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: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-35268** SampType: **MBLK** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **PBW** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-35268** SampType: **LCS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **LCSW** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	496.691	1.0	500.0	0	99.3	85	115				

Sample ID: **N004613-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	480.828	1.0	500.0	3.472	95.5	75	125				

Sample ID: **N004613-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	484.501	1.0	500.0	3.472	96.2	75	125	480.8	0.761	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-001
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A				**EPA 6020**		
RunID: **ICP4_100920F**	QC Batch: **35257**				PrepDate:	**9/18/2010**	Analyst: **JT**
Arsenic	5.9	0.025	0.10		µg/L	1	9/20/2010

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: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: **LCS-35257** SampType: **LCS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **9/18/2010** RunNo: **77798**
Client ID: **LCSW** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.486	0.10	12.50	0	99.9	85	115				

Sample ID: **MB-35257** SampType: **MBLK** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **9/18/2010** RunNo: **77798**
Client ID: **PBW** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID: **N004624-001B-MS** SampType: **MS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **9/18/2010** RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.174	0.50	12.50	3.226	112	75	125				

Sample ID: **N004624-001B-MSD** SampType: **MSD** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **9/18/2010** RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.660	0.50	12.50	3.226	107	75	125	17.17	3.04	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-001
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
				EPA 8260B			
RunID: **MS1_100916A**	QC Batch: **D10VW112**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	9/16/2010 10:58 AM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	9/16/2010 10:58 AM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	9/16/2010 10:58 AM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	9/16/2010 10:58 AM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	9/16/2010 10:58 AM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	9/16/2010 10:58 AM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	9/16/2010 10:58 AM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	9/16/2010 10:58 AM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	9/16/2010 10:58 AM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2010 10:58 AM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	9/16/2010 10:58 AM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	9/16/2010 10:58 AM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	9/16/2010 10:58 AM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	9/16/2010 10:58 AM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	9/16/2010 10:58 AM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2010 10:58 AM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	9/16/2010 10:58 AM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	9/16/2010 10:58 AM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	9/16/2010 10:58 AM
2-Butanone	ND	0.91	10		µg/L	1	9/16/2010 10:58 AM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	9/16/2010 10:58 AM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	9/16/2010 10:58 AM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	9/16/2010 10:58 AM
Acetone	ND	2.4	10		µg/L	1	9/16/2010 10:58 AM
Acrolein	ND	0.88	20		µg/L	1	9/16/2010 10:58 AM
Acrylonitrile	ND	0.68	20		µg/L	1	9/16/2010 10:58 AM
Benzene	ND	0.051	1.0		µg/L	1	9/16/2010 10:58 AM
Bromobenzene	ND	0.070	1.0		µg/L	1	9/16/2010 10:58 AM
Bromochloromethane	ND	0.091	1.0		µg/L	1	9/16/2010 10:58 AM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	9/16/2010 10:58 AM
Bromoform	ND	0.057	1.0		µg/L	1	9/16/2010 10:58 AM
Bromomethane	ND	0.081	1.0		µg/L	1	9/16/2010 10:58 AM
Carbon disulfide	ND	0.083	1.0		µg/L	1	9/16/2010 10:58 AM

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		

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT: CH2M HILL
Lab Order: N004613
Project: PG&E Topock
Lab ID: N004613-001

Client Sample ID: MW-58BR-UPR-001
Collection Date: 9/14/2010 3:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_100916A**	QC Batch: **D10VW112**				PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
Chlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
Chloroethane	ND	0.14	1.0		µg/L	1	9/16/2010 10:58 AM
Chloroform	ND	0.059	1.0		µg/L	1	9/16/2010 10:58 AM
Chloromethane	ND	0.14	1.0		µg/L	1	9/16/2010 10:58 AM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	9/16/2010 10:58 AM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	9/16/2010 10:58 AM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	9/16/2010 10:58 AM
Dibromomethane	ND	0.20	1.0		µg/L	1	9/16/2010 10:58 AM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	9/16/2010 10:58 AM
Ethylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
Freon-113	ND	0.066	1.0		µg/L	1	9/16/2010 10:58 AM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	9/16/2010 10:58 AM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	9/16/2010 10:58 AM
m,p-Xylene	ND	0.20	1.0		µg/L	1	9/16/2010 10:58 AM
Methylene chloride	ND	0.065	5.0		µg/L	1	9/16/2010 10:58 AM
MTBE	ND	0.069	1.0		µg/L	1	9/16/2010 10:58 AM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	9/16/2010 10:58 AM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
Naphthalene	ND	0.14	1.0		µg/L	1	9/16/2010 10:58 AM
o-Xylene	ND	0.11	1.0		µg/L	1	9/16/2010 10:58 AM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 10:58 AM
Styrene	ND	0.11	1.0		µg/L	1	9/16/2010 10:58 AM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2010 10:58 AM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	9/16/2010 10:58 AM
Toluene	9.4	0.060	2.5		µg/L	1	9/16/2010 10:58 AM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	9/16/2010 10:58 AM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	9/16/2010 10:58 AM
Trichloroethene	ND	0.071	1.0		µg/L	1	9/16/2010 10:58 AM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	9/16/2010 10:58 AM
Vinyl chloride	ND	0.083	1.0		µg/L	1	9/16/2010 10:58 AM
Xylenes, Total	ND	1.5	2.0		µg/L	1	9/16/2010 10:58 AM
Surr: 1,2-Dichloroethane-d4	76.2	0	72-119		%REC	1	9/16/2010 10:58 AM
Surr: 4-Bromofluorobenzene	99.0	0	76-119		%REC	1	9/16/2010 10:58 AM
Surr: Dibromofluoromethane	88.5	0	85-115		%REC	1	9/16/2010 10:58 AM
Surr: Toluene-d8	99.0	0	81-120		%REC	1	9/16/2010 10:58 AM

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

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *25-Sep-10*

CLIENT: CH2M HILL
Lab Order: N004613
Project: PG&E Topock
Lab ID: N004613-002

Client Sample ID: MW-58BR-TB-002
Collection Date: 9/14/2010 3:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_100916A**	QC Batch:	**D10VW112**			PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	9/16/2010 11:22 AM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	9/16/2010 11:22 AM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	9/16/2010 11:22 AM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	9/16/2010 11:22 AM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	9/16/2010 11:22 AM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	9/16/2010 11:22 AM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	9/16/2010 11:22 AM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	9/16/2010 11:22 AM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	9/16/2010 11:22 AM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2010 11:22 AM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	9/16/2010 11:22 AM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	9/16/2010 11:22 AM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	9/16/2010 11:22 AM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	9/16/2010 11:22 AM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	9/16/2010 11:22 AM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2010 11:22 AM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	9/16/2010 11:22 AM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	9/16/2010 11:22 AM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	9/16/2010 11:22 AM
2-Butanone	ND	0.91	10		µg/L	1	9/16/2010 11:22 AM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	9/16/2010 11:22 AM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	9/16/2010 11:22 AM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	9/16/2010 11:22 AM
Acetone	ND	2.4	10		µg/L	1	9/16/2010 11:22 AM
Acrolein	ND	0.88	20		µg/L	1	9/16/2010 11:22 AM
Acrylonitrile	ND	0.68	20		µg/L	1	9/16/2010 11:22 AM
Benzene	ND	0.051	1.0		µg/L	1	9/16/2010 11:22 AM
Bromobenzene	ND	0.070	1.0		µg/L	1	9/16/2010 11:22 AM
Bromochloromethane	ND	0.091	1.0		µg/L	1	9/16/2010 11:22 AM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	9/16/2010 11:22 AM
Bromoform	ND	0.057	1.0		µg/L	1	9/16/2010 11:22 AM
Bromomethane	ND	0.081	1.0		µg/L	1	9/16/2010 11:22 AM
Carbon disulfide	ND	0.083	1.0		µg/L	1	9/16/2010 11:22 AM

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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *25-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-TB-002
Lab Order:	N004613	**Collection Date:**	9/14/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004613-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_100916A**	QC Batch:	**D10VW112**			PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
Chlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
Chloroethane	ND	0.14	1.0		µg/L	1	9/16/2010 11:22 AM
Chloroform	ND	0.059	1.0		µg/L	1	9/16/2010 11:22 AM
Chloromethane	ND	0.14	1.0		µg/L	1	9/16/2010 11:22 AM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	9/16/2010 11:22 AM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	9/16/2010 11:22 AM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	9/16/2010 11:22 AM
Dibromomethane	ND	0.20	1.0		µg/L	1	9/16/2010 11:22 AM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	9/16/2010 11:22 AM
Ethylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
Freon-113	ND	0.066	1.0		µg/L	1	9/16/2010 11:22 AM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	9/16/2010 11:22 AM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	9/16/2010 11:22 AM
m,p-Xylene	ND	0.20	1.0		µg/L	1	9/16/2010 11:22 AM
Methylene chloride	ND	0.065	5.0		µg/L	1	9/16/2010 11:22 AM
MTBE	ND	0.069	1.0		µg/L	1	9/16/2010 11:22 AM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	9/16/2010 11:22 AM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
Naphthalene	ND	0.14	1.0		µg/L	1	9/16/2010 11:22 AM
o-Xylene	ND	0.11	1.0		µg/L	1	9/16/2010 11:22 AM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	9/16/2010 11:22 AM
Styrene	ND	0.11	1.0		µg/L	1	9/16/2010 11:22 AM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2010 11:22 AM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	9/16/2010 11:22 AM
Toluene	ND	0.060	2.5		µg/L	1	9/16/2010 11:22 AM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	9/16/2010 11:22 AM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	9/16/2010 11:22 AM
Trichloroethene	ND	0.071	1.0		µg/L	1	9/16/2010 11:22 AM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	9/16/2010 11:22 AM
Vinyl chloride	ND	0.083	1.0		µg/L	1	9/16/2010 11:22 AM
Xylenes, Total	ND	1.5	2.0		µg/L	1	9/16/2010 11:22 AM
Surr: 1,2-Dichloroethane-d4	74.2	0	72-119		%REC	1	9/16/2010 11:22 AM
Surr: 4-Bromofluorobenzene	98.6	0	76-119		%REC	1	9/16/2010 11:22 AM
Surr: Dibromofluoromethane	88.4	0	85-115		%REC	1	9/16/2010 11:22 AM
Surr: Toluene-d8	102	0	81-120		%REC	1	9/16/2010 11:22 AM

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: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100916LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **LCSW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.840	1.0	25.00	0	99.4	81	129				
1,1,1-Trichloroethane	22.380	1.0	25.00	0	89.5	67	132				
1,1,2,2-Tetrachloroethane	24.800	1.0	25.00	0	99.2	63	128				
1,1,2-Trichloroethane	26.070	1.0	25.00	0	104	75	125				
1,1-Dichloroethane	24.830	1.0	25.00	0	99.3	69	133				
1,1-Dichloroethene	24.850	1.0	25.00	0	99.4	68	130				
1,1-Dichloropropene	26.630	1.0	25.00	0	107	73	132				
1,2,3-Trichlorobenzene	27.070	1.0	25.00	0	108	67	137				
1,2,3-Trichloropropane	25.260	1.0	25.00	0	101	73	124				
1,2,4-Trichlorobenzene	27.860	1.0	25.00	0	111	66	134				
1,2,4-Trimethylbenzene	25.850	1.0	25.00	0	103	74	132				
1,2-Dibromo-3-chloropropane	26.210	2.0	25.00	0	105	50	132				
1,2-Dibromoethane	29.360	1.0	25.00	0	117	80	121				
1,2-Dichlorobenzene	25.810	1.0	25.00	0	103	71	122				
1,2-Dichloroethane	26.370	1.0	25.00	0	105	69	132				
1,2-Dichloropropane	25.350	1.0	25.00	0	101	75	125				
1,3,5-Trimethylbenzene	25.890	1.0	25.00	0	104	74	131				
1,3-Dichlorobenzene	25.690	1.0	25.00	0	103	75	124				
1,3-Dichloropropane	25.510	1.0	25.00	0	102	73	126				
1,4-Dichlorobenzene	25.470	1.0	25.00	0	102	74	123				
2,2-Dichloropropane	25.770	1.0	25.00	0	103	69	137				
2-Butanone	214.370	10	250.0	0	85.7	49	136				
2-Chlorotoluene	24.890	1.0	25.00	0	99.6	73	126				
4-Chlorotoluene	25.060	1.0	25.00	0	100	74	128				
4-Isopropyltoluene	26.260	1.0	25.00	0	105	73	130				
4-Methyl-2-pentanone	257.400	10	250.0	0	103	58	134				
Acetone	220.060	10	250.0	0	88.0	40	135				
Acrolein	242.910	20	250.0	0	97.2	75	125				
Acrylonitrile	247.610	20	250.0	0	99.0	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

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100916LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **LCSW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.910	1.0	25.00	0	99.6	81	122				
Bromobenzene	25.320	1.0	25.00	0	101	76	124				
Bromochloromethane	25.510	1.0	25.00	0	102	65	129				
Bromodichloromethane	23.890	1.0	25.00	0	95.6	76	121				
Bromoform	25.260	1.0	25.00	0	101	69	128				
Bromomethane	25.580	1.0	25.00	0	102	53	141				
Carbon disulfide	25.610	1.0	25.00	0	102	75	125				
Carbon tetrachloride	24.940	1.0	25.00	0	99.8	66	138				
Chlorobenzene	24.960	1.0	25.00	0	99.8	81	122				
Chloroethane	21.730	1.0	25.00	0	86.9	58	133				
Chloroform	25.570	1.0	25.00	0	102	69	128				
Chloromethane	24.240	1.0	25.00	0	97.0	56	131				
cis-1,2-Dichloroethene	25.030	1.0	25.00	0	100	72	126				
cis-1,3-Dichloropropene	22.980	1.0	25.00	0	91.9	69	131				
Dibromochloromethane	24.120	1.0	25.00	0	96.5	66	133				
Dibromomethane	27.100	1.0	25.00	0	108	76	125				
Dichlorodifluoromethane	23.120	1.0	25.00	0	92.5	53	153				
Ethylbenzene	24.930	1.0	25.00	0	99.7	73	127				
Freon-113	23.770	1.0	25.00	0	95.1	75	125				
Hexachlorobutadiene	26.800	1.0	25.00	0	107	67	131				
Isopropylbenzene	24.890	1.0	25.00	0	99.6	75	127				
m,p-Xylene	51.470	1.0	50.00	0	103	76	128				
Methylene chloride	21.990	5.0	25.00	0	88.0	63	137				
MTBE	20.960	1.0	25.00	0	83.8	65	123				
n-Butylbenzene	26.110	1.0	25.00	0	104	69	137				
n-Propylbenzene	25.400	1.0	25.00	0	102	72	129				
Naphthalene	24.350	1.0	25.00	0	97.4	54	138				
o-Xylene	25.040	1.0	25.00	0	100	80	121				
sec-Butylbenzene	25.490	1.0	25.00	0	102	72	127				
Styrene	26.250	1.0	25.00	0	105	65	134				

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

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100916LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **LCSW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	25.520	1.0	25.00	0	102	70	129				
Tetrachloroethene	25.680	1.0	25.00	0	103	66	128				
Toluene	24.350	2.5	25.00	0	97.4	77	122				
trans-1,2-Dichloroethene	26.670	1.0	25.00	0	107	63	137				
trans-1,3-Dichloropropene	27.050	1.0	25.00	0	108	59	135				
Trichloroethene	25.500	1.0	25.00	0	102	70	127				
Trichlorofluoromethane	24.790	1.0	25.00	0	99.2	57	129				
Vinyl chloride	22.300	1.0	25.00	0	89.2	50	134				
Xylenes, Total	76.510	2.0	75.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	25.300		25.00		101	72	119				
Surr: 4-Bromofluorobenzene	24.350		25.00		97.4	76	119				
Surr: Dibromofluoromethane	26.500		25.00		106	85	115				
Surr: Toluene-d8	24.640		25.00		98.6	81	120				

Sample ID: **N004613-001DMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.610	1.0	25.00	0	98.4	81	129				
1,1,1-Trichloroethane	21.130	1.0	25.00	0	84.5	67	132				
1,1,2,2-Tetrachloroethane	21.800	1.0	25.00	0	87.2	63	128				
1,1,2-Trichloroethane	22.080	1.0	25.00	0	88.3	75	125				
1,1-Dichloroethane	23.260	1.0	25.00	0	93.0	69	133				
1,1-Dichloroethene	23.960	1.0	25.00	0	95.8	68	130				
1,1-Dichloropropene	25.420	1.0	25.00	0	102	73	132				
1,2,3-Trichlorobenzene	24.860	1.0	25.00	0	99.4	67	137				
1,2,3-Trichloropropane	21.370	1.0	25.00	0	85.5	73	124				
1,2,4-Trichlorobenzene	26.530	1.0	25.00	0	106	66	134				
1,2,4-Trimethylbenzene	24.870	1.0	25.00	0	99.5	74	132				
1,2-Dibromo-3-chloropropane	20.640	2.0	25.00	0	82.6	50	132				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004613-001DMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	23.490	1.0	25.00	0	94.0	80	121				
1,2-Dichlorobenzene	24.990	1.0	25.00	0	100	71	122				
1,2-Dichloroethane	22.800	1.0	25.00	0	91.2	69	132				
1,2-Dichloropropane	23.710	1.0	25.00	0	94.8	75	125				
1,3,5-Trimethylbenzene	25.760	1.0	25.00	0	103	74	131				
1,3-Dichlorobenzene	26.040	1.0	25.00	0	104	75	124				
1,3-Dichloropropane	23.340	1.0	25.00	0	93.4	73	126				
1,4-Dichlorobenzene	25.470	1.0	25.00	0	102	74	123				
2,2-Dichloropropane	24.540	1.0	25.00	0	98.2	69	137				
2-Butanone	136.710	10	250.0	0	54.7	49	136				
2-Chlorotoluene	25.110	1.0	25.00	0	100	73	126				
4-Chlorotoluene	25.560	1.0	25.00	0	102	74	128				
4-Isopropyltoluene	26.890	1.0	25.00	0	108	73	130				
4-Methyl-2-pentanone	187.760	10	250.0	0	75.1	58	134				
Acetone	109.770	10	250.0	4.280	42.2	40	135				
Acrolein	182.020	20	250.0	0	72.8	75	125				S
Acrylonitrile	179.270	20	250.0	0	71.7	75	125				S
Benzene	24.170	1.0	25.00	0	96.7	81	122				
Bromobenzene	25.070	1.0	25.00	0	100	76	124				
Bromochloromethane	22.580	1.0	25.00	0	90.3	65	129				
Bromodichloromethane	21.830	1.0	25.00	0	87.3	76	121				
Bromoform	21.950	1.0	25.00	0	87.8	69	128				
Bromomethane	23.710	1.0	25.00	0	94.8	53	141				
Carbon disulfide	23.690	1.0	25.00	0.4100	93.1	75	125				
Carbon tetrachloride	22.980	1.0	25.00	0	91.9	66	138				
Chlorobenzene	24.890	1.0	25.00	0	99.6	81	122				
Chloroethane	21.940	1.0	25.00	0	87.8	58	133				
Chloroform	24.400	1.0	25.00	0	97.6	69	128				
Chloromethane	23.430	1.0	25.00	0	93.7	56	131				
cis-1,2-Dichloroethene	23.600	1.0	25.00	0	94.4	72	126				

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
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004613-001DMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	21.150	1.0	25.00	0	84.6	69	131				
Dibromochloromethane	22.750	1.0	25.00	0	91.0	66	133				
Dibromomethane	22.080	1.0	25.00	0	88.3	76	125				
Dichlorodifluoromethane	23.550	1.0	25.00	0	94.2	53	153				
Ethylbenzene	25.230	1.0	25.00	0	101	73	127				
Freon-113	22.050	1.0	25.00	0	88.2	75	125				
Hexachlorobutadiene	26.690	1.0	25.00	0	107	67	131				
Isopropylbenzene	26.040	1.0	25.00	0	104	75	127				
m,p-Xylene	51.610	1.0	50.00	0	103	76	128				
Methylene chloride	19.830	5.0	25.00	0	79.3	63	137				
MTBE	18.080	1.0	25.00	0	72.3	65	123				
n-Butylbenzene	26.680	1.0	25.00	0	107	69	137				
n-Propylbenzene	26.280	1.0	25.00	0	105	72	129				
Naphthalene	19.580	1.0	25.00	0	78.3	54	138				
o-Xylene	25.160	1.0	25.00	0	101	80	121				
sec-Butylbenzene	26.280	1.0	25.00	0	105	72	127				
Styrene	23.210	1.0	25.00	0	92.8	65	134				
tert-Butylbenzene	26.280	1.0	25.00	0	105	70	129				
Tetrachloroethene	26.580	1.0	25.00	0	106	66	128				
Toluene	32.070	2.5	25.00	9.360	90.8	77	122				
trans-1,2-Dichloroethene	24.710	1.0	25.00	0	98.8	63	137				
trans-1,3-Dichloropropene	23.150	1.0	25.00	0	92.6	59	135				
Trichloroethene	24.330	1.0	25.00	0	97.3	70	127				
Trichlorofluoromethane	23.770	1.0	25.00	0	95.1	57	129				
Vinyl chloride	21.960	1.0	25.00	0	87.8	50	134				
Xylenes, Total	76.770	2.0	75.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	22.050		25.00		88.2	72	119				
Surr: 4-Bromofluorobenzene	24.530		25.00		98.1	76	119				
Surr: Dibromofluoromethane	24.660		25.00		98.6	85	115				
Surr: Toluene-d8	23.420		25.00		93.7	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004613-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.790	1.0	25.00	0	99.2	81	129	24.61	0.729	20	
1,1,1-Trichloroethane	21.620	1.0	25.00	0	86.5	67	132	21.13	2.29	20	
1,1,2,2-Tetrachloroethane	22.520	1.0	25.00	0	90.1	63	128	21.80	3.25	20	
1,1,2-Trichloroethane	22.720	1.0	25.00	0	90.9	75	125	22.08	2.86	20	
1,1-Dichloroethane	24.210	1.0	25.00	0	96.8	69	133	23.26	4.00	20	
1,1-Dichloroethene	22.970	1.0	25.00	0	91.9	68	130	23.96	4.22	20	
1,1-Dichloropropene	26.240	1.0	25.00	0	105	73	132	25.42	3.17	20	
1,2,3-Trichlorobenzene	26.100	1.0	25.00	0	104	67	137	24.86	4.87	20	
1,2,3-Trichloropropane	21.860	1.0	25.00	0	87.4	73	124	21.37	2.27	20	
1,2,4-Trichlorobenzene	27.660	1.0	25.00	0	111	66	134	26.53	4.17	20	
1,2,4-Trimethylbenzene	16.900	1.0	25.00	0	67.6	74	132	24.87	38.2	20	SR
1,2-Dibromo-3-chloropropane	20.750	2.0	25.00	0	83.0	50	132	20.64	0.532	20	
1,2-Dibromoethane	24.710	1.0	25.00	0	98.8	80	121	23.49	5.06	20	
1,2-Dichlorobenzene	25.590	1.0	25.00	0	102	71	122	24.99	2.37	20	
1,2-Dichloroethane	23.440	1.0	25.00	0	93.8	69	132	22.80	2.77	20	
1,2-Dichloropropane	24.360	1.0	25.00	0	97.4	75	125	23.71	2.70	20	
1,3,5-Trimethylbenzene	23.150	1.0	25.00	0	92.6	74	131	25.76	10.7	20	
1,3-Dichlorobenzene	26.600	1.0	25.00	0	106	75	124	26.04	2.13	20	
1,3-Dichloropropane	23.430	1.0	25.00	0	93.7	73	126	23.34	0.385	20	
1,4-Dichlorobenzene	25.850	1.0	25.00	0	103	74	123	25.47	1.48	20	
2,2-Dichloropropane	24.710	1.0	25.00	0	98.8	69	137	24.54	0.690	20	
2-Butanone	136.770	10	250.0	0	54.7	49	136	136.7	0.0439	20	
2-Chlorotoluene	26.350	1.0	25.00	0	105	73	126	25.11	4.82	20	
4-Chlorotoluene	26.550	1.0	25.00	0	106	74	128	25.56	3.80	20	
4-Isopropyltoluene	25.910	1.0	25.00	0	104	73	130	26.89	3.71	20	
4-Methyl-2-pentanone	196.780	10	250.0	0	78.7	58	134	187.8	4.69	20	
Acetone	112.640	10	250.0	4.280	43.3	40	135	109.8	2.58	20	
Acrolein	179.120	20	250.0	0	71.6	75	125	182.0	1.61	20	S
Acrylonitrile	185.440	20	250.0	0	74.2	75	125	179.3	3.38	20	S
Benzene	25.110	1.0	25.00	0	100	81	122	24.17	3.81	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
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004613-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	26.330	1.0	25.00	0	105	76	124	25.07	4.90	20	
Bromochloromethane	23.190	1.0	25.00	0	92.8	65	129	22.58	2.67	20	
Bromodichloromethane	21.700	1.0	25.00	0	86.8	76	121	21.83	0.597	20	
Bromoform	21.470	1.0	25.00	0	85.9	69	128	21.95	2.21	20	
Bromomethane	24.390	1.0	25.00	0	97.6	53	141	23.71	2.83	20	
Carbon disulfide	24.250	1.0	25.00	0.4100	95.4	75	125	23.69	2.34	20	
Carbon tetrachloride	23.580	1.0	25.00	0	94.3	66	138	22.98	2.58	20	
Chlorobenzene	25.520	1.0	25.00	0	102	81	122	24.89	2.50	20	
Chloroethane	21.990	1.0	25.00	0	88.0	58	133	21.94	0.228	20	
Chloroform	24.800	1.0	25.00	0	99.2	69	128	24.40	1.63	20	
Chloromethane	23.780	1.0	25.00	0	95.1	56	131	23.43	1.48	20	
cis-1,2-Dichloroethene	24.390	1.0	25.00	0	97.6	72	126	23.60	3.29	20	
cis-1,3-Dichloropropene	21.340	1.0	25.00	0	85.4	69	131	21.15	0.894	20	
Dibromochloromethane	22.020	1.0	25.00	0	88.1	66	133	22.75	3.26	20	
Dibromomethane	23.080	1.0	25.00	0	92.3	76	125	22.08	4.43	20	
Dichlorodifluoromethane	23.030	1.0	25.00	0	92.1	53	153	23.55	2.23	20	
Ethylbenzene	25.330	1.0	25.00	0	101	73	127	25.23	0.396	20	
Freon-113	22.250	1.0	25.00	0	89.0	75	125	22.05	0.903	20	
Hexachlorobutadiene	27.390	1.0	25.00	0	110	67	131	26.69	2.59	20	
Isopropylbenzene	26.830	1.0	25.00	0	107	75	127	26.04	2.99	20	
m,p-Xylene	49.830	1.0	50.00	0	99.7	76	128	51.61	3.51	20	
Methylene chloride	20.390	5.0	25.00	0	81.6	63	137	19.83	2.78	20	
MTBE	18.340	1.0	25.00	0	73.4	65	123	18.08	1.43	20	
n-Butylbenzene	26.800	1.0	25.00	0	107	69	137	26.68	0.449	20	
n-Propylbenzene	26.990	1.0	25.00	0	108	72	129	26.28	2.67	20	
Naphthalene	16.690	1.0	25.00	0	66.8	54	138	19.58	15.9	20	
o-Xylene	24.950	1.0	25.00	0	99.8	80	121	25.16	0.838	20	
sec-Butylbenzene	26.750	1.0	25.00	0	107	72	127	26.28	1.77	20	
Styrene	9.810	1.0	25.00	0	39.2	65	134	23.21	81.2	20	SR
tert-Butylbenzene	27.160	1.0	25.00	0	109	70	129	26.28	3.29	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
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004613-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **ZZZZZZ** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	26.170	1.0	25.00	0	105	66	128	26.58	1.55	20	
Toluene	31.650	2.5	25.00	9.360	89.2	77	122	32.07	1.32	20	
trans-1,2-Dichloroethene	25.190	1.0	25.00	0	101	63	137	24.71	1.92	20	
trans-1,3-Dichloropropene	23.700	1.0	25.00	0	94.8	59	135	23.15	2.35	20	
Trichloroethene	24.590	1.0	25.00	0	98.4	70	127	24.33	1.06	20	
Trichlorofluoromethane	23.900	1.0	25.00	0	95.6	57	129	23.77	0.545	20	
Vinyl chloride	21.650	1.0	25.00	0	86.6	50	134	21.96	1.42	20	
Xylenes, Total	74.780	2.0	75.00	0	99.7	75	125	76.77	2.63	20	
Surr: 1,2-Dichloroethane-d4	22.250		25.00		89.0	72	119		0		
Surr: 4-Bromofluorobenzene	24.900		25.00		99.6	76	119		0		
Surr: Dibromofluoromethane	25.270		25.00		101	85	115		0		
Surr: Toluene-d8	24.320		25.00		97.3	81	120		0		

Sample ID: **D100916MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **PBW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100916MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **PBW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100916MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77757**
Client ID: **PBW** Batch ID: **D10VW112** TestNo: **EPA 8260B** Analysis Date: **9/16/2010** SeqNo: **1210705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.5									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	21.950		25.00		87.8	72	119				
Surr: 4-Bromofluorobenzene	24.230		25.00		96.9	76	119				
Surr: Dibromofluoromethane	23.350		25.00		93.4	85	115				
Surr: Toluene-d8	25.450		25.00		102	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3151 W. Post Road Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME

DATE 9-15-10 PAGE 1 OF 1

COMPANY CH2M HILL

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 382653.FP.08.FW TEAM 1

SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6-field filtered	total Cr, As-field filtered	TOC	VOCs	NO3-Cl-									NUMBER OF CONTAINERS	COMMENTS
MW-58BR-UPR-001	9-14-10	1500	water	X	X	X	X	X									8	
MW-58BR-TB-002		1500					X				VOCs trip blank						1	

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Barry Collins	CH2M HILL	9-15-10 1546
Signature (Received)	MARLON CASTRO	~~CH~~ ATL	9/15/10 1546
Signature (Relinquished)			
Signature (Received)			
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 2.1°C °F

CUSTODY SEALED YES ☐ NO ☑ w/ice

SPECIAL REQUIREMENTS:

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 (562) 989-4045.

Sample Receipt Checklist

Client Name: **CH2M HILL-OAKLAND**

Date Time Received: **9/15/2010 3:46:00 PM**

Work Order Number: **N004613**

Received by: **MBC**

Cooler Temp (Deg C): 2.1 w/ ice

Checklist completed by: NS for MBC (Signature) 9/16/10 (Date)

Reviewed by: NS (Initials) 9/16/10 (Date)

Carrier name: ATL

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact 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. Container/Temp Blank temperature within acceptance 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 ☐

Comments: 1 VOA for sample MW-58BR-TB-002 has a headspace >5mm.

Marlon Cartin

From: Shawn.Duffy@CH2M.com
Sent: Thursday, September 16, 2010 9:40 AM
To: Marlon Cartin
Subject: Re: PG&E Topock samples received yesterday (09/15/2010)

As dissolved.

From: Marlon Cartin [mailto:marlon@atl-labs.com]
Sent: Thursday, September 16, 2010 09:49 AM
To: shawn.duffy@ch2m.com <'shawn.duffy@ch2m.com'>
Subject: PG&E Topock samples received yesterday (09/15/2010)

Hi Shawn,

Attached is the COC of samples received yesterday. Can you please advise us if we are going to log Cr and As as total or dissolved,since it was stated on the COC as filtered?

Thanks,
Nancy

Marlon Cartin
Advanced Technology Laboratories, Inc.
3151 W. Post Road
Las Vegas, NV, 89148
702-307-2659
702-307-3248 fax

<<N004613_COC.pdf>>

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 N004613-001A, concentration in μg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 0.000768 * 1000 * 5$$

$$= 3.84 \ \mu g/L$$

Reporting result in two significant figures:

$$Cr^{+6}, \mu g/L = 3.8 \ \mu g/L$$

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Chloride concentration, in mg/L, in the original sample as follows:

Chloride, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N004613-001E**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	7.155 * 500
	=	3577.5 mg/L

Reporting **N004613-001E** results in two significant figures,

Chloride, mg/L	**=**	**3600 mg/L**

Nalin L

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:

$$M, ug/L = \frac{A*C*DF*1000}{B}$$

where:
M= concentration of the metal in ug/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N004613-001B, concentration in ug/L are calculated as follows:

$$Cr, ug/L = 0.00347\ mg/L * \frac{0.025\ L * 1*1000}{0.025\ L}$$

Cr = 3.47 ug/L

Reporting result in two significant figures,

Cr = 3.5 ug/L

9/23/2010

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N004613-001BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2383.858	5.0	2500	3.472	95.2	75	125				

Sample ID: **N004613-001BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	945.480	2.0	1000	3.472	94.2	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Sample Calculation

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Arsenic concentration, in ug/L, in the original sample as follows:

Arsenic, ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N004613-001B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 4.745 * 1 * (50/40)

= 5.9312 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 5.9

Advanced Technology Laboratories - Las Vegas

Date: *21-Sep-10*

CLIENT: CH2M HILL
Work Order: N004613
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID **N004624-001B-PS 2** SampType: **PS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	30.167	0.20	25.00	3.226	108	75	125				

Sample ID **N004624-001B-PS 5** SampType: **PS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.628	0.50	12.50	3.226	107	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N004613
Test Method: EPA 6020_Diss
Analysis Date: 09/20/10

Matrix: Aqueous
Batch No.: 35257

Instrument ID: ICP-MS
Instrument Description: PE DRCplus

Comments:

Analyzed By: Jojo Tenorio

Arsenic was report with chloride correction, As corrected = As 75 - 3.127*(ArCl 77 - (0.815*Se 82))

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N004624-001B-DT 5X	As	ug/L	3.94014375	R	3.225885	22.14%	10
N004624-001B-DT 25X	As	ug/L	4.83771875	R	3.94014375	22.78%	10

Jojo Tenorio 9/22/2010

SAMPLE CALCULATION

METHOD: EPA 8260B
TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS
MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X \text{ ,ug/L} = \frac{A_X * C_{IS} * DF}{\text{Ave RF} * A_{IS}}$$

where:

A_X = Area of the TOTAL ion for the compound being measured
C_{IS} = Concentration of the specific internal standard in ug/L
A_{IS} = Area of the characteristic ion of the specific internal standard
C_X = Concentration of the compound being measured in ug/L

N004613-001D

For Toluene the corresponding Internal Standard is 1,4-Difluorobenzene

Ave RF	1.957
Area of Toluene	373472
Area of Internal Standard	510003
Conc of Internal Standard (ug/L)	25.00

Conc of Toluene (ug/L)= $\frac{373472 * 25.00\text{ug/L} * 1}{1.957 * 510003}$

Conc of Toluene (ug/L)= 9.354799842

Reporting result in two significant figures,

Concentration of Toluene = 9.4 ug/L

Nabil

September 28, 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.: N004624

RE: PG&E Topock

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on September 16, 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,

for Jose Tenorio Jr.
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004624

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 SM 5310C:

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. LCS/LCSD was used instead to measure precision.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria on QC samples N004624-001DMS for Acrolein, Acrylonitrile and N004624-001DMSD for Acrolein, Styrene. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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: *28-Sep-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004624
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004624-001A	MW-58BR-LWR-001	Water	9/16/2010 3:30:00 PM	9/16/2010	9/22/2010
N004624-001B	MW-58BR-LWR-001	Water	9/16/2010 3:30:00 PM	9/16/2010	9/22/2010
N004624-001C	MW-58BR-LWR-001	Water	9/16/2010 3:30:00 PM	9/16/2010	9/22/2010
N004624-001D	MW-58BR-LWR-001	Water	9/16/2010 3:30:00 PM	9/16/2010	9/22/2010
N004624-001E	MW-58BR-LWR-001	Water	9/16/2010 3:30:00 PM	9/16/2010	9/22/2010
N004624-002A	MW-58BR-TB-003	Water	9/16/2010 3:00:00 PM	9/16/2010	9/22/2010

Advanced Technology Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-001
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:30:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: **IC1_100916B**	QC Batch: **R77787**				PrepDate:		Analyst: **QBM**
Hexavalent Chromium	200	0.56	4.0		µg/L	20	9/16/2010 07:03 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: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_W

Sample ID: **MB-R77787**	SampType: **MBLK**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **77787**
Client ID: **PBW**	Batch ID: **R77787**	TestNo: **EPA 218.6**		Analysis Date: **9/16/2010**	SeqNo: **1210847**

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-R77787**	SampType: **LCS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **77787**
Client ID: **LCSW**	Batch ID: **R77787**	TestNo: **EPA 218.6**		Analysis Date: **9/16/2010**	SeqNo: **1210848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	0.20	5.000	0	104	90	110				

Sample ID: **N004624-001ADUP**	SampType: **DUP**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **77787**
Client ID: **ZZZZZZ**	Batch ID: **R77787**	TestNo: **EPA 218.6**		Analysis Date: **9/16/2010**	SeqNo: **1210857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	195.800	4.0						198.3	1.27	20	

Sample ID: **N004624-001AMS**	SampType: **MS**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **77787**
Client ID: **ZZZZZZ**	Batch ID: **R77787**	TestNo: **EPA 218.6**		Analysis Date: **9/16/2010**	SeqNo: **1210858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	304.380	4.0	100.0	198.3	106	90	110				

Sample ID: **N004624-001AMSD**	SampType: **MSD**	TestCode: **218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **77787**
Client ID: **ZZZZZZ**	Batch ID: **R77787**	TestNo: **EPA 218.6**		Analysis Date: **9/16/2010**	SeqNo: **1210859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	308.040	4.0	100.0	198.3	110	90	110	304.4	1.20	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

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-001
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:30:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_100916B**	QC Batch: **R77803**				PrepDate:		Analyst: **QBM**
Chloride	2900	110	250		mg/L	500	9/16/2010 07:21 PM
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_100916B**	QC Batch: **R77803**				PrepDate:		Analyst: **QBM**
Nitrogen, Nitrate (As N)	1.1	0.097	1.0		mg/L	2	9/16/2010 08:03 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: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R77803_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77803**
Client ID: **PBW** Batch ID: **R77803** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1211519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R77803_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77803**
Client ID: **LCSW** Batch ID: **R77803** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1211520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.388	0.50	2.500	0	95.5	90	110				

Sample ID: **N004624-001EDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77803**
Client ID: **ZZZZZZ** Batch ID: **R77803** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1211526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2931.000	250						2912	0.633	20	

Sample ID: **N004624-001EMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77803**
Client ID: **ZZZZZZ** Batch ID: **R77803** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1211527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4167.000	250	1250	2912	100	80	120				

Sample ID: **N004624-001EMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77803**
Client ID: **ZZZZZZ** Batch ID: **R77803** TestNo: **EPA 300.0** Analysis Date: **9/16/2010** SeqNo: **1211528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4176.000	250	1250	2912	101	80	120	4167	0.216	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc 3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO3PGE

Sample ID: MB-R77803_NO3	SampType: MBLK	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77803
Client ID: PBW	Batch ID: R77803	TestNo: EPA 300.0		Analysis Date: 9/16/2010	SeqNo: 1211535

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.50									

Sample ID: LCS-R77803_NO3	SampType: LCS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77803
Client ID: LCSW	Batch ID: R77803	TestNo: EPA 300.0		Analysis Date: 9/16/2010	SeqNo: 1211536

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.429	0.50	2.500	0	97.2	90	110				

Sample ID: N004624-001EDUP	SampType: DUP	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77803
Client ID: ZZZZZZ	Batch ID: R77803	TestNo: EPA 300.0		Analysis Date: 9/16/2010	SeqNo: 1211542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.100	1.0						1.078	2.02	20	

Sample ID: N004624-001EMS	SampType: MS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77803
Client ID: ZZZZZZ	Batch ID: R77803	TestNo: EPA 300.0		Analysis Date: 9/16/2010	SeqNo: 1211543

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.904	1.0	5.000	1.078	96.5	80	120				

Sample ID: N004624-001EMSD	SampType: MSD	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77803
Client ID: ZZZZZZ	Batch ID: R77803	TestNo: EPA 300.0		Analysis Date: 9/16/2010	SeqNo: 1211544

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.980	1.0	5.000	1.078	98.0	80	120	5.904	1.28	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-001
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:30:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP1_100921A**	QC Batch: **35268**				PrepDate:	**9/20/2010**	Analyst: **NS**
Chromium	200	0.37	1.0		µg/L	1	9/21/2010 11:22 AM

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: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-35268** SampType: **MBLK** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **PBW** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-35268** SampType: **LCS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **LCSW** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	496.691	1.0	500.0	0	99.3	85	115				

Sample ID: **N004613-001B-MS** SampType: **MS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	480.828	1.0	500.0	3.472	95.5	75	125				

Sample ID: **N004613-001B-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: **9/20/2010** RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	484.501	1.0	500.0	3.472	96.2	75	125	480.8	0.761	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc 3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-001
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:30:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP4_100920F**	QC Batch: **35257**				PrepDate:	**9/18/2010**	Analyst: **JT**
Arsenic	3.2	0.025	0.10		µg/L	1	9/20/2010

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: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: LCS-35257	SampType: LCS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 9/18/2010	RunNo: 77798
Client ID: LCSW	Batch ID: 35257	TestNo: EPA 6020	EPA 3010A	Analysis Date: 9/20/2010	SeqNo: 1211418

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.486	0.10	12.50	0	99.9	85	115				

Sample ID: MB-35257	SampType: MBLK	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 9/18/2010	RunNo: 77798
Client ID: PBW	Batch ID: 35257	TestNo: EPA 6020	EPA 3010A	Analysis Date: 9/20/2010	SeqNo: 1211419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID: N004624-001B-MS	SampType: MS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 9/18/2010	RunNo: 77798
Client ID: ZZZZZZ	Batch ID: 35257	TestNo: EPA 6020	EPA 3010A	Analysis Date: 9/20/2010	SeqNo: 1211423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.174	0.50	12.50	3.226	112	75	125				

Sample ID: N004624-001B-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 9/18/2010	RunNo: 77798
Client ID: ZZZZZZ	Batch ID: 35257	TestNo: EPA 6020	EPA 3010A	Analysis Date: 9/20/2010	SeqNo: 1211424

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.660	0.50	12.50	3.226	107	75	125	17.17	3.04	20	

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc 3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-001
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:30:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
				EPA 8260B			
RunID: **MS1_100917A**	QC Batch: **D10VW113**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	9/17/2010 11:41 AM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	9/17/2010 11:41 AM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	9/17/2010 11:41 AM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	9/17/2010 11:41 AM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	9/17/2010 11:41 AM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	9/17/2010 11:41 AM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	9/17/2010 11:41 AM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	9/17/2010 11:41 AM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	9/17/2010 11:41 AM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	9/17/2010 11:41 AM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	9/17/2010 11:41 AM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	9/17/2010 11:41 AM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	9/17/2010 11:41 AM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	9/17/2010 11:41 AM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	9/17/2010 11:41 AM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/17/2010 11:41 AM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	9/17/2010 11:41 AM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	9/17/2010 11:41 AM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	9/17/2010 11:41 AM
2-Butanone	ND	0.91	10		µg/L	1	9/17/2010 11:41 AM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	9/17/2010 11:41 AM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	9/17/2010 11:41 AM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	9/17/2010 11:41 AM
Acetone	ND	2.4	10		µg/L	1	9/17/2010 11:41 AM
Acrolein	ND	0.88	20		µg/L	1	9/17/2010 11:41 AM
Acrylonitrile	ND	0.68	20		µg/L	1	9/17/2010 11:41 AM
Benzene	ND	0.051	1.0		µg/L	1	9/17/2010 11:41 AM
Bromobenzene	ND	0.070	1.0		µg/L	1	9/17/2010 11:41 AM
Bromochloromethane	ND	0.091	1.0		µg/L	1	9/17/2010 11:41 AM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	9/17/2010 11:41 AM
Bromoform	ND	0.057	1.0		µg/L	1	9/17/2010 11:41 AM
Bromomethane	ND	0.081	1.0		µg/L	1	9/17/2010 11:41 AM
Carbon disulfide	ND	0.083	1.0		µg/L	1	9/17/2010 11:41 AM

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		

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT: CH2M HILL
Lab Order: N004624
Project: PG&E Topock
Lab ID: N004624-001

Client Sample ID: MW-58BR-LWR-001
Collection Date: 9/16/2010 3:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_100917A**	QC Batch: **D10VW113**				PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
Chlorobenzene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
Chloroethane	ND	0.14	1.0		µg/L	1	9/17/2010 11:41 AM
Chloroform	ND	0.059	1.0		µg/L	1	9/17/2010 11:41 AM
Chloromethane	ND	0.14	1.0		µg/L	1	9/17/2010 11:41 AM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	9/17/2010 11:41 AM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	9/17/2010 11:41 AM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	9/17/2010 11:41 AM
Dibromomethane	ND	0.20	1.0		µg/L	1	9/17/2010 11:41 AM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	9/17/2010 11:41 AM
Ethylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
Freon-113	ND	0.066	1.0		µg/L	1	9/17/2010 11:41 AM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	9/17/2010 11:41 AM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	9/17/2010 11:41 AM
m,p-Xylene	ND	0.20	1.0		µg/L	1	9/17/2010 11:41 AM
Methylene chloride	ND	0.065	5.0		µg/L	1	9/17/2010 11:41 AM
MTBE	ND	0.069	1.0		µg/L	1	9/17/2010 11:41 AM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	9/17/2010 11:41 AM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
Naphthalene	ND	0.14	1.0		µg/L	1	9/17/2010 11:41 AM
o-Xylene	ND	0.11	1.0		µg/L	1	9/17/2010 11:41 AM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 11:41 AM
Styrene	ND	0.11	1.0		µg/L	1	9/17/2010 11:41 AM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/17/2010 11:41 AM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	9/17/2010 11:41 AM
Toluene	ND	0.060	2.5		µg/L	1	9/17/2010 11:41 AM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	9/17/2010 11:41 AM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	9/17/2010 11:41 AM
Trichloroethene	ND	0.071	1.0		µg/L	1	9/17/2010 11:41 AM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	9/17/2010 11:41 AM
Vinyl chloride	ND	0.083	1.0		µg/L	1	9/17/2010 11:41 AM
Xylenes, Total	ND	1.5	2.0		µg/L	1	9/17/2010 11:41 AM
Surr: 1,2-Dichloroethane-d4	80.0	0	72-119		%REC	1	9/17/2010 11:41 AM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	9/17/2010 11:41 AM
Surr: Dibromofluoromethane	93.0	0	85-115		%REC	1	9/17/2010 11:41 AM
Surr: Toluene-d8	105	0	81-120		%REC	1	9/17/2010 11:41 AM

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

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-TB-003
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
				EPA 8260B			
RunID: **MS1_100917A**	QC Batch: **D10VW113**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	9/17/2010 12:05 PM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	9/17/2010 12:05 PM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	9/17/2010 12:05 PM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	9/17/2010 12:05 PM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	9/17/2010 12:05 PM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	9/17/2010 12:05 PM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	9/17/2010 12:05 PM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	9/17/2010 12:05 PM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	9/17/2010 12:05 PM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	9/17/2010 12:05 PM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	9/17/2010 12:05 PM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	9/17/2010 12:05 PM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	9/17/2010 12:05 PM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	9/17/2010 12:05 PM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	9/17/2010 12:05 PM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/17/2010 12:05 PM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	9/17/2010 12:05 PM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	9/17/2010 12:05 PM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	9/17/2010 12:05 PM
2-Butanone	ND	0.91	10		µg/L	1	9/17/2010 12:05 PM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	9/17/2010 12:05 PM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	9/17/2010 12:05 PM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	9/17/2010 12:05 PM
Acetone	ND	2.4	10		µg/L	1	9/17/2010 12:05 PM
Acrolein	ND	0.88	20		µg/L	1	9/17/2010 12:05 PM
Acrylonitrile	ND	0.68	20		µg/L	1	9/17/2010 12:05 PM
Benzene	ND	0.051	1.0		µg/L	1	9/17/2010 12:05 PM
Bromobenzene	ND	0.070	1.0		µg/L	1	9/17/2010 12:05 PM
Bromochloromethane	ND	0.091	1.0		µg/L	1	9/17/2010 12:05 PM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	9/17/2010 12:05 PM
Bromoform	ND	0.057	1.0		µg/L	1	9/17/2010 12:05 PM
Bromomethane	ND	0.081	1.0		µg/L	1	9/17/2010 12:05 PM
Carbon disulfide	ND	0.083	1.0		µg/L	1	9/17/2010 12:05 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		

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *28-Sep-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-TB-003
Lab Order:	N004624	**Collection Date:**	9/16/2010 3:00:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004624-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
				EPA 8260B			
RunID: **MS1_100917A**	QC Batch: **D10VW113**				PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
Chlorobenzene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
Chloroethane	ND	0.14	1.0		µg/L	1	9/17/2010 12:05 PM
Chloroform	ND	0.059	1.0		µg/L	1	9/17/2010 12:05 PM
Chloromethane	ND	0.14	1.0		µg/L	1	9/17/2010 12:05 PM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	9/17/2010 12:05 PM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	9/17/2010 12:05 PM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	9/17/2010 12:05 PM
Dibromomethane	ND	0.20	1.0		µg/L	1	9/17/2010 12:05 PM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	9/17/2010 12:05 PM
Ethylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
Freon-113	ND	0.066	1.0		µg/L	1	9/17/2010 12:05 PM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	9/17/2010 12:05 PM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	9/17/2010 12:05 PM
m,p-Xylene	ND	0.20	1.0		µg/L	1	9/17/2010 12:05 PM
Methylene chloride	ND	0.065	5.0		µg/L	1	9/17/2010 12:05 PM
MTBE	ND	0.069	1.0		µg/L	1	9/17/2010 12:05 PM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	9/17/2010 12:05 PM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
Naphthalene	ND	0.14	1.0		µg/L	1	9/17/2010 12:05 PM
o-Xylene	ND	0.11	1.0		µg/L	1	9/17/2010 12:05 PM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	9/17/2010 12:05 PM
Styrene	ND	0.11	1.0		µg/L	1	9/17/2010 12:05 PM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/17/2010 12:05 PM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	9/17/2010 12:05 PM
Toluene	ND	0.060	2.5		µg/L	1	9/17/2010 12:05 PM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	9/17/2010 12:05 PM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	9/17/2010 12:05 PM
Trichloroethene	ND	0.071	1.0		µg/L	1	9/17/2010 12:05 PM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	9/17/2010 12:05 PM
Vinyl chloride	ND	0.083	1.0		µg/L	1	9/17/2010 12:05 PM
Xylenes, Total	ND	1.5	2.0		µg/L	1	9/17/2010 12:05 PM
Surr: 1,2-Dichloroethane-d4	75.6	0	72-119		%REC	1	9/17/2010 12:05 PM
Surr: 4-Bromofluorobenzene	98.8	0	76-119		%REC	1	9/17/2010 12:05 PM
Surr: Dibromofluoromethane	90.2	0	85-115		%REC	1	9/17/2010 12:05 PM
Surr: Toluene-d8	107	0	81-120		%REC	1	9/17/2010 12:05 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: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100917LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **LCSW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.340	1.0	25.00	0	97.4	81	129				
1,1,1-Trichloroethane	22.450	1.0	25.00	0	89.8	67	132				
1,1,2,2-Tetrachloroethane	26.010	1.0	25.00	0	104	63	128				
1,1,2-Trichloroethane	26.500	1.0	25.00	0	106	75	125				
1,1-Dichloroethane	25.500	1.0	25.00	0	102	69	133				
1,1-Dichloroethene	24.880	1.0	25.00	0	99.5	68	130				
1,1-Dichloropropene	27.350	1.0	25.00	0	109	73	132				
1,2,3-Trichlorobenzene	26.510	1.0	25.00	0	106	67	137				
1,2,3-Trichloropropane	25.890	1.0	25.00	0	104	73	124				
1,2,4-Trichlorobenzene	26.990	1.0	25.00	0	108	66	134				
1,2,4-Trimethylbenzene	26.360	1.0	25.00	0	105	74	132				
1,2-Dibromo-3-chloropropane	25.100	2.0	25.00	0	100	50	132				
1,2-Dibromoethane	28.990	1.0	25.00	0	116	80	121				
1,2-Dichlorobenzene	25.820	1.0	25.00	0	103	71	122				
1,2-Dichloroethane	26.880	1.0	25.00	0	108	69	132				
1,2-Dichloropropane	25.780	1.0	25.00	0	103	75	125				
1,3,5-Trimethylbenzene	26.750	1.0	25.00	0	107	74	131				
1,3-Dichlorobenzene	26.070	1.0	25.00	0	104	75	124				
1,3-Dichloropropane	25.830	1.0	25.00	0	103	73	126				
1,4-Dichlorobenzene	25.470	1.0	25.00	0	102	74	123				
2,2-Dichloropropane	25.650	1.0	25.00	0	103	69	137				
2-Butanone	216.010	10	250.0	0	86.4	49	136				
2-Chlorotoluene	25.410	1.0	25.00	0	102	73	126				
4-Chlorotoluene	25.730	1.0	25.00	0	103	74	128				
4-Isopropyltoluene	26.600	1.0	25.00	0	106	73	130				
4-Methyl-2-pentanone	264.780	10	250.0	0	106	58	134				
Acetone	221.220	10	250.0	0	88.5	40	135				
Acrolein	232.030	20	250.0	0	92.8	75	125				
Acrylonitrile	253.550	20	250.0	0	101	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100917LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **LCSW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.940	1.0	25.00	0	104	81	122				
Bromobenzene	26.180	1.0	25.00	0	105	76	124				
Bromochloromethane	25.540	1.0	25.00	0	102	65	129				
Bromodichloromethane	23.430	1.0	25.00	0	93.7	76	121				
Bromoform	23.940	1.0	25.00	0	95.8	69	128				
Bromomethane	24.090	1.0	25.00	0	96.4	53	141				
Carbon disulfide	25.630	1.0	25.00	0	103	75	125				
Carbon tetrachloride	23.970	1.0	25.00	0	95.9	66	138				
Chlorobenzene	25.050	1.0	25.00	0	100	81	122				
Chloroethane	22.050	1.0	25.00	0	88.2	58	133				
Chloroform	26.110	1.0	25.00	0	104	69	128				
Chloromethane	25.180	1.0	25.00	0	101	56	131				
cis-1,2-Dichloroethene	25.560	1.0	25.00	0	102	72	126				
cis-1,3-Dichloropropene	22.700	1.0	25.00	0	90.8	69	131				
Dibromochloromethane	23.010	1.0	25.00	0	92.0	66	133				
Dibromomethane	26.740	1.0	25.00	0	107	76	125				
Dichlorodifluoromethane	23.450	1.0	25.00	0	93.8	53	153				
Ethylbenzene	25.400	1.0	25.00	0	102	73	127				
Freon-113	23.670	1.0	25.00	0	94.7	75	125				
Hexachlorobutadiene	26.400	1.0	25.00	0	106	67	131				
Isopropylbenzene	26.130	1.0	25.00	0	105	75	127				
m,p-Xylene	52.490	1.0	50.00	0	105	76	128				
Methylene chloride	22.490	5.0	25.00	0	90.0	63	137				
MTBE	20.680	1.0	25.00	0	82.7	65	123				
n-Butylbenzene	26.220	1.0	25.00	0	105	69	137				
n-Propylbenzene	26.470	1.0	25.00	0	106	72	129				
Naphthalene	23.760	1.0	25.00	0	95.0	54	138				
o-Xylene	25.610	1.0	25.00	0	102	80	121				
sec-Butylbenzene	26.250	1.0	25.00	0	105	72	127				
Styrene	26.700	1.0	25.00	0	107	65	134				

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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100917LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **LCSW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	26.210	1.0	25.00	0	105	70	129				
Tetrachloroethene	24.980	1.0	25.00	0	99.9	66	128				
Toluene	25.070	2.5	25.00	0	100	77	122				
trans-1,2-Dichloroethene	26.520	1.0	25.00	0	106	63	137				
trans-1,3-Dichloropropene	26.810	1.0	25.00	0	107	59	135				
Trichloroethene	25.170	1.0	25.00	0	101	70	127				
Trichlorofluoromethane	24.930	1.0	25.00	0	99.7	57	129				
Vinyl chloride	23.020	1.0	25.00	0	92.1	50	134				
Xylenes, Total	78.100	2.0	75.00	0	104	75	125				
Surr: 1,2-Dichloroethane-d4	25.110		25.00		100	72	119				
Surr: 4-Bromofluorobenzene	24.250		25.00		97.0	76	119				
Surr: Dibromofluoromethane	26.280		25.00		105	85	115				
Surr: Toluene-d8	24.820		25.00		99.3	81	120				

Sample ID: **N004624-001DMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **ZZZZZZ** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	23.190	1.0	25.00	0	92.8	81	129				
1,1,1-Trichloroethane	20.420	1.0	25.00	0	81.7	67	132				
1,1,2,2-Tetrachloroethane	22.400	1.0	25.00	0	89.6	63	128				
1,1,2-Trichloroethane	21.990	1.0	25.00	0	88.0	75	125				
1,1-Dichloroethane	23.530	1.0	25.00	0	94.1	69	133				
1,1-Dichloroethene	23.880	1.0	25.00	0	95.5	68	130				
1,1-Dichloropropene	25.190	1.0	25.00	0	101	73	132				
1,2,3-Trichlorobenzene	23.860	1.0	25.00	0	95.4	67	137				
1,2,3-Trichloropropane	21.870	1.0	25.00	0	87.5	73	124				
1,2,4-Trichlorobenzene	25.770	1.0	25.00	0	103	66	134				
1,2,4-Trimethylbenzene	24.120	1.0	25.00	0	96.5	74	132				
1,2-Dibromo-3-chloropropane	20.270	2.0	25.00	0	81.1	50	132				

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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004624-001DMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **ZZZZZZ** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	23.880	1.0	25.00	0	95.5	80	121				
1,2-Dichlorobenzene	25.060	1.0	25.00	0	100	71	122				
1,2-Dichloroethane	22.880	1.0	25.00	0	91.5	69	132				
1,2-Dichloropropane	23.750	1.0	25.00	0	95.0	75	125				
1,3,5-Trimethylbenzene	25.390	1.0	25.00	0	102	74	131				
1,3-Dichlorobenzene	25.780	1.0	25.00	0	103	75	124				
1,3-Dichloropropane	22.660	1.0	25.00	0	90.6	73	126				
1,4-Dichlorobenzene	25.360	1.0	25.00	0	101	74	123				
2,2-Dichloropropane	23.600	1.0	25.00	0	94.4	69	137				
2-Butanone	139.170	10	250.0	0	55.7	49	136				
2-Chlorotoluene	25.340	1.0	25.00	0	101	73	126				
4-Chlorotoluene	25.950	1.0	25.00	0	104	74	128				
4-Isopropyltoluene	26.590	1.0	25.00	0	106	73	130				
4-Methyl-2-pentanone	196.580	10	250.0	0	78.6	58	134				
Acetone	111.200	10	250.0	0	44.5	40	135				
Acrolein	176.250	20	250.0	0	70.5	75	125				S
Acrylonitrile	182.710	20	250.0	0	73.1	75	125				S
Benzene	24.640	1.0	25.00	0	98.6	81	122				
Bromobenzene	24.970	1.0	25.00	0	99.9	76	124				
Bromochloromethane	22.500	1.0	25.00	0	90.0	65	129				
Bromodichloromethane	21.070	1.0	25.00	0	84.3	76	121				
Bromoform	21.010	1.0	25.00	0	84.0	69	128				
Bromomethane	23.110	1.0	25.00	0	92.4	53	141				
Carbon disulfide	23.360	1.0	25.00	0	93.4	75	125				
Carbon tetrachloride	21.550	1.0	25.00	0	86.2	66	138				
Chlorobenzene	24.760	1.0	25.00	0	99.0	81	122				
Chloroethane	22.000	1.0	25.00	0	88.0	58	133				
Chloroform	24.140	1.0	25.00	0	96.6	69	128				
Chloromethane	25.420	1.0	25.00	0	102	56	131				
cis-1,2-Dichloroethene	23.530	1.0	25.00	0	94.1	72	126				

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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004624-001DMS**	SampType: **MS**	TestCode: **8260_WP_LL**	Units: **µg/L**	Prep Date:	RunNo: **77786**
Client ID: **ZZZZZZ**	Batch ID: **D10VW113**	TestNo: **EPA 8260B**		Analysis Date: **9/17/2010**	SeqNo: **1210799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	20.720	1.0	25.00	0	82.9	69	131				
Dibromochloromethane	21.140	1.0	25.00	0	84.6	66	133				
Dibromomethane	22.350	1.0	25.00	0	89.4	76	125				
Dichlorodifluoromethane	24.020	1.0	25.00	0	96.1	53	153				
Ethylbenzene	25.170	1.0	25.00	0	101	73	127				
Freon-113	21.710	1.0	25.00	0	86.8	75	125				
Hexachlorobutadiene	25.840	1.0	25.00	0	103	67	131				
Isopropylbenzene	25.930	1.0	25.00	0	104	75	127				
m,p-Xylene	51.370	1.0	50.00	0	103	76	128				
Methylene chloride	20.470	5.0	25.00	0	81.9	63	137				
MTBE	17.670	1.0	25.00	0	70.7	65	123				
n-Butylbenzene	26.670	1.0	25.00	0	107	69	137				
n-Propylbenzene	26.620	1.0	25.00	0	106	72	129				
Naphthalene	19.110	1.0	25.00	0	76.4	54	138				
o-Xylene	25.020	1.0	25.00	0	100	80	121				
sec-Butylbenzene	26.610	1.0	25.00	0	106	72	127				
Styrene	21.070	1.0	25.00	0	84.3	65	134				
tert-Butylbenzene	26.370	1.0	25.00	0	105	70	129				
Tetrachloroethene	25.780	1.0	25.00	0	103	66	128				
Toluene	23.920	2.5	25.00	0	95.7	77	122				
trans-1,2-Dichloroethene	24.710	1.0	25.00	0	98.8	63	137				
trans-1,3-Dichloropropene	23.410	1.0	25.00	0	93.6	59	135				
Trichloroethene	23.930	1.0	25.00	0	95.7	70	127				
Trichlorofluoromethane	23.770	1.0	25.00	0	95.1	57	129				
Vinyl chloride	23.010	1.0	25.00	0	92.0	50	134				
Xylenes, Total	76.390	2.0	75.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	22.740		25.00		91.0	72	119				
Surr: 4-Bromofluorobenzene	24.860		25.00		99.4	76	119				
Surr: Dibromofluoromethane	25.110		25.00		100	85	115				
Surr: Toluene-d8	24.440		25.00		97.8	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004624-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **ZZZZZZ** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.260	1.0	25.00	0	97.0	81	129	23.19	4.51	20	
1,1,1-Trichloroethane	21.890	1.0	25.00	0	87.6	67	132	20.42	6.95	20	
1,1,2,2-Tetrachloroethane	23.220	1.0	25.00	0	92.9	63	128	22.40	3.59	20	
1,1,2-Trichloroethane	23.480	1.0	25.00	0	93.9	75	125	21.99	6.55	20	
1,1-Dichloroethane	25.370	1.0	25.00	0	101	69	133	23.53	7.53	20	
1,1-Dichloroethene	24.560	1.0	25.00	0	98.2	68	130	23.88	2.81	20	
1,1-Dichloropropene	26.770	1.0	25.00	0	107	73	132	25.19	6.08	20	
1,2,3-Trichlorobenzene	25.910	1.0	25.00	0	104	67	137	23.86	8.24	20	
1,2,3-Trichloropropane	21.940	1.0	25.00	0	87.8	73	124	21.87	0.320	20	
1,2,4-Trichlorobenzene	27.320	1.0	25.00	0	109	66	134	25.77	5.84	20	
1,2,4-Trimethylbenzene	20.090	1.0	25.00	0	80.4	74	132	24.12	18.2	20	
1,2-Dibromo-3-chloropropane	20.950	2.0	25.00	0	83.8	50	132	20.27	3.30	20	
1,2-Dibromoethane	25.180	1.0	25.00	0	101	80	121	23.88	5.30	20	
1,2-Dichlorobenzene	26.120	1.0	25.00	0	104	71	122	25.06	4.14	20	
1,2-Dichloroethane	24.040	1.0	25.00	0	96.2	69	132	22.88	4.94	20	
1,2-Dichloropropane	25.140	1.0	25.00	0	101	75	125	23.75	5.69	20	
1,3,5-Trimethylbenzene	24.550	1.0	25.00	0	98.2	74	131	25.39	3.36	20	
1,3-Dichlorobenzene	26.950	1.0	25.00	0	108	75	124	25.78	4.44	20	
1,3-Dichloropropane	23.700	1.0	25.00	0	94.8	73	126	22.66	4.49	20	
1,4-Dichlorobenzene	26.400	1.0	25.00	0	106	74	123	25.36	4.02	20	
2,2-Dichloropropane	25.620	1.0	25.00	0	102	69	137	23.60	8.21	20	
2-Butanone	143.400	10	250.0	0	57.4	49	136	139.2	2.99	20	
2-Chlorotoluene	26.600	1.0	25.00	0	106	73	126	25.34	4.85	20	
4-Chlorotoluene	26.940	1.0	25.00	0	108	74	128	25.95	3.74	20	
4-Isopropyltoluene	26.620	1.0	25.00	0	106	73	130	26.59	0.113	20	
4-Methyl-2-pentanone	206.920	10	250.0	0	82.8	58	134	196.6	5.13	20	
Acetone	117.310	10	250.0	0	46.9	40	135	111.2	5.35	20	
Acrolein	179.420	20	250.0	0	71.8	75	125	176.2	1.78	20	S
Acrylonitrile	191.260	20	250.0	0	76.5	75	125	182.7	4.57	20	
Benzene	25.780	1.0	25.00	0	103	81	122	24.64	4.52	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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004624-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **ZZZZZZ** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	26.320	1.0	25.00	0	105	76	124	24.97	5.26	20	
Bromochloromethane	24.320	1.0	25.00	0	97.3	65	129	22.50	7.77	20	
Bromodichloromethane	22.520	1.0	25.00	0	90.1	76	121	21.07	6.65	20	
Bromoform	21.120	1.0	25.00	0	84.5	69	128	21.01	0.522	20	
Bromomethane	23.810	1.0	25.00	0	95.2	53	141	23.11	2.98	20	
Carbon disulfide	25.270	1.0	25.00	0	101	75	125	23.36	7.86	20	
Carbon tetrachloride	23.310	1.0	25.00	0	93.2	66	138	21.55	7.85	20	
Chlorobenzene	25.660	1.0	25.00	0	103	81	122	24.76	3.57	20	
Chloroethane	22.000	1.0	25.00	0	88.0	58	133	22.00	0	20	
Chloroform	25.630	1.0	25.00	0	103	69	128	24.14	5.99	20	
Chloromethane	25.040	1.0	25.00	0	100	56	131	25.42	1.51	20	
cis-1,2-Dichloroethene	25.600	1.0	25.00	0	102	72	126	23.53	8.43	20	
cis-1,3-Dichloropropene	21.940	1.0	25.00	0	87.8	69	131	20.72	5.72	20	
Dibromochloromethane	21.650	1.0	25.00	0	86.6	66	133	21.14	2.38	20	
Dibromomethane	23.750	1.0	25.00	0	95.0	76	125	22.35	6.07	20	
Dichlorodifluoromethane	23.500	1.0	25.00	0	94.0	53	153	24.02	2.19	20	
Ethylbenzene	25.780	1.0	25.00	0	103	73	127	25.17	2.39	20	
Freon-113	23.180	1.0	25.00	0	92.7	75	125	21.71	6.55	20	
Hexachlorobutadiene	28.020	1.0	25.00	0	112	67	131	25.84	8.10	20	
Isopropylbenzene	27.180	1.0	25.00	0	109	75	127	25.93	4.71	20	
m,p-Xylene	50.990	1.0	50.00	0	102	76	128	51.37	0.742	20	
Methylene chloride	21.360	5.0	25.00	0	85.4	63	137	20.47	4.26	20	
MTBE	18.630	1.0	25.00	0	74.5	65	123	17.67	5.29	20	
n-Butylbenzene	27.300	1.0	25.00	0	109	69	137	26.67	2.33	20	
n-Propylbenzene	27.650	1.0	25.00	0	111	72	129	26.62	3.80	20	
Naphthalene	16.780	1.0	25.00	0	67.1	54	138	19.11	13.0	20	
o-Xylene	25.470	1.0	25.00	0	102	80	121	25.02	1.78	20	
sec-Butylbenzene	27.380	1.0	25.00	0	110	72	127	26.61	2.85	20	
Styrene	14.160	1.0	25.00	0	56.6	65	134	21.07	39.2	20	SR
tert-Butylbenzene	27.520	1.0	25.00	0	110	70	129	26.37	4.27	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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004624-001DMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **ZZZZZZ** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	25.850	1.0	25.00	0	103	66	128	25.78	0.271	20	
Toluene	24.620	2.5	25.00	0	98.5	77	122	23.92	2.88	20	
trans-1,2-Dichloroethene	26.200	1.0	25.00	0	105	63	137	24.71	5.85	20	
trans-1,3-Dichloropropene	24.430	1.0	25.00	0	97.7	59	135	23.41	4.26	20	
Trichloroethene	24.960	1.0	25.00	0	99.8	70	127	23.93	4.21	20	
Trichlorofluoromethane	24.770	1.0	25.00	0	99.1	57	129	23.77	4.12	20	
Vinyl chloride	22.890	1.0	25.00	0	91.6	50	134	23.01	0.523	20	
Xylenes, Total	76.460	2.0	75.00	0	102	75	125	76.39	0.0916	20	
Surr: 1,2-Dichloroethane-d4	23.050		25.00		92.2	72	119		0		
Surr: 4-Bromofluorobenzene	24.930		25.00		99.7	76	119		0		
Surr: Dibromofluoromethane	25.710		25.00		103	85	115		0		
Surr: Toluene-d8	24.810		25.00		99.2	81	120		0		

Sample ID: **D100917MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **PBW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									

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
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100917MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **PBW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D100917MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77786**
Client ID: **PBW** Batch ID: **D10VW113** TestNo: **EPA 8260B** Analysis Date: **9/17/2010** SeqNo: **1210801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.5									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	22.020		25.00		88.1	72	119				
Surr: 4-Bromofluorobenzene	25.180		25.00		101	76	119				
Surr: Dibromofluoromethane	23.760		25.00		95.0	85	115				
Surr: Toluene-d8	26.840		25.00		107	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME

DATE 9-16-10 PAGE 1 OF 1

COMPANY CH2M Hill

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 382653.FP.08.FW TEAM 1

SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 - field filtered	total Cr, As - field filtered	TOCs	VOCs	NO_3^-, Cl^-										NUMBER OF CONTAINERS	COMMENTS
MW-58BR-LWR-001	9-16-10	1530	water	X	X	X	X	X										8	
MW-58BR-TB-003	"	1500	"				X				trip blank							1	

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Barry Collom	CH2M Hill	9-16-10 1553
Signature (Received)	MARLON [illegible]	AL	9/16/10 1553
Signature (Relinquished)			
Signature (Received)			
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 42 °F

CUSTODY SEALED YES ☐ NO ☑

SPECIAL REQUIREMENTS:

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 (562) 989-4045.

Sample Receipt Checklist

Client Name: **CH2M HILL-OAKLAND** Date Time Received: **9/16/2010 3:53:00 PM**

Work Order Number: **N004624** Received by: **MBC**

Cooler Temp (Deg C): 4.2

Checklist completed by: Signature [illegible] Date 9/17/10 Reviewed by: Initials [illegible] Date 9/17/10

Carrier name: ATL

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact 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. Container/Temp Blank temperature within acceptance 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 ☐

Comments:

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 N004624-001A, concentration in μg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 0.009915 * 1000 * 20$$

$$= 198.3 \ \mu g/L$$

Reporting result in two significant figures:

$$Cr^{+6}, \mu g/L = 200 \ \mu g/L$$

Rahul

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Chloride concentration, in mg/L, in the original sample as follows:

Chloride, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N004624-001E**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	5.825 * 500
	=	2912.5 mg/L

Reporting **N004624-001E** results in two significant figures,

Chloride, mg/L	**=**	**2900 mg/L**

Natri

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:

$$M, ug/L = \frac{A*C*DF*1000}{B}$$

where:
M= concentration of the metal in ug/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N004624-001B, concentration in ug/L are calculated as follows:

$$Cr, ug/L = 0.20191\ mg/L * \frac{0.025\ L * 1*1000}{0.025\ L}$$

Cr = 201.91 ug/L

Reporting result in two significant figures,

Cr = 200 ug/L

9/23/2010

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N004613-001BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2383.858	5.0	2500	3.472	95.2	75	125				

Sample ID: **N004613-001BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77799**
Client ID: **ZZZZZZ** Batch ID: **35268** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **9/21/2010** SeqNo: **1211461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	945.480	2.0	1000	3.472	94.2	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Sample Calculation

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Arsenic concentration, in ug/L, in the original sample as follows:

Arsenic, ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N004624-001B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 2.581 * 1 * (50/40)

= 3.2262 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 3.2

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N004624
Test Method: EPA 6020_Diss
Analysis Date: 09/20/10

Matrix: Aqueous
Batch No.: 35257

Instrument ID: ICP-MS
Instrument Description: PE DRCplus

Comments:

Analyzed By: Jojo Tenorio

Arsenic was report with chloride correction, As corrected = As 75 - 3.127*(ArCl 77 - (0.815*Se 82))

Sample ID	Analyte	&Units	Calc Val	QQual	SAMPrefval	%DIFF	%DIFFlimit
N004624-001B-DT 5X	As	ug/L	3.94014375	R	3.225885	22.14%	10
N004624-001B-DT 25X	As	ug/L	4.83771875	R	3.94014375	22.78%	10

_____ Jojo Tenorio 9/22/2010

Advanced Technology Laboratories - Las Vegas

Date: *21-Sep-10*

CLIENT: CH2M HILL
Work Order: N004624
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID **N004624-001B-PS 2** SampType: **PS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	30.167	0.20	25.00	3.226	108	75	125				

Sample ID **N004624-001B-PS 5** SampType: **PS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: RunNo: **77798**
Client ID: **ZZZZZZ** Batch ID: **35257** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **9/20/2010** SeqNo: **1211426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.628	0.50	12.50	3.226	107	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE CALCULATION

METHOD: EPA 8260B
TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS
MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X \text{ ,ug/L} = \frac{A_X * C_{IS}}{\text{Ave RF} * A_{IS}}$$

where:

A_x = Area of the TOTAL ion for the compound being measured
C_{IS} = Concentration of the specific internal standard in ug/L
A_{IS} = Area of the characteristic ion of the specific internal standard
C_x = Concentration of the compound being measured in ug/L

N004624-001D

For Dibromofluoromethane the corresponding Internal Standard is Pentafluorobenzene

Ave RF	0.357
Area of Dibromofluoromethane	151109
Area of Internal Standard	455537
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of Dibromofluoromethane (ug/L)} = \frac{151109 * 25.00\text{ug/L}}{0.357 * 455537}$$

Conc of Dibromofluoromethane (ug/L)= 23.22942537

Reporting result in three significant figures,

Concentration of Dibromofluoromethane = 23.2 ug/L

October 18, 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.: N004697

RE: PG&E Topock

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on October 01, 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,

for

Jose Tenorio Jr.
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004697

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.

Advanced Technology Laboratories, Inc *3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691*

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004697
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004697-001A	MW-42-055-169	Water	9/27/2010 1:05:00 PM	10/1/2010	
N004697-002A	MW-42-065-169	Water	9/27/2010 2:45:00 PM	10/1/2010	
N004697-003A	MW-28-090-169	Water	9/28/2010 2:23:00 PM	10/1/2010	
N004697-004A	MW-33-040-169	Water	9/28/2010 4:10:00 PM	10/1/2010	
N004697-005A	MW-62-110-169	Water	9/29/2010 3:45:00 PM	10/1/2010	
N004697-005B	MW-62-110-169	Water	9/29/2010 3:45:00 PM	10/1/2010	
N004697-006A	MW-62-190-169	Water	9/29/2010 4:02:00 PM	10/1/2010	
N004697-006B	MW-62-190-169	Water	9/29/2010 4:02:00 PM	10/1/2010	
N004697-007A	MW-64-150-169	Water	9/29/2010 4:45:00 PM	10/1/2010	
N004697-007B	MW-64-150-169	Water	9/29/2010 4:45:00 PM	10/1/2010	
N004697-008A	MW-64-205-169	Water	9/29/2010 5:00:00 PM	10/1/2010	
N004697-008B	MW-64-205-169	Water	9/29/2010 5:00:00 PM	10/1/2010	
N004697-009A	MW-64-260-169	Water	9/29/2010 5:15:00 PM	10/1/2010	
N004697-009B	MW-64-260-169	Water	9/29/2010 5:15:00 PM	10/1/2010	
N004697-010A	MW-12-169	Water	9/30/2010 10:37:00 AM	10/1/2010	
N004697-010B	MW-12-169	Water	9/30/2010 10:37:00 AM	10/1/2010	
N004697-011A	MW-90-169	Water	9/30/2010 8:45:00 AM	10/1/2010	
N004697-011B	MW-90-169	Water	9/30/2010 8:45:00 AM	10/1/2010	
N004697-012A	MW-27-085-169	Water	10/1/2010 9:07:00 AM	10/1/2010	
N004697-013A	MW-34-080-169	Water	10/1/2010 10:33:00 AM	10/1/2010	
N004697-014A	MW-34-100-169	Water	10/1/2010 11:14:00 AM	10/1/2010	
N004697-015A	MW-92-169	Water	10/1/2010 11:17:00 AM	10/1/2010	

Advanced Technology Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004697
Project: PG&E Topock
Lab ID: N004697-010

Client Sample ID: MW-12-169
Collection Date: 9/30/2010 10:37:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP1_101005A**	QC Batch: **35331**				PrepDate:	**10/4/2010**	Analyst: **KAB**
Antimony	ND	3.1	10		µg/L	1	10/5/2010 12:08 PM
Barium	53	0.29	3.0		µg/L	1	10/5/2010 12:08 PM
Beryllium	ND	0.13	1.0		µg/L	1	10/5/2010 12:08 PM
Cadmium	ND	0.080	3.0		µg/L	1	10/5/2010 12:08 PM
Cobalt	ND	0.46	3.0		µg/L	1	10/5/2010 12:08 PM
Copper	ND	0.87	5.0		µg/L	1	10/5/2010 12:08 PM
Lead	ND	1.3	10		µg/L	1	10/5/2010 12:08 PM
Molybdenum	13	0.64	5.0		µg/L	1	10/5/2010 12:08 PM
Nickel	ND	0.92	5.0		µg/L	1	10/5/2010 12:08 PM
Silver	ND	0.33	3.0		µg/L	1	10/5/2010 12:08 PM
Vanadium	12	0.17	3.0		µg/L	1	10/5/2010 12:08 PM
Zinc	ND	2.2	10		µg/L	1	10/5/2010 12:08 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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004697
Project: PG&E Topock
Lab ID: N004697-011

Client Sample ID: MW-90-169
Collection Date: 9/30/2010 8:45:00 AM
Matrix: WATER

Analyses	Resnlt	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP1_101005A**	QC Batch: **35331**				PrepDate:	**10/4/2010**	Analyst: **KAB**
Antimony	ND	3.1	10		µg/L	1	10/5/2010 12:55 PM
Barium	53	0.29	3.0		µg/L	1	10/5/2010 12:55 PM
Beryllium	ND	0.13	1.0		µg/L	1	10/5/2010 12:55 PM
Cadmium	ND	0.080	3.0		µg/L	1	10/5/2010 12:55 PM
Cobalt	ND	0.46	3.0		µg/L	1	10/5/2010 12:55 PM
Copper	ND	0.87	5.0		µg/L	1	10/5/2010 12:55 PM
Lead	ND	1.3	10		µg/L	1	10/5/2010 12:55 PM
Molybdenum	13	0.64	5.0		µg/L	1	10/5/2010 12:55 PM
Nickel	ND	0.92	5.0		µg/L	1	10/5/2010 12:55 PM
Silver	ND	0.33	3.0		µg/L	1	10/5/2010 12:55 PM
Vanadium	12	0.17	3.0		µg/L	1	10/5/2010 12:55 PM
Zinc	ND	2.2	10		µg/L	1	10/5/2010 12:55 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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-35331** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: **10/4/2010** RunNo: **77888**
Client ID: **PBW** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10									
Barium	ND	3.0									
Beryllium	ND	1.0									
Cadmium	ND	3.0									
Cobalt	ND	3.0									
Copper	ND	5.0									
Lead	ND	10									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-35331** SampType: **LCS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: **10/4/2010** RunNo: **77888**
Client ID: **LCSW** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	487.149	10	500.0	0	97.4	85	115				
Barium	491.816	3.0	500.0	0	98.4	85	115				
Beryllium	475.871	1.0	500.0	0	95.2	85	115				
Cadmium	483.531	3.0	500.0	0	96.7	85	115				
Cobalt	494.618	3.0	500.0	0	98.9	85	115				
Copper	492.637	5.0	500.0	0	98.5	85	115				
Lead	488.734	10	500.0	0	97.7	85	115				
Molybdenum	501.270	5.0	500.0	0	100	85	115				
Nickel	479.133	5.0	500.0	0	95.8	85	115				
Silver	478.599	3.0	500.0	0	95.7	85	115				
Vanadium	489.074	3.0	500.0	0	97.8	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

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-35331** SampType: **LCS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: **10/4/2010** RunNo: **77888**
Client ID: **LCSW** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	491.749	10	500.0	0	98.3	85	115				

Sample ID: **N004697-010B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: **10/4/2010** RunNo: **77888**
Client ID: **ZZZZZZ** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	508.968	10	500.0	9.258	99.9	75	125				
Barium	531.910	3.0	500.0	52.57	95.9	75	125				
Beryllium	493.515	1.0	500.0	0	98.7	75	125				
Cadmium	480.317	3.0	500.0	0	96.1	75	125				
Cobalt	468.578	3.0	500.0	0.5209	93.6	75	125				
Copper	517.624	5.0	500.0	0	104	75	125				
Lead	470.021	10	500.0	3.255	93.4	75	125				
Molybdenum	509.471	5.0	500.0	13.00	99.3	75	125				
Nickel	470.029	5.0	500.0	2.995	93.4	75	125				
Silver	533.610	3.0	500.0	0	107	75	125				
Vanadium	508.792	3.0	500.0	12.28	99.3	75	125				
Zinc	488.479	10	500.0	0	97.7	75	125				

Sample ID: **N004697-010B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: **10/4/2010** RunNo: **77888**
Client ID: **ZZZZZZ** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	590.139	10	500.0	9.258	116	75	125	509.0	14.8	20	
Barium	609.288	3.0	500.0	52.57	111	75	125	531.9	13.6	20	
Beryllium	571.053	1.0	500.0	0	114	75	125	493.5	14.6	20	
Cadmium	551.548	3.0	500.0	0	110	75	125	480.3	13.8	20	
Cobalt	538.098	3.0	500.0	0.5209	108	75	125	468.6	13.8	20	
Copper	593.818	5.0	500.0	0	119	75	125	517.6	13.7	20	
Lead	545.722	10	500.0	3.255	108	75	125	470.0	14.9	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
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N004697-010B-MSD	SampType: MSD	TestCode: 6010_WDPGE	Units: µg/L	Prep Date: 10/4/2010	RunNo: 77888
Client ID: ZZZZZZ	Batch ID: 35331	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 10/5/2010	SeqNo: 1212895

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	589.677	5.0	500.0	13.00	115	75	125	509.5	14.6	20	
Nickel	539.280	5.0	500.0	2.995	107	75	125	470.0	13.7	20	
Silver	603.160	3.0	500.0	0	121	75	125	533.6	12.2	20	
Vanadium	583.608	3.0	500.0	12.28	114	75	125	508.8	13.7	20	
Zinc	563.459	10	500.0	0	113	75	125	488.5	14.3	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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-169
Lab Order:	N004697	**Collection Date:**	9/30/2010 10:37:00 AM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004697-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **ICP4_101015C**	QC Batch: **35421**				PrepDate:	**10/14/2010**	Analyst: **JT**
Selenium	19	0.29	0.50		µg/L	1	10/15/2010
Thallium	ND	0.015	0.50		µg/L	1	10/15/2010

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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-90-169
Lab Order:	N004697	**Collection Date:**	9/30/2010 8:45:00 AM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004697-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **ICP4_101015C**	QC Batch: **35421**				PrepDate:	**10/14/2010**	Analyst: **JT**
Selenium	18	0.29	0.50		µg/L	1	10/15/2010
Thallium	ND	0.015	0.50		µg/L	1	10/15/2010

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		

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N004711-001A-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **10/14/2010** RunNo: **78000**
Client ID: **ZZZZZZ** Batch ID: **35421** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	16.763	0.50	12.50	2.081	117	70	130				
Thallium	10.211	0.50	12.50	0	81.7	70	130				

Sample ID: **N004711-001A-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **10/14/2010** RunNo: **78000**
Client ID: **ZZZZZZ** Batch ID: **35421** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	17.020	0.50	12.50	2.081	120	70	130	16.76	1.52	20	
Thallium	10.304	0.50	12.50	0	82.4	70	130	10.21	0.902	20	

Sample ID: **MB-35421** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **10/14/2010** RunNo: **78000**
Client ID: **PBW** Batch ID: **35421** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-35421** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **10/14/2010** RunNo: **78000**
Client ID: **LCSW** Batch ID: **35421** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.855	0.50	12.50	0	94.8	85	115				
Thallium	12.410	0.50	12.50	0	99.3	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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-169
Lab Order:	N004697	**Collection Date:**	9/30/2010 10:37:00 AM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004697-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 7470				**EPA 7470A**			
RunID: **AA1_101005B**	QC Batch: **35336**				PrepDate:	**10/5/2010**	Analyst: **CEI**
Mercury	ND	0.049	0.20		µg/L	1	10/5/2010

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		

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-90-169
Lab Order:	N004697	**Collection Date:**	9/30/2010 8:45:00 AM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004697-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 7470				**EPA 7470A**			
RunID: **AA1_101005B**	QC Batch: **35336**				PrepDate:	**10/5/2010**	Analyst: **CEI**
Mercury	ND	0.049	0.20		µg/L	1	10/5/2010

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		

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: LCS-35336	SampType: LCS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 10/5/2010	RunNo: 77919
Client ID: LCSW	Batch ID: 35336	TestNo: EPA 7470A	EPA 7470	Analysis Date: 10/5/2010	SeqNo: 1213449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.699	0.20	10.00	0	87.0	85	115				

Sample ID: MB-35336	SampType: MBLK	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 10/5/2010	RunNo: 77919
Client ID: PBW	Batch ID: 35336	TestNo: EPA 7470A	EPA 7470	Analysis Date: 10/5/2010	SeqNo: 1213450

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: N004697-010B-MS	SampType: MS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 10/5/2010	RunNo: 77919
Client ID: ZZZZZZ	Batch ID: 35336	TestNo: EPA 7470A	EPA 7470	Analysis Date: 10/5/2010	SeqNo: 1213452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	18.795	0.20	20.00	0	94.0	75	125				

Sample ID: N004697-010B-MSD	SampType: MSD	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 10/5/2010	RunNo: 77919
Client ID: ZZZZZZ	Batch ID: 35336	TestNo: EPA 7470A	EPA 7470	Analysis Date: 10/5/2010	SeqNo: 1213453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	18.800	0.20	20.00	0	94.0	75	125	18.79	0.0275	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

GMP-169 ATL #1

CH2MHILL

CHAIN OF CUSTODY RECORD

10/1/2010 12:25:03 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: ATL

Container:	250 ml Poly	500 ml Poly	3 x 40 ml VOA
Preservatives:	HNO3, 4°C	HNO3, 4°C	H3PO4, 4°C
Filtered:	Field	Field	NA
Holding Time:	180	180	28

1) Arsenic Samples were sent to TLI for reporting purposes. Do not report Arsenic results.
2) Please report the following list of metals for the samples listed as Title 22
Sb, Ba, Be, Cd, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, and Zn. (Cr and As will be reported bt TLI)
SPD 10/05/10

	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Metals (6000/7000) Field Filtered Title22 (SbBaBeCdCoCuPbHgMoNiSeAg	TOC (SM5310C)		Number of Containers	COMMENTS
MW-42-055-169	9/27/2010	13:05	Water					~~2~~	1
MW-42-065-169	9/27/2010	14:45	Water					~~2~~	1
MW-28-090-169	9/28/2010	14:23	Water					~~2~~	1
MW-33-040-169	9/28/2010	16:10	Water					~~2~~	1
MW-62-110-169	9/29/2010	15:45	Water			X		3	
MW-62-190-169	9/29/2010	16:02	Water			X		3	
MW-64-150-169	9/29/2010	16:45	Water			X		3	
MW-64-205-169	9/29/2010	17:00	Water			X		3	
MW-64-260-169	9/29/2010	17:15	Water			X		3	
MW-12-169	9/30/2010	10:37	Water		X			~~3~~	2
MW-90-169	9/30/2010	8:45	Water		X			~~3~~	2
MW-27-085-169	10/1/2010	9:07	Water					~~2~~	1
MW-34-080-169	10/1/2010	10:33	Water					~~2~~	1
MW-34-100-169	10/1/2010	11:14	Water					~~2~~	1
MW-92-169	10/1/2010	11:17	Water					~~2~~	1

	Signatures	Date/Time
Approved by		
Sampled by		10-1-10 1450
Relinquished by		
Received by		10/1/10 1500
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

24

GMP-169 ATL #1

CH2MHILL

CHAIN OF CUSTODY RECORD

10/1/2010 12:25:03 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: ATL

			Container:	250 ml Poly	500 ml Poly	3 x 40 ml VOA			
			Preservatives:	HNO3, 4°C	HNO3, 4°C	H3PO4, 4°C			
			Filtered:	Field	Field	NA			
			Holding Time:	180	180	28			
	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Metals (6000/7000) Field Filtered Title22 (SbBaBeCdCoCuPbHgMoNiSeAg	TOC (SM5310C)		Number of Containers	COMMENTS
MW-42-055-169	9/27/2010	13:05	Water	X				~~2~~	1
MW-42-065-169	9/27/2010	14:45	Water	X				~~2~~	1
MW-28-090-169	9/28/2010	14:23	Water	X				~~2~~	1
MW-33-040-169	9/28/2010	16:10	Water	X				~~2~~	1
MW-62-110-169	9/29/2010	15:45	Water	X		X		3	
MW-62-190-169	9/29/2010	16:02	Water	X		X		3	
MW-64-150-169	9/29/2010	16:45	Water	X		X		3	
MW-64-205-169	9/29/2010	17:00	Water	X		X		3	
MW-64-260-169	9/29/2010	17:15	Water	X		X		3	
MW-12-169	9/30/2010	10:37	Water	X	X			~~3~~	2
MW-90-169	9/30/2010	8:45	Water	X	X			~~3~~	2
MW-27-085-169	10/1/2010	9:07	Water	X				~~2~~	1
MW-34-080-169	10/1/2010	10:33	Water	X				~~2~~	1
MW-34-100-169	10/1/2010	11:14	Water	X				~~2~~	1
MW-92-169	10/1/2010	11:17	Water	X				~~2~~	1

	Signatures	Date/Time
Approved by		10-1-10
Sampled by		1450
Relinquished by		
Received by		10/1/10 1500
Relinquished by		
Received by		

Shipping Details

Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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: 10/1/2010 Workorder: N004697

Rep sample Temp (Deg C): 5.7 IR Gun ID: IR#1

Temp Blank: ☐ Yes ☑ No

Carrier name: ATL

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:

Checklist Completed By MBC

Reviewed By:

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:

$$M, \text{ ug/L} = \frac{A*C*DF*1000}{B}$$

where:
M= concentration of the metal in ug/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N004697-010B, concentration in ug/L are calculated as follows:

$$V, \text{ ug/L} = 0.01228 \frac{\text{mg/L} * 0.025 \text{ L} * 1*1000}{0.025 \text{ L}}$$

V = 12.28 ug/L

Reporting result in two significant figures,
V = 12 ug/L

10/7/2010

Advanced Technology Laboratories - Las Vegas

Date: *14-Oct-10*

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N004697-010BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77888**
Client ID: **ZZZZZZ** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1002.810	20	1000	9.258	99.4	75	125				
Barium	1001.744	6.0	1000	52.57	94.9	75	125				
Beryllium	981.201	2.0	1000	0	98.1	75	125				
Cadmium	960.221	6.0	1000	0	96.0	75	125				
Cobalt	938.686	6.0	1000	0.5209	93.8	75	125				
Copper	991.063	10	1000	0	99.1	75	125				
Lead	944.946	20	1000	3.255	94.2	75	125				
Molybdenum	993.793	10	1000	13.00	98.1	75	125				
Nickel	943.686	10	1000	2.995	94.1	75	125				
Silver	993.767	6.0	1000	0	99.4	75	125				
Vanadium	988.245	6.0	1000	12.28	97.6	75	125				
Zinc	978.556	20	1000	0	97.9	75	125				

Sample ID: **N004697-010BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77888**
Client ID: **ZZZZZZ** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2547.489	50	2500	9.258	102	75	125				
Barium	2519.466	15	2500	52.57	98.7	75	125				
Beryllium	2536.277	5.0	2500	0	101	75	125				
Cadmium	2493.638	15	2500	0	99.7	75	125				
Cobalt	2455.248	15	2500	0.5209	98.2	75	125				
Copper	2525.811	25	2500	0	101	75	125				
Lead	2458.567	50	2500	3.255	98.2	75	125				
Molybdenum	2535.253	25	2500	13.00	101	75	125				
Nickel	2455.324	25	2500	2.995	98.1	75	125				
Silver	2519.034	15	2500	0	101	75	125				
Vanadium	2527.179	15	2500	12.28	101	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

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N004697-010BPS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **77888**
Client ID: **ZZZZZZ** Batch ID: **35331** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/5/2010** SeqNo: **1212898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2534.388	50	2500	0	101	75	125				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Sample Calculation

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Selenium concentration, in ug/L, in the original sample as follows:

Selenium, ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N004697-010B**, the concentration in ug/L is calculated as follows:

Selenium, ug/L = 15.097 * 1 * (50/40)

= 18.87ug/L

Reporting results in two significant figures,

Selenium, ug/L = 19

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004697
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N004711-001A-PS 2**	SampType: **PS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **78000**
Client ID: **ZZZZZZ**	Batch ID: **35421**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/15/2010**	SeqNo: **1215153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	32.173	1.0	25.00	2.081	120	75	125				
Thallium	23.315	1.0	25.00	0	93.3	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

Sample Calculation

METHOD: EPA 7470
TEST NAME: Mercury in Water by Cold-Vapor Technique
MATRIX: Aqueous

FORMULA:

Calculate the Mercury concentration, in ug/L, in the original sample as follows:

Mercury, ug/L = A * DF * PF * 0.5

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Wt. of Sample used in mL
0.5, is the coversion factor.

For Sample **N004697-010B**, the concentration in ug/L is calculated as follows:

Mercury, ug/L = 0 * 1 * (50/25) * 0.5

= 0.0 ug/L

Reporting results in two significant figures,

Mercury, ug/L = 0

Mercury, ug/L = ND

October 18, 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.: N004717

RE: PG&E Topock

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on October 06, 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,

for Jose Tenorio Jr.
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004717

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 8260B:

1,2-Dibromoethane recovery biased high on Laboratory Control Sample (LCS). Sample results were non-detect (ND) for this analyte therefore reanalysis of the sample was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Acrolein on QC samples N004717-001CMS and N004717-001CMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for Styrene. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Surrogates Dibromofluoromethane(81.0% Rec) and 1,2-Dichloroethane-d4 (71.1% Rec) recovery was below the laboratory acceptable limit for sample N004717-001C but within method criteria of 70-130%. Reanalysis confirms same low recovery.

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: *18-Oct-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004717
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004717-001A	MW-58BR-UPR-169	Water	10/6/2010 3:40:00 PM	10/6/2010	
N004717-001B	MW-58BR-UPR-169	Water	10/6/2010 3:40:00 PM	10/6/2010	
N004717-001C	MW-58BR-UPR-169	Water	10/6/2010 3:40:00 PM	10/6/2010	
N004717-001D	MW-58BR-UPR-169	Water	10/6/2010 3:40:00 PM	10/6/2010	
N004717-002A	MW-58BR-TB01	Water	10/6/2010 3:30:00 PM	10/6/2010	

Advanced Technology Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-UPR-169
Lab Order:	N004717	**Collection Date:**	10/6/2010 3:40:00 PM
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004717-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
				SM2540C			
RunID: **WETCHEM_101012A**	QC Batch: **35380**				PrepDate:	**10/11/2010**	Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	6400	67	67		mg/L	1	10/12/2010

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		

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-35380** SampType: **MBLK** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **PBW** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **LCS-35380** SampType: **LCS** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **LCSW** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	927.000	10	1000	0	92.7	80	120				

Sample ID: **N004723-001D-DUP** SampType: **DUP** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **ZZZZZZ** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	5950.000	50						5690	4.47	5	

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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-001

Client Sample ID: MW-58BR-UPR-169
Collection Date: 10/6/2010 3:40:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_101007A**	QC Batch: **R77987**				PrepDate:		Analyst: **QBM**
Chloride	3500	220	500		mg/L	1000	10/7/2010 11:54 AM
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_101007A**	QC Batch: **R77987**				PrepDate:		Analyst: **QBM**
Nitrogen, Nitrate (As N)	ND	0.097	1.0		mg/L	2	10/7/2010 12:40 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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R77984_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77987**
Client ID: **PBW** Batch ID: **R77987** TestNo: **EPA 300.0** Analysis Date: **10/7/2010** SeqNo: **1214753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R77984_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77987**
Client ID: **LCSW** Batch ID: **R77987** TestNo: **EPA 300.0** Analysis Date: **10/7/2010** SeqNo: **1214754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.387	0.50	2.500	0	95.5	90	110				

Sample ID: **N004717-001DDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77987**
Client ID: **ZZZZZZ** Batch ID: **R77987** TestNo: **EPA 300.0** Analysis Date: **10/7/2010** SeqNo: **1214758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3453.000	500						3451	0.0579	20	

Sample ID: **N004717-001DMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77987**
Client ID: **ZZZZZZ** Batch ID: **R77987** TestNo: **EPA 300.0** Analysis Date: **10/7/2010** SeqNo: **1214759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5915.000	500	2500	3451	98.6	80	120				

Sample ID: **N004717-001DMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77987**
Client ID: **ZZZZZZ** Batch ID: **R77987** TestNo: **EPA 300.0** Analysis Date: **10/7/2010** SeqNo: **1214760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5918.000	500	2500	3451	98.7	80	120	5915	0.0507	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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO3PGE

Sample ID: MB-R77984_NO3	SampType: MBLK	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77987
Client ID: PBW	Batch ID: R77987	TestNo: EPA 300.0		Analysis Date: 10/7/2010	SeqNo: 1214765

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.50									

Sample ID: LCS-R77984_NO3	SampType: LCS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77987
Client ID: LCSW	Batch ID: R77987	TestNo: EPA 300.0		Analysis Date: 10/7/2010	SeqNo: 1214766

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.396	0.50	2.500	0	95.8	90	110				

Sample ID: N004716-001BDUP	SampType: DUP	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77987
Client ID: ZZZZZZ	Batch ID: R77987	TestNo: EPA 300.0		Analysis Date: 10/7/2010	SeqNo: 1214769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	10.070	5.0						9.960	1.10	20	

Sample ID: N004716-003BMSD	SampType: MSD	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77987
Client ID: ZZZZZZ	Batch ID: R77987	TestNo: EPA 300.0		Analysis Date: 10/7/2010	SeqNo: 1214771

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	35.510	5.0	25.00	10.01	102	80	120	35.51	0	20	

Sample ID: N004716-003BMS	SampType: MS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77987
Client ID: ZZZZZZ	Batch ID: R77987	TestNo: EPA 300.0		Analysis Date: 10/7/2010	SeqNo: 1214774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	35.510	5.0	25.00	10.01	102	80	120				

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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-001

Client Sample ID: MW-58BR-UPR-169
Collection Date: 10/6/2010 3:40:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
EPA 3010A				**EPA 6020**			
RunID: **ICP4_101015D**	QC Batch: **35427**				PrepDate:	**10/15/2010**	Analyst: **JT**
Arsenic	7.1	0.12	0.50		µg/L	5	10/15/2010

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		

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: **N004717-001A-MS** SampType: **MS** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **10/15/2010** RunNo: **78001**
Client ID: **ZZZZZZ** Batch ID: **35427** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.431	0.50	12.50	7.113	98.6	75	125				

Sample ID: **N004717-001A-MSD** SampType: **MSD** TestCode: **6020_WD_As** Units: **µg/L** Prep Date: **10/15/2010** RunNo: **78001**
Client ID: **ZZZZZZ** Batch ID: **35427** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.338	0.50	12.50	7.113	97.8	75	125	19.43	0.484	20	

Sample ID: **MB-35427** SampType: **MBLK** TestCode: **6020_WD_AS** Units: **µg/L** Prep Date: **10/15/2010** RunNo: **78001**
Client ID: **PBW** Batch ID: **35427** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.033	0.10									

Sample ID: **LCS-35427** SampType: **LCS** TestCode: **6020_WD_AS** Units: **µg/L** Prep Date: **10/15/2010** RunNo: **78001**
Client ID: **LCSW** Batch ID: **35427** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215179**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.318	0.10	12.50	0	98.5	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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-001

Client Sample ID: MW-58BR-UPR-169
Collection Date: 10/6/2010 3:40:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch: **D10VW122**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 12:28 PM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	10/8/2010 12:28 PM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	10/8/2010 12:28 PM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	10/8/2010 12:28 PM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	10/8/2010 12:28 PM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	10/8/2010 12:28 PM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	10/8/2010 12:28 PM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	10/8/2010 12:28 PM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	10/8/2010 12:28 PM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	10/8/2010 12:28 PM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	10/8/2010 12:28 PM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	10/8/2010 12:28 PM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	10/8/2010 12:28 PM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	10/8/2010 12:28 PM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	10/8/2010 12:28 PM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 12:28 PM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	10/8/2010 12:28 PM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	10/8/2010 12:28 PM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	10/8/2010 12:28 PM
2-Butanone	ND	0.91	10		µg/L	1	10/8/2010 12:28 PM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	10/8/2010 12:28 PM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	10/8/2010 12:28 PM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	10/8/2010 12:28 PM
Acetone	ND	2.4	10		µg/L	1	10/8/2010 12:28 PM
Acrolein	ND	0.88	20		µg/L	1	10/8/2010 12:28 PM
Acrylonitrile	ND	0.68	20		µg/L	1	10/8/2010 12:28 PM
Benzene	ND	0.051	1.0		µg/L	1	10/8/2010 12:28 PM
Bromobenzene	ND	0.070	1.0		µg/L	1	10/8/2010 12:28 PM
Bromochloromethane	ND	0.091	1.0		µg/L	1	10/8/2010 12:28 PM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	10/8/2010 12:28 PM
Bromoform	ND	0.057	1.0		µg/L	1	10/8/2010 12:28 PM
Bromomethane	ND	0.081	1.0		µg/L	1	10/8/2010 12:28 PM
Carbon disulfide	ND	0.083	1.0		µg/L	1	10/8/2010 12:28 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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-001

Client Sample ID: MW-58BR-UPR-169
Collection Date: 10/6/2010 3:40:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch: **D10VW122**				PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
Chlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
Chloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 12:28 PM
Chloroform	ND	0.059	1.0		µg/L	1	10/8/2010 12:28 PM
Chloromethane	ND	0.14	1.0		µg/L	1	10/8/2010 12:28 PM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	10/8/2010 12:28 PM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	10/8/2010 12:28 PM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	10/8/2010 12:28 PM
Dibromomethane	ND	0.20	1.0		µg/L	1	10/8/2010 12:28 PM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	10/8/2010 12:28 PM
Ethylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
Freon-113	ND	0.066	1.0		µg/L	1	10/8/2010 12:28 PM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	10/8/2010 12:28 PM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 12:28 PM
m,p-Xylene	ND	0.20	1.0		µg/L	1	10/8/2010 12:28 PM
Methylene chloride	ND	0.065	5.0		µg/L	1	10/8/2010 12:28 PM
MTBE	ND	0.069	1.0		µg/L	1	10/8/2010 12:28 PM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	10/8/2010 12:28 PM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
Naphthalene	ND	0.14	1.0		µg/L	1	10/8/2010 12:28 PM
o-Xylene	ND	0.11	1.0		µg/L	1	10/8/2010 12:28 PM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 12:28 PM
Styrene	ND	0.11	1.0		µg/L	1	10/8/2010 12:28 PM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/8/2010 12:28 PM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	10/8/2010 12:28 PM
Toluene	9.3	0.060	2.5		µg/L	1	10/8/2010 12:28 PM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	10/8/2010 12:28 PM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	10/8/2010 12:28 PM
Trichloroethene	ND	0.071	1.0		µg/L	1	10/8/2010 12:28 PM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	10/8/2010 12:28 PM
Vinyl chloride	ND	0.083	1.0		µg/L	1	10/8/2010 12:28 PM
Xylenes, Total	ND	1.5	2.0		µg/L	1	10/8/2010 12:28 PM
Surr: 1,2-Dichloroethane-d4	71.1	0	72-119	S	%REC	1	10/8/2010 12:28 PM
Surr: 4-Bromofluorobenzene	94.4	0	76-119		%REC	1	10/8/2010 12:28 PM
Surr: Dibromofluoromethane	81.0	0	85-115	S	%REC	1	10/8/2010 12:28 PM
Surr: Toluene-d8	106	0	81-120		%REC	1	10/8/2010 12:28 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

Advanced Technology Laboratories - Las Vegas

ANALYTICAL RESULTS

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-002

Client Sample ID: MW-58BR-TB01
Collection Date: 10/6/2010 3:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch: **D10VW122**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:16 PM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	10/8/2010 01:16 PM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	10/8/2010 01:16 PM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	10/8/2010 01:16 PM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	10/8/2010 01:16 PM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	10/8/2010 01:16 PM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	10/8/2010 01:16 PM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	10/8/2010 01:16 PM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	10/8/2010 01:16 PM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	10/8/2010 01:16 PM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	10/8/2010 01:16 PM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	10/8/2010 01:16 PM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	10/8/2010 01:16 PM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	10/8/2010 01:16 PM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	10/8/2010 01:16 PM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 01:16 PM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	10/8/2010 01:16 PM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	10/8/2010 01:16 PM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	10/8/2010 01:16 PM
2-Butanone	ND	0.91	10		µg/L	1	10/8/2010 01:16 PM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	10/8/2010 01:16 PM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	10/8/2010 01:16 PM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	10/8/2010 01:16 PM
Acetone	ND	2.4	10		µg/L	1	10/8/2010 01:16 PM
Acrolein	ND	0.88	20		µg/L	1	10/8/2010 01:16 PM
Acrylonitrile	ND	0.68	20		µg/L	1	10/8/2010 01:16 PM
Benzene	ND	0.051	1.0		µg/L	1	10/8/2010 01:16 PM
Bromobenzene	ND	0.070	1.0		µg/L	1	10/8/2010 01:16 PM
Bromochloromethane	ND	0.091	1.0		µg/L	1	10/8/2010 01:16 PM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	10/8/2010 01:16 PM
Bromoform	ND	0.057	1.0		µg/L	1	10/8/2010 01:16 PM
Bromomethane	ND	0.081	1.0		µg/L	1	10/8/2010 01:16 PM
Carbon disulfide	ND	0.083	1.0		µg/L	1	10/8/2010 01:16 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
- F Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004717
Project: PG&E Topock
Lab ID: N004717-002

Client Sample ID: MW-58BR-TB01
Collection Date: 10/6/2010 3:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch:	**D10VW122**			PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
Chlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
Chloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:16 PM
Chloroform	ND	0.059	1.0		µg/L	1	10/8/2010 01:16 PM
Chloromethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:16 PM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	10/8/2010 01:16 PM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	10/8/2010 01:16 PM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	10/8/2010 01:16 PM
Dibromomethane	ND	0.20	1.0		µg/L	1	10/8/2010 01:16 PM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	10/8/2010 01:16 PM
Ethylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
Freon-113	ND	0.066	1.0		µg/L	1	10/8/2010 01:16 PM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	10/8/2010 01:16 PM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 01:16 PM
m,p-Xylene	ND	0.20	1.0		µg/L	1	10/8/2010 01:16 PM
Methylene chloride	ND	0.065	5.0		µg/L	1	10/8/2010 01:16 PM
MTBE	ND	0.069	1.0		µg/L	1	10/8/2010 01:16 PM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	10/8/2010 01:16 PM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
Naphthalene	ND	0.14	1.0		µg/L	1	10/8/2010 01:16 PM
o-Xylene	ND	0.11	1.0		µg/L	1	10/8/2010 01:16 PM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:16 PM
Styrene	ND	0.11	1.0		µg/L	1	10/8/2010 01:16 PM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/8/2010 01:16 PM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	10/8/2010 01:16 PM
Toluene	ND	0.060	2.5		µg/L	1	10/8/2010 01:16 PM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	10/8/2010 01:16 PM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	10/8/2010 01:16 PM
Trichloroethene	ND	0.071	1.0		µg/L	1	10/8/2010 01:16 PM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	10/8/2010 01:16 PM
Vinyl chloride	ND	0.083	1.0		µg/L	1	10/8/2010 01:16 PM
Xylenes, Total	ND	1.5	2.0		µg/L	1	10/8/2010 01:16 PM
Surr: 1,2-Dichloroethane-d4	78.0	0	72-119		%REC	1	10/8/2010 01:16 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	10/8/2010 01:16 PM
Surr: Dibromofluoromethane	88.2	0	85-115		%REC	1	10/8/2010 01:16 PM
Surr: Toluene-d8	117	0	81-120		%REC	1	10/8/2010 01:16 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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **LCSW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.560	1.0	25.00	0	98.2	81	129				
1,1,1-Trichloroethane	20.890	1.0	25.00	0	83.6	67	132				
1,1,2,2-Tetrachloroethane	27.730	1.0	25.00	0	111	63	128				
1,1,2-Trichloroethane	27.440	1.0	25.00	0	110	75	125				
1,1-Dichloroethane	23.090	1.0	25.00	0	92.4	69	133				
1,1-Dichloroethene	22.910	1.0	25.00	0	91.6	68	130				
1,1-Dichloropropene	25.760	1.0	25.00	0	103	73	132				
1,2,3-Trichlorobenzene	29.230	1.0	25.00	0	117	67	137				
1,2,3-Trichloropropane	25.580	1.0	25.00	0	102	73	124				
1,2,4-Trichlorobenzene	29.270	1.0	25.00	0	117	66	134				
1,2,4-Trimethylbenzene	26.960	1.0	25.00	0	108	74	132				
1,2-Dibromo-3-chloropropane	26.580	2.0	25.00	0	106	50	132				
1,2-Dibromoethane	30.380	1.0	25.00	0	122	80	121				S
1,2-Dichlorobenzene	27.060	1.0	25.00	0	108	71	122				
1,2-Dichloroethane	24.870	1.0	25.00	0	99.5	69	132				
1,2-Dichloropropane	25.820	1.0	25.00	0	103	75	125				
1,3,5-Trimethylbenzene	26.620	1.0	25.00	0	106	74	131				
1,3-Dichlorobenzene	27.110	1.0	25.00	0	108	75	124				
1,3-Dichloropropane	24.820	1.0	25.00	0	99.3	73	126				
1,4-Dichlorobenzene	26.680	1.0	25.00	0	107	74	123				
2,2-Dichloropropane	23.870	1.0	25.00	0	95.5	69	137				
2-Butanone	212.960	10	250.0	0	85.2	49	136				
2-Chlorotoluene	25.600	1.0	25.00	0	102	73	126				
4-Chlorotoluene	26.240	1.0	25.00	0	105	74	128				
4-Isopropyltoluene	27.420	1.0	25.00	0	110	73	130				
4-Methyl-2-pentanone	268.910	10	250.0	0	108	58	134				
Acetone	227.220	10	250.0	0	90.9	40	135				
Acrolein	198.470	20	250.0	0	79.4	75	125				
Acrylonitrile	274.830	20	250.0	0	110	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

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008LCS** SampType: LCS TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **LCSW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.410	1.0	25.00	0	102	81	122				
Bromobenzene	25.790	1.0	25.00	0	103	76	124				
Bromochloromethane	24.030	1.0	25.00	0	96.1	65	129				
Bromodichloromethane	22.800	1.0	25.00	0	91.2	76	121				
Bromoform	25.420	1.0	25.00	0	102	69	128				
Bromomethane	22.040	1.0	25.00	0	88.2	53	141				
Carbon disulfide	24.760	1.0	25.00	0	99.0	75	125				
Carbon tetrachloride	23.430	1.0	25.00	0	93.7	66	138				
Chlorobenzene	25.530	1.0	25.00	0	102	81	122				
Chloroethane	22.910	1.0	25.00	0	91.6	58	133				
Chloroform	23.680	1.0	25.00	0	94.7	69	128				
Chloromethane	25.180	1.0	25.00	0	101	56	131				
cis-1,2-Dichloroethene	23.600	1.0	25.00	0	94.4	72	126				
cis-1,3-Dichloropropene	22.460	1.0	25.00	0	89.8	69	131				
Dibromochloromethane	22.690	1.0	25.00	0	90.8	66	133				
Dibromomethane	26.030	1.0	25.00	0	104	76	125				
Dichlorodifluoromethane	21.480	1.0	25.00	0	85.9	53	153				
Ethylbenzene	25.830	1.0	25.00	0	103	73	127				
Freon-113	21.660	1.0	25.00	0	86.6	75	125				
Hexachlorobutadiene	27.590	1.0	25.00	0	110	67	131				
Isopropylbenzene	25.930	1.0	25.00	0	104	75	127				
m,p-Xylene	52.550	1.0	50.00	0	105	76	128				
Methylene chloride	22.590	5.0	25.00	0	90.4	63	137				
MTBE	19.410	1.0	25.00	0	77.6	65	123				
n-Butylbenzene	28.140	1.0	25.00	0	113	69	137				
n-Propylbenzene	26.580	1.0	25.00	0	106	72	129				
Naphthalene	28.190	1.0	25.00	0	113	54	138				
o-Xylene	25.730	1.0	25.00	0	103	80	121				
sec-Butylbenzene	26.980	1.0	25.00	0	108	72	127				
Styrene	27.350	1.0	25.00	0	109	65	134				

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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **LCSW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	26.560	1.0	25.00	0	106	70	129				
Tetrachloroethene	24.830	1.0	25.00	0	99.3	66	128				
Toluene	26.530	2.5	25.00	0	106	77	122				
trans-1,2-Dichloroethene	24.890	1.0	25.00	0	99.6	63	137				
trans-1,3-Dichloropropene	27.700	1.0	25.00	0	111	59	135				
Trichloroethene	24.390	1.0	25.00	0	97.6	70	127				
Trichlorofluoromethane	21.570	1.0	25.00	0	86.3	57	129				
Vinyl chloride	22.570	1.0	25.00	0	90.3	50	134				
Xylenes, Total	78.280	2.0	75.00	0	104	75	125				
Surr: 1,2-Dichloroethane-d4	22.330		25.00		89.3	72	119				
Surr: 4-Bromofluorobenzene	24.260		25.00		97.0	76	119				
Surr: Dibromofluoromethane	23.090		25.00		92.4	85	115				
Surr: Toluene-d8	25.220		25.00		101	81	120				

Sample ID: **N004717-001CMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.330	1.0	25.00	0	97.3	81	129				
1,1,1-Trichloroethane	19.960	1.0	25.00	0	79.8	67	132				
1,1,2,2-Tetrachloroethane	24.250	1.0	25.00	0	97.0	63	128				
1,1,2-Trichloroethane	23.040	1.0	25.00	0	92.2	75	125				
1,1-Dichloroethane	22.250	1.0	25.00	0	89.0	69	133				
1,1-Dichloroethene	22.060	1.0	25.00	0	88.2	68	130				
1,1-Dichloropropene	25.920	1.0	25.00	0	104	73	132				
1,2,3-Trichlorobenzene	24.700	1.0	25.00	0	98.8	67	137				
1,2,3-Trichloropropane	22.670	1.0	25.00	0	90.7	73	124				
1,2,4-Trichlorobenzene	26.500	1.0	25.00	0	106	66	134				
1,2,4-Trimethylbenzene	27.750	1.0	25.00	0	111	74	132				
1,2-Dibromo-3-chloropropane	21.210	2.0	25.00	0	84.8	50	132				

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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	24.500	1.0	25.00	0	98.0	80	121				
1,2-Dichlorobenzene	26.220	1.0	25.00	0	105	71	122				
1,2-Dichloroethane	21.920	1.0	25.00	0	87.7	69	132				
1,2-Dichloropropane	24.010	1.0	25.00	0	96.0	75	125				
1,3,5-Trimethylbenzene	28.230	1.0	25.00	0	113	74	131				
1,3-Dichlorobenzene	27.440	1.0	25.00	0	110	75	124				
1,3-Dichloropropane	22.270	1.0	25.00	0	89.1	73	126				
1,4-Dichlorobenzene	26.940	1.0	25.00	0	108	74	123				
2,2-Dichloropropane	23.200	1.0	25.00	0	92.8	69	137				
2-Butanone	131.330	10	250.0	0	52.5	49	136				
2-Chlorotoluene	27.060	1.0	25.00	0	108	73	126				
4-Chlorotoluene	27.620	1.0	25.00	0	110	74	128				
4-Isopropyltoluene	28.850	1.0	25.00	0	115	73	130				
4-Methyl-2-pentanone	191.010	10	250.0	0	76.4	58	134				
Acetone	109.300	10	250.0	7.450	40.7	40	135				
Acrolein	145.430	20	250.0	0	58.2	75	125				S
Acrylonitrile	198.550	20	250.0	0	79.4	75	125				
Benzene	25.230	1.0	25.00	0	101	81	122				
Bromobenzene	26.520	1.0	25.00	0	106	76	124				
Bromochloromethane	20.870	1.0	25.00	0	83.5	65	129				
Bromodichloromethane	21.170	1.0	25.00	0	84.7	76	121				
Bromoform	21.780	1.0	25.00	0	87.1	69	128				
Bromomethane	21.280	1.0	25.00	0	85.1	53	141				
Carbon disulfide	23.280	1.0	25.00	0.5600	90.9	75	125				
Carbon tetrachloride	22.630	1.0	25.00	0	90.5	66	138				
Chlorobenzene	25.690	1.0	25.00	0	103	81	122				
Chloroethane	23.280	1.0	25.00	0	93.1	58	133				
Chloroform	22.870	1.0	25.00	0	91.5	69	128				
Chloromethane	24.880	1.0	25.00	0	99.5	56	131				
cis-1,2-Dichloroethene	22.810	1.0	25.00	0	91.2	72	126				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N004717-001CMS	SampType: MS	TestCode: 8260_WP_LL	Units: µg/L	Prep Date:	RunNo: 77921
Client ID: ZZZZZZ	Batch ID: D10VW122	TestNo: EPA 8260B		Analysis Date: 10/8/2010	SeqNo: 1214394

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	20.890	1.0	25.00	0	83.6	69	131				
Dibromochloromethane	21.050	1.0	25.00	0	84.2	66	133				
Dibromomethane	21.840	1.0	25.00	0	87.4	76	125				
Dichlorodifluoromethane	22.200	1.0	25.00	0	88.8	53	153				
Ethylbenzene	26.360	1.0	25.00	0	105	73	127				
Freon-113	20.250	1.0	25.00	0	81.0	75	125				
Hexachlorobutadiene	26.160	1.0	25.00	0	105	67	131				
Isopropylbenzene	27.940	1.0	25.00	0	112	75	127				
m,p-Xylene	54.280	1.0	50.00	0	109	76	128				
Methylene chloride	20.540	5.0	25.00	0	82.2	63	137				
MTBE	16.360	1.0	25.00	0	65.4	65	123				
n-Butylbenzene	28.870	1.0	25.00	0	115	69	137				
n-Propylbenzene	28.660	1.0	25.00	0	115	72	129				
Naphthalene	21.610	1.0	25.00	0	86.4	54	138				
o-Xylene	26.210	1.0	25.00	0	105	80	121				
sec-Butylbenzene	28.510	1.0	25.00	0	114	72	127				
Styrene	26.800	1.0	25.00	0	107	65	134				
tert-Butylbenzene	28.320	1.0	25.00	0	113	70	129				
Tetrachloroethene	25.660	1.0	25.00	0	103	66	128				
Toluene	35.340	2.5	25.00	9.320	104	77	122				
trans-1,2-Dichloroethene	23.750	1.0	25.00	0	95.0	63	137				
trans-1,3-Dichloropropene	23.830	1.0	25.00	0	95.3	59	135				
Trichloroethene	24.250	1.0	25.00	0	97.0	70	127				
Trichlorofluoromethane	20.690	1.0	25.00	0	82.8	57	129				
Vinyl chloride	22.420	1.0	25.00	0	89.7	50	134				
Xylenes, Total	80.490	2.0	75.00	0	107	75	125				
Surr: 1,2-Dichloroethane-d4	19.540		25.00		78.2	72	119				
Surr: 4-Bromofluorobenzene	24.250		25.00		97.0	76	119				
Surr: Dibromofluoromethane	21.970		25.00		87.9	85	115				
Surr: Toluene-d8	24.360		25.00		97.4	81	120				

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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	23.750	1.0	25.00	0	95.0	81	129	24.33	2.41	20	
1,1,1-Trichloroethane	19.910	1.0	25.00	0	79.6	67	132	19.96	0.251	20	
1,1,2,2-Tetrachloroethane	23.430	1.0	25.00	0	93.7	63	128	24.25	3.44	20	
1,1,2-Trichloroethane	23.850	1.0	25.00	0	95.4	75	125	23.04	3.45	20	
1,1-Dichloroethane	22.640	1.0	25.00	0	90.6	69	133	22.25	1.74	20	
1,1-Dichloroethene	22.540	1.0	25.00	0	90.2	68	130	22.06	2.15	20	
1,1-Dichloropropene	25.280	1.0	25.00	0	101	73	132	25.92	2.50	20	
1,2,3-Trichlorobenzene	27.610	1.0	25.00	0	110	67	137	24.70	11.1	20	
1,2,3-Trichloropropane	21.470	1.0	25.00	0	85.9	73	124	22.67	5.44	20	
1,2,4-Trichlorobenzene	29.090	1.0	25.00	0	116	66	134	26.50	9.32	20	
1,2,4-Trimethylbenzene	23.280	1.0	25.00	0	93.1	74	132	27.75	17.5	20	
1,2-Dibromo-3-chloropropane	21.730	2.0	25.00	0	86.9	50	132	21.21	2.42	20	
1,2-Dibromoethane	25.940	1.0	25.00	0	104	80	121	24.50	5.71	20	
1,2-Dichlorobenzene	26.330	1.0	25.00	0	105	71	122	26.22	0.419	20	
1,2-Dichloroethane	22.100	1.0	25.00	0	88.4	69	132	21.92	0.818	20	
1,2-Dichloropropane	24.430	1.0	25.00	0	97.7	75	125	24.01	1.73	20	
1,3,5-Trimethylbenzene	25.640	1.0	25.00	0	103	74	131	28.23	9.62	20	
1,3-Dichlorobenzene	27.020	1.0	25.00	0	108	75	124	27.44	1.54	20	
1,3-Dichloropropane	22.030	1.0	25.00	0	88.1	73	126	22.27	1.08	20	
1,4-Dichlorobenzene	26.810	1.0	25.00	0	107	74	123	26.94	0.484	20	
2,2-Dichloropropane	23.120	1.0	25.00	0	92.5	69	137	23.20	0.345	20	
2-Butanone	131.570	10	250.0	0	52.6	49	136	131.3	0.183	20	
2-Chlorotoluene	26.450	1.0	25.00	0	106	73	126	27.06	2.28	20	
4-Chlorotoluene	26.700	1.0	25.00	0	107	74	128	27.62	3.39	20	
4-Isopropyltoluene	27.590	1.0	25.00	0	110	73	130	28.85	4.46	20	
4-Methyl-2-pentanone	204.940	10	250.0	0	82.0	58	134	191.0	7.04	20	
Acetone	113.380	10	250.0	7.450	42.4	40	135	109.3	3.66	20	
Acrolein	150.670	20	250.0	0	60.3	75	125	145.4	3.54	20	S
Acrylonitrile	204.160	20	250.0	0	81.7	75	125	198.6	2.79	20	
Benzene	25.100	1.0	25.00	0	100	81	122	25.23	0.517	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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	25.660	1.0	25.00	0	103	76	124	26.52	3.30	20	
Bromochloromethane	21.280	1.0	25.00	0	85.1	65	129	20.87	1.95	20	
Bromodichloromethane	21.290	1.0	25.00	0	85.2	76	121	21.17	0.565	20	
Bromoform	21.740	1.0	25.00	0	87.0	69	128	21.78	0.184	20	
Bromomethane	21.960	1.0	25.00	0	87.8	53	141	21.28	3.15	20	
Carbon disulfide	24.330	1.0	25.00	0.5600	95.1	75	125	23.28	4.41	20	
Carbon tetrachloride	22.700	1.0	25.00	0	90.8	66	138	22.63	0.309	20	
Chlorobenzene	25.730	1.0	25.00	0	103	81	122	25.69	0.156	20	
Chloroethane	23.620	1.0	25.00	0	94.5	58	133	23.28	1.45	20	
Chloroform	22.960	1.0	25.00	0	91.8	69	128	22.87	0.393	20	
Chloromethane	25.760	1.0	25.00	0	103	56	131	24.88	3.48	20	
cis-1,2-Dichloroethene	23.220	1.0	25.00	0	92.9	72	126	22.81	1.78	20	
cis-1,3-Dichloropropene	21.190	1.0	25.00	0	84.8	69	131	20.89	1.43	20	
Dibromochloromethane	20.980	1.0	25.00	0	83.9	66	133	21.05	0.333	20	
Dibromomethane	22.390	1.0	25.00	0	89.6	76	125	21.84	2.49	20	
Dichlorodifluoromethane	22.120	1.0	25.00	0	88.5	53	153	22.20	0.361	20	
Ethylbenzene	26.320	1.0	25.00	0	105	73	127	26.36	0.152	20	
Freon-113	20.770	1.0	25.00	0	83.1	75	125	20.25	2.54	20	
Hexachlorobutadiene	28.380	1.0	25.00	0	114	67	131	26.16	8.14	20	
Isopropylbenzene	26.630	1.0	25.00	0	107	75	127	27.94	4.80	20	
m,p-Xylene	53.180	1.0	50.00	0	106	76	128	54.28	2.05	20	
Methylene chloride	21.730	5.0	25.00	0	86.9	63	137	20.54	5.63	20	
MTBE	17.100	1.0	25.00	0	68.4	65	123	16.36	4.42	20	
n-Butylbenzene	28.750	1.0	25.00	0	115	69	137	28.87	0.417	20	
n-Propylbenzene	27.190	1.0	25.00	0	109	72	129	28.66	5.26	20	
Naphthalene	21.770	1.0	25.00	0	87.1	54	138	21.61	0.738	20	
o-Xylene	25.900	1.0	25.00	0	104	80	121	26.21	1.19	20	
sec-Butylbenzene	27.550	1.0	25.00	0	110	72	127	28.51	3.42	20	
Styrene	19.790	1.0	25.00	0	79.2	65	134	26.80	30.1	20	R
tert-Butylbenzene	27.260	1.0	25.00	0	109	70	129	28.32	3.81	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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	25.300	1.0	25.00	0	101	66	128	25.66	1.41	20	
Toluene	37.070	2.5	25.00	9.320	111	77	122	35.34	4.78	20	
trans-1,2-Dichloroethene	24.120	1.0	25.00	0	96.5	63	137	23.75	1.55	20	
trans-1,3-Dichloropropene	24.630	1.0	25.00	0	98.5	59	135	23.83	3.30	20	
Trichloroethene	24.180	1.0	25.00	0	96.7	70	127	24.25	0.289	20	
Trichlorofluoromethane	21.150	1.0	25.00	0	84.6	57	129	20.69	2.20	20	
Vinyl chloride	22.850	1.0	25.00	0	91.4	50	134	22.42	1.90	20	
Xylenes, Total	79.080	2.0	75.00	0	105	75	125	80.49	1.77	20	
Surr: 1,2-Dichloroethane-d4	19.750		25.00		79.0	72	119		0		
Surr: 4-Bromofluorobenzene	24.650		25.00		98.6	76	119		0		
Surr: Dibromofluoromethane	22.520		25.00		90.1	85	115		0		
Surr: Toluene-d8	25.730		25.00		103	81	120		0		

Sample ID: **D101008MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **PBW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									

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
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008MB3**	SampType: **MBLK**	TestCode: **8260_WP_LL**	Units: **µg/L**	Prep Date:	RunNo: **77921**
Client ID: **PBW**	Batch ID: **D10VW122**	TestNo: **EPA 8260B**		Analysis Date: **10/8/2010**	SeqNo: **1214396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D101008MB3	SampType: MBLK	TestCode: 8260_WP_LL	Units: µg/L	Prep Date:	RunNo: 77921
Client ID: PBW	Batch ID: D10VW122	TestNo: EPA 8260B		Analysis Date: 10/8/2010	SeqNo: 1214396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.5									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	21.740		25.00		87.0	72	119				
Surr: 4-Bromofluorobenzene	25.090		25.00		100	76	119				
Surr: Dibromofluoromethane	22.270		25.00		89.1	85	115				
Surr: Toluene-d8	27.920		25.00		112	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CH2MHILL

CHAIN OF CUSTODY RECORD

10/6/2010 3:58:21 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 10/6/2010
COC Number: 4

			Container:	250 ml Poly	3x 40 ml VOA	2x40 ml VOA HCl	1L Poly 4°C			Number of Containers	COMMENTS
			Preservatives:	HNO3, 4°C	H3PO4, 4°C						
			Filtered:	Field	NA						
			Holding Time:	180	28						
	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	TOC (SM5310C)	8260B VOCs	TDS, NO_3^-, Cl^-				
MW-58BR-UPR-169	10/6/2010	15:40	Water	x	x	X	X	N0047 17-1		~~3~~	6
MW-58BR-TB01	10-6-10	1530	"			X		trip blank	1 -2 TOTAL NUMBER OF CONTAINERS	~~3~~	1

7 BSC

	Signatures	Date/Time
Approved by		
Sampled by		10-6-10 1605
Relinquished by		
Received by		10/6/10 @ 1605
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

30

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:	10/6/2010	Workorder:	N004717
Rep sample Temp (Deg C):	1.9	IR Gun ID:	IR 1
Temp Blank:	Yes ✓ No		
Carrier name:	ATL		
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: samples were picked-up and not shipped thru FedEx

Checklist Completed By MBC

Reviewed By: [illegible] 10/7/10

CH2MHILL

CHAIN OF CUSTODY RECORD

10/6/2010 3:58:21 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 10/6/2010
COC Number: 4

			Container:	250 ml Poly	~~3~~ x 40 ml VOA	2x40 ml VOA	1L Poly			Number of Containers	COMMENTS
			Preservatives:	HNO3, 4°C	H3PO4, 4°C	HCl	4°C				
			Filtered:	Field	NA						
			Holding Time:	180	28						
	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	TOC (SM5310C)	8260B VOCs	TDS, NO_3^-, Cl^-				
MW-58BR-UPR-169	10/6/2010	15:40	Water	X	X	X	X			~~3~~ 7	6
MW-58BR-TB01	10-6-10	1530	"			X		trip blank	TOTAL NUMBER OF CONTAINERS	~~3~~ BSC	1

	Signatures	Date/Time
Approved by		
Sampled by		10-6-10 1605
Relinquished by		
Received by		10/6/10 @ 1600
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

1.9 °C IR #1

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N004717-001D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(15.6821-15.5863)*1000000}{15}$$
$$= 6386.67 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 6400 mg/L

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Chloride concentration, in mg/L, in the original sample as follows:

Chloride, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N004717-001D**, concentration in mg/L are calculated as follows:

Chloride, mg/L = 3.451 * 1000

= 3451 mg/L

Reporting **N004717-001D** results in two significant figures,

Chloride, mg/L = 3500 mg/L

Sample Calculation

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Arsenic concentration, in ug/L, in the original sample as follows:

Arsenic, ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N004717-001A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 1.138 * 5 * (50/40)

= 7.1125 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 7.1

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004717
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: **N004717-001A-PS 5** SampType: **PS** TestCode: **6020_WD_AS** Units: **µg/L** Prep Date: RunNo: **78001**
Client ID: **ZZZZZZ** Batch ID: **35427** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/15/2010** SeqNo: **1215173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.281	0.50	12.50	7.113	105	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

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N004717
Test Method: EPA 6020
Analysis Date: 10/15/10

Matrix: Aqueous
Batch No.: 35427

Instrument ID: ICP-MS
Instrument Description: PE DRCplus

Comments:

Analyzed By: Jojo Tenorio

Sample ID	Analyte	$Units	Calc Val	DQual	SAMPrefval	%DIFF	%DIFFlimit
N004717-001A-DT 25X	Arsenic	ug/L	6.875		7.1125	-3.34%	10

SAMPLE CALCULATION

METHOD: EPA 8260B
TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS
MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X \text{ ,ug/L} = \frac{A_X * C_{IS} * DF}{\text{Ave RF} * A_{IS}}$$

where:

A_x = Area of the TOTAL ion for the compound being measured
C_{IS} = Concentration of the specific internal standard in ug/L
A_{IS} = Area of the characteristic ion of the specific internal standard
C_x = Concentration of the compound being measured in ug/L

N004717-001C

For Toluene the corresponding Internal Standard is 1,4-Difluorobenzene

Ave RF	1.957
Area of Toluene	287364
Area of Internal Standard	393933
Conc of Internal Standard (ug/L)	25.00

Conc of Toluene (ug/L)= $\frac{2873642 * 25.00\text{ug/L} * 1}{1.957 * 393933}$

Conc of Toluene (ug/L)= 9.318782594

Reporting result in two significant figures,

Concentration of Toluene = 9.3 ug/L

October 18, 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.: N004723

RE: PG&E Topock

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on October 07, 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,

for Jose Tenorio Jr.
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004723

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 8260B:

1,2-Dibromoethane recovery biased high on Laboratory Control Sample (LCS). Sample results were non-detect (ND) for this analyte therefore reanalysis of the sample was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Acrolein on QC samples N004717-001CMS and N004717-001CMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for Styrene. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc *3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691*

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N004723
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N004723-001A	MW-58BR-LWR-169	Water	10/7/2010	10/8/2010	
N004723-001B	MW-58BR-LWR-169	Water	10/7/2010	10/8/2010	
N004723-001C	MW-58BR-LWR-169	Water	10/7/2010	10/8/2010	
N004723-001D	MW-58BR-LWR-169	Water	10/7/2010	10/8/2010	
N004723-002A	MW-58BR-TB02	Water	10/7/2010 1:30:00 PM	10/8/2010	

Advanced Technology Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-169
Lab Order:	N004723	**Collection Date:**	10/7/2010
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004723-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
				SM2540C			
RunID: **WETCHEM_101012A**	QC Batch: **35380**				PrepDate:	**10/11/2010**	Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	5700	50	50		mg/L	1	10/12/2010

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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-35380** SampType: **MBLK** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **PBW** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **LCS-35380** SampType: **LCS** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **LCSW** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	927.000	10	1000	0	92.7	80	120				

Sample ID: **N004723-001D-DUP** SampType: **DUP** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **10/11/2010** RunNo: **77950**
Client ID: **ZZZZZZ** Batch ID: **35380** TestNo: **SM2540C** Analysis Date: **10/12/2010** SeqNo: **1214030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	5950.000	50						5690	4.47	5	

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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004723
Project: PG&E Topock
Lab ID: N004723-001

Client Sample ID: MW-58BR-LWR-169
Collection Date: 10/7/2010
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_101008B**	QC Batch: **R77961**				PrepDate:		Analyst: **QBM**
Chloride	2900	220	500		mg/L	1000	10/8/2010 10:02 AM
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: **IC2_101008B**	QC Batch: **R77961**				PrepDate:		Analyst: **QBM**
Nitrogen, Nitrate (As N)	1.1	0.097	1.0		mg/L	2	10/8/2010 10:45 AM

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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R77961_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77961**
Client ID: **PBW** Batch ID: **R77961** TestNo: **EPA 300.0** Analysis Date: **10/8/2010** SeqNo: **1214242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R77961_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77961**
Client ID: **LCSW** Batch ID: **R77961** TestNo: **EPA 300.0** Analysis Date: **10/8/2010** SeqNo: **1214243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.404	0.50	2.500	0	96.2	90	110				

Sample ID: **N004723-001DDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77961**
Client ID: **ZZZZZZ** Batch ID: **R77961** TestNo: **EPA 300.0** Analysis Date: **10/8/2010** SeqNo: **1214245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2865.000	500						2853	0.420	20	

Sample ID: **N004723-001DMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77961**
Client ID: **ZZZZZZ** Batch ID: **R77961** TestNo: **EPA 300.0** Analysis Date: **10/8/2010** SeqNo: **1214246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5258.000	500	2500	2853	96.2	80	120	5302	0.833	20	

Sample ID: **N004723-001DMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **77961**
Client ID: **ZZZZZZ** Batch ID: **R77961** TestNo: **EPA 300.0** Analysis Date: **10/8/2010** SeqNo: **1214249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5302.000	500	2500	2853	98.0	80	120				

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO3PGE

Sample ID: MB-R77961_NO3	SampType: MBLK	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77961
Client ID: PBW	Batch ID: R77961	TestNo: EPA 300.0		Analysis Date: 10/8/2010	SeqNo: 1214254

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.50									

Sample ID: LCS-R77961_NO3	SampType: LCS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77961
Client ID: LCSW	Batch ID: R77961	TestNo: EPA 300.0		Analysis Date: 10/8/2010	SeqNo: 1214255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.385	0.50	2.500	0	95.4	90	110				

Sample ID: N004723-001DDUP	SampType: DUP	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77961
Client ID: ZZZZZZ	Batch ID: R77961	TestNo: EPA 300.0		Analysis Date: 10/8/2010	SeqNo: 1214257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.070	1.0						1.084	1.30	20	

Sample ID: N004723-001DMS	SampType: MS	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77961
Client ID: ZZZZZZ	Batch ID: R77961	TestNo: EPA 300.0		Analysis Date: 10/8/2010	SeqNo: 1214260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.882	1.0	5.000	1.084	96.0	80	120				

Sample ID: N004723-001DMSD	SampType: MSD	TestCode: 300_W_NO3P	Units: mg/L	Prep Date:	RunNo: 77961
Client ID: ZZZZZZ	Batch ID: R77961	TestNo: EPA 300.0		Analysis Date: 10/8/2010	SeqNo: 1214261

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.868	1.0	5.000	1.084	95.7	80	120	5.882	0.238	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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-58BR-LWR-169
Lab Order:	N004723	**Collection Date:**	10/7/2010
Project:	PG&E Topock	**Matrix:**	WATER
Lab ID:	N004723-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A				**EPA 6020**		
RunID: **ICP4_101015D**	QC Batch: **35427**				PrepDate:	**10/15/2010**	Analyst: **JT**
Arsenic	4.2	0.12	0.50		µg/L	5	10/15/2010

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		

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: N004717-001A-MS	SampType: MS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 10/15/2010	RunNo: 78001
Client ID: ZZZZZZ	Batch ID: 35427	TestNo: EPA 6020	EPA 3010A	Analysis Date: 10/15/2010	SeqNo: 1215171

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.431	0.50	12.50	7.113	98.6	75	125				

Sample ID: N004717-001A-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 10/15/2010	RunNo: 78001
Client ID: ZZZZZZ	Batch ID: 35427	TestNo: EPA 6020	EPA 3010A	Analysis Date: 10/15/2010	SeqNo: 1215172

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.338	0.50	12.50	7.113	97.8	75	125	19.43	0.484	20	

Sample ID: MB-35427	SampType: MBLK	TestCode: 6020_WD_AS	Units: µg/L	Prep Date: 10/15/2010	RunNo: 78001
Client ID: PBW	Batch ID: 35427	TestNo: EPA 6020	EPA 3010A	Analysis Date: 10/15/2010	SeqNo: 1215178

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.033	0.10									

Sample ID: LCS-35427	SampType: LCS	TestCode: 6020_WD_AS	Units: µg/L	Prep Date: 10/15/2010	RunNo: 78001
Client ID: LCSW	Batch ID: 35427	TestNo: EPA 6020	EPA 3010A	Analysis Date: 10/15/2010	SeqNo: 1215179

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.318	0.10	12.50	0	98.5	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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004723
Project: PG&E Topock
Lab ID: N004723-001

Client Sample ID: MW-58BR-LWR-169
Collection Date: 10/7/2010
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
				EPA 8260B			
RunID: **MS1_101008A**	QC Batch: **D10VW122**				PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 02:04 PM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	10/8/2010 02:04 PM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	10/8/2010 02:04 PM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	10/8/2010 02:04 PM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	10/8/2010 02:04 PM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	10/8/2010 02:04 PM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	10/8/2010 02:04 PM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	10/8/2010 02:04 PM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	10/8/2010 02:04 PM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	10/8/2010 02:04 PM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	10/8/2010 02:04 PM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	10/8/2010 02:04 PM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	10/8/2010 02:04 PM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	10/8/2010 02:04 PM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	10/8/2010 02:04 PM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 02:04 PM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	10/8/2010 02:04 PM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	10/8/2010 02:04 PM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	10/8/2010 02:04 PM
2-Butanone	ND	0.91	10		µg/L	1	10/8/2010 02:04 PM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	10/8/2010 02:04 PM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	10/8/2010 02:04 PM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	10/8/2010 02:04 PM
Acetone	ND	2.4	10		µg/L	1	10/8/2010 02:04 PM
Acrolein	ND	0.88	20		µg/L	1	10/8/2010 02:04 PM
Acrylonitrile	ND	0.68	20		µg/L	1	10/8/2010 02:04 PM
Benzene	ND	0.051	1.0		µg/L	1	10/8/2010 02:04 PM
Bromobenzene	ND	0.070	1.0		µg/L	1	10/8/2010 02:04 PM
Bromochloromethane	ND	0.091	1.0		µg/L	1	10/8/2010 02:04 PM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	10/8/2010 02:04 PM
Bromoform	ND	0.057	1.0		µg/L	1	10/8/2010 02:04 PM
Bromomethane	ND	0.081	1.0		µg/L	1	10/8/2010 02:04 PM
Carbon disulfide	ND	0.083	1.0		µg/L	1	10/8/2010 02:04 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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004723
Project: PG&E Topock
Lab ID: N004723-001

Client Sample ID: MW-58BR-LWR-169
Collection Date: 10/7/2010
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch: **D10VW122**				PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
Chlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
Chloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 02:04 PM
Chloroform	ND	0.059	1.0		µg/L	1	10/8/2010 02:04 PM
Chloromethane	ND	0.14	1.0		µg/L	1	10/8/2010 02:04 PM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	10/8/2010 02:04 PM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	10/8/2010 02:04 PM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	10/8/2010 02:04 PM
Dibromomethane	ND	0.20	1.0		µg/L	1	10/8/2010 02:04 PM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	10/8/2010 02:04 PM
Ethylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
Freon-113	ND	0.066	1.0		µg/L	1	10/8/2010 02:04 PM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	10/8/2010 02:04 PM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 02:04 PM
m,p-Xylene	ND	0.20	1.0		µg/L	1	10/8/2010 02:04 PM
Methylene chloride	ND	0.065	5.0		µg/L	1	10/8/2010 02:04 PM
MTBE	ND	0.069	1.0		µg/L	1	10/8/2010 02:04 PM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	10/8/2010 02:04 PM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
Naphthalene	ND	0.14	1.0		µg/L	1	10/8/2010 02:04 PM
o-Xylene	ND	0.11	1.0		µg/L	1	10/8/2010 02:04 PM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 02:04 PM
Styrene	ND	0.11	1.0		µg/L	1	10/8/2010 02:04 PM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/8/2010 02:04 PM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	10/8/2010 02:04 PM
Toluene	ND	0.060	2.5		µg/L	1	10/8/2010 02:04 PM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	10/8/2010 02:04 PM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	10/8/2010 02:04 PM
Trichloroethene	ND	0.071	1.0		µg/L	1	10/8/2010 02:04 PM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	10/8/2010 02:04 PM
Vinyl chloride	ND	0.083	1.0		µg/L	1	10/8/2010 02:04 PM
Xylenes, Total	ND	1.5	2.0		µg/L	1	10/8/2010 02:04 PM
Surr: 1,2-Dichloroethane-d4	80.2	0	72-119		%REC	1	10/8/2010 02:04 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	10/8/2010 02:04 PM
Surr: Dibromofluoromethane	90.3	0	85-115		%REC	1	10/8/2010 02:04 PM
Surr: Toluene-d8	115	0	81-120		%REC	1	10/8/2010 02:04 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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004723
Project: PG&E Topock
Lab ID: N004723-002

Client Sample ID: MW-58BR-TB02
Collection Date: 10/7/2010 1:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch:	**D10VW122**			PrepDate:		Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:40 PM
1,1,1-Trichloroethane	ND	0.080	1.0		µg/L	1	10/8/2010 01:40 PM
1,1,2,2-Tetrachloroethane	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
1,1,2-Trichloroethane	ND	0.091	1.0		µg/L	1	10/8/2010 01:40 PM
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	10/8/2010 01:40 PM
1,1-Dichloroethene	ND	0.14	1.0		µg/L	1	10/8/2010 01:40 PM
1,1-Dichloropropene	ND	0.074	1.0		µg/L	1	10/8/2010 01:40 PM
1,2,3-Trichlorobenzene	ND	0.16	1.0		µg/L	1	10/8/2010 01:40 PM
1,2,3-Trichloropropane	ND	0.11	1.0		µg/L	1	10/8/2010 01:40 PM
1,2,4-Trichlorobenzene	ND	0.065	1.0		µg/L	1	10/8/2010 01:40 PM
1,2,4-Trimethylbenzene	ND	0.093	1.0		µg/L	1	10/8/2010 01:40 PM
1,2-Dibromo-3-chloropropane	ND	0.21	2.0		µg/L	1	10/8/2010 01:40 PM
1,2-Dibromoethane	ND	0.10	1.0		µg/L	1	10/8/2010 01:40 PM
1,2-Dichlorobenzene	ND	0.081	1.0		µg/L	1	10/8/2010 01:40 PM
1,2-Dichloroethane	ND	0.059	1.0		µg/L	1	10/8/2010 01:40 PM
1,2-Dichloropropane	ND	0.076	1.0		µg/L	1	10/8/2010 01:40 PM
1,3,5-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 01:40 PM
1,3-Dichlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
1,3-Dichloropropane	ND	0.079	1.0		µg/L	1	10/8/2010 01:40 PM
1,4-Dichlorobenzene	ND	0.057	1.0		µg/L	1	10/8/2010 01:40 PM
2,2-Dichloropropane	ND	0.077	1.0		µg/L	1	10/8/2010 01:40 PM
2-Butanone	ND	0.91	10		µg/L	1	10/8/2010 01:40 PM
2-Chlorotoluene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
4-Chlorotoluene	ND	0.076	1.0		µg/L	1	10/8/2010 01:40 PM
4-Isopropyltoluene	ND	0.097	1.0		µg/L	1	10/8/2010 01:40 PM
4-Methyl-2-pentanone	ND	0.63	10		µg/L	1	10/8/2010 01:40 PM
Acetone	ND	2.4	10		µg/L	1	10/8/2010 01:40 PM
Acrolein	ND	0.88	20		µg/L	1	10/8/2010 01:40 PM
Acrylonitrile	ND	0.68	20		µg/L	1	10/8/2010 01:40 PM
Benzene	ND	0.051	1.0		µg/L	1	10/8/2010 01:40 PM
Bromobenzene	ND	0.070	1.0		µg/L	1	10/8/2010 01:40 PM
Bromochloromethane	ND	0.091	1.0		µg/L	1	10/8/2010 01:40 PM
Bromodichloromethane	ND	0.065	1.0		µg/L	1	10/8/2010 01:40 PM
Bromoform	ND	0.057	1.0		µg/L	1	10/8/2010 01:40 PM
Bromomethane	ND	0.081	1.0		µg/L	1	10/8/2010 01:40 PM
Carbon disulfide	ND	0.083	1.0		µg/L	1	10/8/2010 01:40 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

ANALYTICAL RESULTS

Advanced Technology Laboratories - Las Vegas

Print Date: *18-Oct-10*

CLIENT: CH2M HILL
Lab Order: N004723
Project: PG&E Topock
Lab ID: N004723-002

Client Sample ID: MW-58BR-TB02
Collection Date: 10/7/2010 1:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_101008A**	QC Batch:	**D10VW122**			PrepDate:		Analyst: **QBM**
Carbon tetrachloride	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
Chlorobenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
Chloroethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:40 PM
Chloroform	ND	0.059	1.0		µg/L	1	10/8/2010 01:40 PM
Chloromethane	ND	0.14	1.0		µg/L	1	10/8/2010 01:40 PM
cis-1,2-Dichloroethene	ND	0.087	1.0		µg/L	1	10/8/2010 01:40 PM
cis-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	10/8/2010 01:40 PM
Dibromochloromethane	ND	0.086	1.0		µg/L	1	10/8/2010 01:40 PM
Dibromomethane	ND	0.20	1.0		µg/L	1	10/8/2010 01:40 PM
Dichlorodifluoromethane	ND	0.093	1.0		µg/L	1	10/8/2010 01:40 PM
Ethylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
Freon-113	ND	0.066	1.0		µg/L	1	10/8/2010 01:40 PM
Hexachlorobutadiene	ND	0.095	1.0		µg/L	1	10/8/2010 01:40 PM
Isopropylbenzene	ND	0.11	1.0		µg/L	1	10/8/2010 01:40 PM
m,p-Xylene	ND	0.20	1.0		µg/L	1	10/8/2010 01:40 PM
Methylene chloride	ND	0.065	5.0		µg/L	1	10/8/2010 01:40 PM
MTBE	ND	0.069	1.0		µg/L	1	10/8/2010 01:40 PM
n-Butylbenzene	ND	0.053	1.0		µg/L	1	10/8/2010 01:40 PM
n-Propylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
Naphthalene	ND	0.14	1.0		µg/L	1	10/8/2010 01:40 PM
o-Xylene	ND	0.11	1.0		µg/L	1	10/8/2010 01:40 PM
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	10/8/2010 01:40 PM
Styrene	ND	0.11	1.0		µg/L	1	10/8/2010 01:40 PM
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/8/2010 01:40 PM
Tetrachloroethene	ND	0.067	1.0		µg/L	1	10/8/2010 01:40 PM
Toluene	ND	0.060	2.5		µg/L	1	10/8/2010 01:40 PM
trans-1,2-Dichloroethene	ND	0.085	1.0		µg/L	1	10/8/2010 01:40 PM
trans-1,3-Dichloropropene	ND	0.064	1.0		µg/L	1	10/8/2010 01:40 PM
Trichloroethene	ND	0.071	1.0		µg/L	1	10/8/2010 01:40 PM
Trichlorofluoromethane	ND	0.057	1.0		µg/L	1	10/8/2010 01:40 PM
Vinyl chloride	ND	0.083	1.0		µg/L	1	10/8/2010 01:40 PM
Xylenes, Total	ND	1.5	2.0		µg/L	1	10/8/2010 01:40 PM
Surr: 1,2-Dichloroethane-d4	81.0	0	72-119		%REC	1	10/8/2010 01:40 PM
Surr: 4-Bromofluorobenzene	109	0	76-119		%REC	1	10/8/2010 01:40 PM
Surr: Dibromofluoromethane	91.8	0	85-115		%REC	1	10/8/2010 01:40 PM
Surr: Toluene-d8	119	0	81-120		%REC	1	10/8/2010 01:40 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

Advanced Technology Laboratories - Las Vegas

Date: *18-Oct-10*

CLIENT: CH2M HILL
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **LCSW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.560	1.0	25.00	0	98.2	81	129				
1,1,1-Trichloroethane	20.890	1.0	25.00	0	83.6	67	132				
1,1,2,2-Tetrachloroethane	27.730	1.0	25.00	0	111	63	128				
1,1,2-Trichloroethane	27.440	1.0	25.00	0	110	75	125				
1,1-Dichloroethane	23.090	1.0	25.00	0	92.4	69	133				
1,1-Dichloroethene	22.910	1.0	25.00	0	91.6	68	130				
1,1-Dichloropropene	25.760	1.0	25.00	0	103	73	132				
1,2,3-Trichlorobenzene	29.230	1.0	25.00	0	117	67	137				
1,2,3-Trichloropropane	25.580	1.0	25.00	0	102	73	124				
1,2,4-Trichlorobenzene	29.270	1.0	25.00	0	117	66	134				
1,2,4-Trimethylbenzene	26.960	1.0	25.00	0	108	74	132				
1,2-Dibromo-3-chloropropane	26.580	2.0	25.00	0	106	50	132				
1,2-Dibromoethane	30.380	1.0	25.00	0	122	80	121				S
1,2-Dichlorobenzene	27.060	1.0	25.00	0	108	71	122				
1,2-Dichloroethane	24.870	1.0	25.00	0	99.5	69	132				
1,2-Dichloropropane	25.820	1.0	25.00	0	103	75	125				
1,3,5-Trimethylbenzene	26.620	1.0	25.00	0	106	74	131				
1,3-Dichlorobenzene	27.110	1.0	25.00	0	108	75	124				
1,3-Dichloropropane	24.820	1.0	25.00	0	99.3	73	126				
1,4-Dichlorobenzene	26.680	1.0	25.00	0	107	74	123				
2,2-Dichloropropane	23.870	1.0	25.00	0	95.5	69	137				
2-Butanone	212.960	10	250.0	0	85.2	49	136				
2-Chlorotoluene	25.600	1.0	25.00	0	102	73	126				
4-Chlorotoluene	26.240	1.0	25.00	0	105	74	128				
4-Isopropyltoluene	27.420	1.0	25.00	0	110	73	130				
4-Methyl-2-pentanone	268.910	10	250.0	0	108	58	134				
Acetone	227.220	10	250.0	0	90.9	40	135				
Acrolein	198.470	20	250.0	0	79.4	75	125				
Acrylonitrile	274.830	20	250.0	0	110	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

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D101008LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: µg/L	Prep Date:	RunNo: 77921
Client ID: LCSW	Batch ID: D10VW122	TestNo: EPA 8260B		Analysis Date: 10/8/2010	SeqNo: 1214393

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.410	1.0	25.00	0	102	81	122				
Bromobenzene	25.790	1.0	25.00	0	103	76	124				
Bromochloromethane	24.030	1.0	25.00	0	96.1	65	129				
Bromodichloromethane	22.800	1.0	25.00	0	91.2	76	121				
Bromoform	25.420	1.0	25.00	0	102	69	128				
Bromomethane	22.040	1.0	25.00	0	88.2	53	141				
Carbon disulfide	24.760	1.0	25.00	0	99.0	75	125				
Carbon tetrachloride	23.430	1.0	25.00	0	93.7	66	138				
Chlorobenzene	25.530	1.0	25.00	0	102	81	122				
Chloroethane	22.910	1.0	25.00	0	91.6	58	133				
Chloroform	23.680	1.0	25.00	0	94.7	69	128				
Chloromethane	25.180	1.0	25.00	0	101	56	131				
cis-1,2-Dichloroethene	23.600	1.0	25.00	0	94.4	72	126				
cis-1,3-Dichloropropene	22.460	1.0	25.00	0	89.8	69	131				
Dibromochloromethane	22.690	1.0	25.00	0	90.8	66	133				
Dibromomethane	26.030	1.0	25.00	0	104	76	125				
Dichlorodifluoromethane	21.480	1.0	25.00	0	85.9	53	153				
Ethylbenzene	25.830	1.0	25.00	0	103	73	127				
Freon-113	21.660	1.0	25.00	0	86.6	75	125				
Hexachlorobutadiene	27.590	1.0	25.00	0	110	67	131				
Isopropylbenzene	25.930	1.0	25.00	0	104	75	127				
m,p-Xylene	52.550	1.0	50.00	0	105	76	128				
Methylene chloride	22.590	5.0	25.00	0	90.4	63	137				
MTBE	19.410	1.0	25.00	0	77.6	65	123				
n-Butylbenzene	28.140	1.0	25.00	0	113	69	137				
n-Propylbenzene	26.580	1.0	25.00	0	106	72	129				
Naphthalene	28.190	1.0	25.00	0	113	54	138				
o-Xylene	25.730	1.0	25.00	0	103	80	121				
sec-Butylbenzene	26.980	1.0	25.00	0	108	72	127				
Styrene	27.350	1.0	25.00	0	109	65	134				

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D101008LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **LCSW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	26.560	1.0	25.00	0	106	70	129				
Tetrachloroethene	24.830	1.0	25.00	0	99.3	66	128				
Toluene	26.530	2.5	25.00	0	106	77	122				
trans-1,2-Dichloroethene	24.890	1.0	25.00	0	99.6	63	137				
trans-1,3-Dichloropropene	27.700	1.0	25.00	0	111	59	135				
Trichloroethene	24.390	1.0	25.00	0	97.6	70	127				
Trichlorofluoromethane	21.570	1.0	25.00	0	86.3	57	129				
Vinyl chloride	22.570	1.0	25.00	0	90.3	50	134				
Xylenes, Total	78.280	2.0	75.00	0	104	75	125				
Surr: 1,2-Dichloroethane-d4	22.330		25.00		89.3	72	119				
Surr: 4-Bromofluorobenzene	24.260		25.00		97.0	76	119				
Surr: Dibromofluoromethane	23.090		25.00		92.4	85	115				
Surr: Toluene-d8	25.220		25.00		101	81	120				

Sample ID: **N004717-001CMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.330	1.0	25.00	0	97.3	81	129				
1,1,1-Trichloroethane	19.960	1.0	25.00	0	79.8	67	132				
1,1,2,2-Tetrachloroethane	24.250	1.0	25.00	0	97.0	63	128				
1,1,2-Trichloroethane	23.040	1.0	25.00	0	92.2	75	125				
1,1-Dichloroethane	22.250	1.0	25.00	0	89.0	69	133				
1,1-Dichloroethene	22.060	1.0	25.00	0	88.2	68	130				
1,1-Dichloropropene	25.920	1.0	25.00	0	104	73	132				
1,2,3-Trichlorobenzene	24.700	1.0	25.00	0	98.8	67	137				
1,2,3-Trichloropropane	22.670	1.0	25.00	0	90.7	73	124				
1,2,4-Trichlorobenzene	26.500	1.0	25.00	0	106	66	134				
1,2,4-Trimethylbenzene	27.750	1.0	25.00	0	111	74	132				
1,2-Dibromo-3-chloropropane	21.210	2.0	25.00	0	84.8	50	132				

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	24.500	1.0	25.00	0	98.0	80	121				
1,2-Dichlorobenzene	26.220	1.0	25.00	0	105	71	122				
1,2-Dichloroethane	21.920	1.0	25.00	0	87.7	69	132				
1,2-Dichloropropane	24.010	1.0	25.00	0	96.0	75	125				
1,3,5-Trimethylbenzene	28.230	1.0	25.00	0	113	74	131				
1,3-Dichlorobenzene	27.440	1.0	25.00	0	110	75	124				
1,3-Dichloropropane	22.270	1.0	25.00	0	89.1	73	126				
1,4-Dichlorobenzene	26.940	1.0	25.00	0	108	74	123				
2,2-Dichloropropane	23.200	1.0	25.00	0	92.8	69	137				
2-Butanone	131.330	10	250.0	0	52.5	49	136				
2-Chlorotoluene	27.060	1.0	25.00	0	108	73	126				
4-Chlorotoluene	27.620	1.0	25.00	0	110	74	128				
4-Isopropyltoluene	28.850	1.0	25.00	0	115	73	130				
4-Methyl-2-pentanone	191.010	10	250.0	0	76.4	58	134				
Acetone	109.300	10	250.0	7.450	40.7	40	135				
Acrolein	145.430	20	250.0	0	58.2	75	125				S
Acrylonitrile	198.550	20	250.0	0	79.4	75	125				
Benzene	25.230	1.0	25.00	0	101	81	122				
Bromobenzene	26.520	1.0	25.00	0	106	76	124				
Bromochloromethane	20.870	1.0	25.00	0	83.5	65	129				
Bromodichloromethane	21.170	1.0	25.00	0	84.7	76	121				
Bromoform	21.780	1.0	25.00	0	87.1	69	128				
Bromomethane	21.280	1.0	25.00	0	85.1	53	141				
Carbon disulfide	23.280	1.0	25.00	0.5600	90.9	75	125				
Carbon tetrachloride	22.630	1.0	25.00	0	90.5	66	138				
Chlorobenzene	25.690	1.0	25.00	0	103	81	122				
Chloroethane	23.280	1.0	25.00	0	93.1	58	133				
Chloroform	22.870	1.0	25.00	0	91.5	69	128				
Chloromethane	24.880	1.0	25.00	0	99.5	56	131				
cis-1,2-Dichloroethene	22.810	1.0	25.00	0	91.2	72	126				

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	20.890	1.0	25.00	0	83.6	69	131				
Dibromochloromethane	21.050	1.0	25.00	0	84.2	66	133				
Dibromomethane	21.840	1.0	25.00	0	87.4	76	125				
Dichlorodifluoromethane	22.200	1.0	25.00	0	88.8	53	153				
Ethylbenzene	26.360	1.0	25.00	0	105	73	127				
Freon-113	20.250	1.0	25.00	0	81.0	75	125				
Hexachlorobutadiene	26.160	1.0	25.00	0	105	67	131				
Isopropylbenzene	27.940	1.0	25.00	0	112	75	127				
m,p-Xylene	54.280	1.0	50.00	0	109	76	128				
Methylene chloride	20.540	5.0	25.00	0	82.2	63	137				
MTBE	16.360	1.0	25.00	0	65.4	65	123				
n-Butylbenzene	28.870	1.0	25.00	0	115	69	137				
n-Propylbenzene	28.660	1.0	25.00	0	115	72	129				
Naphthalene	21.610	1.0	25.00	0	86.4	54	138				
o-Xylene	26.210	1.0	25.00	0	105	80	121				
sec-Butylbenzene	28.510	1.0	25.00	0	114	72	127				
Styrene	26.800	1.0	25.00	0	107	65	134				
tert-Butylbenzene	28.320	1.0	25.00	0	113	70	129				
Tetrachloroethene	25.660	1.0	25.00	0	103	66	128				
Toluene	35.340	2.5	25.00	9.320	104	77	122				
trans-1,2-Dichloroethene	23.750	1.0	25.00	0	95.0	63	137				
trans-1,3-Dichloropropene	23.830	1.0	25.00	0	95.3	59	135				
Trichloroethene	24.250	1.0	25.00	0	97.0	70	127				
Trichlorofluoromethane	20.690	1.0	25.00	0	82.8	57	129				
Vinyl chloride	22.420	1.0	25.00	0	89.7	50	134				
Xylenes, Total	80.490	2.0	75.00	0	107	75	125				
Surr: 1,2-Dichloroethane-d4	19.540		25.00		78.2	72	119				
Surr: 4-Bromofluorobenzene	24.250		25.00		97.0	76	119				
Surr: Dibromofluoromethane	21.970		25.00		87.9	85	115				
Surr: Toluene-d8	24.360		25.00		97.4	81	120				

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	23.750	1.0	25.00	0	95.0	81	129	24.33	2.41	20	
1,1,1-Trichloroethane	19.910	1.0	25.00	0	79.6	67	132	19.96	0.251	20	
1,1,2,2-Tetrachloroethane	23.430	1.0	25.00	0	93.7	63	128	24.25	3.44	20	
1,1,2-Trichloroethane	23.850	1.0	25.00	0	95.4	75	125	23.04	3.45	20	
1,1-Dichloroethane	22.640	1.0	25.00	0	90.6	69	133	22.25	1.74	20	
1,1-Dichloroethene	22.540	1.0	25.00	0	90.2	68	130	22.06	2.15	20	
1,1-Dichloropropene	25.280	1.0	25.00	0	101	73	132	25.92	2.50	20	
1,2,3-Trichlorobenzene	27.610	1.0	25.00	0	110	67	137	24.70	11.1	20	
1,2,3-Trichloropropane	21.470	1.0	25.00	0	85.9	73	124	22.67	5.44	20	
1,2,4-Trichlorobenzene	29.090	1.0	25.00	0	116	66	134	26.50	9.32	20	
1,2,4-Trimethylbenzene	23.280	1.0	25.00	0	93.1	74	132	27.75	17.5	20	
1,2-Dibromo-3-chloropropane	21.730	2.0	25.00	0	86.9	50	132	21.21	2.42	20	
1,2-Dibromoethane	25.940	1.0	25.00	0	104	80	121	24.50	5.71	20	
1,2-Dichlorobenzene	26.330	1.0	25.00	0	105	71	122	26.22	0.419	20	
1,2-Dichloroethane	22.100	1.0	25.00	0	88.4	69	132	21.92	0.818	20	
1,2-Dichloropropane	24.430	1.0	25.00	0	97.7	75	125	24.01	1.73	20	
1,3,5-Trimethylbenzene	25.640	1.0	25.00	0	103	74	131	28.23	9.62	20	
1,3-Dichlorobenzene	27.020	1.0	25.00	0	108	75	124	27.44	1.54	20	
1,3-Dichloropropane	22.030	1.0	25.00	0	88.1	73	126	22.27	1.08	20	
1,4-Dichlorobenzene	26.810	1.0	25.00	0	107	74	123	26.94	0.484	20	
2,2-Dichloropropane	23.120	1.0	25.00	0	92.5	69	137	23.20	0.345	20	
2-Butanone	131.570	10	250.0	0	52.6	49	136	131.3	0.183	20	
2-Chlorotoluene	26.450	1.0	25.00	0	106	73	126	27.06	2.28	20	
4-Chlorotoluene	26.700	1.0	25.00	0	107	74	128	27.62	3.39	20	
4-Isopropyltoluene	27.590	1.0	25.00	0	110	73	130	28.85	4.46	20	
4-Methyl-2-pentanone	204.940	10	250.0	0	82.0	58	134	191.0	7.04	20	
Acetone	113.380	10	250.0	7.450	42.4	40	135	109.3	3.66	20	
Acrolein	150.670	20	250.0	0	60.3	75	125	145.4	3.54	20	S
Acrylonitrile	204.160	20	250.0	0	81.7	75	125	198.6	2.79	20	
Benzene	25.100	1.0	25.00	0	100	81	122	25.23	0.517	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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	25.660	1.0	25.00	0	103	76	124	26.52	3.30	20	
Bromochloromethane	21.280	1.0	25.00	0	85.1	65	129	20.87	1.95	20	
Bromodichloromethane	21.290	1.0	25.00	0	85.2	76	121	21.17	0.565	20	
Bromoform	21.740	1.0	25.00	0	87.0	69	128	21.78	0.184	20	
Bromomethane	21.960	1.0	25.00	0	87.8	53	141	21.28	3.15	20	
Carbon disulfide	24.330	1.0	25.00	0.5600	95.1	75	125	23.28	4.41	20	
Carbon tetrachloride	22.700	1.0	25.00	0	90.8	66	138	22.63	0.309	20	
Chlorobenzene	25.730	1.0	25.00	0	103	81	122	25.69	0.156	20	
Chloroethane	23.620	1.0	25.00	0	94.5	58	133	23.28	1.45	20	
Chloroform	22.960	1.0	25.00	0	91.8	69	128	22.87	0.393	20	
Chloromethane	25.760	1.0	25.00	0	103	56	131	24.88	3.48	20	
cis-1,2-Dichloroethene	23.220	1.0	25.00	0	92.9	72	126	22.81	1.78	20	
cis-1,3-Dichloropropene	21.190	1.0	25.00	0	84.8	69	131	20.89	1.43	20	
Dibromochloromethane	20.980	1.0	25.00	0	83.9	66	133	21.05	0.333	20	
Dibromomethane	22.390	1.0	25.00	0	89.6	76	125	21.84	2.49	20	
Dichlorodifluoromethane	22.120	1.0	25.00	0	88.5	53	153	22.20	0.361	20	
Ethylbenzene	26.320	1.0	25.00	0	105	73	127	26.36	0.152	20	
Freon-113	20.770	1.0	25.00	0	83.1	75	125	20.25	2.54	20	
Hexachlorobutadiene	28.380	1.0	25.00	0	114	67	131	26.16	8.14	20	
Isopropylbenzene	26.630	1.0	25.00	0	107	75	127	27.94	4.80	20	
m,p-Xylene	53.180	1.0	50.00	0	106	76	128	54.28	2.05	20	
Methylene chloride	21.730	5.0	25.00	0	86.9	63	137	20.54	5.63	20	
MTBE	17.100	1.0	25.00	0	68.4	65	123	16.36	4.42	20	
n-Butylbenzene	28.750	1.0	25.00	0	115	69	137	28.87	0.417	20	
n-Propylbenzene	27.190	1.0	25.00	0	109	72	129	28.66	5.26	20	
Naphthalene	21.770	1.0	25.00	0	87.1	54	138	21.61	0.738	20	
o-Xylene	25.900	1.0	25.00	0	104	80	121	26.21	1.19	20	
sec-Butylbenzene	27.550	1.0	25.00	0	110	72	127	28.51	3.42	20	
Styrene	19.790	1.0	25.00	0	79.2	65	134	26.80	30.1	20	R
tert-Butylbenzene	27.260	1.0	25.00	0	109	70	129	28.32	3.81	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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N004717-001CMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **ZZZZZZ** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	25.300	1.0	25.00	0	101	66	128	25.66	1.41	20	
Toluene	37.070	2.5	25.00	9.320	111	77	122	35.34	4.78	20	
trans-1,2-Dichloroethene	24.120	1.0	25.00	0	96.5	63	137	23.75	1.55	20	
trans-1,3-Dichloropropene	24.630	1.0	25.00	0	98.5	59	135	23.83	3.30	20	
Trichloroethene	24.180	1.0	25.00	0	96.7	70	127	24.25	0.289	20	
Trichlorofluoromethane	21.150	1.0	25.00	0	84.6	57	129	20.69	2.20	20	
Vinyl chloride	22.850	1.0	25.00	0	91.4	50	134	22.42	1.90	20	
Xylenes, Total	79.080	2.0	75.00	0	105	75	125	80.49	1.77	20	
Surr: 1,2-Dichloroethane-d4	19.750		25.00		79.0	72	119		0		
Surr: 4-Bromofluorobenzene	24.650		25.00		98.6	76	119		0		
Surr: Dibromofluoromethane	22.520		25.00		90.1	85	115		0		
Surr: Toluene-d8	25.730		25.00		103	81	120		0		

Sample ID: **D101008MB3** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **µg/L** Prep Date: RunNo: **77921**
Client ID: **PBW** Batch ID: **D10VW122** TestNo: **EPA 8260B** Analysis Date: **10/8/2010** SeqNo: **1214396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D101008MB3	SampType: MBLK	TestCode: 8260_WP_LL	Units: µg/L	Prep Date:	RunNo: 77921
Client ID: PBW	Batch ID: D10VW122	TestNo: EPA 8260B		Analysis Date: 10/8/2010	SeqNo: 1214396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,3-Dichloropropane	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
2,2-Dichloropropane	ND	1.0									
2-Butanone	ND	10									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
4-Isopropyltoluene	ND	1.0									
4-Methyl-2-pentanone	ND	10									
Acetone	ND	10									
Acrolein	ND	20									
Acrylonitrile	ND	20									
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromochloromethane	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									

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
Work Order: N004723
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D101008MB3	SampType: MBLK	TestCode: 8260_WP_LL	Units: µg/L	Prep Date:	RunNo: 77921
Client ID: PBW	Batch ID: D10VW122	TestNo: EPA 8260B		Analysis Date: 10/8/2010	SeqNo: 1214396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.5									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	21.740		25.00		87.0	72	119				
Surr: 4-Bromofluorobenzene	25.090		25.00		100	76	119				
Surr: Dibromofluoromethane	22.270		25.00		89.1	85	115				
Surr: Toluene-d8	27.920		25.00		112	81	120				

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	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc
3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

GMP-169 MW-58BR-LWR ATL

CH2MHILL

CHAIN OF CUSTODY RECORD

10/7/2010 1:51:50 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: ATL

Container:	250 ml Poly	2x 40 ml VOA	2x40 ml VOA	1x1L poly
Preservatives:	HNO3, 4°C	H3PO4, 4°C	HCl	4°C
Filtered:	Field	NA	NA	
Holding Time:	180	28		
	Arsenic (6020) Field Filtered	TOC (SM5310C)	8260 B VOCs	TDS, NO3-, Cl-

	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	TOC (SM5310C)	8260 B VOCs	TDS, NO3-, Cl-		Number of Containers	COMMENTS
MW-58BR-LWR-169	10/7/2010		Water	X	X	X	X	N0047723-1	~~3~~	6
MW-58BR-~~LWR~~-TB02	10-7-10	1330	"			X		VOCs trip blank	~~3~~ 6	pkc

TOTAL NUMBER OF CONTAINERS

	Signatures	Date/Time
Approved by		
Sampled by		10-7-10
Relinquished by		
Received by		10/7/10 @ 1505
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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: 10/7/2010 Workorder: N004723

Rep sample Temp (Deg C): 4.7 IR Gun ID: IR 1

Temp Blank: ☐ Yes ☑ No

Carrier name: ATL

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: 1 VOA for MW-58BR-TB02 has a headspace <5mm

Checklist Completed B MBC

Reviewed By: [illegible] 10/8/10

GMP-169 MW-58BR-LWR ATL

CH2MHILL

CHAIN OF CUSTODY RECORD

10/7/2010 1:51:50 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-GMP-169-Q3
Turnaround Time 10 Days
Shipping Date: 9/16/2010
COC Number: ATL

Container:				250 ml Poly	2 x 40 ml VOA	2 x 40 ml VOA	1 x 1L poly		Number of Containers	COMMENTS
Preservatives:				HNO3, 4°C	H3PO4, 4°C	HCl	4°C			
Filtered:				Field	NA	NA				
Holding Time:				180	28					
	DATE	TIME	Matrix	Arsenic (6020) Field Filtered	TOC (SM5310C)	8260B VOCs	TDS, NO_3^-, Cl^-			
MW-58BR-LWR-169	10/7/2010		Water	x	x	X	X		~~3~~	6
MW-58BR-~~LWR~~ TB02	10-7-10	1330	"			X		VOCs trip blank	TOTAL NUMBER OF CONTAINERS ~~3~~ 6	PEC

	Signatures	Date/Time
Approved by		10-7-10
Sampled by		
Relinquished by		
Received by		10/7/10 @ 1505
Relinquished by		
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody

Special Instructions:
Sept 27-Oct 8, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

4.7°C IR#1

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N004723-001D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(15.4418-15.3280)*1000000}{20}$$
$$= 5690 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 5700 mg/L

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Chloride concentration, in mg/L, in the original sample as follows:

Chloride, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N004723-001D**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	2.853 * 1000
	=	2853 mg/L

Reporting **N004723-001D** results in two significant figures,

Chloride, mg/L	**=**	**2900 mg/L**

A10413

Sample Calculation

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Arsenic concentration, in ug/L, in the original sample as follows:

Arsenic, ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N004723-001A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 0.676 * 5 * (50/40)

= 4.225 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 4.2

SAMPLE CALCULATION

METHOD: EPA 8260B
TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS
MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X, ug/L = \frac{A_X * C_{IS}}{Ave\ RF * A_{IS}}$$

where:

A_X = Area of the TOTAL ion for the compound being measured
C_{IS} = Concentration of the specific internal standard in ug/L
A_{IS} = Area of the characteristic ion of the specific internal standard
C_X = Concentration of the compound being measured in ug/L

N004723-001C

For Dibromofluoromethane the corresponding Internal Standard is Pentafluorobenzene

Ave RF	0.357
Area of Dibromofluoromethane	117277
Area of Internal Standard	364272
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of Dibromofluoromethane (ug/L)} = \frac{117277 * 25.00ug/L}{0.357 * 364272}$$

Conc of Dibromofluoromethane (ug/L)= 22.545447

Reporting result in three significant figures,

Concentration of Dibromofluoromethane = 22.5 ug/L

Nicholas L

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 3, 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 2010-RMP-169, SURFACEWATER MONITORING PROJECT, TLI NO.: 991625

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2010-RMP-169 surfacewater-monitoring project. 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 are 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.

No sample containers were received for C-MAR-D-169. Mr. Shawn Duffy was notified and he confirmed that no samples were collected for that site.

The samples for pH analysis by method SM 4500-H B were received past the holding time. The samples were analyzed at the request of Mr. Shawn Duffy.

Total Dissolved Chromium was analyzed by SW 6020 rather than SW 6010B as requested on the chain of custody with Mr. Shawn Duffy's approval.

Total Dissolved Chromium, for sample C-CON-D-169, was re-analyzed due to the discrepancy between the Total Dissolved Chromium and Hexavalent Chromium results. The result from the re-analysis is reported.

No other violations or non-conformance 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

Event 2010-RMP-169 Cr by SW 6020, Surfacewater Samples

Samples field filtered unless otherwise noted

Sample ID	Initial pH	pH adjustment needed?	Amount of additional acid needed	Final pH	Comments
C-BNS-D-169	2.00	No			
C-I-3-D-169	2.00	No			
C-I-3-S-169	2.00	No			
C-MAR-S-169	2.00	No			
C-R22A-D-169	2.00	No			
C-R22A-S-169	2.00	No			
C-R27-D-169	2.00	No			
C-R27-S-169	2.00	No			
C-TAZ-D-169	2.00	No			
C-TAZ-S-169	2.00	No			
R-28-169	2.00	No			
R63-169	2.00	No			
SW1-169	2.00	No			
SW2-169	2.00	No			
C-CON-D-169	2.00	No			
C-CON-S-169	2.00	No			
C-NR1-D-169	2.00	No			
C-NR1-S-169	2.00	No			
C-NR3-D-169	2.00	No			
C-NR3-S-169	2.00	No			
C-NR4-D-169	2.00	No			
C-NR4-S-169	2.00	No			
R-19-169	2.00	No			
RRB-169	2.00	No			

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

Event 2010-RMP-169 Cr (VI) by EPA 218.6, Surfacewater Samples

Samples field filtered unless otherwise noted

Sample ID	Initial pH	pH adjustment needed?	Amount of additional buffer needed	Final pH	Comments
C-BNS-D-169	9.50	No			
C-I-3-D-169	9.50	No			
C-I-3-S-169	9.50	No			
C-MAR-S-169	9.50	No			
C-R22A-D-169	9.50	No			
C-R22A-S-169	9.50	No			
C-R27-D-169	9.50	No			
C-R27-S-169	9.50	No			
C-TAZ-D-169	9.50	No			
C-TAZ-S-169	9.50	No			
R-28-169	9.50	No			
R63-169	9.50	No			
SW1-169	9.50	No			
SW2-169	9.50	No			
C-CON-D-169	9.50	No			
C-CON-S-169	9.50	No			
C-NR1-D-169	9.50	No			
C-NR1-S-169	9.50	No			
C-NR3-D-169	9.50	No			
C-NR3-S-169	9.50	No			
C-NR4-D-169	9.50	No			
C-NR4-S-169	9.50	No			
R-19-169	9.50	No			
RRB-169	9.50	No			

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

Laboratory No.: 991625
Date Received: October 13, 2010

Project Name: PG&E Topock Project
Project No.: 390378.MP.02.RM.01
P.O. No.: 390378.MP.02.RM.01

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991625-001	C-BNS-D-169	E120.1	NONE	10/12/2010	11:18	EC	929	umhos/cm	2.00
991625-001	C-BNS-D-169	E218.6	FLDFLT	10/12/2010	11:18	Chromium, hexavalent	ND	ug/L	0.20
991625-001	C-BNS-D-169	SM4500HB	NONE	10/12/2010	11:18	PH	8.03 J	pH	4.00
991625-001	C-BNS-D-169	SW6020	FLDFLT	10/12/2010	11:18	Chromium	ND	ug/L	1.0
991625-002	C-I-3-D-169	E120.1	NONE	10/12/2010	9:52	EC	928	umhos/cm	2.00
991625-002	C-I-3-D-169	E218.6	FLDFLT	10/12/2010	9:52	Chromium, hexavalent	ND	ug/L	0.20
991625-002	C-I-3-D-169	SM4500HB	NONE	10/12/2010	9:52	PH	8.08 J	pH	4.00
991625-002	C-I-3-D-169	SW6020	FLDFLT	10/12/2010	9:52	Chromium	ND	ug/L	1.0
991625-003	C-I-3-S-169	E120.1	NONE	10/12/2010	10:05	EC	921	umhos/cm	2.00
991625-003	C-I-3-S-169	E218.6	FLDFLT	10/12/2010	10:05	Chromium, hexavalent	ND	ug/L	0.20
991625-003	C-I-3-S-169	SM4500HB	NONE	10/12/2010	10:05	PH	8.10 J	pH	4.00
991625-003	C-I-3-S-169	SW6020	FLDFLT	10/12/2010	10:05	Chromium	ND	ug/L	1.0
991625-004	C-MAR-S-169	E120.1	NONE	10/12/2010	12:28	EC	955	umhos/cm	2.00
991625-004	C-MAR-S-169	E218.6	FLDFLT	10/12/2010	12:28	Chromium, hexavalent	ND	ug/L	0.20
991625-004	C-MAR-S-169	SM4500HB	NONE	10/12/2010	12:28	PH	7.84 J	pH	4.00
991625-004	C-MAR-S-169	SW6020	FLDFLT	10/12/2010	12:28	Chromium	ND	ug/L	1.0
991625-005	C-R22A-D-169	E120.1	NONE	10/12/2010	10:46	EC	933	umhos/cm	2.00
991625-005	C-R22A-D-169	E218.6	FLDFLT	10/12/2010	10:46	Chromium, hexavalent	ND	ug/L	0.20
991625-005	C-R22A-D-169	SM4500HB	NONE	10/12/2010	10:46	PH	8.08 J	pH	4.00
991625-005	C-R22A-D-169	SW6020	FLDFLT	10/12/2010	10:46	Chromium	ND	ug/L	1.0
991625-006	C-R22A-S-169	E120.1	NONE	10/12/2010	10:56	EC	932	umhos/cm	2.00
991625-006	C-R22A-S-169	E218.6	FLDFLT	10/12/2010	10:56	Chromium, hexavalent	ND	ug/L	0.20
991625-006	C-R22A-S-169	SM4500HB	NONE	10/12/2010	10:56	PH	8.11 J	pH	4.00
991625-006	C-R22A-S-169	SW6020	FLDFLT	10/12/2010	10:56	Chromium	ND	ug/L	1.0

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991625-007	C-R27-D-169	E120.1	NONE	10/12/2010	11:43	EC	933	umhos/cm	2.00
991625-007	C-R27-D-169	E218.6	FLDFLT	10/12/2010	11:43	Chromium, hexavalent	ND	ug/L	0.20
991625-007	C-R27-D-169	SM4500HB	NONE	10/12/2010	11:43	PH	8.11 J	pH	4.00
991625-007	C-R27-D-169	SW6020	FLDFLT	10/12/2010	11:43	Chromium	ND	ug/L	1.0
991625-008	C-R27-S-169	E120.1	NONE	10/12/2010	11:55	EC	927	umhos/cm	2.00
991625-008	C-R27-S-169	E218.6	FLDFLT	10/12/2010	11:55	Chromium, hexavalent	ND	ug/L	0.20
991625-008	C-R27-S-169	SM4500HB	NONE	10/12/2010	11:55	PH	8.08 J	pH	4.00
991625-008	C-R27-S-169	SW6020	FLDFLT	10/12/2010	11:55	Chromium	ND	ug/L	1.0
991625-009	C-TAZ-D-169	E120.1	NONE	10/12/2010	9:10	EC	931	umhos/cm	2.00
991625-009	C-TAZ-D-169	E218.6	FLDFLT	10/12/2010	9:10	Chromium, hexavalent	ND	ug/L	0.20
991625-009	C-TAZ-D-169	SM4500HB	NONE	10/12/2010	9:10	PH	8.14 J	pH	4.00
991625-009	C-TAZ-D-169	SW6020	FLDFLT	10/12/2010	9:10	Chromium	ND	ug/L	1.0
991625-010	C-TAZ-S-169	E120.1	NONE	10/12/2010	9:22	EC	927	umhos/cm	2.00
991625-010	C-TAZ-S-169	E218.6	FLDFLT	10/12/2010	9:22	Chromium, hexavalent	ND	ug/L	0.20
991625-010	C-TAZ-S-169	SM4500HB	NONE	10/12/2010	9:22	PH	8.13 J	pH	4.00
991625-010	C-TAZ-S-169	SW6020	FLDFLT	10/12/2010	9:22	Chromium	ND	ug/L	1.0
991625-011	R-28-169	E120.1	NONE	10/12/2010	12:17	EC	930	umhos/cm	2.00
991625-011	R-28-169	E218.6	FLDFLT	10/12/2010	12:17	Chromium, hexavalent	ND	ug/L	0.20
991625-011	R-28-169	SM4500HB	NONE	10/12/2010	12:17	PH	8.17 J	pH	4.00
991625-011	R-28-169	SW6020	FLDFLT	10/12/2010	12:17	Chromium	ND	ug/L	1.0
991625-012	R63-169	E120.1	NONE	10/12/2010	10:18	EC	932	umhos/cm	2.00
991625-012	R63-169	E218.6	FLDFLT	10/12/2010	10:18	Chromium, hexavalent	ND	ug/L	0.20
991625-012	R63-169	SM4500HB	NONE	10/12/2010	10:18	PH	8.19 J	pH	4.00
991625-012	R63-169	SW6020	FLDFLT	10/12/2010	10:18	Chromium	ND	ug/L	1.0
991625-013	SW1-169	E120.1	NONE	10/12/2010	13:25	EC	958	umhos/cm	2.00
991625-013	SW1-169	E218.6	FLDFLT	10/12/2010	13:25	Chromium, hexavalent	ND	ug/L	0.20
991625-013	SW1-169	SM4500HB	NONE	10/12/2010	13:25	PH	7.69 J	pH	4.00
991625-013	SW1-169	SW6020	FLDFLT	10/12/2010	13:25	Chromium	ND	ug/L	1.0
991625-014	SW2-169	E120.1	NONE	10/12/2010	13:45	EC	963	umhos/cm	2.00
991625-014	SW2-169	E218.6	FLDFLT	10/12/2010	13:45	Chromium, hexavalent	ND	ug/L	0.20
991625-014	SW2-169	SM4500HB	NONE	10/12/2010	13:45	PH	7.68 J	pH	4.00
991625-014	SW2-169	SW6020	FLDFLT	10/12/2010	13:45	Chromium	ND	ug/L	1.0

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991625-015	C-CON-D-169	E120.1	NONE	10/13/2010	9:16	EC	933	umhos/cm	2.00
991625-015	C-CON-D-169	E218.6	FLDFLT	10/13/2010	9:16	Chromium, hexavalent	ND	ug/L	0.20
991625-015	C-CON-D-169	SM4500HB	NONE	10/13/2010	9:16	PH	8.14 J	pH	4.00
991625-015	C-CON-D-169	SW6020	FLDFLT	10/13/2010	9:16	Chromium	ND	ug/L	1.0
991625-016	C-CON-S-169	E120.1	NONE	10/13/2010	9:28	EC	944	umhos/cm	2.00
991625-016	C-CON-S-169	E218.6	FLDFLT	10/13/2010	9:28	Chromium, hexavalent	ND	ug/L	0.20
991625-016	C-CON-S-169	SM4500HB	NONE	10/13/2010	9:28	PH	8.15 J	pH	4.00
991625-016	C-CON-S-169	SW6020	FLDFLT	10/13/2010	9:28	Chromium	ND	ug/L	1.0
991625-017	C-NR1-D-169	E120.1	NONE	10/13/2010	9:58	EC	941	umhos/cm	2.00
991625-017	C-NR1-D-169	E218.6	FLDFLT	10/13/2010	9:58	Chromium, hexavalent	ND	ug/L	0.20
991625-017	C-NR1-D-169	SM4500HB	NONE	10/13/2010	9:58	PH	7.96 J	pH	4.00
991625-017	C-NR1-D-169	SW6020	FLDFLT	10/13/2010	9:58	Chromium	ND	ug/L	1.0
991625-018	C-NR1-S-169	E120.1	NONE	10/13/2010	10:12	EC	943	umhos/cm	2.00
991625-018	C-NR1-S-169	E218.6	FLDFLT	10/13/2010	10:12	Chromium, hexavalent	ND	ug/L	0.20
991625-018	C-NR1-S-169	SM4500HB	NONE	10/13/2010	10:12	PH	8.01 J	pH	4.00
991625-018	C-NR1-S-169	SW6020	FLDFLT	10/13/2010	10:12	Chromium	ND	ug/L	1.0
991625-019	C-NR3-D-169	E120.1	NONE	10/13/2010	10:43	EC	942	umhos/cm	2.00
991625-019	C-NR3-D-169	E218.6	FLDFLT	10/13/2010	10:43	Chromium, hexavalent	ND	ug/L	0.20
991625-019	C-NR3-D-169	SM4500HB	NONE	10/13/2010	10:43	PH	8.08 J	pH	4.00
991625-019	C-NR3-D-169	SW6020	FLDFLT	10/13/2010	10:43	Chromium	ND	ug/L	1.0
991625-020	C-NR3-S-169	E120.1	NONE	10/13/2010	10:56	EC	926	umhos/cm	2.00
991625-020	C-NR3-S-169	E218.6	FLDFLT	10/13/2010	10:56	Chromium, hexavalent	ND	ug/L	0.20
991625-020	C-NR3-S-169	SM4500HB	NONE	10/13/2010	10:56	PH	8.12 J	pH	4.00
991625-020	C-NR3-S-169	SW6020	FLDFLT	10/13/2010	10:56	Chromium	ND	ug/L	1.0
991625-021	C-NR4-D-169	E120.1	NONE	10/13/2010	11:25	EC	942	umhos/cm	2.00
991625-021	C-NR4-D-169	E218.6	FLDFLT	10/13/2010	11:25	Chromium, hexavalent	ND	ug/L	0.20
991625-021	C-NR4-D-169	SM4500HB	NONE	10/13/2010	11:25	PH	8.09 J	pH	4.00
991625-021	C-NR4-D-169	SW6020	FLDFLT	10/13/2010	11:25	Chromium	ND	ug/L	1.0
991625-022	C-NR4-S-169	E120.1	NONE	10/13/2010	11:38	EC	943	umhos/cm	2.00
991625-022	C-NR4-S-169	E218.6	FLDFLT	10/13/2010	11:38	Chromium, hexavalent	ND	ug/L	0.20
991625-022	C-NR4-S-169	SM4500HB	NONE	10/13/2010	11:38	PH	8.10 J	pH	4.00
991625-022	C-NR4-S-169	SW6020	FLDFLT	10/13/2010	11:38	Chromium	ND	ug/L	1.0

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991625-023	R-19-169	E120.1	NONE	10/13/2010	8:20	EC	944	umhos/cm	2.00
991625-023	R-19-169	E218.6	FLDFLT	10/13/2010	8:20	Chromium, hexavalent	ND	ug/L	0.20
991625-023	R-19-169	SM4500HB	NONE	10/13/2010	8:20	PH	8.17 J	pH	4.00
991625-023	R-19-169	SW6020	FLDFLT	10/13/2010	8:20	Chromium	ND	ug/L	1.0
991625-024	RRB-169	E120.1	NONE	10/13/2010	8:40	EC	961	umhos/cm	2.00
991625-024	RRB-169	E218.6	FLDFLT	10/13/2010	8:40	Chromium, hexavalent	ND	ug/L	0.20
991625-024	RRB-169	SM4500HB	NONE	10/13/2010	8:40	PH	7.94 J	pH	4.00
991625-024	RRB-169	SW6020	FLDFLT	10/13/2010	8:40	Chromium	ND	ug/L	1.0

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.

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 390378.MP.02.RM.01
Project Number: 390378.MP.02.RM.01

Laboratory No. 991625

Printed 11/3/2010

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

Field ID	Lab ID	Collected	Matrix
C-BNS-D-169	991625-001	10/12/2010 11:18	Water
C-I-3-D-169	991625-002	10/12/2010 09:52	Water
C-I-3-S-169	991625-003	10/12/2010 10:05	Water
C-MAR-S-169	991625-004	10/12/2010 12:28	Water
C-R22A-D-169	991625-005	10/12/2010 10:46	Water
C-R22A-S-169	991625-006	10/12/2010 10:56	Water
C-R27-D-169	991625-007	10/12/2010 11:43	Water
C-R27-S-169	991625-008	10/12/2010 11:55	Water
C-TAZ-D-169	991625-009	10/12/2010 09:10	Water
C-TAZ-S-169	991625-010	10/12/2010 09:22	Water
R-28-169	991625-011	10/12/2010 12:17	Water
R63-169	991625-012	10/12/2010 10:18	Water
SW1-169	991625-013	10/12/2010 13:25	Water
SW2-169	991625-014	10/12/2010 13:45	Water
C-CON-D-169	991625-015	10/13/2010 09:16	Water
C-CON-S-169	991625-016	10/13/2010 09:28	Water
C-NR1-D-169	991625-017	10/13/2010 09:58	Water
C-NR1-S-169	991625-018	10/13/2010 10:12	Water
C-NR3-D-169	991625-019	10/13/2010 10:43	Water
C-NR3-S-169	991625-020	10/13/2010 10:56	Water
C-NR4-D-169	991625-021	10/13/2010 11:25	Water
C-NR4-S-169	991625-022	10/13/2010 11:38	Water
R-19-169	991625-023	10/13/2010 08:20	Water
RRB-169	991625-024	10/13/2010 08:40	Water

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

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-001 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	929.
991625-002 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	928.
991625-003 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	921.

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

991625-004	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	955.
991625-005	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	933.
991625-006	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	932.
991625-007	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	933.
991625-008	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	927.
991625-009	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	931.
991625-010	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	927.
991625-011	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	930.
991625-012	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	932.
991625-013	Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	958.

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

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

Specific Conductivity - EPA 120.1 Batch 10EC10I 10/19/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-014 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	963.
991625-015 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	933.
991625-016 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	944.
991625-017 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	941.
991625-018 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	943.
991625-019 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	942.
991625-020 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	926.
991625-021 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	942.
991625-022 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	943.
991625-023 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	944.
991625-024 Specific Conductivity	umhos/cm	10/19/2010	1.00	0.0380	2.00	961.

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate Lab ID = 991625-017

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	941.	941.	0	0 - 10

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	702.	706.	99.4	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	995.	999.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	903.	999.	90.4	90 - 110

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

Chrome VI by EPA 218.6

Batch 10CrH10J

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-001 Chromium, Hexavalent	ug/L	10/19/2010 11:27	1.05	0.0210	0.20	ND
991625-002 Chromium, Hexavalent	ug/L	10/19/2010 11:38	1.05	0.0210	0.20	ND
991625-003 Chromium, Hexavalent	ug/L	10/19/2010 11:48	1.05	0.0210	0.20	ND
991625-004 Chromium, Hexavalent	ug/L	10/19/2010 11:58	1.05	0.0210	0.20	ND
991625-005 Chromium, Hexavalent	ug/L	10/19/2010 13:34	1.05	0.0210	0.20	ND
991625-006 Chromium, Hexavalent	ug/L	10/19/2010 13:44	1.05	0.0210	0.20	ND
991625-007 Chromium, Hexavalent	ug/L	10/19/2010 13:55	1.05	0.0210	0.20	ND
991625-008 Chromium, Hexavalent	ug/L	10/19/2010 14:05	1.05	0.0210	0.20	ND
991625-009 Chromium, Hexavalent	ug/L	10/19/2010 14:57	1.05	0.0210	0.20	ND
991625-010 Chromium, Hexavalent	ug/L	10/19/2010 15:28	1.05	0.0210	0.20	ND
991625-011 Chromium, Hexavalent	ug/L	10/19/2010 15:39	1.05	0.0210	0.20	ND
991625-012 Chromium, Hexavalent	ug/L	10/19/2010 15:49	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate — Lab ID = 991625-001

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	4.80	5.00	96.0	90 - 110

Matrix Spike — Lab ID = 991625-001

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 = 991625-002

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 = 991625-003

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 = 991625-004

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

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

Matrix Spike — Lab ID = 991625-005

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 = 991625-006

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 = 991625-007

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 = 991625-008

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 = 991625-009

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 = 991625-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.2	90 - 110

Matrix Spike — Lab ID = 991625-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.0	90 - 110

Matrix Spike — Lab ID = 991625-012

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.81	5.00	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.60	10.0	96.0	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.65	10.0	96.5	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.54	10.0	95.4	95 - 105

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

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

Chrome VI by EPA 218.6

Batch 10CrH10K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-013 Chromium, Hexavalent	ug/L	10/20/2010 08:56	1.05	0.0210	0.20	ND
991625-014 Chromium, Hexavalent	ug/L	10/20/2010 09:07	1.05	0.0210	0.20	ND
991625-015 Chromium, Hexavalent	ug/L	10/20/2010 09:17	1.05	0.0210	0.20	ND
991625-016 Chromium, Hexavalent	ug/L	10/20/2010 09:28	1.05	0.0210	0.20	ND
991625-017 Chromium, Hexavalent	ug/L	10/20/2010 11:18	1.05	0.0210	0.20	ND
991625-018 Chromium, Hexavalent	ug/L	10/20/2010 11:28	1.05	0.0210	0.20	ND
991625-019 Chromium, Hexavalent	ug/L	10/20/2010 11:38	1.05	0.0210	0.20	ND
991625-020 Chromium, Hexavalent	ug/L	10/20/2010 11:49	1.05	0.0210	0.20	ND
991625-021 Chromium, Hexavalent	ug/L	10/20/2010 13:26	1.05	0.0210	0.20	ND
991625-022 Chromium, Hexavalent	ug/L	10/20/2010 13:58	1.05	0.0210	0.20	ND
991625-023 Chromium, Hexavalent	ug/L	10/20/2010 14:08	1.05	0.0210	0.20	ND
991625-024 Chromium, Hexavalent	ug/L	10/20/2010 14:18	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

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

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

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

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

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

Metals by EPA 6020A, Dissolved Batch 102510D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-020 Chromium	ug/L	10/25/2010 19:05	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 991486-007

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	48.2	50.0	96.4	90 - 110

Matrix Spike — Lab ID = 991486-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	232	250.(250.)	93.0	75 - 125

Matrix Spike Duplicate — Lab ID = 991486-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	231	250.(250.)	92.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.3	50.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.7	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		

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	44.1	50.0	88.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.7	80 - 120

Serial Dilution Lab ID = 991394-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	100	4630	4630	0.0432	0 - 10

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

Metals by EPA 6020A, Dissolved Batch 101910B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-001 Chromium	ug/L	10/19/2010 18:56	5.00	0.0950	1.0	ND
991625-002 Chromium	ug/L	10/19/2010 19:23	5.00	0.0950	1.0	ND
991625-003 Chromium	ug/L	10/19/2010 19:30	5.00	0.0950	1.0	ND
991625-004 Chromium	ug/L	10/19/2010 19:57	5.00	0.0950	1.0	ND
991625-005 Chromium	ug/L	10/19/2010 20:04	5.00	0.0950	1.0	ND
991625-006 Chromium	ug/L	10/19/2010 20:11	5.00	0.0950	1.0	ND
991625-007 Chromium	ug/L	10/19/2010 20:17	5.00	0.0950	1.0	ND
991625-008 Chromium	ug/L	10/19/2010 20:24	5.00	0.0950	1.0	ND
991625-009 Chromium	ug/L	10/19/2010 20:31	5.00	0.0950	1.0	ND
991625-010 Chromium	ug/L	10/19/2010 20:38	5.00	0.0950	1.0	ND
991625-011 Chromium	ug/L	10/19/2010 20:45	5.00	0.0950	1.0	ND
991625-012 Chromium	ug/L	10/19/2010 20:51	5.00	0.0950	1.0	ND
991625-013 Chromium	ug/L	10/19/2010 20:58	5.00	0.0950	1.0	ND
991625-014 Chromium	ug/L	10/19/2010 21:39	5.00	0.0950	1.0	ND
991625-016 Chromium	ug/L	10/19/2010 21:52	5.00	0.0950	1.0	ND
991625-017 Chromium	ug/L	10/19/2010 21:59	5.00	0.0950	1.0	ND
991625-018 Chromium	ug/L	10/19/2010 22:06	5.00	0.0950	1.0	ND
991625-019 Chromium	ug/L	10/19/2010 22:13	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 991625-001

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	50.0	50.0	100.	90 - 110

Matrix Spike — Lab ID = 991625-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	232	250.(250.)	93.0	75 - 125

Matrix Spike Duplicate — Lab ID = 991625-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	230	250.(250.)	92.0	75 - 125

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.7	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.5	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 AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.4	50.0	101	80 - 120

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

Metals by EPA 6020A, Dissolved

Batch 110210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991625-015 Chromium	ug/L	11/02/2010 18:07	5.00	0.0950	1.0	ND
991625-021 Chromium	ug/L	11/02/2010 16:44	5.00	0.0950	1.0	ND
991625-022 Chromium	ug/L	11/02/2010 17:19	5.00	0.0950	1.0	ND
991625-023 Chromium	ug/L	11/02/2010 17:26	5.00	0.0950	1.0	ND
991625-024 Chromium	ug/L	11/02/2010 18:00	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.4	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

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.5	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
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	49.7	50.0	99.3	90 - 110

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

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	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

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

pH by SM 4500-H B Batch 10PH10N

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
991625-001 pH	pH	10/14/2010 14:10	1.00	0.0250	4.00	8.03	J
991625-002 pH	pH	10/14/2010 14:14	1.00	0.0250	4.00	8.08	J
991625-003 pH	pH	10/14/2010 14:17	1.00	0.0250	4.00	8.10	J
991625-004 pH	pH	10/14/2010 14:20	1.00	0.0250	4.00	7.84	J
991625-005 pH	pH	10/14/2010 14:23	1.00	0.0250	4.00	8.08	J
991625-006 pH	pH	10/14/2010 14:26	1.00	0.0250	4.00	8.11	J
991625-007 pH	pH	10/14/2010 14:34	1.00	0.0250	4.00	8.11	J
991625-008 pH	pH	10/14/2010 14:37	1.00	0.0250	4.00	8.08	J
991625-009 pH	pH	10/14/2010 14:40	1.00	0.0250	4.00	8.14	J
991625-010 pH	pH	10/14/2010 14:43	1.00	0.0250	4.00	8.13	J
991625-011 pH	pH	10/14/2010 14:46	1.00	0.0250	4.00	8.17	J
991625-012 pH	pH	10/14/2010 14:49	1.00	0.0250	4.00	8.19	J
991625-013 pH	pH	10/14/2010 14:52	1.00	0.0250	4.00	7.69	J
991625-014 pH	pH	10/14/2010 14:55	1.00	0.0250	4.00	7.68	J
991625-015 pH	pH	10/14/2010 14:58	1.00	0.0250	4.00	8.14	J
991625-016 pH	pH	10/14/2010 15:02	1.00	0.0250	4.00	8.15	J

Duplicate — Lab ID = 991625-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	8.12	8.11	0.123	0 - 20

Duplicate — Lab ID = 991625-016

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	8.14	8.15	0.123	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.01	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	6.99	7.00	99.9	90 - 110

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

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 390378.MP.02.RM.01 Printed 11/3/2010

pH by SM 4500-H B Batch 10PH10O

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
991625-017 pH	pH	10/14/2010 15:14	1.00	0.0250	4.00	7.96	J
991625-018 pH	pH	10/14/2010 15:17	1.00	0.0250	4.00	8.01	J
991625-019 pH	pH	10/14/2010 15:20	1.00	0.0250	4.00	8.08	J
991625-020 pH	pH	10/14/2010 15:23	1.00	0.0250	4.00	8.12	J
991625-021 pH	pH	10/14/2010 15:26	1.00	0.0250	4.00	8.09	J
991625-022 pH	pH	10/14/2010 15:29	1.00	0.0250	4.00	8.10	J
991625-023 pH	pH	10/14/2010 15:32	1.00	0.0250	4.00	8.17	J
991625-024 pH	pH	10/14/2010 15:35	1.00	0.0250	4.00	7.94	J

Duplicate — Lab ID = 991625-024

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.93	7.94	0.126	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	6.98	7.00	99.7	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.04	7.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.06	7.00	101	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

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

991625

CH2MHILL

CHAIN OF CUSTODY RECORD

10/13/2010 1:01:31 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.RM.01
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-RMP-169
Turnaround Time 10 Days
Shipping Date: 10/5/2010
COC Number: TLI_RMP169

			Container:	3X250 ml Poly	250 Poly	500 ml Poly	1 Liter Poly	1 Liter Poly			
			Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	4°C	4°C			
			Filtered:	Field	NA	Field	NA	NA			
			Holding Time:	28	28	180	28	28			
	DATE	TIME	Matrix	Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6-river)	Dissolved Chromium (6010BCRFF) Field Filtered Chromium	Specific Conductance (E120.1)	PH (SM4500HB)		Number of Containers	COMMENTS
C-MW-80-169	10/11/2010	9:42	Water		X					1	Hold
C-MW-81-169	10/11/2010	12:20	Water		X					1	Hold
RMP-AB1-169	10/11/2010	12:40	Water		X					1	Hold
-1 C-BNS-D-169	10/12/2010	11:18	Water	X		X	X	X		5	
-2 C-I-3-D-169	10/12/2010	9:52	Water	X		X	X	X		5	
-3 C-I-3-S-169	10/12/2010	10:05	Water	X		X	X	X		5	pH=2
C-MAR-D-169	10/12/2010	12:29	Water	X		X	X	X		5	
-4 C-MAR-S-169	10/12/2010	12:28	Water	X		X	X	X		5	
C-MW-82-169	10/12/2010	9:00	Water		X					1	Hold
C-MW-83-169	10/12/2010	9:45	Water		X					1	Hold
-5 C-R22A-D-169	10/12/2010	10:46	Water	X		X	X	X		5	
-6 C-R22A-S-169	10/12/2010	10:56	Water	X		X	X	X		5	
-7 C-R27-D-169	10/12/2010	11:43	Water	X		X	X	X		5	pH=2
-8 C-R27-S-169	10/12/2010	11:55	Water	X		X	X	X		5	
-9 C-TAZ-D-169	10/12/2010	9:10	Water	X		X	X	X		5	

* Where provided w/ 3 Cr6 bottles, please analyze 1 + hold 2

ALERT !!
Level III QC

For Sample Condition See Form Attached

PH for 6010B

	Signatures	Date/Time
Approved by		
Sampled by		10-13-10
Relinquished by		1530
Received by	Bonifacio Dayag	10-13-10 1530
Relinquished by	Bonifacio Dayag	10-13-10 2030
Received by	Shakumna	10/13/10 20:30

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Oct 12-14, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

Rec'd 10/13/10
s 991625

991625

CH2MHILL

CHAIN OF CUSTODY RECORD

10/13/2010 1:01:32 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.RM.01
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-RMP-169
Turnaround Time 10 Days
Shipping Date: 10/5/2010
COC Number: TLI_RMP169

				Container:	3X250 ml Poly	250 Poly	500 ml Poly	1 Liter Poly	1 Liter Poly			
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	4°C	4°C			
				Filtered:	Field	NA	Field	NA	NA			
				Holding Time:	28	28	180	28	28			
		DATE	TIME	Matrix	Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6-river)	Dissolved Chromium (6010BCRFF) Field Filtered Chromium	Specific Conductance (E120.1)	PH (SM4500HB)		Number of Containers	COMMENTS
-10	C-TAZ-S-169	10/12/2010	9:22	Water	X		X	X	X		5	
-11	R-28-169	10/12/2010	12:17	Water	X		X	X	X		5	pH=2
-12	R63-169	10/12/2010	10:16	Water	X		X	X	X		5	
	RMP-AB2-169	10/12/2010	11:45	Water		X					1	Hold
-13	SW1-169	10/12/2010	13:25	Water	X		X	X	X		5	
-14	SW2-169	10/12/2010	13:45	Water	X		X	X	X		5	
-15	C-CON-D-169	10/13/2010	9:16	Water	X		X	X	X		5	
-16	C-CON-S-169	10/13/2010	9:28	Water	X		X	X	X		5	
-17	C-NR1-D-169	10/13/2010	9:58	Water	X		X	X	X		5	
-18	C-NR1-S-169	10/13/2010	10:12	Water	X		X	X	X		5	pH=2
-19	C-NR3-D-169	10/13/2010	10:43	Water	X		X	X	X		5	
-20	C-NR3-S-169	10/13/2010	10:56	Water	X		X	X	X		5	
-21	C-NR4-D-169	10/13/2010	11:25	Water	X		X	X	X		5	
-22	C-NR4-S-169	10/13/2010	11:38	Water	X		X	X	X		5	
-23	R-19-169	10/13/2010	8:20	Water	X		X	X	X		5	

*Where provided w/3 Cr6 bottles, please analyze 1 + hold 2

ALERT !!
Level III QC

pH 6010B

Signatures		Date/Time
Approved by		10-13-10 1530
Sampled by		
Relinquished by		
Received by	Bonifacio Dayes	10-13-10 1530
Relinquished by	Bonifacio Dayes	10-13-10 2030
Received by	Shawn Duffy	10/13/10 2030

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Oct 12-14, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

991625

10/13/2010 1:01:32 PM

Project Name PG&E Topock
Location Topock
Project Number 390378.MP.02.RM.01
Project Manager Jay Piper
Sample Manager Shawn Duffy

Task Order
Project 2010-RMP-169
Turnaround Time 10 Days
Shipping Date: 10/5/2010
COC Number: TLI_RMP169

				Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6-river)	Dissolved Chromium (6010BCRFF) Field Filtered Chromium	Specific Conductance (E120.1)	PH (SM4500HB)		Number of Containers	COMMENTS
			Container:	3X250 ml Poly	250 Poly	500 ml Poly	1 Liter Poly	1 Liter Poly			
			Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	4°C	4°C			
			Filtered:	Field	NA	Field	NA	NA			
			Holding Time:	28	28	180	28	28			
-24 RRB-169	10/13/2010	8:40	Water	X		X	X	X		5	pH=2 (6-10B)
									TOTAL NUMBER OF CONTAINERS	131	

* Where provided w/ 3 Cr6 bottles, please analyze 1 + hold 2

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		10-13-10
Sampled by		1530
Relinquished by		
Received by	Bonifacio Dayes	10-13-10 1530
Relinquished by	Bonifacio Dayes	10-13-10 2030
Received by	Shawn Duffy	10/13/10 20:30

Shipping Details
Method of Shipment: FedEx
On Ice: yes / no
Airbill No:
Lab Name: Truesdail Laboratories, Inc.
Lab Phone: (714) 730-6239

ATTN:
Sample Custody

Special Instructions:
Oct 12-14, 2010

Report Copy to
Shawn Duffy
(530) 229-3303

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	↓	↓	↓	↓	↓

ah

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					

ab

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	20:10 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 (1-3)	>2	<2			Yes	—
991454 (2)	<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 digesti
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
991566	>2	<2			Yes	—
588-4	>2	<2				—
591	<2	<2			No	—
597 (1-3)	<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	—
991627	>1	<2	10/15/10	ES	Yes	—
628	>1	<2				—
643 (-1)	>1	<2				—
645 (1	<1	<2			No	—
673	<1	>2				@ 4:00 p.m
991674 (1-3)	<1	>2	10/16/10	ES	No	yes @ 5:00 pm
991600 (3)	F	<2	10/18/10	hr	No	—
1601 (3)						—
1625 (24)						—
1681	—	—	10/19/10	KK	Yes - TTLC	—
1691	>1	<2			No	—
1692	<1	<2				

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2 Lab # 991625

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? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 3.8°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: L. Shabunina

ALERT!! Level III QC

\\MATRIX\env\Discrp.FormBlank.doc

Appendix B
Other Groundwater Monitoring Results

Table B-1
Arsenic Results in Monitoring Wells, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date		Dissolved Arsenic (µg/L)
Alluvial Upland Wells			
MW-10	22-Sep-09		7.1
	11-Mar-10		11.0
MW-12	24-Sep-09		49.0
	24-Sep-09	FD	49.0
	11-Dec-09		26.0
	06-Apr-10		63.0
	06-Apr-10	FD	63.0
	06-May-10		64.2
	06-May-10	FD	66.9
	30-Sep-10		53.4
	30-Sep-10	FD	55.4
MW-16	28-Sep-09		9.9
MW-17	30-Sep-09		1.7
Bedrock Wells			
MW-58-115	16-Dec-09		18.0 J
MW-58-205	16-Dec-09		41.0 J
MW-58BR [1]	25-Mar-10		13.0
MW-58BR-LWR	16-Sep-10		3.2
	07-Oct-10		3.2
MW-58BR-UPR	14-Sep-10		5.9
	06-Oct-10		5.6
MW-62-110	16-Dec-09		32.0 J
	11-Mar-10		10.3
	04-May-10		12.0
	29-Sep-10		19.5
MW-62-190	16-Dec-09		40.0 J
	11-Mar-10		9.4
	04-May-10		9.4
	29-Sep-10		9.5
MW-64-150	16-Dec-09		26.0 J
	11-Mar-10		12.5
	04-May-10		12.9
	25-Aug-10		10.4
	29-Sep-10		8.2
MW-64-205	16-Dec-09		26.0 J
	11-Mar-10		8.5

Table B-1
Arsenic Results in Monitoring Wells, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date	Dissolved Arsenic (µg/L)
MW-64-205	04-May-10	8.5
	25-Aug-10	6.3
	29-Sep-10	6.6
MW-64-260	16-Dec-09	33.0 J
	11-Mar-10	2.9
	04-May-10	5.2
	25-Aug-10	3.4
	29-Sep-10	2.6
Fluvial Wells		
MW-22	29-Sep-09	28.0
	10-Dec-09	ND (10)
	12-Mar-10	12.1
MW-27-60	08-Dec-09	8.3
MW-27-85	08-Dec-09	14.0
	09-Mar-10	1.4
	29-Apr-10	5.6
	01-Oct-10	1.8
MW-28-25	24-Sep-09	2.4
	09-Mar-10	2.0
MW-28-90	24-Sep-09	7.6
	09-Dec-09	7.7
	09-Mar-10	2.1
	29-Apr-10	2.8
	28-Sep-10	2.3
MW-29	24-Sep-09	19.0
	11-Mar-10	35.0
MW-30-30	24-Sep-09	19.0
MW-30-50	24-Sep-09	9.2
MW-32-20	22-Sep-09	65.0
MW-32-35	22-Sep-09	53.0
	09-Mar-10	24.4
MW-33-40	24-Sep-09	19.0
	09-Dec-09	20.0
	11-Mar-10	17.7
	30-Apr-10	20.3
	28-Sep-10	19.4
MW-33-90	29-Sep-09	9.1

Table B-1
Arsenic Results in Monitoring Wells, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date		Dissolved Arsenic (µg/L)
MW-33-90	09-Dec-09		13.0
MW-34-55	30-Sep-09		2.8
MW-34-80	30-Sep-09		7.3
	09-Dec-09		7.3
	10-Mar-10		1.3
	29-Apr-10		2.2
	01-Oct-10		1.5
MW-34-100	30-Sep-09		14.0
	30-Sep-09	FD	15.0
	09-Dec-09		16.0
	09-Dec-09	FD	16.0
	10-Mar-10		1.7
	10-Mar-10	FD	1.4
	29-Apr-10		2.2
	29-Apr-10	FD	3.4
	01-Oct-10		1.7
	01-Oct-10	FD	1.7
MW-36-20	23-Sep-09		3.3
MW-36-40	30-Sep-09		7.7
MW-36-50	30-Sep-09		4.2
MW-36-70	22-Sep-09		10.0
MW-36-90	23-Sep-09		16.0
	12-Mar-10		16.4
MW-36-100	23-Sep-09		14.0
	09-Mar-10		4.5
MW-39-40	01-Oct-09		15.0
MW-39-50	01-Oct-09		7.8
MW-39-60	01-Oct-09		5.8
MW-42-30	23-Sep-09		6.5
MW-42-55	23-Sep-09		19.0
	08-Dec-09		22.0
	09-Mar-10		11.8
	29-Apr-10		14.2
	27-Sep-10		12.5
MW-42-65	23-Sep-09		14.0
	08-Dec-09		14.0
	09-Mar-10		2.1

Table B-1
Arsenic Results in Monitoring Wells, September 2009 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date	Dissolved Arsenic (µg/L)
MW-42-65	29-Apr-10	3.3
	27-Sep-10	3.0
MW-43-25	01-Oct-09	20.0
MW-43-75	01-Oct-09	17.0
MW-43-90	01-Oct-09	25.0
MW-44-70	21-Sep-09	4.2
	07-Dec-09	4.2
	08-Mar-10	3.0
MW-45-095a	29-Sep-09	10.0
MW-52D	29-Sep-09	23.0
	10-Dec-09	27.0
	10-Mar-10	3.5
MW-52M	29-Sep-09	17.0
	10-Dec-09	21.0
	10-Mar-10	1.4
MW-52S	29-Sep-09	9.7
	10-Dec-09	12.0
	10-Mar-10	ND (1.0)
MW-53D	29-Sep-09	23.0
	10-Dec-09	32.0
	10-Mar-10	2.7
MW-53M	29-Sep-09	18.0
	10-Dec-09	25.0
	10-Mar-10	ND (1.0)

NOTES:

µg/L = micrograms per liter
FD = field duplicate
J = concentration or RL estimated by laboratory or data validation
[1] This sample collected from a borehole.

As a results of a series of storm events in January 2010 the MW-58 cluster (MW-58-115 and MW-58-205) was inundated with flood water. This floodwater destroyed the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals and was consequently removed from the borehole. The MW-58 bedrock well cluster is now an open borehole. In September 2010 a packer system was installed in the borehole at about 115 ft bgs that divided the open borehole into upper (UPR) and lower (LWR) intervals.

Table B-2
Analytical Results for Open Borehole MW-58BR-UPR and MW-58BR-LWR, September through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR		MW-58BR-UPR	
			09/16/2010	10/07/2010	09/14/2010	10/06/2010
Anions						
Chloride	300	mg/L	2,900	2,900	3,600	3,500
Nitrate as Nitrogen	300	mg/L	1.1	1.1	ND (1.0)	ND (1.0)
Field Parameters						
Oxidation reduction potential	FIELD	mV	---	-66	---	-78
pH	FIELD		---	7.5	---	8.0
Specific conductance	FIELD	µS/cm	---	9,890	---	11,800
General Chemistry						
Total dissolved solids	SM2540C	mg/L	---	5,700	---	6,400
Metals						
Arsenic, dissolved	6020A	µg/L	3.2	3.2	5.9	5.6
Chromium, dissolved	6010B/6020A	µg/L	200	173	3.5	8.4
Chromium, Hexavalent	218.6	µg/L	200	199	3.8	4.7
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1,1-Trichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1,2,2-Tetrachloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1,2-Trichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1,2-Trichlorotrifluoroethane (Freon 113)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1-Dichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1-Dichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,1-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2,3-Trichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2,3-Trichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2,4-Trichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2,4-Trimethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0) J	ND (1.0) J
1,2-Dibromo-3-chloropropane	8260	µg/L	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0) J
1,2-Dibromoethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2-Dichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,2-Dichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,3,5-Trimethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,3-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,3-Dichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
1,4-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
2,2-Dichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
2-Chlorotoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J

Table B-2
Analytical Results for Open Borehole MW-58BR-UPR and MW-58BR-LWR, September through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR		MW-58BR-UPR	
			09/16/2010	10/07/2010	09/14/2010	10/06/2010
Volatile Organic Compounds						
4-Isopropyltoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Acetone	8260	µg/L	ND (10)	ND (10)	ND (10)	ND (10) J
Acrolein	8260	µg/L	ND (20) J	ND (20)	ND (20) J	ND (20) J
Acrylonitrile	8260	µg/L	ND (20) J	ND (20)	ND (20) J	ND (20) J
Benzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Bromobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Bromochloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Bromodichloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Bromoform	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Bromomethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Carbon disulfide	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Carbon tetrachloride	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Chloro benzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Chloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Chloroform	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Chloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
cis-1,2-Dichloro ethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
cis-1,3-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Dibromochloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Dibromomethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Dichlorodifluoromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Ethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Hexachlorobutadiene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Isopropylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
m,p-Xylenes	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Methyl ethyl ketone	8260	µg/L	ND (10)	ND (10)	ND (10)	ND (10) J
Methyl isobutyl ketone	8260	µg/L	ND (10)	ND (10)	ND (10)	ND (10) J
Methyl tert-butyl ether (MTBE)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Methylene chloride	8260	µg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0) J
Naphthalene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
N-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
N-Propylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
o-Xylene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
p-Chlorotoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
sec-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Styrene	8260	µg/L	ND (1.0) J	ND (1.0)	ND (1.0) J	ND (1.0) J

Table B-2
Analytical Results for Open Borehole MW-58BR-UPR and MW-58BR-LWR, September through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR		MW-58BR-UPR	
			09/16/2010	10/07/2010	09/14/2010	10/06/2010
Volatile Organic Compounds						
tert-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Tetrachloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Toluene	8260	µg/L	ND (2.5)	ND (2.5)	9.4	9.3 J
trans-1,2-Dichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
trans-1,3-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Trichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Trichlorofluoromethane (Freon 11)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Vinyl chloride	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0) J
Xylenes, total	8260	µg/L	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0) J

NOTES:

ND not detected at listed reporting limit
ug/L micrograms per liter
mg/L milligrams per liter
mV millivolts
µS/cm microsiemens per centimeter
J concentration or RL estimated by laboratory or data validation

As a results of a series of storm events in January 2010 the MW-58 cluster (MW-58-115 and MW-58-205) was inundated with flood water. This floodwater destroyed the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals and was consequently removed from the borehole. The MW-58 bedrock well cluster is now an open borehole. In September 2010 a packer system was installed in the borehole at about 115 ft bgs that divided the open borehole into upper (UPR) and lower (LWR) intervals.

ORP is reported to two significant figures. Specific conductance is reported to three significant figures.

Appendix C
Groundwater Monitoring Data for GMP and Interim Measures Monitoring Wells

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-20-70	10-Mar-05	1940	-7.1	-59.0	740	378	9.98	ND (1.0)	81.7	198	55.4	9.89	431	0.412
	15-Jun-05	1980	-7.0	-60.0	749	388	9.79	ND (1.0)	73.8	189	55.4	10.5	433	0.414
	15-Jun-05 FD	2050	-8.3	-57.0	760	392	9.81	ND (1.0)	71.3	204	60.7	11.4	468	0.445
	11-Oct-05	1950	-7.2	-57.0	737	359	9.48	0.641	69.9	198	49.9	14.6	323	0.402
	15-Dec-05	1830	-7.1	-49.0	645	326	9.90	ND (1.0)	77.8	138	42.3	14.5	267	0.441
	10-Mar-06	1940	-7.2	-54.0	679	358	10.5	ND (0.5)	82.2	161	48.6	9.22	424	0.427
	05-May-06	1750	-8.2	-55.9	696	376	9.86	0.574	74.5	162	49.2	9.55	461	0.476
	03-Oct-06	1890	-8.1	-60.4	677	357	13.0	ND (5.0)	85.0	158	47.6	9.82	472	0.535
	03-Oct-06 FD	1840	-8.1	-60.5	669	352	12.9	ND (5.0)	80.0	154	45.9	9.51	466	0.515
	13-Dec-06	1910	-7.6	-61.2	678	352	12.7	0.699	77.5	149	44.3	9.09	458	0.459
	14-Mar-07	1740	-8.5	-64.3	689	358	13.7	0.641	80.0	139	42.2	8.83	451	0.503
	03-May-07	1750	-8.4	-66.7	697	344	25.1	ND (1.0)	77.5	139	41.2	8.65	390	0.477
	11-Oct-07	1820	-8.2	-63.9	699	367	15.6	ND (1.0)	80.0	130	39.1	11.0	600	0.54
	12-Mar-08	1790	-7.6	-65.2	695	360	22.1	ND (1.0)	77.0	139	41.2	10.7	403	0.51
	07-Oct-08	1900	-8.5	-64.4	650	360	15.0	0.61	83.0	136	37.9	10.5	400	0.608
	12-Mar-09	1900	-7.74	-60.8	670	330	17.0	ND (1.0)	79.0	128	40.2	9.95	496	0.549
	25-Sep-09	1700	-8.7	-66.4	700	310	16.0	ND (2.5)	74.0	130	33.0	9.70	390	0.42
MW-20-100	10-Mar-05	2490	-5.2	-49.0	466	511	9.98	ND (1.0)	84.2	133	19.8	8.98	712	0.859
	15-Jun-05	2500	-4.7	-46.0	921	506	9.02	ND (1.0)	84.0	137	21.3	9.06	592	0.713
	11-Oct-05	2400	-5.3	-48.0	887	484	8.87	0.731	82.3	170	23.7	15.2	500	0.718
	15-Dec-05	2340	-5.4	-40.0	813	404	9.65	ND (1.0)	82.7	136	21.4	14.8	406	0.709
	10-Mar-06	2500	-5.6	-50.3	861	475	9.94	ND (0.5)	92.5	171	27.0	7.75	597	0.803
	05-May-06	2260	-5.1	-46.4	927	522	9.99	ND (1.0)	82.5	193	32.0	10.8	577	0.716
	03-Oct-06	2320	-5.8	-51.5	863	456	13.4	ND (5.0)	90.0	202	34.4	10.9 J	568	0.874
	13-Dec-06	1960	-6.2	-54.4	861	459	12.3	0.83	97.5	205	32.2	11.4	579	0.889
	13-Dec-06 FD	2200	-6.2	-54.5	874	457	12.2	0.851	92.5	205	32.2	9.55	575	0.881
	14-Mar-07	2180	-6.8	-57.8	847	477	14.2	0.785	87.5	194	31.7	9.90	521	0.715
	03-May-07	2300	-7.3	-59.2	879	493	23.2	ND (1.0)	87.5	209	36.0	12.0 J	559	0.699
	03-May-07 FD	2330	-6.7	-59.3	888	484	19.7	ND (1.0)	87.5	208	34.6	9.63 J	532	0.686
	10-Oct-07	2160	-7.2	-57.2	858	468	3.25	ND (1.0)	92.0	190	32.0	15.0	560	0.81

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-20-100	12-Mar-08	2470	-6.9	-58.3	827	442	19.2	ND (1.0)	870	218	35.4	11.9	469	0.702
	08-Oct-08	2200	-7.9	-60.2	760	420	16.0	ND (1.0)	90.0	215	36.8	10.3	453	0.669
	13-Mar-09	2200	-7.08	-58.2	770	420	16.0	ND (1.0)	97.0	213	36.4	11.6	543	0.89
	25-Sep-09	2000	-7.67	-62.8	750	400	16.0	ND (2.5)	89.0	200	30.0	12.0	430	0.70
MW-20-130	09-Mar-05	5520	-5.8	-56.0	3120	1080	10.9	ND (1.0)	68.9	219	12.1	24.7	2250	1.90
	09-Mar-05 FD	6200	-5.4	-51.0	3080	1080	10.9	ND (1.0)	68.9	231	12.8	25.4	2390	1.99
	15-Jun-05	7790	-5.0	-48.0	3410	1230	11.1	ND (1.0)	68.7	352	23.2	31.3	2980	2.75
	07-Oct-05	7330	-5.0	-47.0	3010	1210	10.9	1.04 J	72.4	349	13.9	38.4	2070	2.41
	16-Dec-05	7860	-5.8	-43.0	3260	1000	10.7	ND (2.5)	63.2	324	16.3	44.4	1780	1.98
	10-Mar-06	8610	-5.5	-48.8	3370	1250	10.6	ND (0.5)	74.5	312	18.9	27.7	2730	2.03
	05-May-06	7700	-5.3	-47.2	3900	1280	8.95	ND (1.0)	69.2	349	20.3	27.7	2810	2.40
	18-Oct-06	8450	-6.3	-51.4	3680	1100	11.5	ND (5.0)	70.0	358	20.9	28.0	2870	2.28
	13-Dec-06	7890	-6.0	-54.9	3970	1250	10.6	0.896	72.5	335	19.7	27.6	2900	2.31
	13-Dec-06 FD	8250	-5.9	-54.4	3950	1260	10.5	1.09	72.5	328	19.1	27.3	2830	2.24
	08-Mar-07	8450	-6.5	-57.7	3930	1240	11.3	1.08	70.0	353	21.3	27.0	2760	2.24
	08-Mar-07 FD	8510	-6.6	-57.4	3900	1210	11.3	1.06	72.5	351	21.3	26.8	2750	2.19
	03-May-07	8150	-7.7	-60.0	4020	1310	9.80 J	ND (1.0)	75.0	338	22.5	27.8	2550	2.49
	03-May-07 FD	8100	-6.9	-60.1	3950	1290	20.4 J	ND (1.0)	72.5	338	21.9	27.3	2550	2.47
	05-Oct-07	7980	-7.0	-57.5	3670	1070	11.6	ND (1.0)	77.0	310	19.0	31.0	2900	2.40
	12-Mar-08	8460	-6.2	-58.7	3690	1220	14.3	ND (1.0)	75.0	342	23.4	47.0	2260	2.07
	08-Oct-08	7800	-7.3	-59.6	3500	1200	12.0	ND (2.5)	81.0	329	22.0	40.1	1990	2.23
	13-Mar-09	8100	-6.58	-56.4	3600	1100	11.0	ND (2.5)	79.0	350	22.7	41.4	2550	2.16
	25-Sep-09	6500	-7.59	-61.7	3500	1100	13.0	ND (2.5)	76.0	280	17.0	33.0	2400	2.00
MW-25	09-Mar-05	877	-8.4	-62.0	247	169	3.64	ND (0.5)	158	77.6	16.1	6.24	211	0.441
	14-Jun-05	942	-8.6	-61.0	289	183	3.89	ND (0.5)	137	93.5	20.0	8.91	253	0.464
	14-Jun-05 FD	980	-7.2	-59.0	294	185	3.94	ND (0.5)	137	100	20.9	9.06	268	0.475
	04-Oct-05	950	-8.2	-68.0	252	171	3.77	ND (0.5)	141	83.3	14.9	9.93	164	0.362
	04-Oct-05 FD	910	-8.3	-60.0	251	171	3.75	ND (0.5)	146	94.6	15.3	10.2	185	0.371
	14-Dec-05	838	-8.4	-55.0	224	158	3.74	ND (0.5)	153	75.5	14.5	9.80	143	0.396
	14-Dec-05 FD	896	-8.4	-50.0	219	155	3.75	ND (0.5)	156	73.0	14.1	9.71	151	0.382

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-25	09-Mar-06	910	-8.4	-64.1	245	164	3.83	ND (0.5)	170	76.4	15.6	6.97	210	0.39
	03-May-06	907	-9.0	-59.4	272	172	3.95	ND (0.5)	150	78.0	17.3	7.38	222	0.418
	03-May-06 FD	924	-9.0	-61.0	274	173	3.94	ND (0.5)	155	79.7	17.8	7.53	245	0.431
	03-Oct-06	892	-8.9	-62.7	222	158	4.09	ND (0.5)	163	73.3	15.0	7.25	206	0.466
	06-Mar-07	843	-9.0	-66.9	221	164	3.95	ND (0.5)	160	72.9	14.4	6.85	203	0.459
	02-Oct-07	796	-9.0	-65.8	189	155	4.58	ND (1.0)	180	66.0	14.0	7.90	200	0.49
	02-Oct-07 FD	758	-9.0	-65.7	195	157	4.40	ND (1.0)	190	63.0	13.0	7.70	220	0.46
	07-Oct-08	740	-9.9	-68.5	170	150	4.30	ND (0.5)	200	59.2	12.9	9.89	143	0.559
	07-Oct-08 FD	730	-10.1	-69.1	170	150	4.40	ND (0.5)	210	58.4	12.9	10.2	144	0.559
	21-Sep-09	660	-8.91	-69.9	180	130	4.30	ND (0.5)	200	64.0	12.0	7.20	180	0.46
	21-Sep-09 FD	650	-8.87	-69.5	180	130	4.30	ND (0.5)	200	64.0	12.0	7.90	190	0.47
MW-26	08-Mar-05	1840	-8.8	-70.0	756	370	4.48	ND (0.5)	98.7	166	41.6	10.7	439	0.557
	08-Mar-05 FD	1800	-8.7	-70.0	708	338	4.45	ND (0.5)	96.1	166	40.9	11.4	438	0.559
	13-Jun-05	2130	-8.2	-65.0	847	371	4.90	ND (0.5)	103	178	44.6	14.0	511	0.663
	04-Oct-05	2120	-7.8	-68.0	779	372	4.88	0.601	109	166	40.4	19.8	352	0.526
	12-Dec-05	2610	-8.5	-55.0	788	372	4.88	0.546	99.7	162	39.9	20.3	349	0.613
	08-Mar-06	2070	-8.6	-60.4	772	324	4.90	ND (0.5)	121	155	38.1	11.7	434 J	0.621
	01-May-06	2130	-8.9	-62.7	927	382	4.87	ND (0.5)	121	165	42.0	12.8	555	0.723
	03-Oct-06	2220	-8.8	-63.0	894	370	6.22	ND (2.5)	105	170	43.9	12.8	510	0.692
	12-Mar-07	2280	-9.0	-67.0	917	387	6.02	0.646	90.0	163	41.6	12.9	621	0.622
	02-Oct-07	2180	-8.6	-66.3	945	391	7.84	ND (1.0)	100	170	42.0	15.0	620	0.66
	12-Mar-08	2500	-8.1	-67.2	908	398	10.7 J	ND (1.0)	103	176	44.1 J	16.2 J	498	0.589
	12-Mar-08 FD	2420	-8.9	-68.2	905	398	7.61 J	ND (1.0)	102	160	32.8 J	12.7 J	462	0.601
	08-Oct-08	2400	-8.7	-66.5	930	440	10.0	ND (1.0)	110	183	45.8	14.6	555	0.591
	10-Mar-09	2300	-8.41	-65.3	870	440 J	9.80	1.40	100	172	47.9	14.8	585	0.604
	10-Mar-09 FD	2300	-8.68	-65.8	860	440 J	9.70	1.50	100	174	46.2	15.6	631	0.65
	22-Sep-09	2200	-9.04	-68.3	870	450	10.0	ND (1.0)	100	170	39.0	14.0	550	0.59
MW-27-20	08-Mar-05	1250	-12	-102.0	190	432	ND (0.5)	ND (0.5)	215	137	56.6	4.89	195	ND (0.2)
	18-Jul-05	---	-11.9	-98.0	81.9	228	ND (0.5)	ND (0.5)	160	96.1	30.1	4.27	94.8	ND (0.2)
	05-Oct-05	742	-11.8	-102.0	91.1	252	ND (0.5)	ND (0.5)	175	88.6	31.4	5.48	81.0	ND (0.2)

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-27-20	14-Dec-05	1020	-11.7	-91.0	118	347	ND (0.5)	ND (0.5)	216	116	41.8	6.96	116	ND (0.2)
	06-Mar-06	664	-12.1	-90.9	89.7	231	ND (0.2)	ND (0.2)	385	89.1	28.8	4.90	103	ND (0.2)
	14-Jun-06	730	-12	-89.8	98.3	272	ND (0.5)	ND (0.5)	195	91.1	28.5	2.79 J	96.9	ND (0.2)
	03-Oct-06	600	-13.1	-96.6	90.8	261	ND (0.5)	ND (0.5)	160	102	34.5	6.45	113	ND (0.2)
	02-Oct-07	802	-12.5	-96.3	102	320	ND (1.0)	ND (1.0)	170	97.0	34.0	5.30	150	0.22
	03-Oct-08	---	---	---	94.0	240	ND (0.5)	---	---	87.9	29.5	---	110	---
	01-Oct-09	---	---	---	88.0	230	ND (0.5)	---	130	84.0	25.0	---	87.0	---
MW-28-25	10-Mar-05	880	-12.2	-95.0	112	302	ND (0.5)	ND (0.5)	204	129	36.3	3.50	122	ND (0.2)
	15-Jun-05	974	-11.6	-91.0	108	359	ND (0.5)	ND (0.5)	221	133	38.9	6.54	117	ND (0.2)
	06-Oct-05	884	-11.7	-95.0	99.8	300	ND (0.5)	ND (0.5)	197	123	37.0	6.61	88.7	ND (0.2)
	16-Dec-05	1010	-11.4	-90.0	128	348	ND (0.5)	ND (0.5)	212	134	41.5	6.46	107	ND (0.2)
	09-Mar-06	746	-11.5	-93.9	84.4	225	ND (0.5)	ND (0.5)	244	98.5	27.5	4.15 J	88.5	ND (0.2)
	05-May-06	741	-11.4	-90.3	110	302	ND (0.5)	ND (0.5)	216	117	35.7	5.77	118	ND (0.2)
	11-Oct-06	1050	-12.2	-95.0	86.3	247	ND (0.5)	ND (0.5)	225	133	40.8	5.47	132	ND (0.2)
	04-Oct-07	812	-12.1	-98.7	110	307	ND (1.0)	ND (1.0)	230	120	37.0 J	4.80	150	0.26 J
	08-Oct-08	---	---	---	100	280	ND (0.5)	---	220	109	34.7	---	102	---
	24-Sep-09	---	---	---	94.0	240	ND (0.5)	---	200	100	27.0	---	100 J	---
MW-30-30	10-Mar-05	38800	-9.8	-79.0	16000	4270	ND (5.0)	7.91	421	1590	1600	95.4	13600	4.97
	07-Oct-05	36400	-8.5	-75.0	17600	4000	ND (0.5)	ND (10)	521	1020	842	93.6	7650	5.20
	15-Dec-05	35700	-8.7	-59.0	19700	4070	ND (1.0)	3.13	504	1060	894	110	8540	6.14
	13-Mar-06	39700 J	-8.8	-70.5	18600	4530	ND (0.5)	ND (50)	650	1050	892	77.2	11300	4.62
	02-May-06	32400	-10.3	-70.7	15400	3300	ND (0.5)	ND (5.0)	756	882	828	59.4	10300	3.95
	10-Oct-06	29400	-9.4	-68.7	17800	4400	ND (2.5)	ND (2.5)	550	729	653	55.0	10200	4.32
	08-Oct-07	27400	-9.0	-73.9	13700	3370	ND (1.0)	3.88	800	650	540	56.0	9600	4.50
	24-Sep-09	---	---	---	5800	1700	ND (5.0)	---	550	280	220	---	3800	---
MW-30-50	10-Mar-05	6470 J	-8.3	-68.0	4660	672	ND (0.5)	1.03	324	335	107	16.5	2040	1.15
	07-Oct-05	6860	-9.4	-79.0	3060	857	ND (0.5)	0.899 J	252	438	101	37.0	1780	1.27
	16-Dec-05	5850	-10.5	-65.0	2360	578	ND (0.5)	0.645	212	265	77.9	32.9	1260	1.19
	09-Mar-06	5380	-9.8	-83.5	2420	651	ND (0.5)	ND (0.5)	275	226	66.2	14.6	1640	1.18
	02-May-06	5420	-10.4	-73.6	2380	612	ND (0.5)	3.41	261	243	70.3	16.4	1750	1.22

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-30-50	11-Oct-06	4170	-10.7	-82.2	1980	468	ND (0.5)	ND (0.5)	290	171	48.5	14.0	1370	1.11
	11-Oct-06 FD	3930	-11	-82.6	1810	462	ND (0.5)	ND (0.5)	298	163	46.1	14.1	1340	1.08
	24-Sep-09	---	---	---	---	---	---	---	220	19.0	4.80	---	270	---
MW-31-60	09-Mar-05	1540	-8.6	-63.0	649	210	4.94	ND (0.5)	76.6	108	17.3	5.97	424	0.401
	13-Jun-05	1660	-8.2	-65.0	745	207	4.12	ND (0.5)	70.0	121	18.9	6.57	403	0.388
	06-Oct-05	1660	-8.6	-65.0	691	206	4.01	ND (0.5)	77.3	109	16.5	9.75	308	0.462
	13-Dec-05	1620	-8.7	-54.0	669	199	4.14	ND (0.5)	73.0	87.0	15.4	9.32	275	0.359
	15-Mar-06	1560 J	-8.6	-65.6	661	191	4.37	ND (0.5)	89.3	106	17.5	7.30	403	0.393
	15-Mar-06 FD	1640 J	-8.6	-64.9	662	192	4.34	ND (0.5)	81.9	101	16.8	6.94	391	0.383
	01-May-06	1630	-9.6	-63.2	691	209	4.58	ND (0.5)	79.6	118	20.1	7.78	467	0.449
	05-Oct-06	1620	-9.4	-66.3	687	205	5.00	ND (0.5)	80.0	113	20.6	9.60 J	325	0.464
	12-Mar-07	1750	-9.3	-69.0	757	222	4.93	ND (0.5)	72.5	116	20.3	6.05	454	0.402 J
	04-Oct-07	1720	-9.4	-69.6	799	208	5.15	ND (1.0)	80.0	150	26.0	7.30	580	0.64
	06-Oct-08	2000	-10.2	-72.2	810	240	4.20	ND (1.0)	81.0	150	26.0	9.39	460	0.399
	21-Sep-09	1800	-9.23	-72.1	870	220	3.70	ND (1.0)	75.0	160	26.0	9.60	480	0.43
MW-32-20	09-Mar-05	12500	-7.2	-65.0	6930	1660	ND (0.5)	3.51	123	838	302	36.9	4000	2.76
	17-Jun-05	10200	-9.0	-67.0	4810	690	ND (0.5)	ND (2.5)	676	566	231	23.3	2620	1.75
	04-Oct-05	28800	-7.8	-65.0	14200	2420	ND (5.0)	6.19	733	1380 J	613 J	91.1 J	5400 J	4.75 J
	16-Dec-05	24600	-7.8	-61.0	12200	2140	ND (1.0)	3.48	861	1470	552	90.4	4950	4.16
	10-Mar-06	20900	-8.3	-65.5	10600	1970	ND (0.5)	ND (0.5)	432	1350	530	56.1	6440	3.54
	04-May-06	16900	-8.1	-64.9	9430	1380	ND (0.5)	2.35	218	937	445	46.0	4780	2.87
	02-Oct-06	46200 J	-8.6	-67.1	20200	3190	ND (2.5)	7.30	660	1870	1070	87.0	11300	6.34
	11-Dec-06	37900	-8.0	-67.0	17900	3020	ND (5.0)	7.67	825	1530	785	81.7	8420	4.98
	06-Mar-07	27600	-8.7	-72.7	16200	2210	0.925	5.93	765	1460	635	64.4	7110	3.92
	30-Apr-07	17700	-9.6	-78.1	9820	1310	ND (0.2)	3.78	770	965	484	51.4	5520	3.02
	01-Oct-07	37200	-8.3	-70.1	20600	3160	ND (1.0)	6.44	700	1800	1100	93.0	9900	5.70
	10-Mar-08	26000	-9.4	-72.6	15800	2280	ND (1.0)	5.66	800	1190	710	67.4	11600	2.31
	03-Oct-08	---	---	---	21000	3500	ND (5.0)	---	640	1700	1080	---	9550	---
	10-Mar-09	29000	-8.91	-70.5	15000	2100 J	ND (5.0)	15.0	750	1620	970	96.6	7020	3.53
	22-Sep-09	---	---	---	20000	3600	ND (5.0)	---	730	1800	740	---	9300	---

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-32-35	09-Mar-05	3560	-8.2	-68.0	1770	465	ND (0.5)	0.845	260	312	85.5	13.0	944	1.07
	17-Jun-05	7550	-9.5	-72.0	3520	787	ND (0.5)	ND (2.5)	223	506	120	14.8	2110	1.18
	04-Oct-05	8340	-8.3	-70.0	3840	765	ND (0.5)	ND (5.0)	208	567	134	29.3	1530	1.26
	16-Dec-05	7660	-8.8	-63.0	3510	710	ND (1.0)	1.02	219	606	128	30.0	1580	1.25
	10-Mar-06	9230	-8.6	-74.0	4210	1010	ND (0.5)	ND (0.5)	234	654	129	19.2	2360	1.13
	04-May-06	9840	-9.1	-67.8	4960	1130	ND (0.5)	ND (0.5)	218	693	148	19.5	2800	1.38
	02-Oct-06	11200	-9.4	-71.4	5430	1050	ND (2.5)	ND (2.5)	290	839	165	23.9	3260	1.48
	11-Dec-06	10400	-9.0	-70.4	5090	1000	ND (0.5)	1.90	338	845	173	22.5	2620	1.43
	06-Mar-07	12600	-10.2	-75.4	6070	1200	ND (0.5)	2.65	360	1080	209	23.5	2910	1.35
	30-Apr-07	12100	-9.9	-78.7	6610	1280	ND (0.2)	2.60	475	1250	273	26.2	3280	1.35
	01-Oct-07	13700	-8.9	-72.7	6830	1120	ND (1.0)	2.62	490	1000	390	29.0	4000	1.70
	03-Oct-08	15000	-9.8	-73.1	7600	1300	ND (2.5)	3.10	550	829	150	52.3	3490	1.49
	22-Sep-09	13000	-9.32	-75.2	6900	1400	ND (2.5)	2.80	530	880	400	53.0	3100	1.70
MW-34-55	10-Mar-05	6230	-10.8	-82.0	2620	739	ND (0.5)	0.654	240	366	71.3	29.1	1900	1.19
	15-Jul-05	---	-10.3	-84.0	2250	607	ND (0.5)	ND (0.5)	242	247	52.0	16.5	1420	1.02
	05-Oct-05	5150	-10.6	-88.0	2170	619	ND (0.5)	ND (0.5)	232	272	59.1	25.8	1230	1.20
	14-Dec-05	5100	-10.8	-74.0	2150	552	ND (0.5)	0.588	236	217	45.0	27.2	965	0.937
	08-Mar-06	4850	-10.8	-86.8	2080	593	ND (0.5)	ND (0.5)	272	256	54.2	13.5	1640	0.956
	03-May-06	4320	-11.5	-84.3	2070	500	ND (0.5)	ND (0.5)	302	198	44.8	11.1	1360	0.846
	04-Oct-06	1680 J	-12.2	-94.8	443	230	ND (0.5)	ND (0.5)	368	37.6	8.08	4.59	536	0.54
	03-Oct-07	730	-11.3	-96.6	109	266	ND (1.0)	ND (1.0)	190	15.0	3.30	3.30	290	0.26
	07-Oct-08	700	-13	-100.0	100	250	ND (0.5)	---	170	72.4	16.9	5.26	192	0.248
	30-Sep-09	700	-12.3	-101.0	---	---	---	---	160	77.0	17.0	4.40	120	0.15
MW-34-80	08-Mar-05	6940	-10.4	-83.0	4180	1040	ND (0.5)	1.01	304	439	68.1	28.0	2750	1.65
	15-Mar-05	8980	---	---	3920	ND (5.0)	ND (1.0)	---	288	445	65.7	29.7	2990	---
	30-Jun-05	7840	-8.4	-82.0	3910	979	ND (0.5)	ND (0.5)	302	497	76.5	27.7	2670	1.66
	05-Oct-05	10200	-10.1	-85.0	3880	1060	ND (0.5)	ND (0.5)	302	429	72.5	47.4	1660	1.57
	14-Dec-05	8800	-10.2	-71.0	3700	880	ND (0.5)	0.854	297	432	68.3	54.9	1710	1.54
	09-Mar-06	7830	-9.9	-86.8	3520	986	ND (0.5)	ND (0.5)	313	383	65.8	24.0	2420	1.49
	03-May-06	7950	-11.7	-77.6	3700	921	ND (0.5)	ND (0.5)	297	425	70.3	23.9	2480	1.38

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-34-80	04-Oct-06	7080	-11.3	-81.8	3210	786	ND (0.5)	0.737	268	341	65.4	21.1	2170	1.31
	12-Dec-06	6510	-10.5	-80.9	3190	789	ND (0.5)	0.742	288	298	62.9	18.9	2040	1.26
	05-Mar-07	6360 J	-11.5	-85.8	3300	783	ND (0.5)	0.72	205	315	68.3	19.4	2020	1.29
	30-Apr-07	6390	-11.5	-88.9	3320 J	889 J	ND (0.2)	ND (1.0)	245	282	57.0	18.6	2080	1.33
	03-Oct-07	5490	-11.3	-87.8	2630	696	ND (1.0)	ND (1.0)	240	220	53.0	21.0	2000	1.20
	13-Dec-07	5420	-10.9	-88.6	2380	698	ND (1.0)	ND (1.0)	264	193	49.1	25.4	1450	1.09
	12-Mar-08	5500	-11.4	-87.3	2510	739	ND (1.0)	ND (1.0)	238	237	52.6	19.2	2030	1.14
	06-May-08	5820	-11.4	-87.3	2460	753	ND (0.2)	0.525	216	230	49.0	30.0	1600	1.20
	07-Oct-08	5300	-11.8	-87.6	2400	720	ND (2.0)	ND (2.0)	250	223	46.3	22.0	1220	0.765
	10-Dec-08	5300	-11	-93.1	2190	698	ND (1.0)	ND (1.0)	253	147	45.2	20.6	3880	1.11
	10-Mar-09	5100	-10.9	-84.8	2300	700 J	ND (2.5)	ND (2.5)	240	219	46.3	22.2	1480	1.08
	30-Apr-09	5830	-11.5	-85.8	2340	768	ND (1.0)	ND (1.0)	237	219	50.0	24.6	1510	1.11
	30-Sep-09	4000	-10.8	-88.9	2300	710	ND (1.0)	ND (1.0)	230	240	46.0	22.0	1500	0.98
	09-Dec-09	4580	-11.9	-89.1	2200	690	ND (1.0)	ND (1.0)	230	---	---	---	---	---
	10-Mar-10	4900	-12.1	-91.6	2100	660	ND (1.0)	ND (1.0)	240	220 J	41.0	28.0	1400 J	0.93
MW-34-100	14-Mar-05	10800	---	---	5010	1210	ND (1.0)	---	175	221	17.4	34.1	3600	---
	21-Jun-05	11300	-9.7	-75.0	5350	1270	1.05	ND (0.5)	179	229	17.4	27.1	3510	2.22
	21-Jun-05 FD	10900 J	-9.5	-77.0	4920	1180	1.03	ND (0.5)	179	243	18.2	32.1	3740	2.36
	05-Oct-05	10400	-9.9	-83.0	4530	1150	1.20	ND (0.5)	172	171	13.8	55.2	2450	2.57
	05-Oct-05 FD	10400	-9.9	-83.0	4680	1200	1.21	ND (0.5)	172	228	14.1	50.9	2730	2.57
	14-Dec-05	---	---	---	---	---	---	---	---	226	14.9	62.9	2530	2.32
	14-Dec-05 FD	---	---	---	---	---	---	---	---	220	15.1	64.2	2530	2.40
	08-Mar-06	10000	-11.4	-75.5 J	4720	1180	1.39	---	152	179	12.1	32.5	3580	2.41
	08-Mar-06 FD	10100	-10.1	-102 J	4920	1220	1.39	---	159	182	11.9	36.5	3530	2.46
	30-Apr-07	10600	-10.9	-80.7	5920	1040	1.38	---	123	186	12.0	31.5	3840	2.39
	30-Apr-07 FD	11900	-11.2	-82.1	5880	1050	1.37	---	123	189	12.0	32.1	3920	2.40
	03-Oct-07	10700	-10.2	-78.2	5350	970	1.19	ND (1.0)	120	170	11.0	44.0	4300	2.50
	03-Oct-07 FD	10500	-10.6	-78.4	5360	953	1.03	ND (1.0)	120	160	10.0	43.0	4300	2.40
	07-Oct-08	11000	-10.9	-80.8	5400	1200	ND (2.5)	ND (2.5)	140	158	10.6	54.5	2970 J	2.35
	07-Oct-08 FD	11000	-11	-81.3	5600	1200	ND (2.5)	ND (2.5)	140	184	11.5	56.7	3880 J	2.59

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-34-100	30-Sep-09	---	---	---	5500	1300	ND (5.0)	---	170	200	11.0	73.0	3800	2.30
	30-Sep-09 FD	---	---	---	5600	1300	ND (5.0)	---	170	---	---	---	---	---
	17-Nov-09	11000	-10.5	-82.4	---	---	---	ND (1.0)	---	---	---	---	---	---
Surface Water Stations														
R-27	07-Mar-05	669	-12.3	-102.0	92.7	244	ND (0.5)	ND (0.5)	136	82.8	31.3	4.72	108	ND (0.2)
	14-Jun-05	686	-11.4	-92.0	90.9	266	ND (0.5)	ND (0.5)	127	81.9	29.8	6.04	98.9	ND (0.2)
	05-Oct-05	678	-11.6	-94.0	85.1	255	ND (0.5)	ND (0.5)	130	101	36.2	6.56	91.2	ND (0.2)
	16-Dec-05	718	-11.7	-87.0	87.9	253	ND (0.5)	ND (0.5)	126	85.5	29.5	5.99	75.6	ND (0.2)
	06-Mar-06	656	-11.8	-92.1	90.6	268	ND (0.5)	ND (0.5)	144	83.5	29.4	5.44 J	101	ND (0.2)
	03-May-06	567	-12.8	-93.9	93.1	267	ND (0.5)	ND (0.5)	139	87.0	31.1	3.12 J	106	ND (0.2)
	04-Oct-06	752 J	-12.2	-94.9	91.5	261	ND (0.5)	ND (0.5)	128	82.9	31.5	6.24 J	98.1	ND (0.2)
	20-Dec-06	680	-12.7	-98.1	94.5	266	ND (0.5)	ND (0.5)	138	83.2	30.9	3.64	106	ND (0.2)
	13-Mar-07	750 J	-13	-99.5	96.5	267	0.537	ND (0.5)	130	86.9	31.3	4.73	106	ND (0.2)
	08-May-07	715 J	-12.9	-104.0	92.6	269	ND (0.5)	ND (0.5)	143	84.3	29.8	5.55	100	ND (0.2)
	11-Sep-07	650	-12.5	-101.0	89.4	253	0.336	ND (0.2)	132	74.2	28.9	5.47	86.5	ND (0.2)
	05-Dec-07	---	-11.7	-99.0	94.7	256	ND (1.0)	ND (0.2)	137	89.8	31.7	6.60	93.4	0.157
	02-Apr-08	---	---	---	93.0	267	ND (1.0)	ND (1.0)	136	80.2	30.7	5.50	106	0.432
	17-Jun-08	682	-13	-101.0	91.6	254	ND (1.0)	ND (1.0)	134	76.2	31.8	6.69	89.7	ND (0.2)
R-28	08-Mar-05	651	-12.5	-102.0	90.4	231	ND (13)	ND (0.5)	132	83.7	31.4	5.02	107	ND (0.2)
	14-Jun-05	680	-11.6	-95.0	91.2	268	ND (0.5)	ND (0.5)	127	78.5	28.5	5.08	94.5	ND (0.2)
	05-Oct-05	672	-11.6	-94.0	85.5	255	ND (0.5)	ND (0.5)	122	85.7	30.4	6.30	77.0	ND (0.2)
	16-Dec-05	710	-11.5	-83.0	88.1	254	ND (0.5)	ND (0.5)	126	87.2	29.8	6.11	76.8	ND (0.2)
	06-Mar-06	675	-12.3	-93.4	91.0	270	ND (0.5)	ND (0.5)	146	76.6	26.6	5.22 J	91.5	ND (0.2)
	03-May-06	586	-13	-92.1	93.4	270	ND (0.5)	ND (0.5)	136	88.1	31.4	4.04 J	107	ND (0.2)
	04-Oct-06	644 J	-12.6	-95.3	90.9	259	ND (0.5)	ND (0.5)	133	84.2	32.1	6.17 J	96.5	ND (0.2)
	20-Dec-06	615	-12.4	-99.6	93.3	262	ND (0.5)	ND (0.5)	143	85.7	32.0	4.66	108	ND (0.2)
	14-Mar-07	710	-12.8	-100.0	96.7	268	0.534	ND (0.5)	133	87.9	31.0	5.71	105	ND (0.2)
	09-May-07	690	-13	-102.0	95.8	271	ND (0.5)	ND (0.5)	143	86.1	30.5	5.92	103	ND (0.2)
	12-Sep-07	682	-12.4	-99.4	106	296	0.372	ND (0.2)	122	73.8	29.9	6.36	89.2	ND (0.2)
	06-Dec-07	---	-11.7	-98.6	96.5	258	0.345	ND (0.2)	139	75.7	30.4	6.62	79.4	ND (0.2)

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

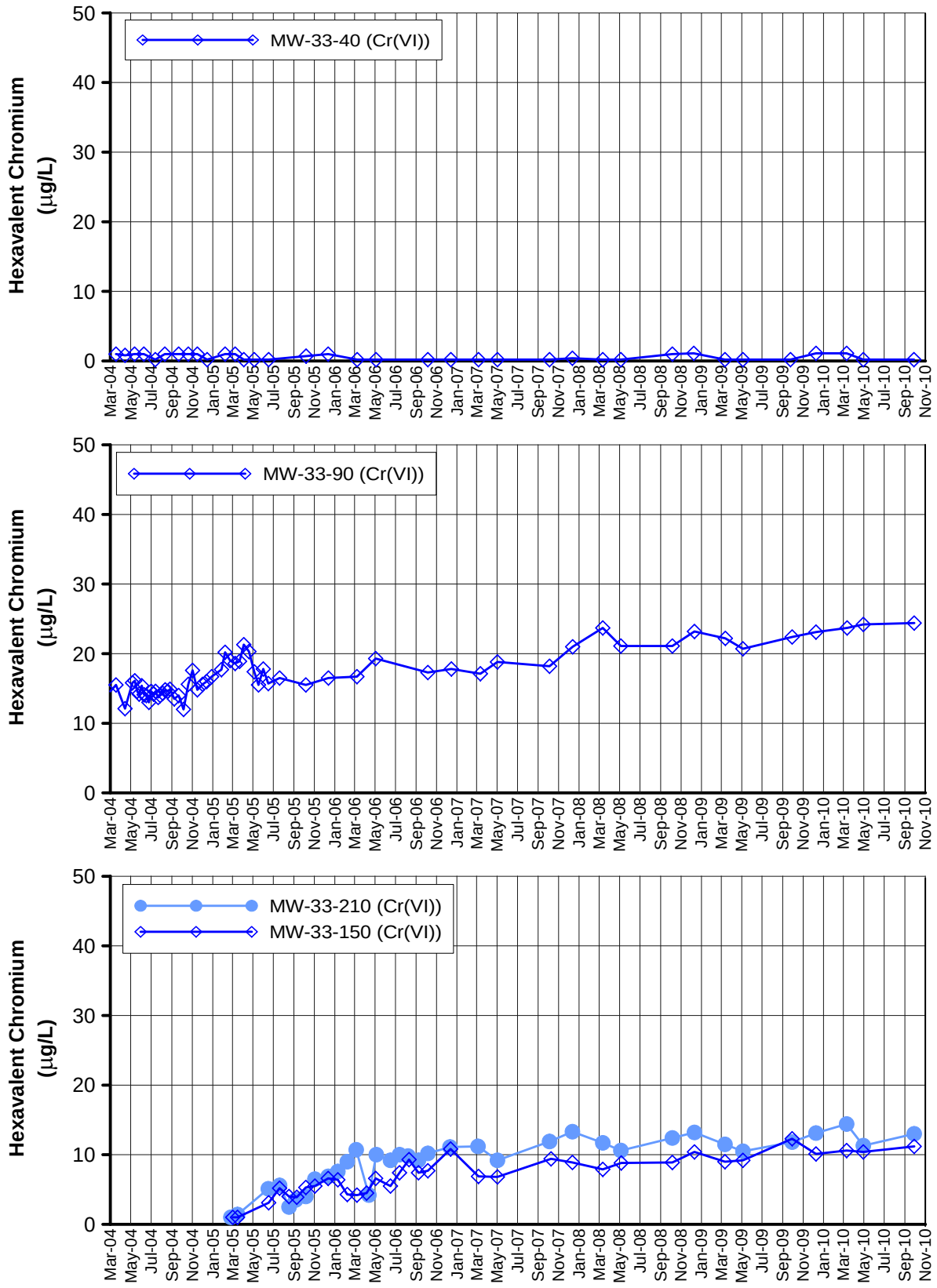
Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Surface Water Stations														
R-28	02-Apr-08	---	---	---	92.5	309	ND (1.0)	ND (1.0)	137	84.7	31.4	5.58	108	0.467
	18-Jun-08	672	-13.2	-102.0	89.4	248	ND (1.0)	ND (1.0)	132	43.3	31.1	6.95	93.9	ND (0.2)
	17-Sep-08	640	---	---	91.4	256	ND (0.5)	ND (0.5)	132	83.4	31.2	6.48	78.0	ND (0.2)
	04-Dec-08	649	-11.9	-97.0	97.4	260	ND (1.0)	ND (1.0)	135	81.7	30.0	5.95	114	0.262
	21-Jan-09	652	-12	-96.7	91.5	253	ND (0.5)	ND (0.5)	134	79.2	27.8	6.01	91.7	ND (0.2)
	09-Apr-09	643	-12.4	-97.8	92.7	250	ND (1.0)	ND (0.5)	138	79.6	28.8	5.44	97.0	ND (0.2)
	08-Jul-09	632	-12.8	-98.6	84.5	239	ND (0.5)	ND (0.5)	131	79.6	27.3	6.17	86.9	ND (0.2)
	09-Sep-09	640	-12.5	-99.1	86.0	236	ND (1.0)	ND (1.0)	131	74.8	26.2	6.01	78.7	ND (0.2)
	14-Dec-09	612	-13	-98.3	89.7	244	ND (1.0)	ND (1.0)	131	73.5	26.7	4.98	88.2	ND (0.2)

NOTES:

FD = field duplicate sample
ND =parameter not detected at the listed reporting limit
J = concentration or reporting limit estimated by laboratory or data validation
R = result exceeded analytical criteria for precision and accuracy; should not be used for project decisionmaking
--- = data not collected or available

General chemistry results in milligrams per liter (mg/L), except Oxygen-18 and Deuterium, which are expressed as differences from global standards in parts per thousand.

Alkalinity (total) reported as calcium carbonate. Nitrate reported as Nitrogen (N).



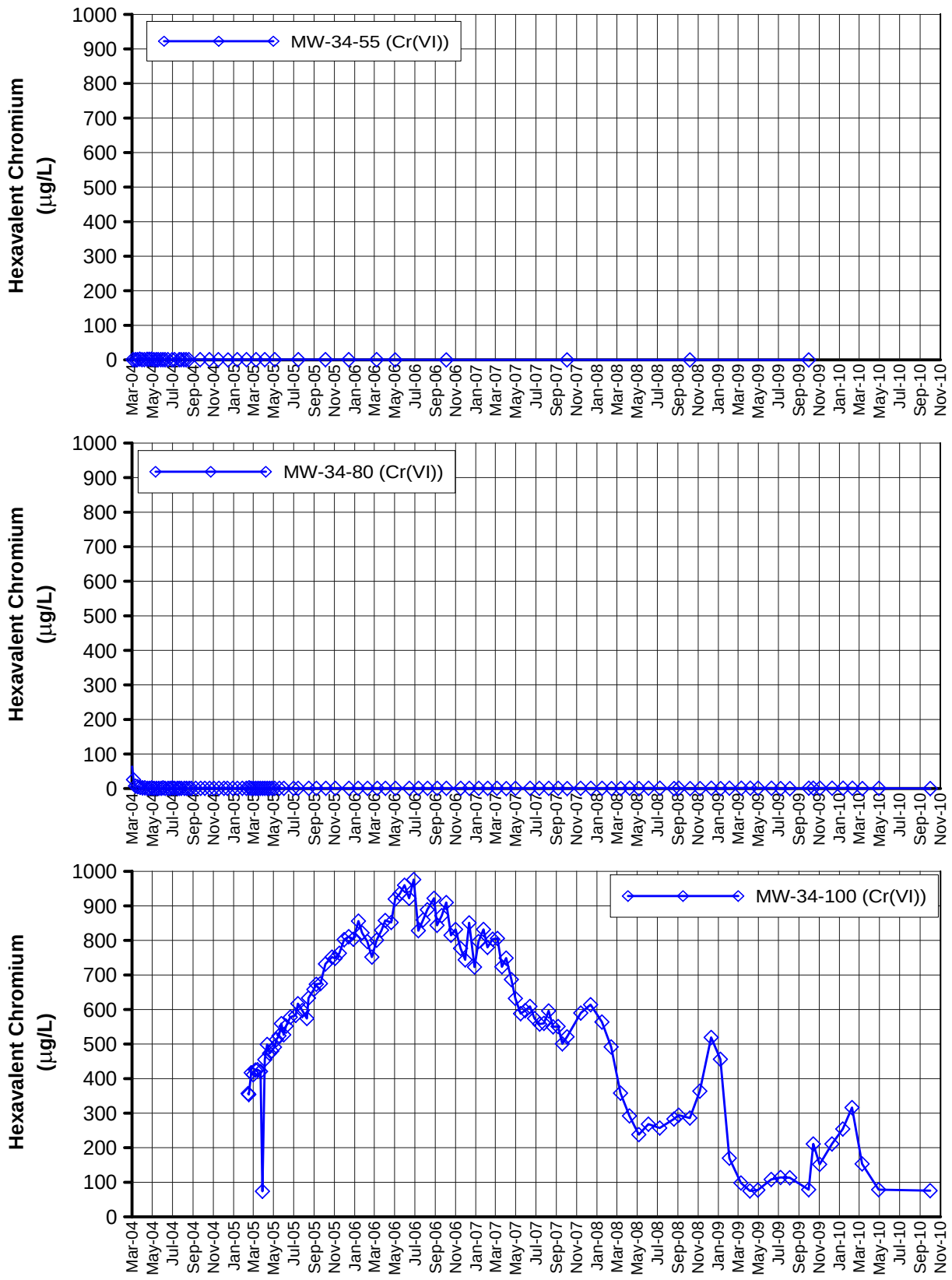
Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-33-40 is 20 µg/L.
3) The trigger level for MW-33-90 is 25 µg/L.
4) The trigger level for MW-33-150 is 20 µg/L.
5) The trigger level for MW-33-210 is 20 µg/L.

FIGURE C-1
HEXAVALENT CHROMIUM
IN MW-33 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



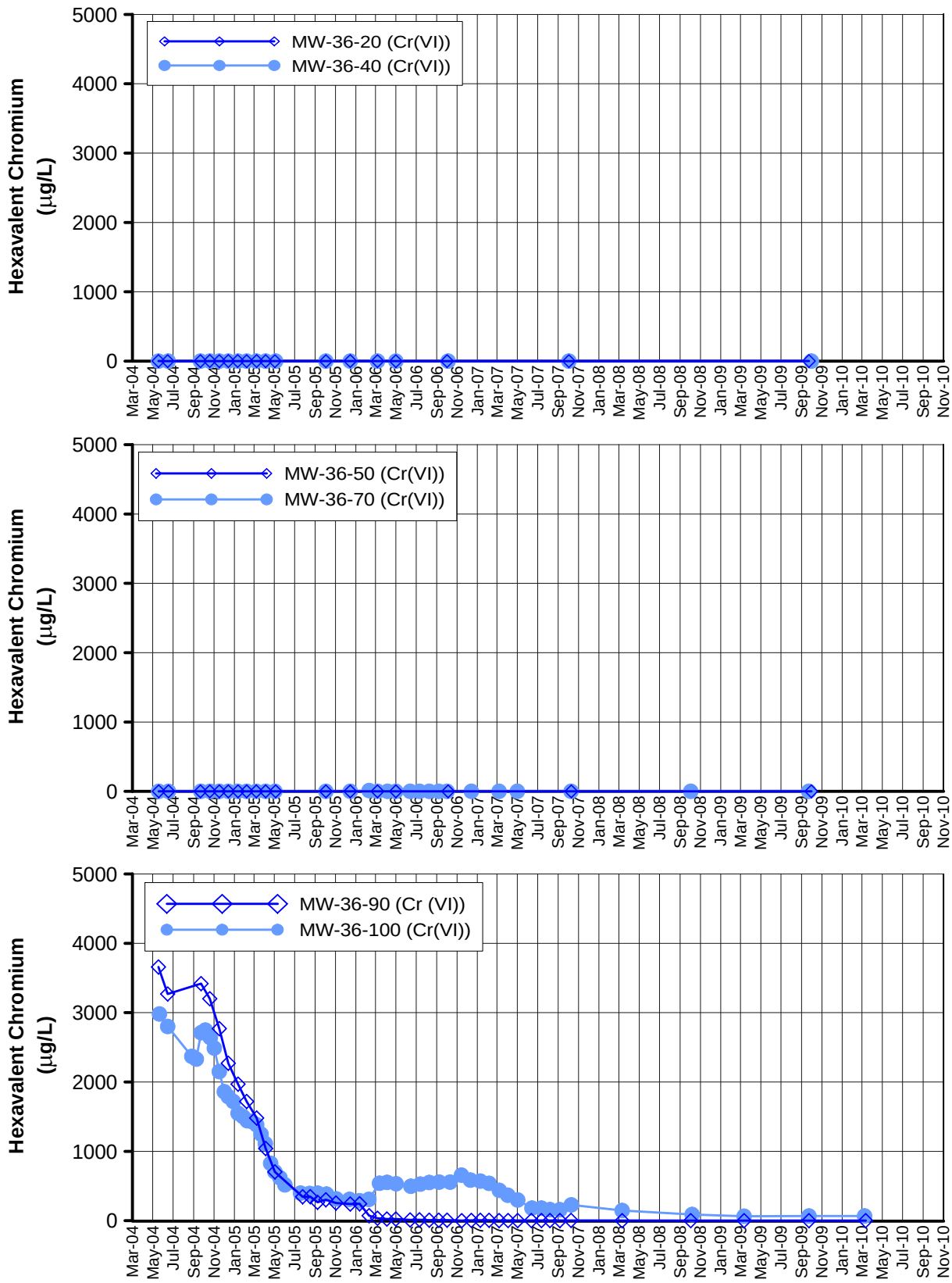
Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-34-80 is 20 µg/L.
3) The trigger level for MW-34-100 is 750 µg/L.

FIGURE C-2
HEXAVALENT CHROMIUM
IN MW-34 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



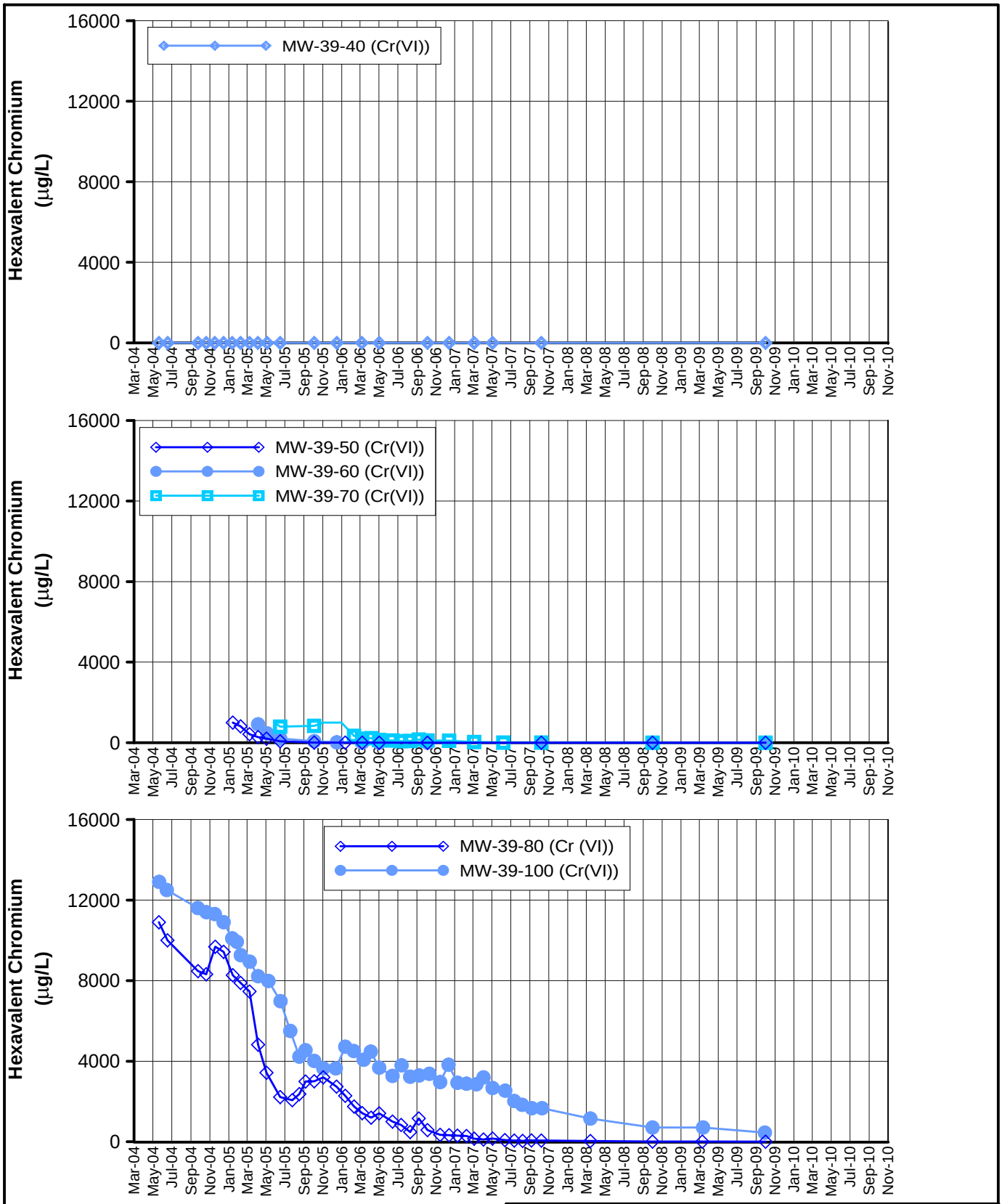
Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-36-70 is 20 µg/L.

FIGURE C-3
HEXAVALENT CHROMIUM
IN MW-36 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



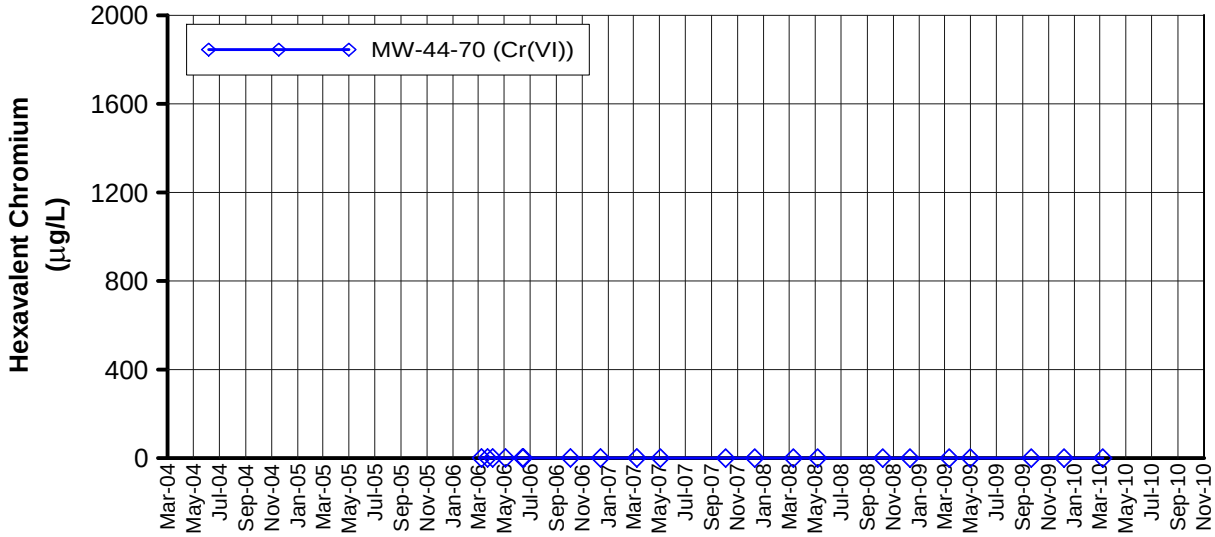
Notes:

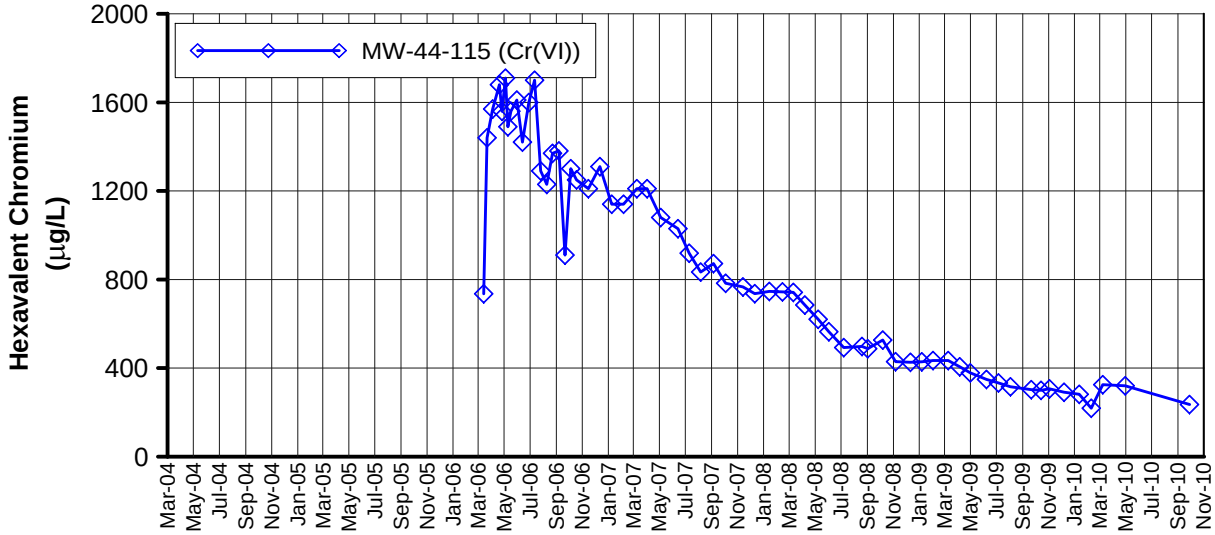
1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-39-40 is 20 µg/L.

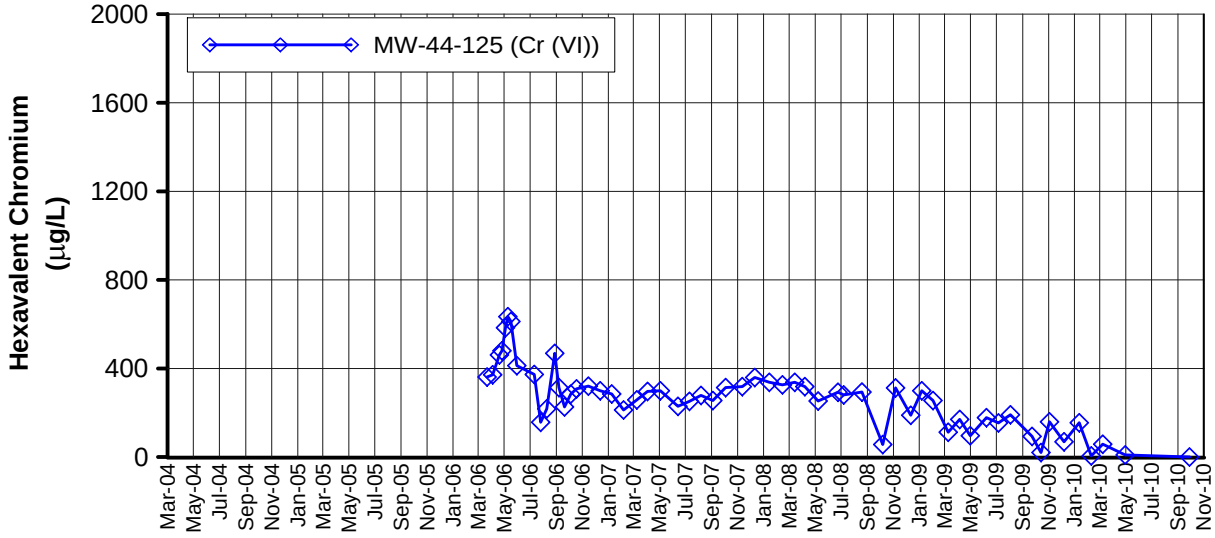
FIGURE C-4
HEXAVALENT CHROMIUM
IN MW-39 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL







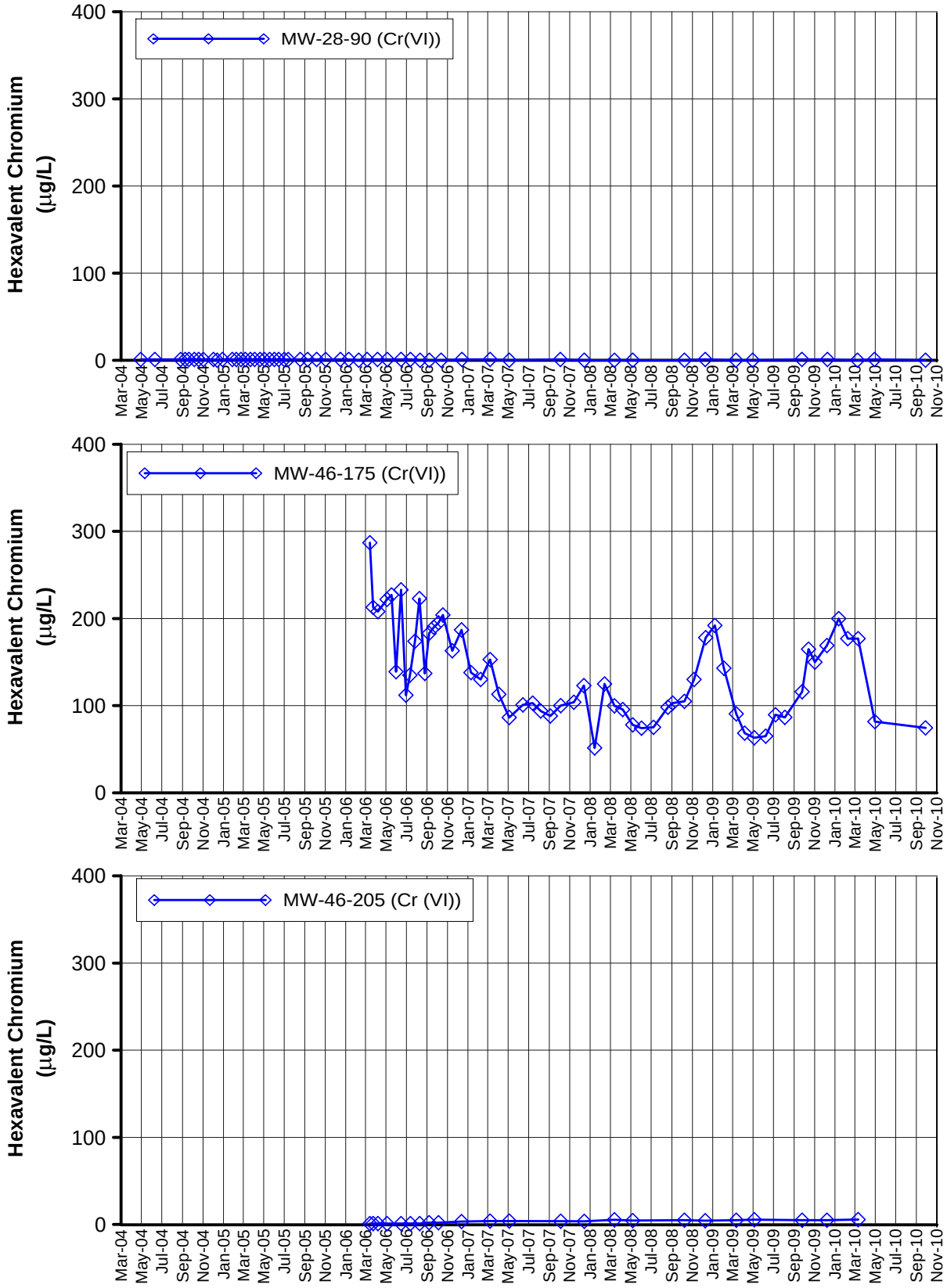
Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-44-70 is 20 µg/L.
3) The trigger level for MW-44-115 is 1,200 µg/L.
4) The trigger level for MW-44-125 is 475 µg/L.

FIGURE C-5
HEXAVALENT CHROMIUM
IN MW-44 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



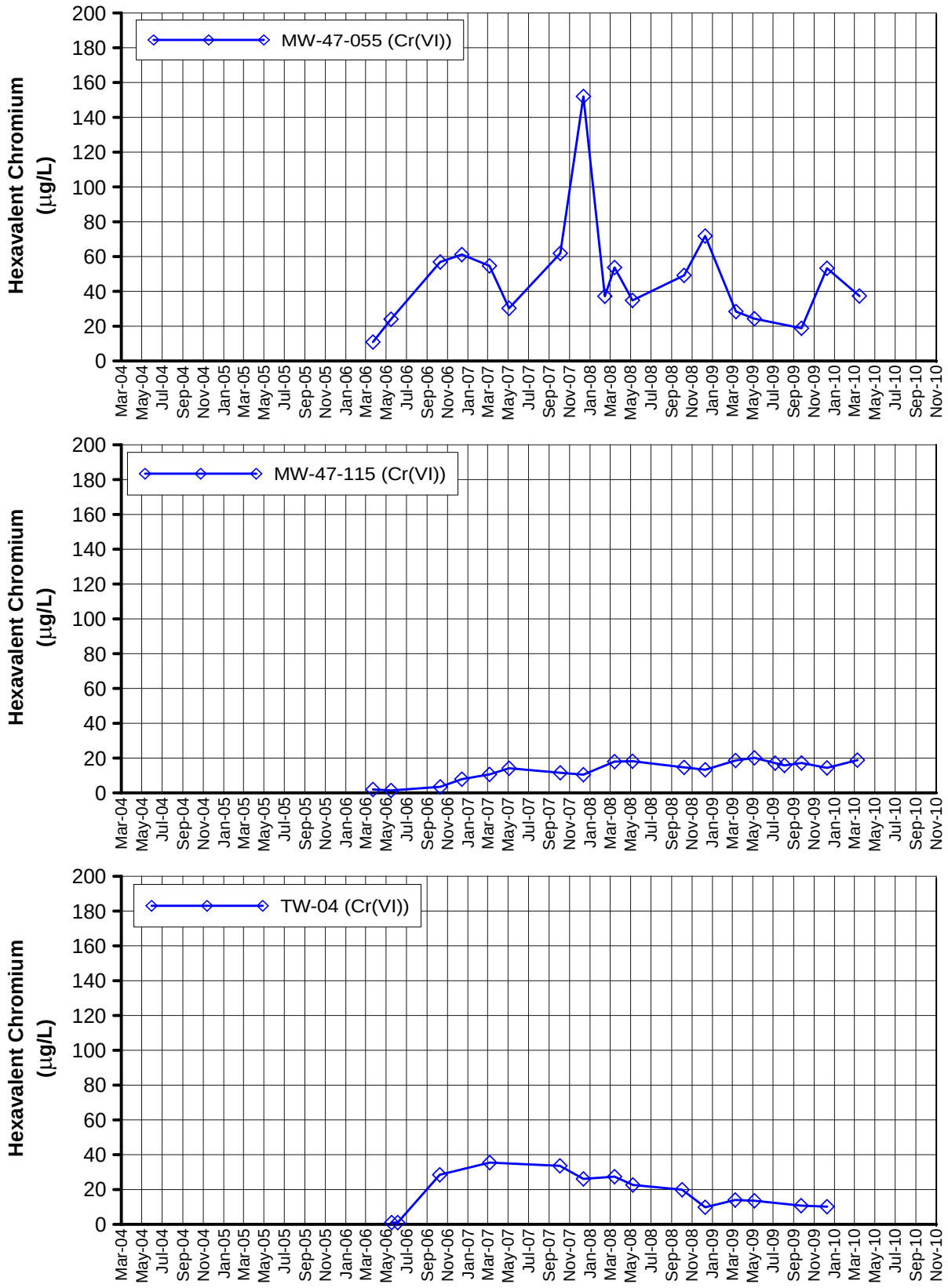
Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-28-90 is 20 µg/L.
3) The trigger level for MW-46-175 is 225 µg/L.
4) The trigger level for MW-46-205 is 20 µg/L..

FIGURE C-6
HEXAVALENT CHROMIUM
IN MW-28 and MW-46 CLUSTER

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-47-55 is 150 µg/L.
3) The trigger level for MW-47-115 is 31 µg/L.
4) An updated trigger level for MW-47-115, based on Shewart statistical control limit calculated from data through May 2009, was approved by DTSC by email June, 24, 2009.

FIGURE C-7
HEXAVALENT CHROMIUM
IN MW-47 CLUSTER AND TW-04

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

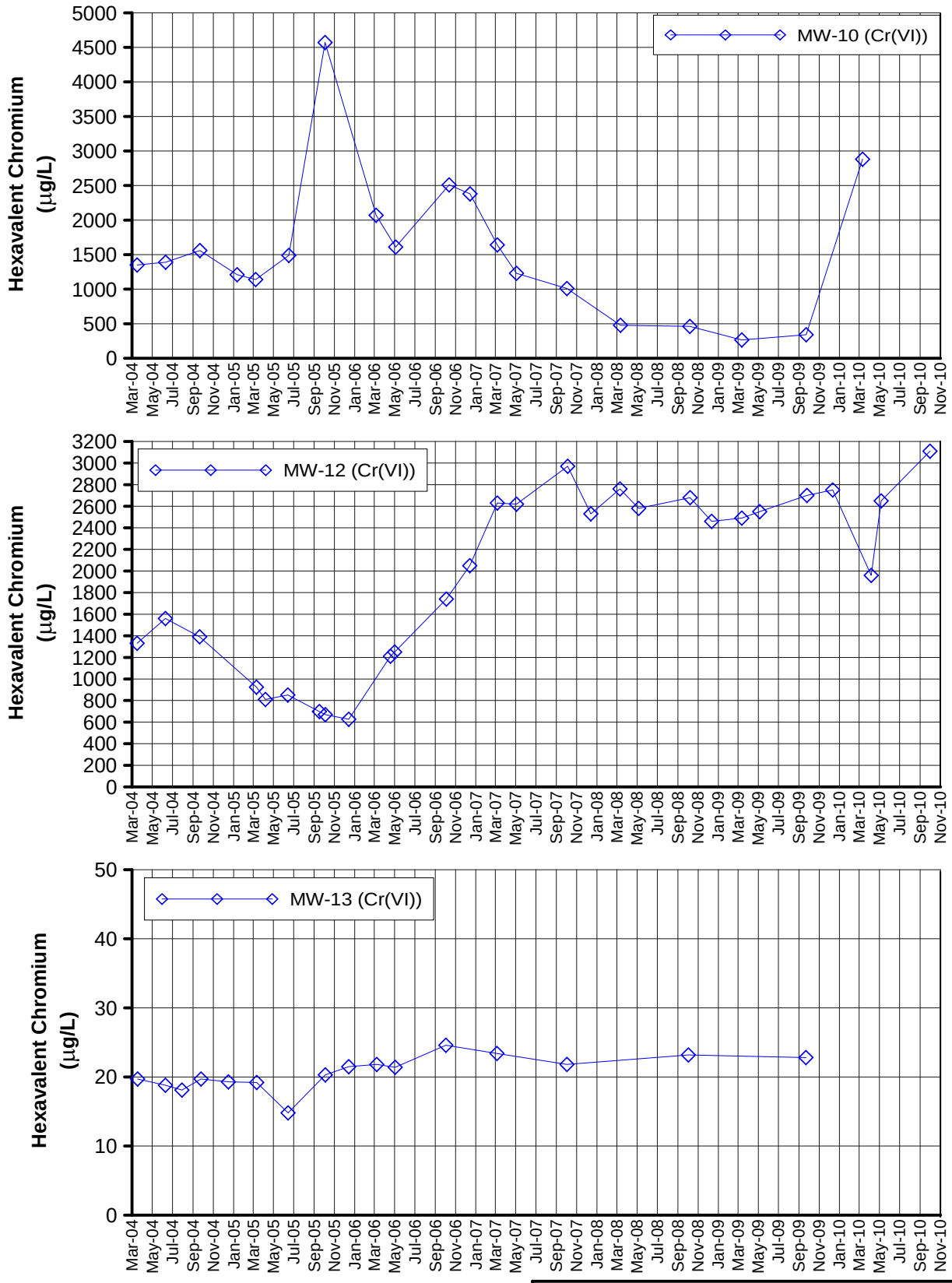


FIGURE C-8
HEXAVALENT CHROMIUM
IN MW-10, MW-12, AND MW-13
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

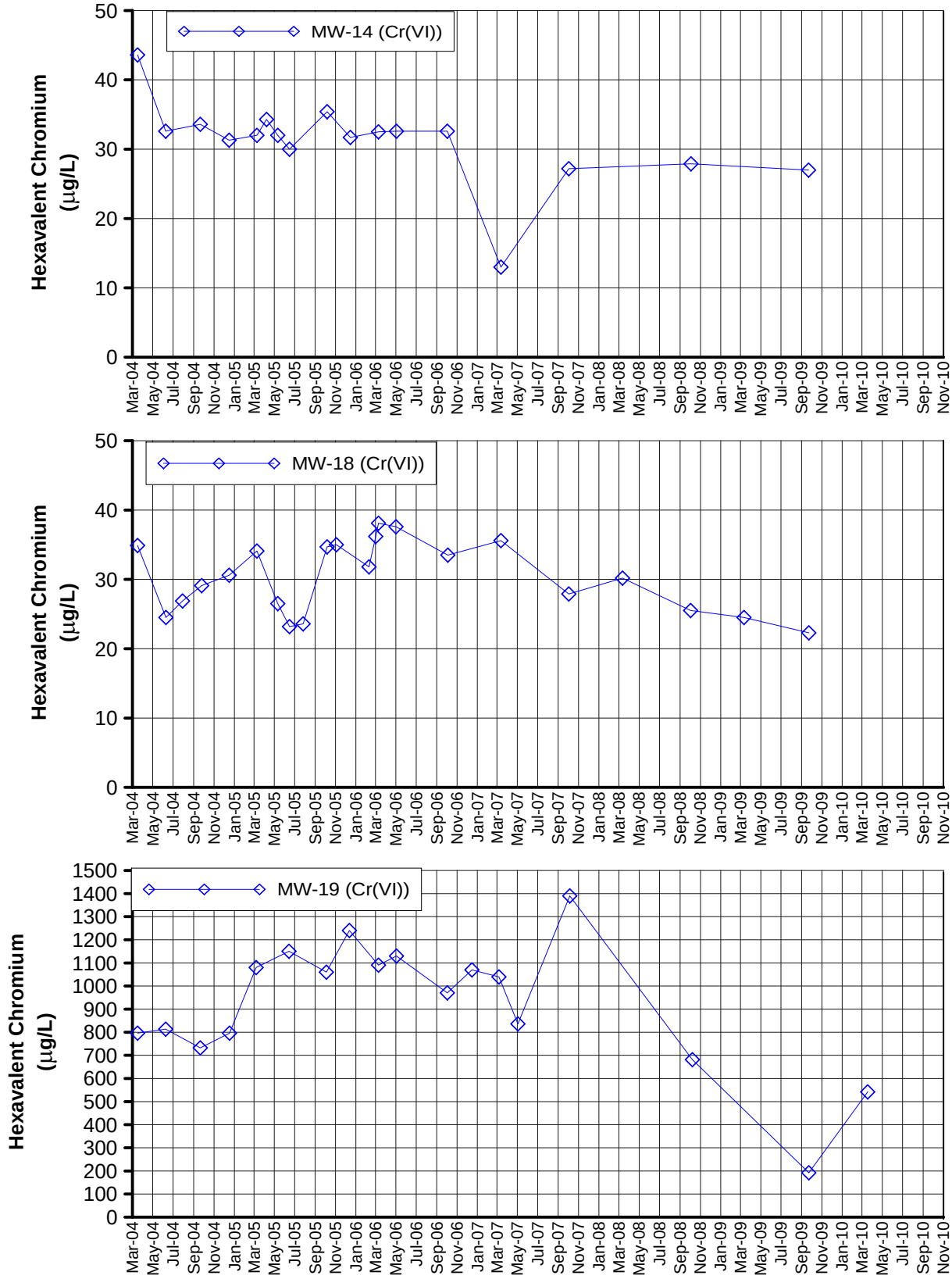


FIGURE C-9
HEXAVALENT CHROMIUM
IN MW-14, MW-18, AND MW-19
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

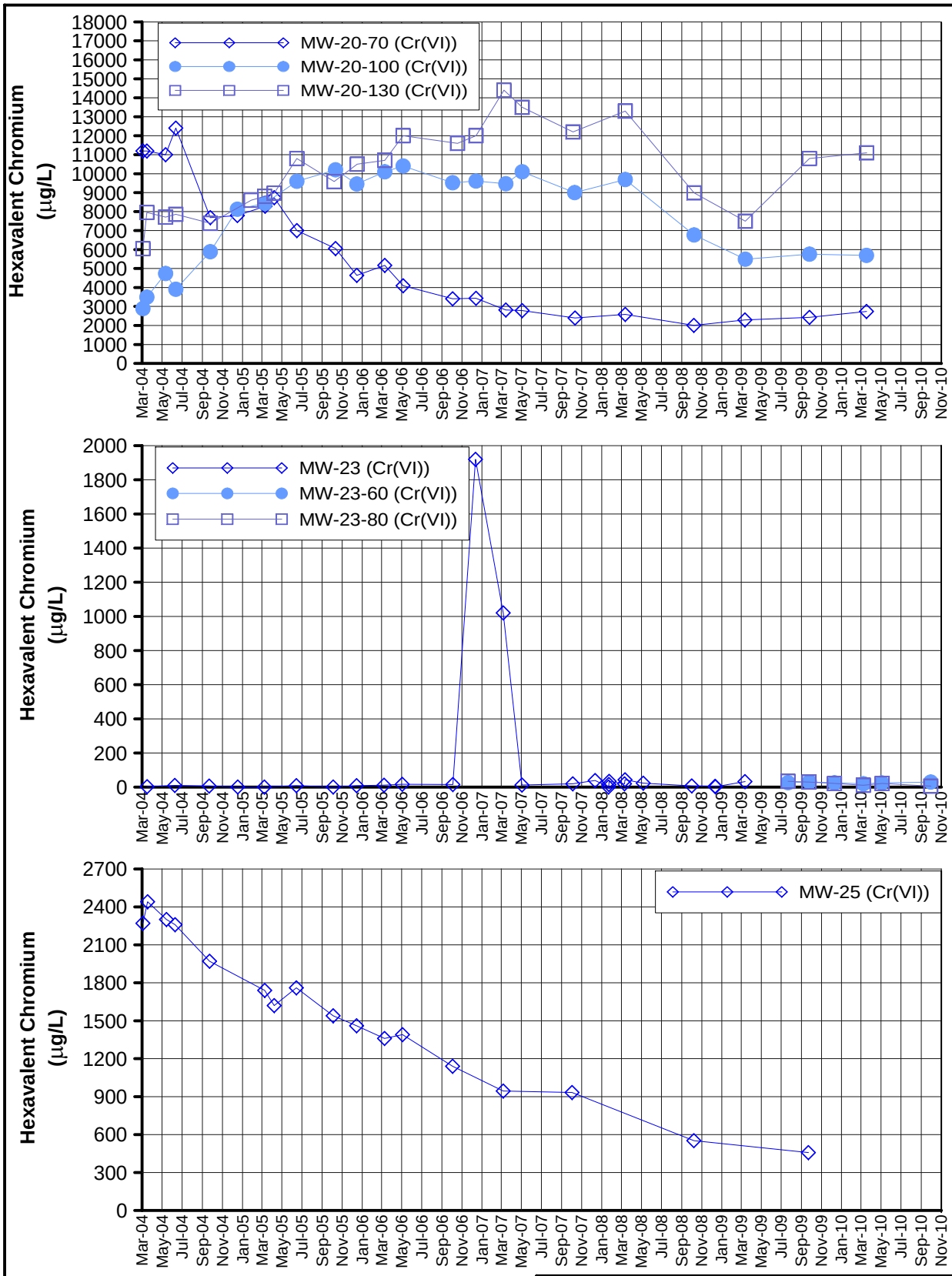


FIGURE C-10
HEXAVALENT CHROMIUM
IN MW-20, MW-23, AND MW-25 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

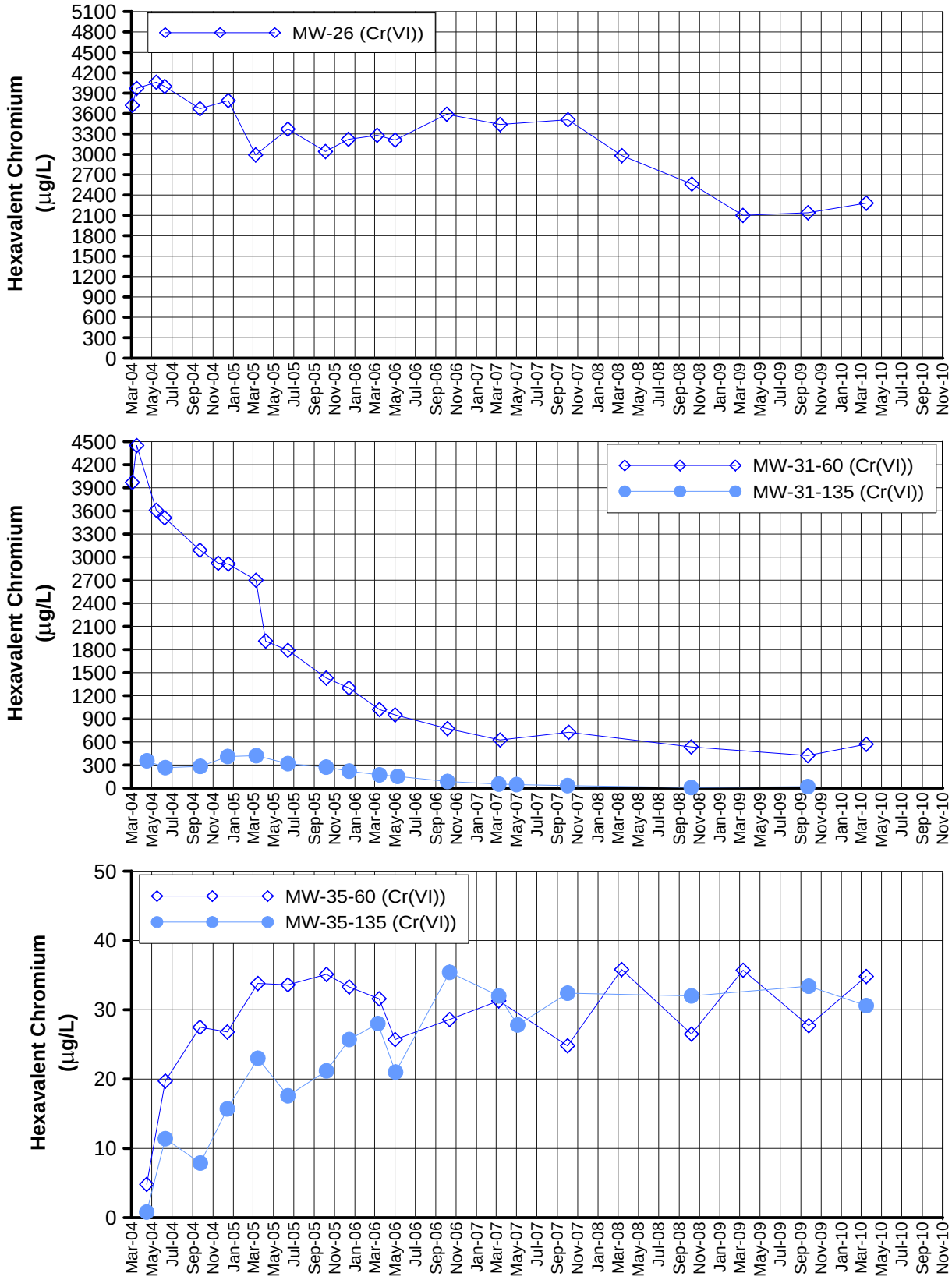


FIGURE C-11
HEXAVALENT CHROMIUM
IN MW-26, MW-31, AND MW-35 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

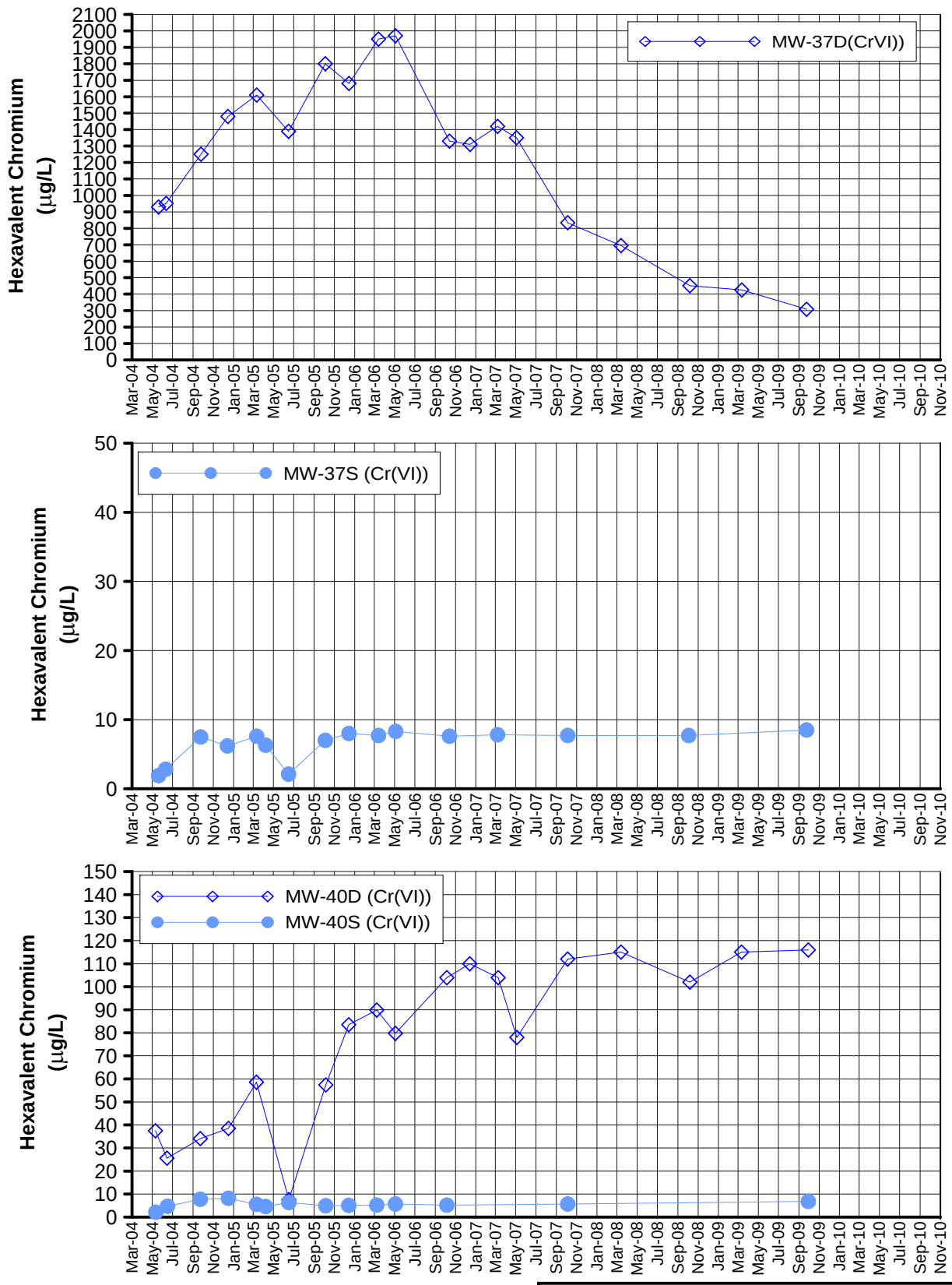


FIGURE C-12
HEXAVALENT CHROMIUM
IN MW-37 AND MW-40 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

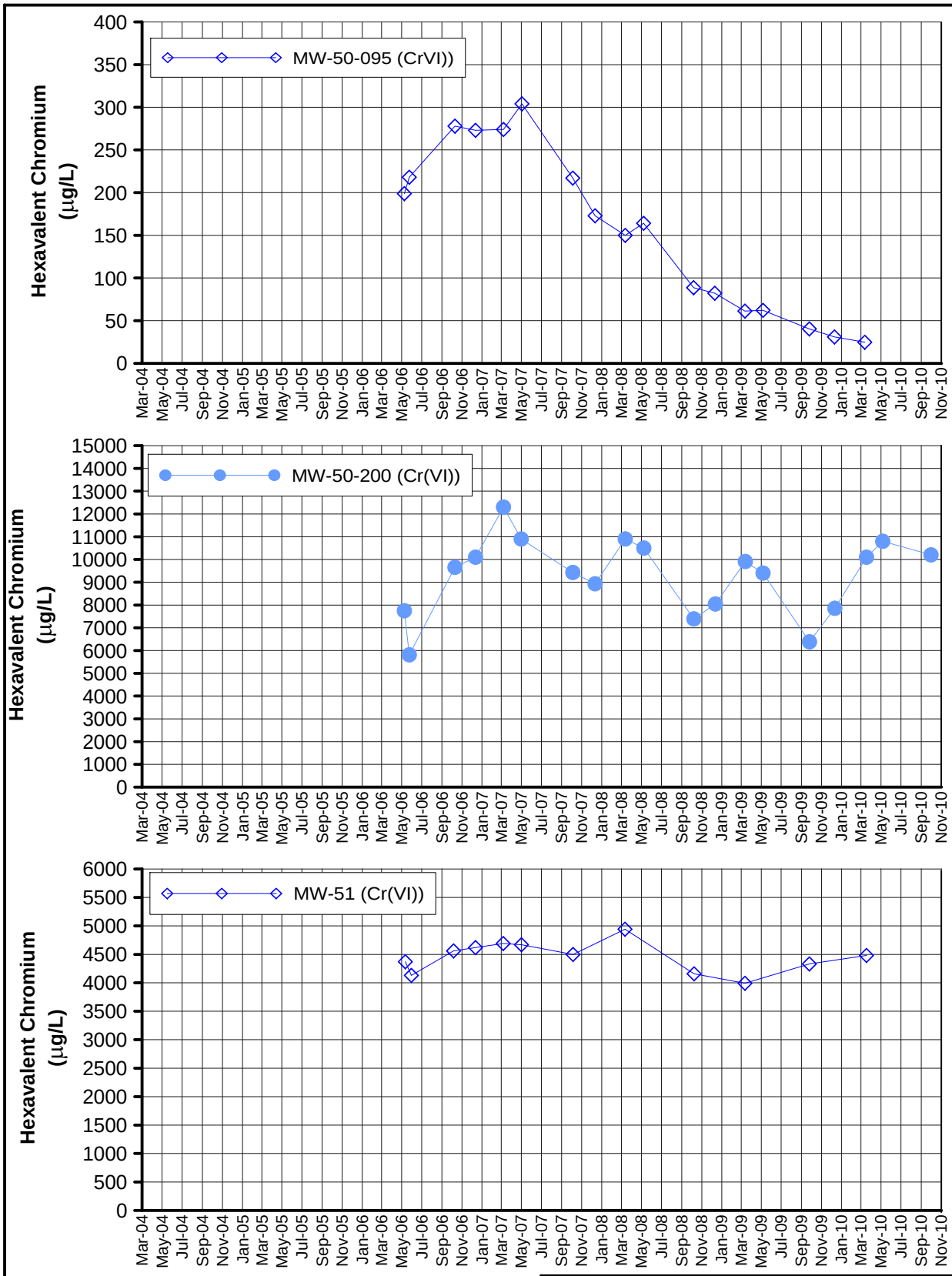


FIGURE C-13
HEXAVALENT CHROMIUM
IN MW-50 AND MW-51 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

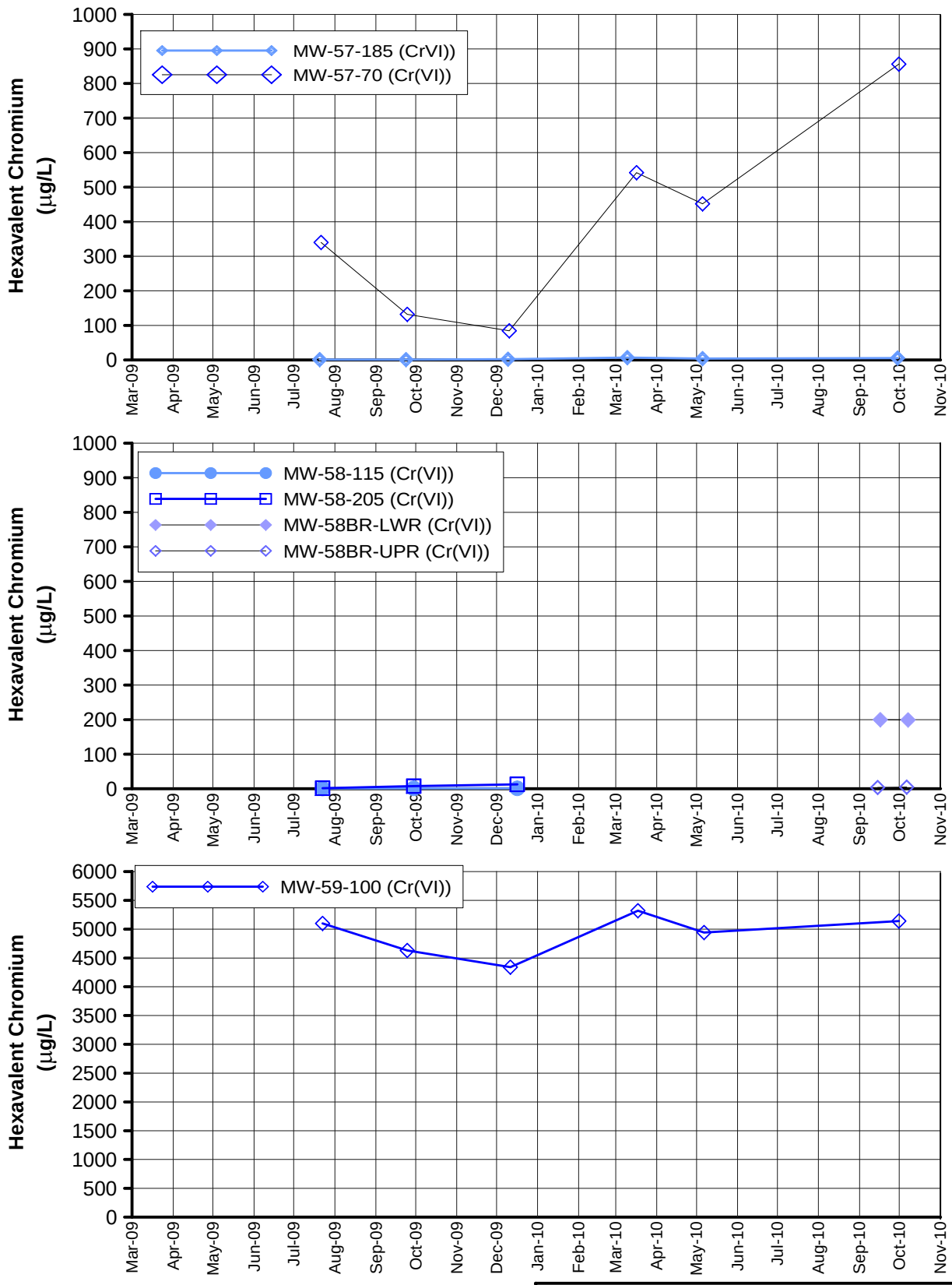


FIGURE C-14
HEXAVALENT CHROMIUM
IN MW-57, MW-58 and MW-59 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

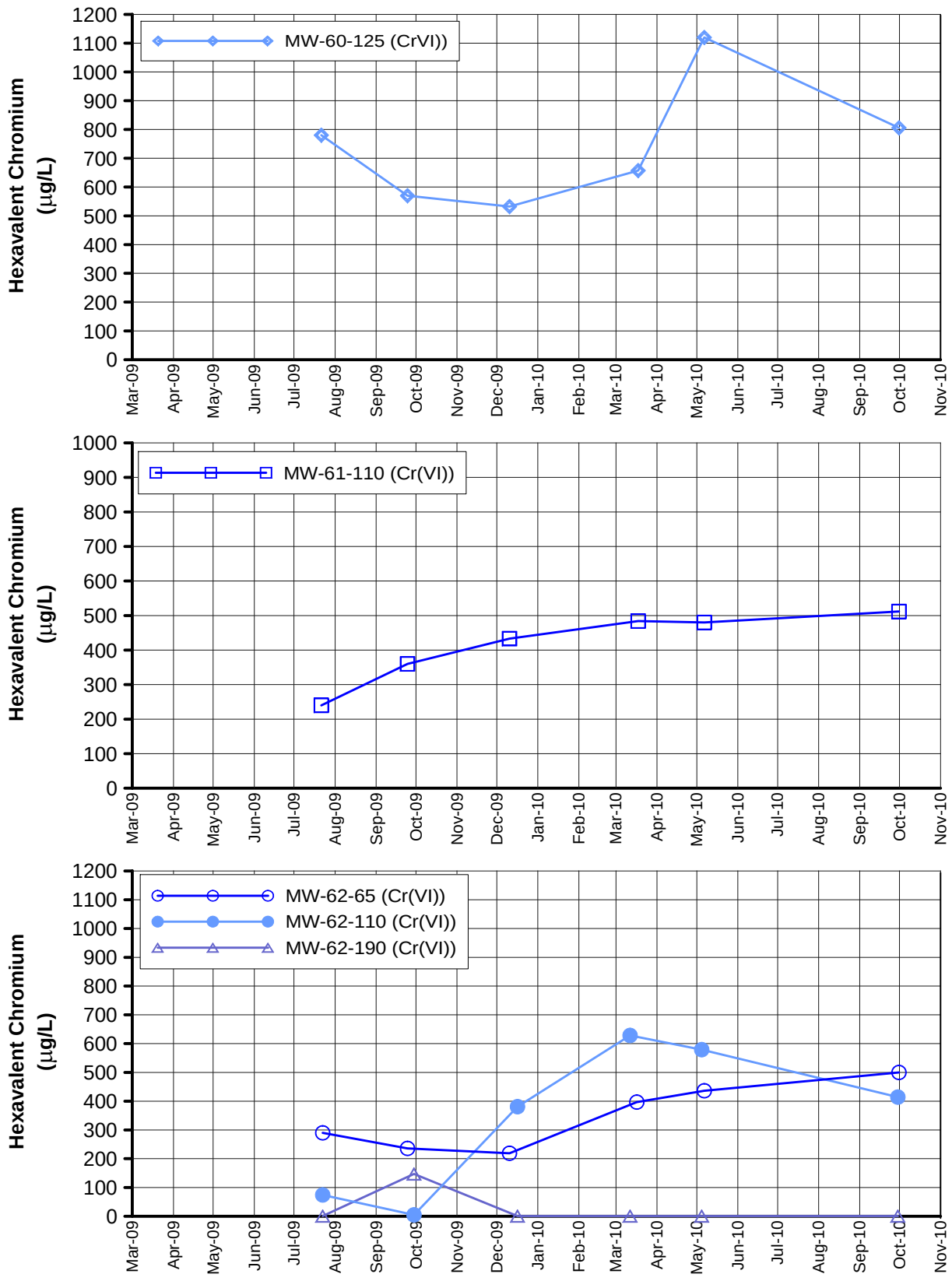


FIGURE C-15
HEXAVALENT CHROMIUM
IN MW-60-125, MW-61-110 AND THE MW-62 CLUSTER
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

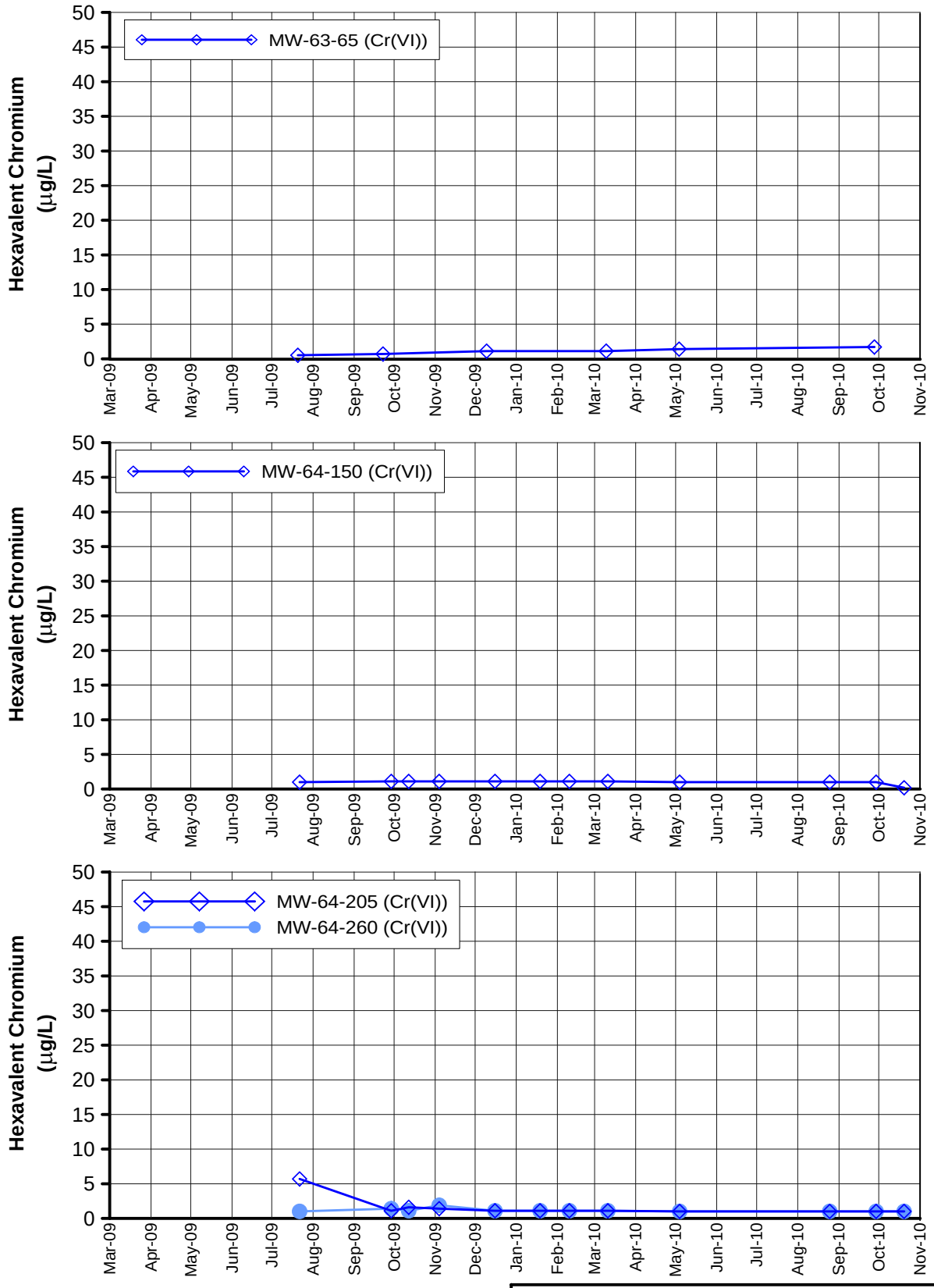
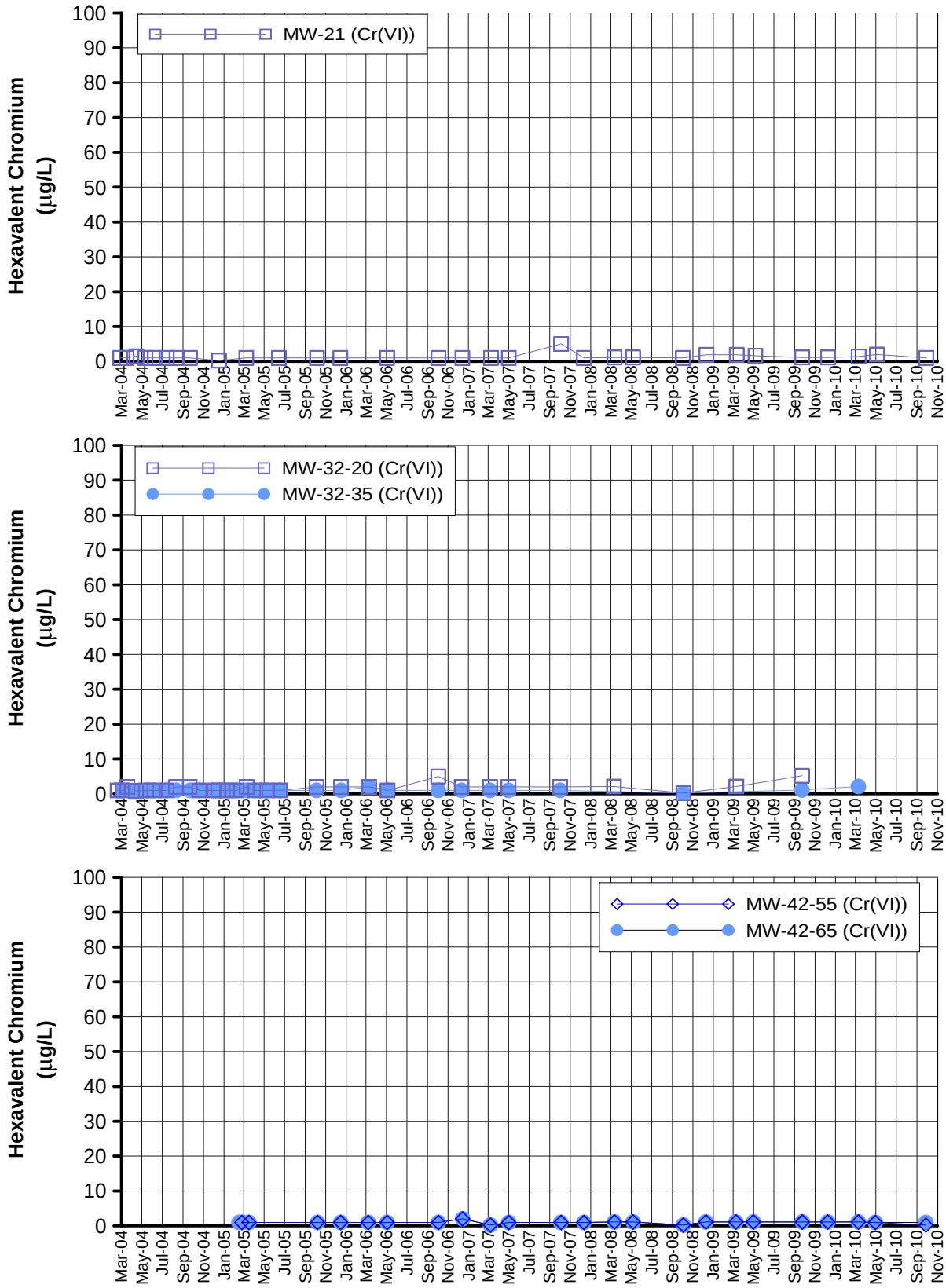


FIGURE C-16
HEXAVALENT CHROMIUM
IN MW-63-065 AND THE MW-64 CLUSTER
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

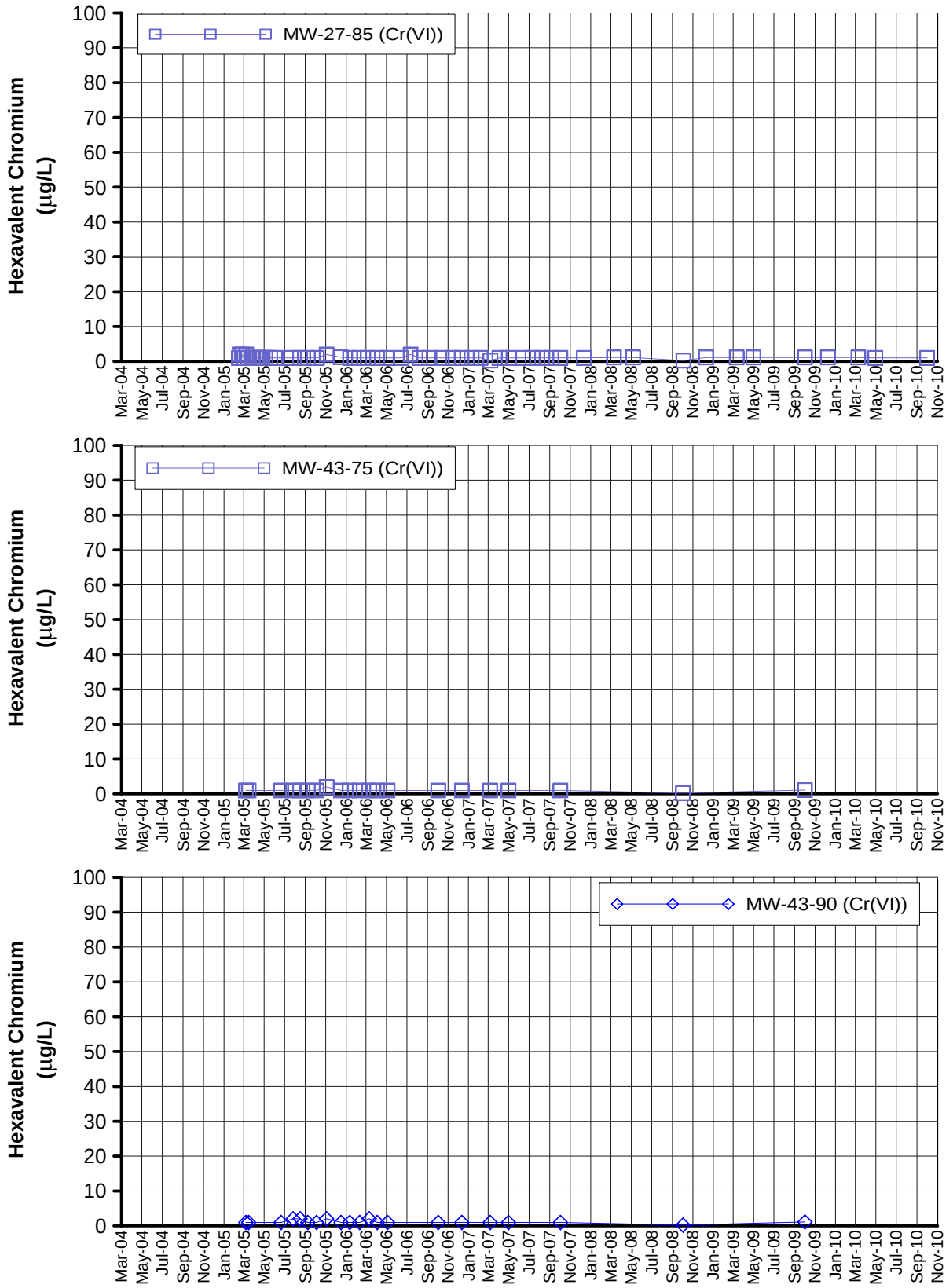


Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-21 is 20 µg/L.
3) The trigger level for MW-32-20 is 20 µg/L.
4) The trigger level for MW-32-35 is 20 µg/L.
5) The trigger level for MW-42-55 is 20 µg/L.
6) The trigger level for MW-42-65 is 20 µg/L.

FIGURE C-17
HEXAVALENT CHROMIUM
IN MW-21, MW-32 AND MW-42 CLUSTERS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



Notes:

1) The IM Contingency Plan and hexavalent chromium [CR(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-27-85 is 20 µg/L.
3) The trigger level for MW-43-75 is 20 µg/L.
4) The trigger level for MW-43-90 is 20 µg/L.

FIGURE C-18
HEXAVALENT CHROMIUM
IN MW-27-85 AND MW-43 CLUSTERS

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Appendix D
Interim Measure Extraction System
Operations Log, July through October 2010

APPENDIX D

Interim Measures Extraction System Operations Log, July through October 2010, PG&E Topock Performance Monitoring Program

During the third quarter of 2010 (July through October), extraction wells TW-3D and PE-1 operated at a target pump rate of at 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime. Extraction wells TW-2D and TW-2S were not operated during the third quarter of 2010. The operational run time for the Interim Measure groundwater extraction system (combined or individual pumping) was approximately 95.5 percent during third quarter 2010.

The Interim Measure Number 3 (IM-3) facility treated approximately 22,581,970 gallons of extracted groundwater during third quarter 2010. The IM-3 facility also treated approximately 6,805 gallons of water generated from the groundwater monitoring program and 38,100 gallons of water from IM-3 injection well development. Four containers of solids from the IM-3 facility were transported offsite during the reporting period.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.5 percent of downtime during third quarter 2010) are summarized below. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site.

D.1 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 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.

D.2 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 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 polymer system. Extraction system downtime was 16 minutes.

D.3 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.

D.4 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 the 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.

Appendix E
Hydraulic Data for Interim Measures Reporting Period

Table E-1
Average Monthly and Quarterly Groundwater Elevations, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	July 2010	August 2010	September 2010	October 2010	Quarter Average	Days in Quarter Average
I-3	River Station	456.29	455.87	455.79	455.40	455.85	121
MW-20-070	Shallow Zone	455.01	454.76	454.57	454.39	454.69	118
MW-20-100	Middle Zone	454.58	454.34	454.08	453.91	454.24	118
MW-20-130	Deep Wells	454.29	454.04	453.74	453.56	453.92	118
MW-22	Shallow Zone	455.72	INC	INC	INC	INC	46
MW-25	Shallow Zone	456.35	456.17	456.05	455.91	456.13	118
MW-26	Shallow Zone	456.04	455.88	455.76	455.62	455.83	118
MW-27-020	Shallow Zone	456.06	455.68	455.63	455.36	455.70	117
MW-27-060	Middle Zone	456.00	455.61	455.54	455.26	455.62	117
MW-27-085	Deep Wells	456.12	455.71	455.64	455.32	455.70	123
MW-28-025	Shallow Zone	456.13	455.77	455.70	455.39	455.76	116
MW-28-090	Deep Wells	456.25	455.88	455.78	455.46	455.86	118
MW-30-050	Middle Zone	455.82	455.46	455.34	455.10	455.45	118
MW-31-060	Shallow Zone	455.82	455.52	455.37	455.16	455.48	118
MW-31-135	Deep Wells	455.29	455.01	454.81	454.57	454.92	123
MW-32-035	Shallow Zone	455.86	455.53	455.46	455.24	455.54	117
MW-33-040	Shallow Zone	456.04	455.71	455.62	455.41	455.71	118
MW-33-090	Middle Zone	456.23	455.89	455.80	455.58	455.89	118
MW-33-150	Deep Wells	456.29	455.92	455.81	455.53	455.89	123
MW-34-055	Middle Zone	456.19	455.80	455.70	455.42	455.79	117
MW-34-080	Deep Wells	456.10	455.69	455.58	455.36	455.70	117
MW-34-100	Deep Wells	456.02	455.61	455.46	455.16	455.56	123
MW-35-060	Shallow Zone	456.50	456.13	456.07	455.82	456.14	118
MW-35-135	Deep Wells	456.73	456.43	456.35	456.19	456.43	118
MW-36-020	Shallow Zone	455.95	455.59	455.50	455.28	455.59	118
MW-36-040	Shallow Zone	455.93	455.56	455.46	455.20	455.55	118
MW-36-050	Middle Zone	455.91	455.54	455.44	455.17	455.53	118
MW-36-070	Middle Zone	455.83	455.46	455.36	455.09	455.45	118
MW-36-090	Deep Wells	455.08	454.77	454.57	454.35	454.71	118
MW-36-100	Deep Wells	455.41	455.09	454.89	454.67	455.03	118
MW-39-040	Shallow Zone	455.72	455.38	455.25	455.01	455.36	118
MW-39-050	Middle Zone	INC	455.22	455.10	454.87	INC	86
MW-39-060	Middle Zone	455.43	455.10	454.95	454.72	455.07	118
MW-39-070	Middle Zone	455.06	454.76	454.56	454.35	454.70	118
MW-39-080	Deep Wells	INC	454.93	454.73	454.52	INC	86
MW-39-100	Deep Wells	455.85	455.55	455.37	455.16	455.50	118
MW-42-030	Shallow Zone	INC	455.27	455.19	454.97	455.23	100
MW-42-065	Middle Zone	455.86	455.52	455.43	455.20	455.52	118
MW-43-025	Shallow Zone	456.11	455.69	455.67	455.36	455.73	117
MW-43-090	Deep Wells	456.55	456.13	456.10	455.78	456.16	117
MW-44-070	Middle Zone	456.09	455.67	455.52	455.27	455.65	118
MW-44-115	Deep Wells	455.61	455.27	455.12	454.93	455.25	118
MW-44-125	Deep Wells	INC	455.81	455.64	455.36	455.64	93
MW-45-095a	Deep Wells	455.09	454.78	454.35	454.22	454.61	123
MW-46-175	Deep Wells	456.12	455.79	455.66	455.49	455.77	118
MW-47-115	Deep Wells	456.39	456.13	INC	INC	INC	75

Table E-1

Average Monthly and Quarterly Groundwater Elevations, July through October 2010
Third Quarter 2010 Interim Measures Performance Monitoring and Site-Wide
Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

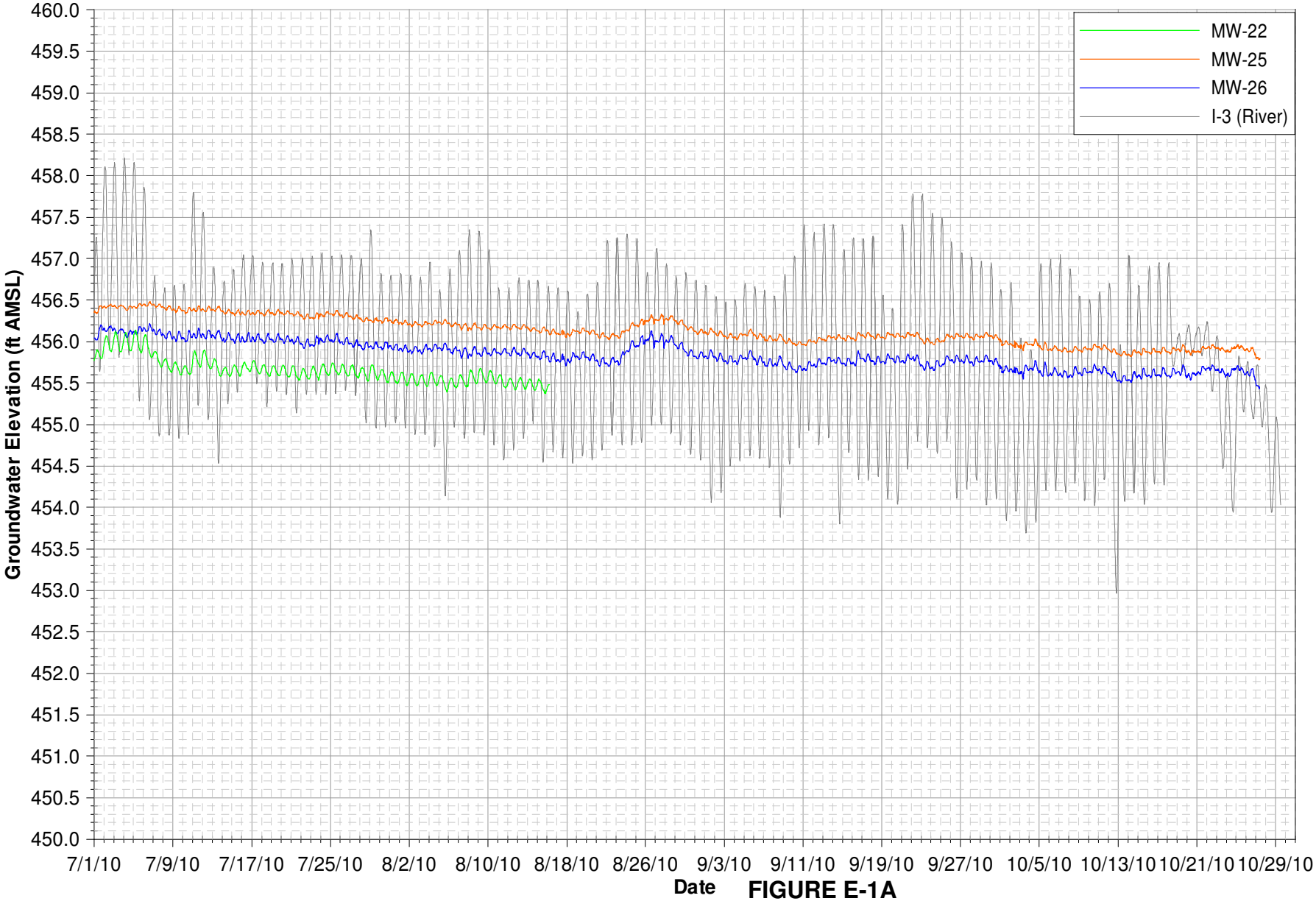
Well ID	Aquifer Zone	July 2010	August 2010	September 2010	October 2010	Quarter Average	Days in Quarter Average
MW-49-135	Deep Wells	456.63	456.28	456.20	455.95	456.28	118
MW-50-095	Middle Zone	456.04	455.76	INC	INC	INC	63
MW-51	Middle Zone	456.01	455.85	455.76	455.61	455.82	118
MW-54-085	Deep Wells	456.44	456.02	455.96	455.66	456.03	119
MW-54-140	Deep Wells	INC	456.06	456.00	455.75	INC	83
MW-54-195	Deep Wells	456.67	456.33	456.29	INC	456.38	104
MW-55-045	Middle Zone	456.83	456.51	456.45	456.30	456.53	119
MW-55-120	Deep Wells	456.97	456.66	456.57	456.45	456.67	119
PT2D	Deep Wells	454.83	454.51	454.29	454.08	454.45	118
PT5D	Deep Wells	455.22	454.91	454.73	454.42	454.84	118
PT6D	Deep Wells	455.28	455.00	454.81	454.61	454.94	118
RRB	River Station	456.62	456.19	456.13	455.74	456.18	120

NOTES:

Averages reported in ft AMSL (feet above mean sea level).

Quarterly Average = average of daily averages over reporting period

INC = Data incomplete, less than 75% of data available over reporting period due to rejection or field equipment malfunction



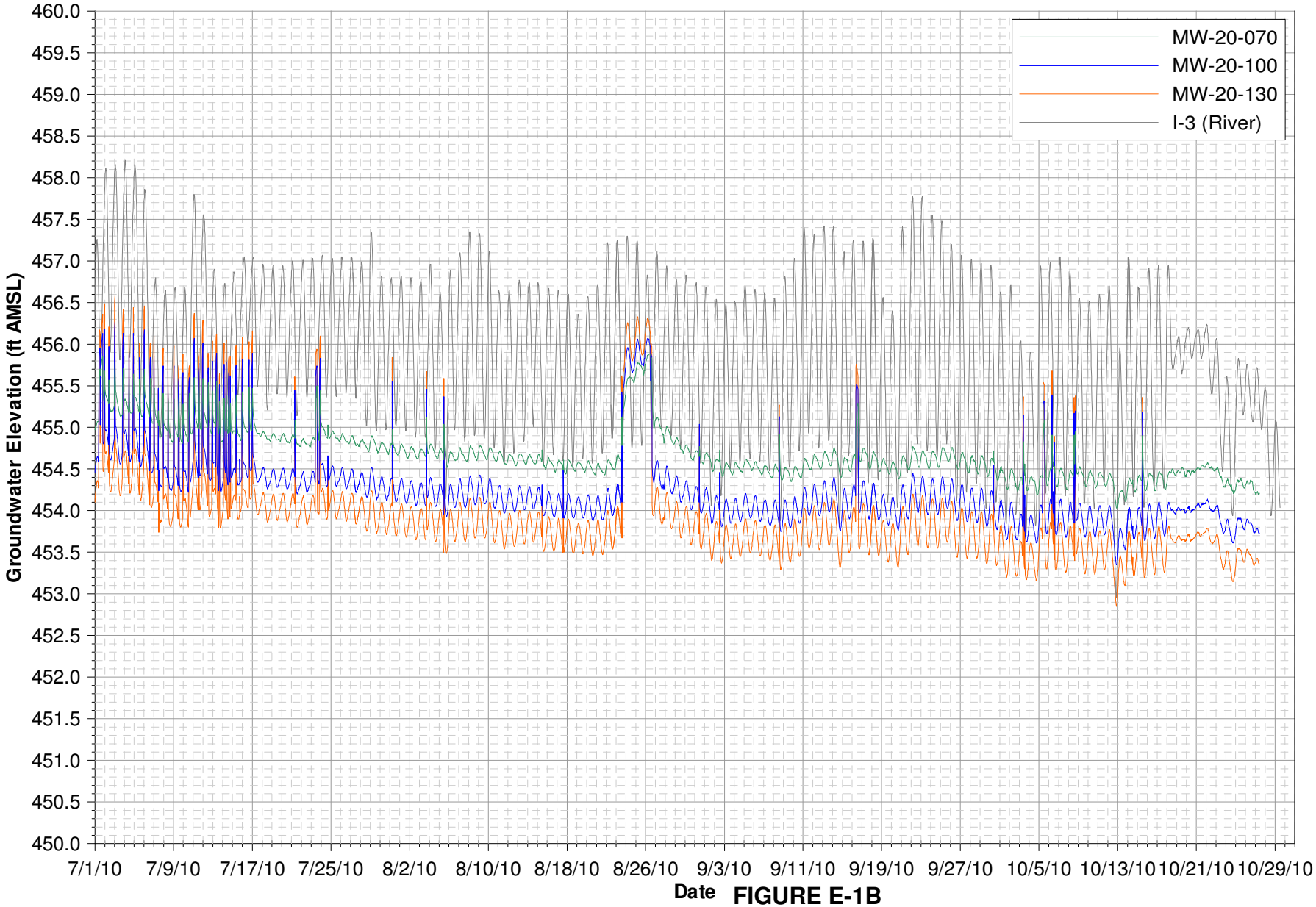
Notes:
Data subject to review.
MW-22 data unavailable from August 16, 2010 until October 31, 2010 due to transducer failure.

FIGURE E-1A

MW-22, MW-25, AND MW-26 HYDROGRAPHS

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

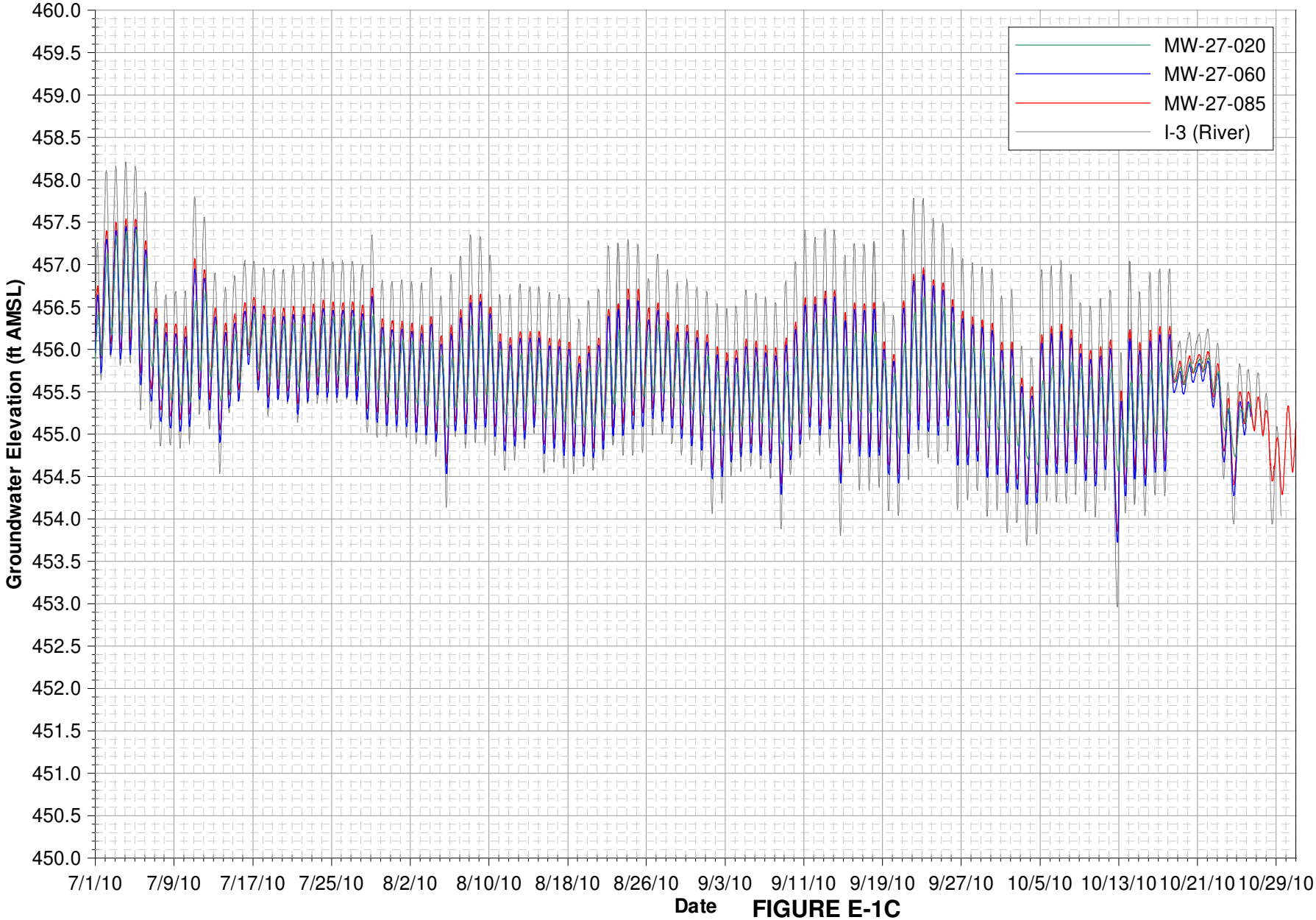
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1B
MW-20 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

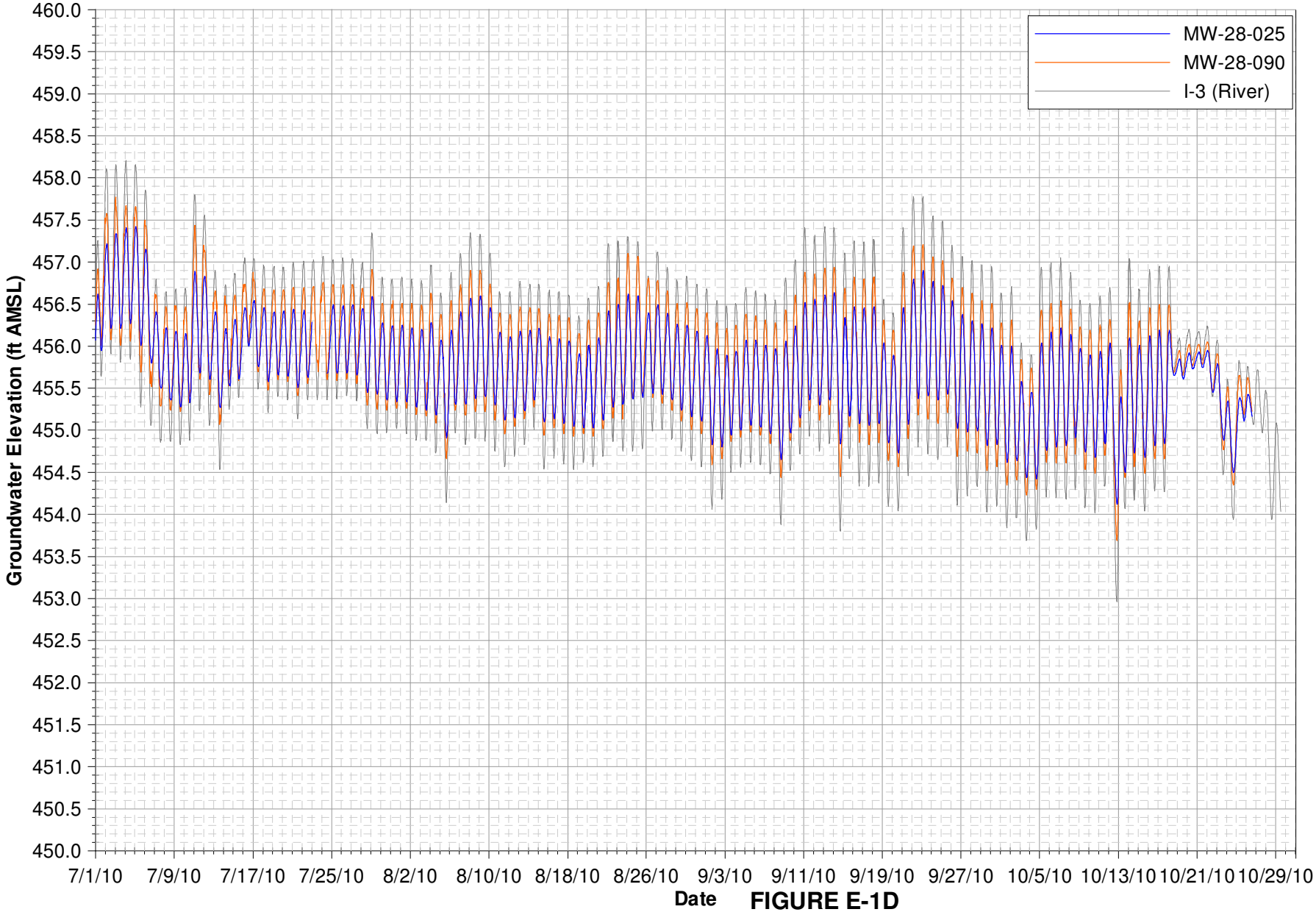
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1C
MW-27 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

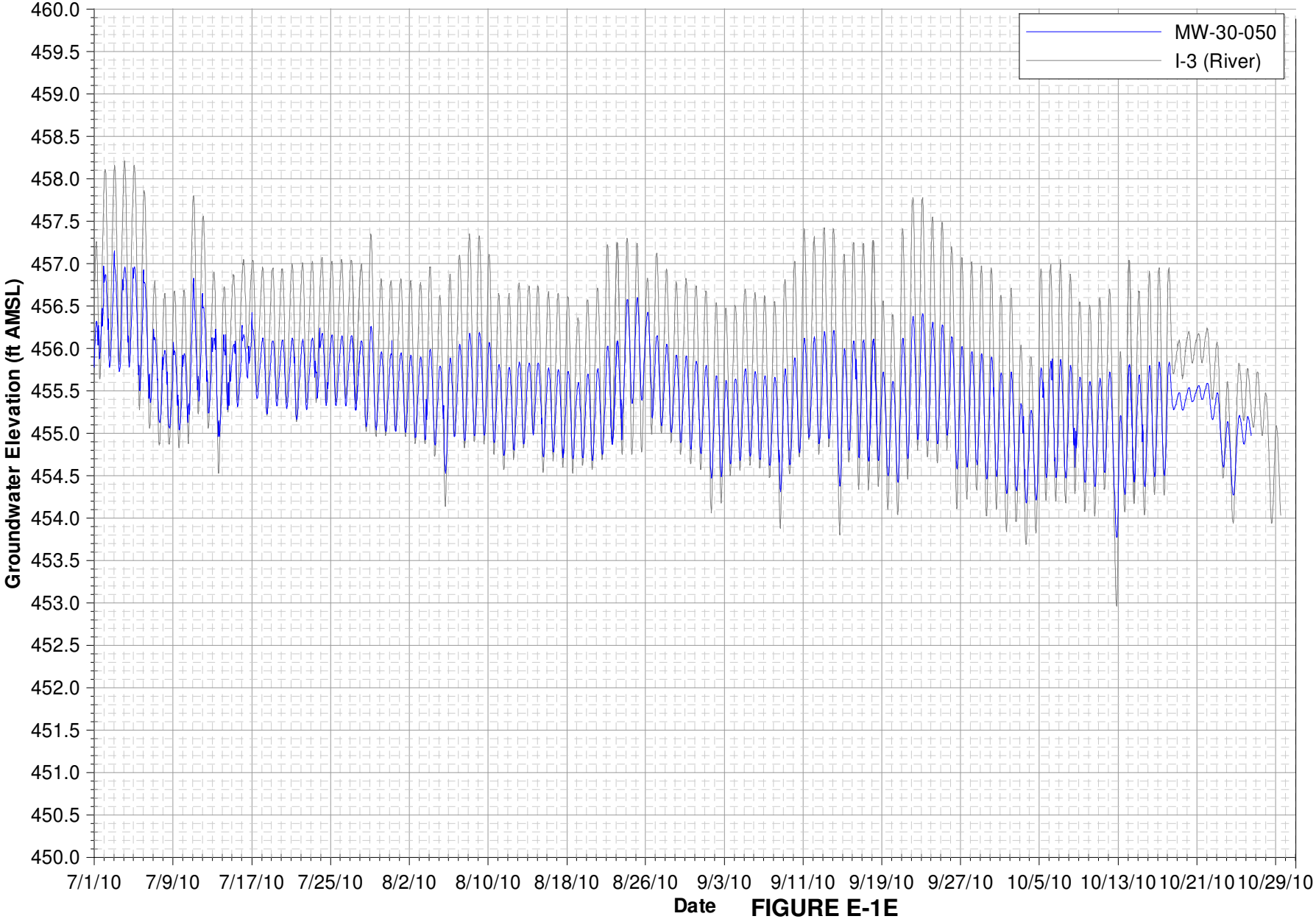
CH2MHILL



Notes:
Data subject to review.
MW-28-025 data unavailable from July 23, 2010 until July 24, 2010 due to transducer failure.

FIGURE E-1D
MW-28 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



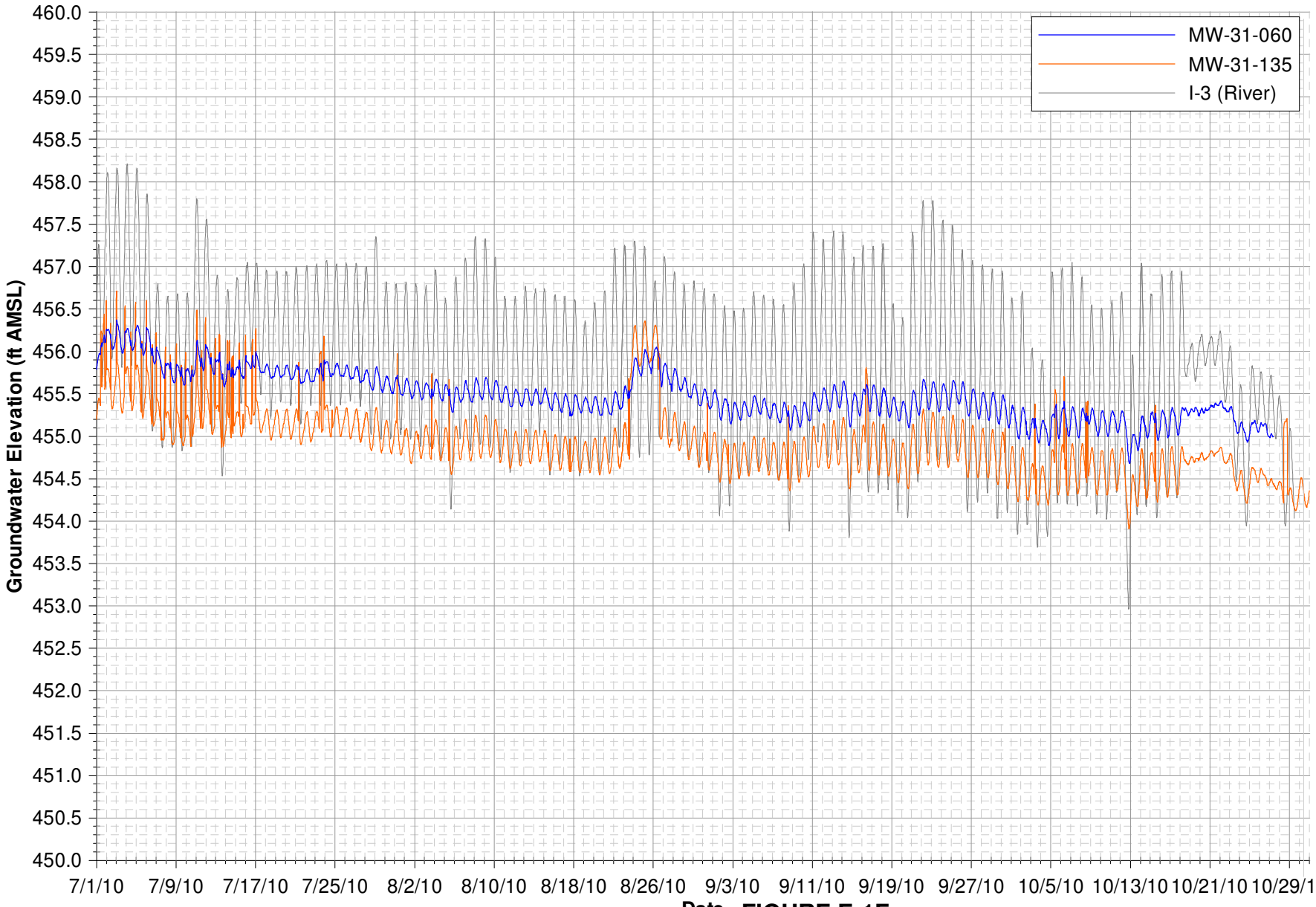
Notes:
Data subject to review.

FIGURE E-1E

MW-30-50 HYDROGRAPH

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



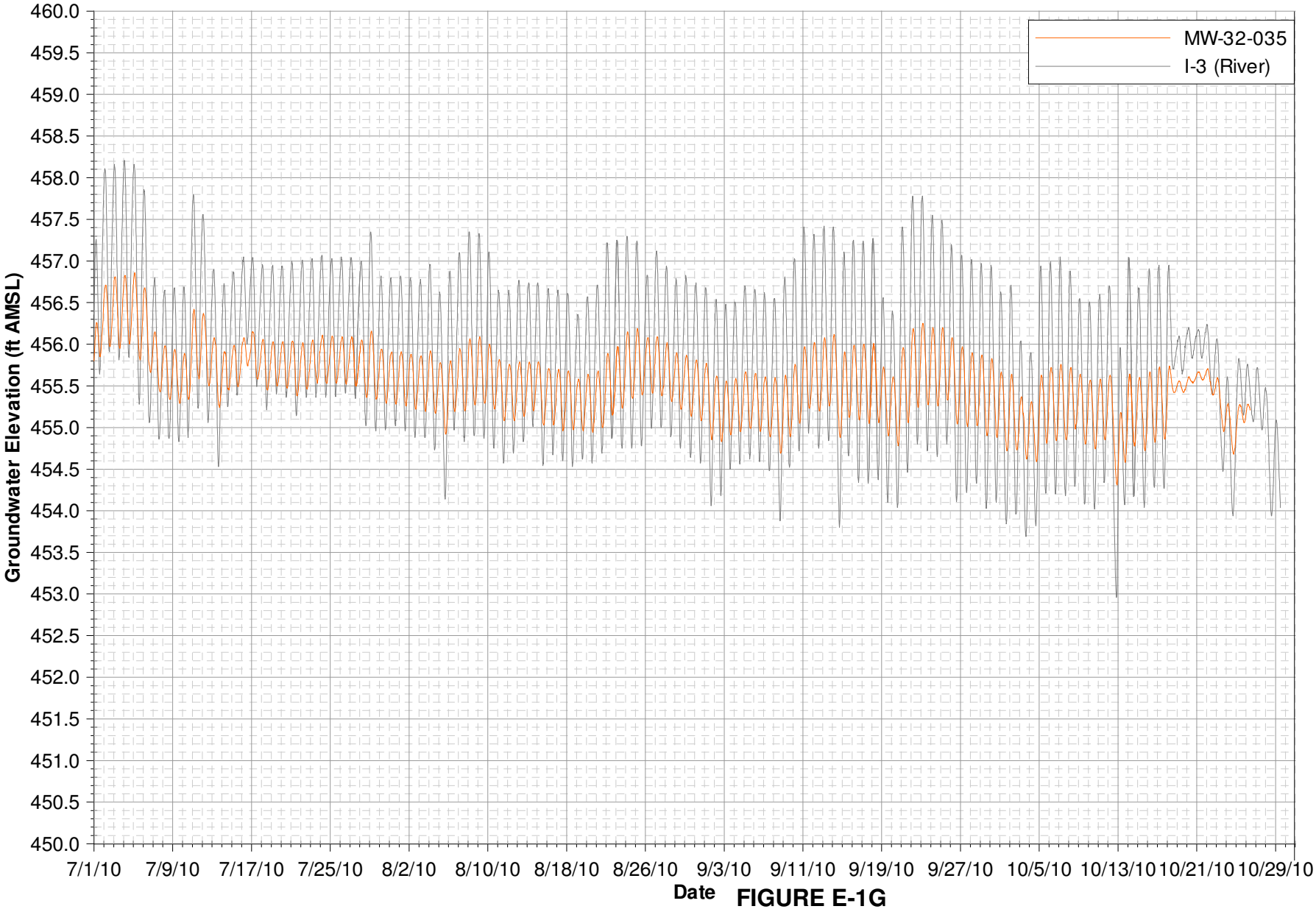
Notes:
Data subject to review.

FIGURE E-1F

MW-31 CLUSTER HYDROGRAPHS

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

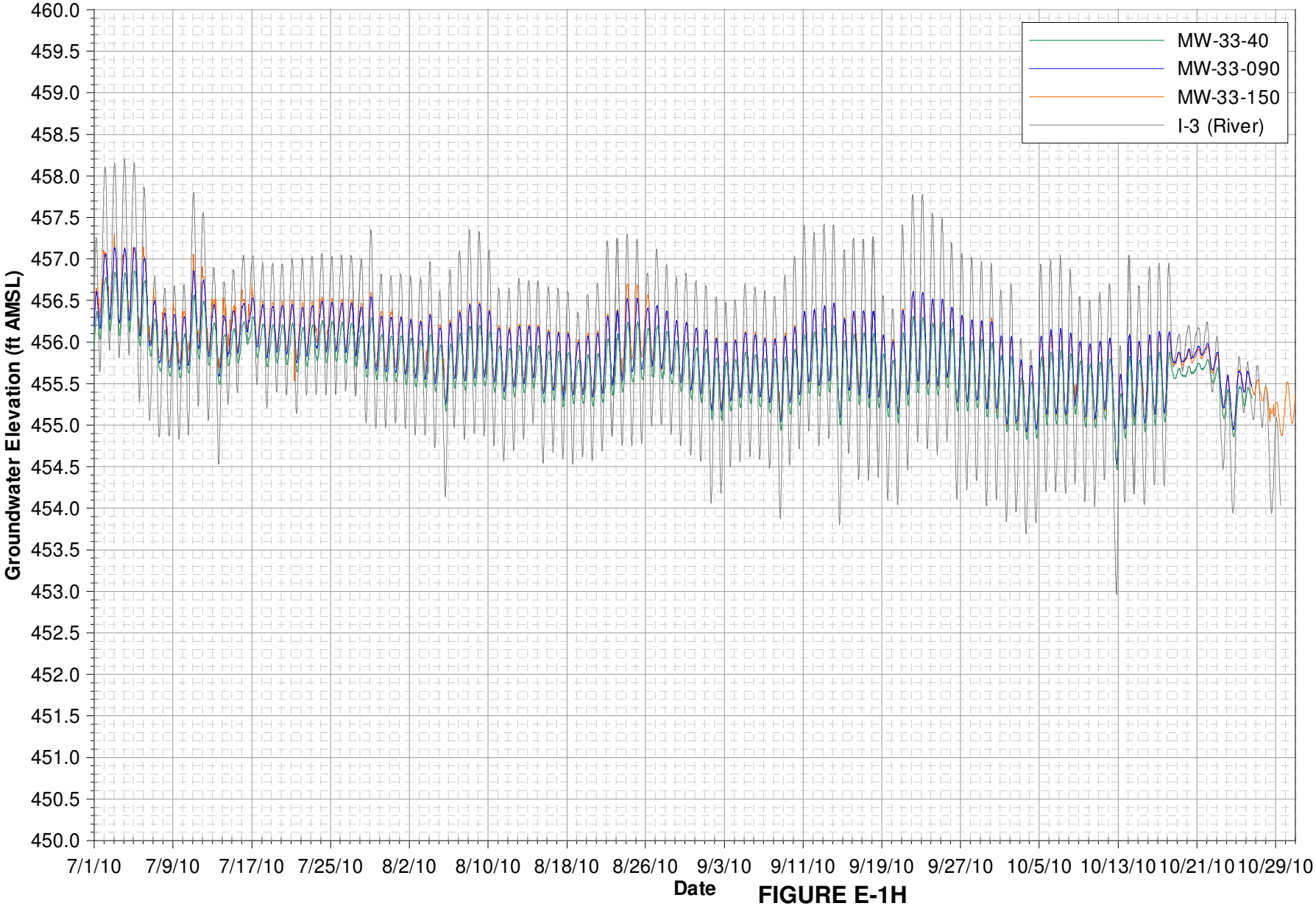
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1G
MW-32 HYDROGRAPH
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

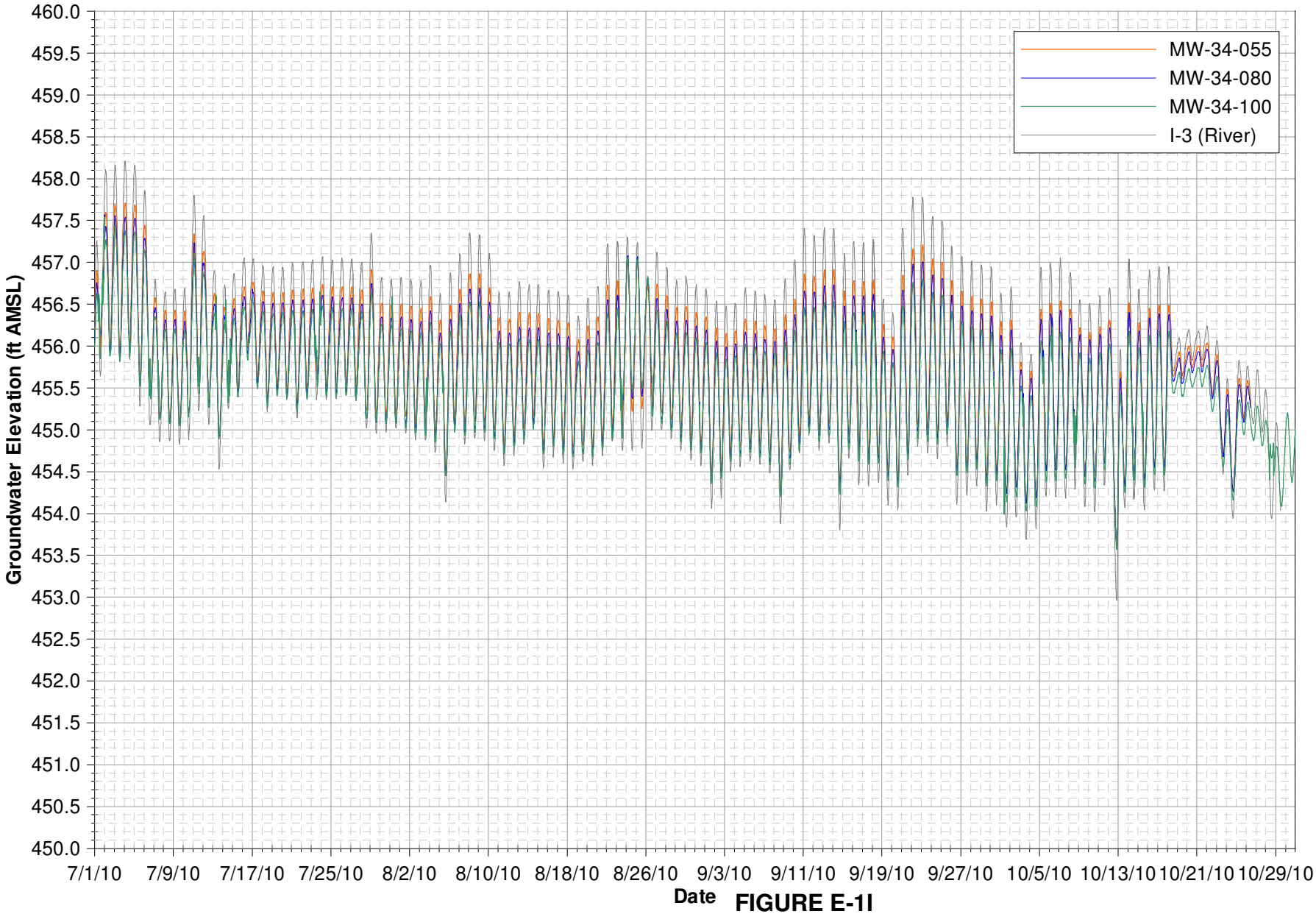
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1H
MW-33 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

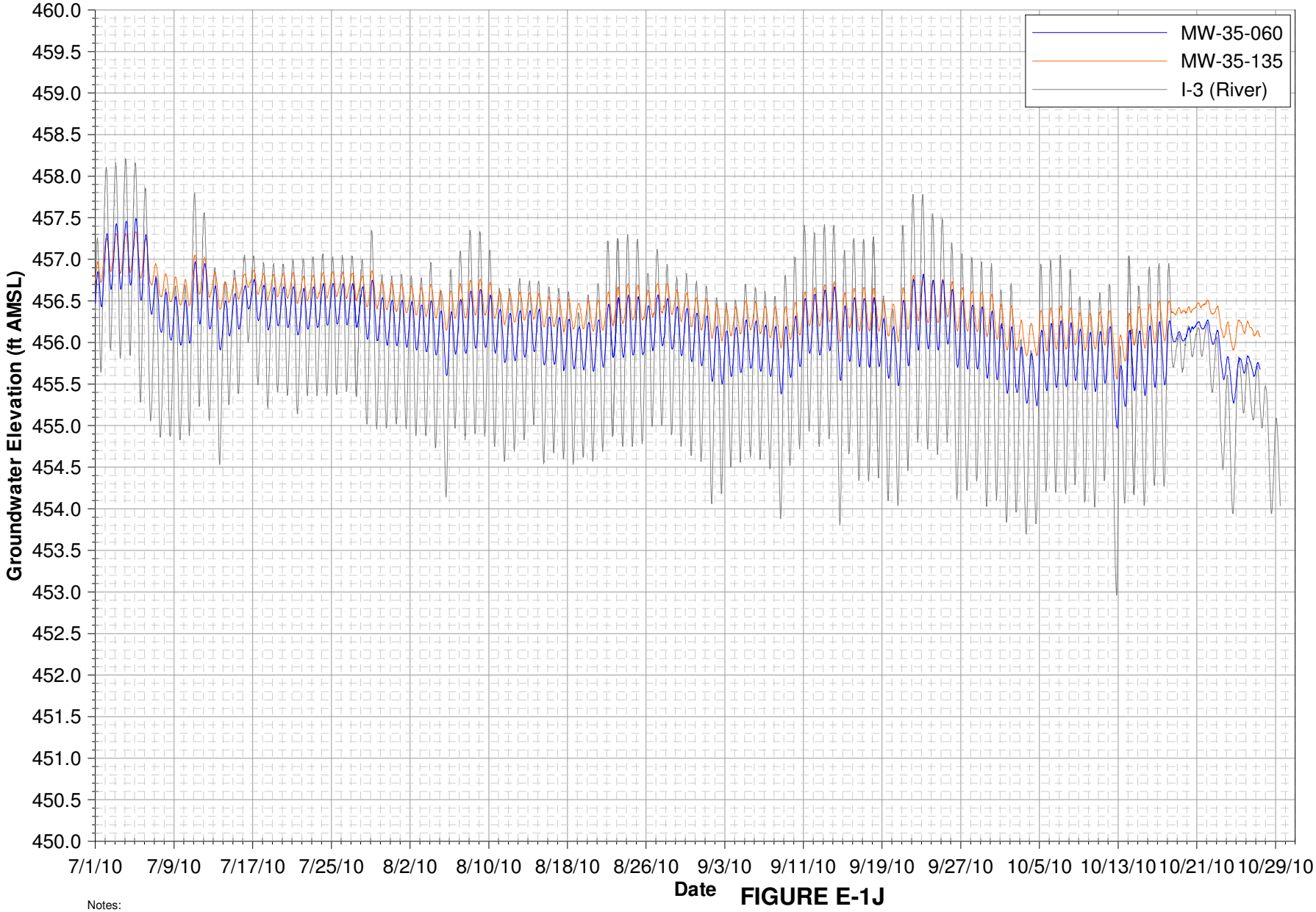
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1I
MW-34 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

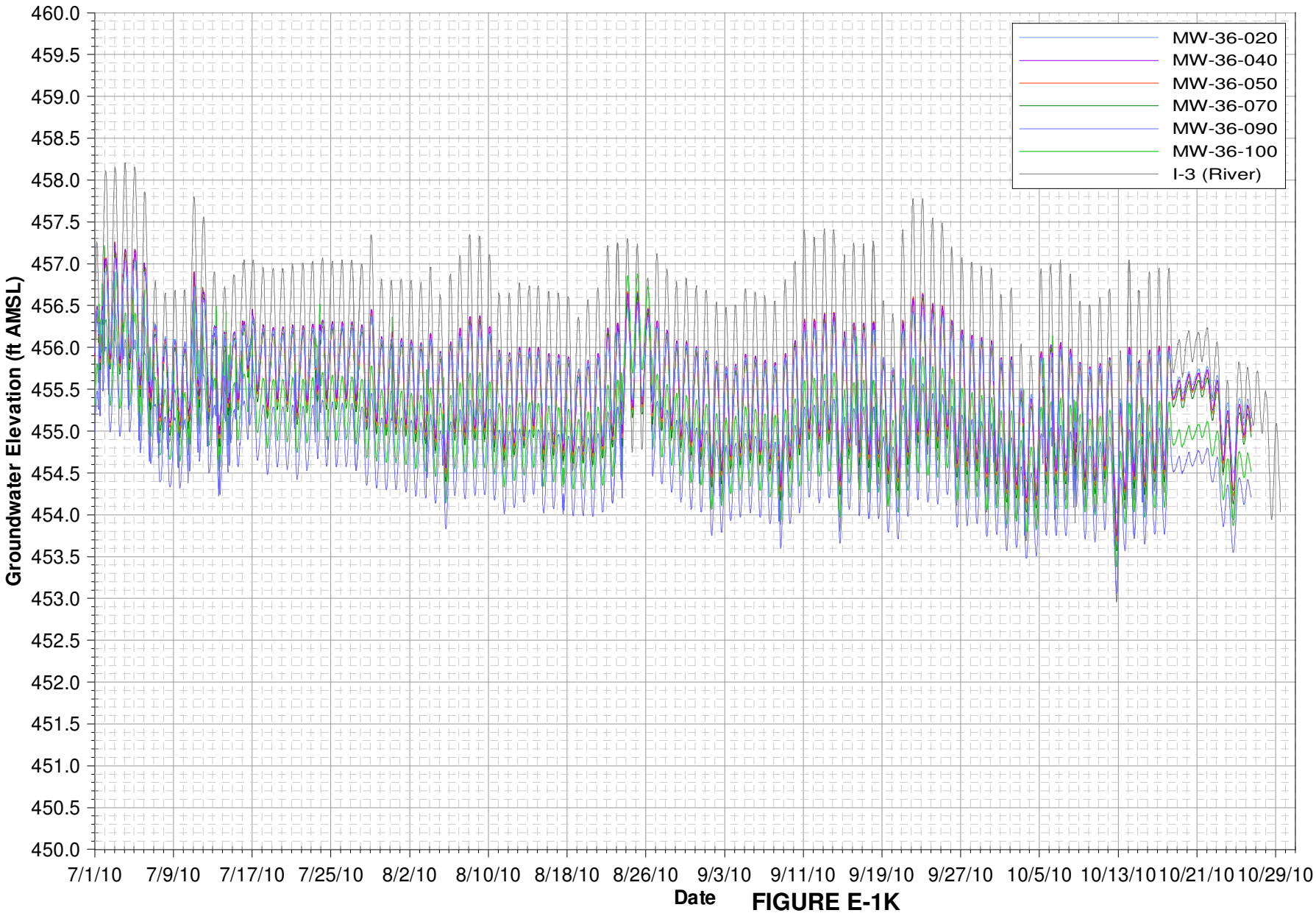
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1J
MW-35 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

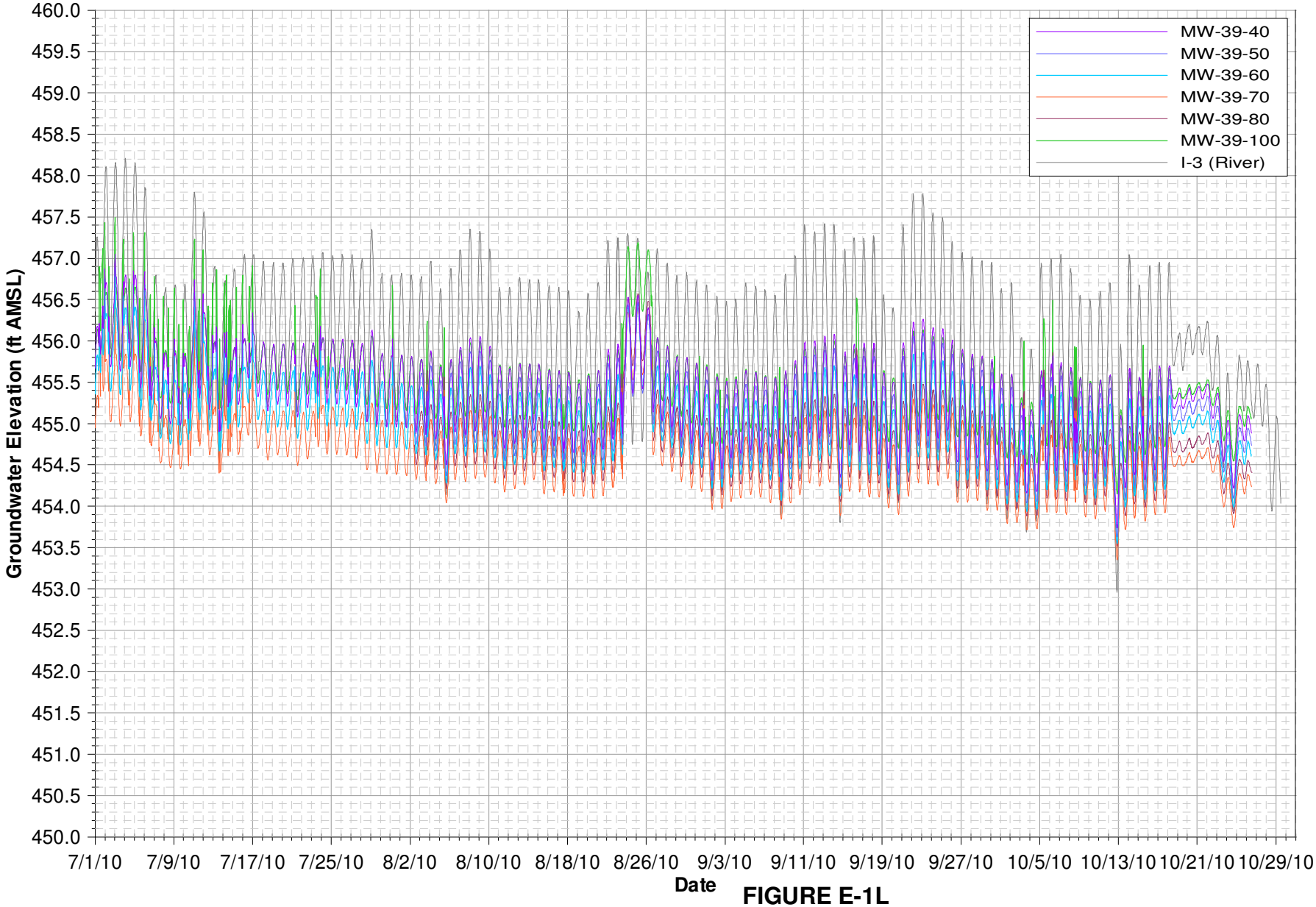
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1K
MW-36 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

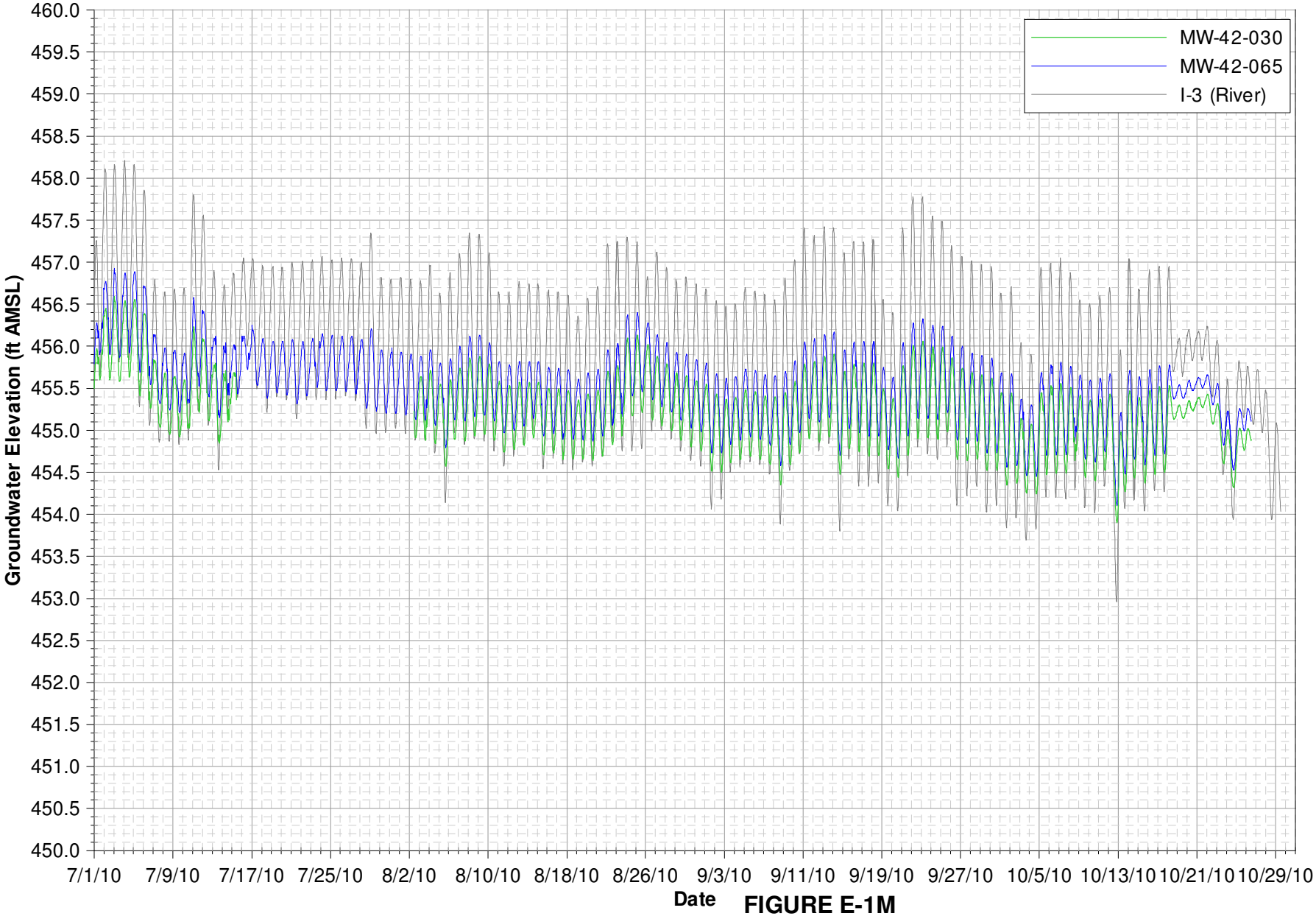
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1L
MW-39 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

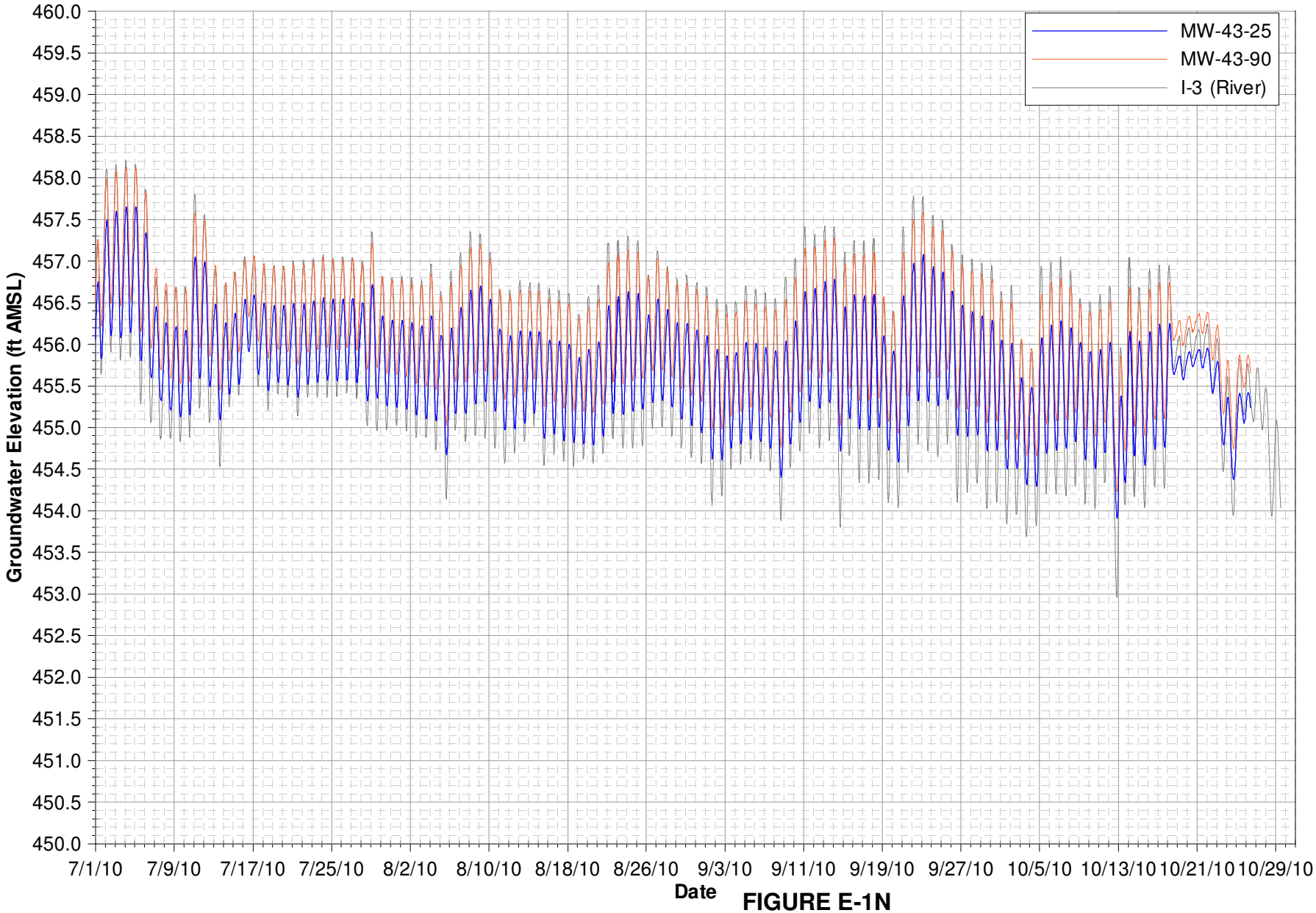
CH2MHILL



Notes:
Data subject to review.
MW-42-030 data unavailable from July 15, 2010 until August 2, 2010 due to transducer failure.

FIGURE E-1M
MW-42 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

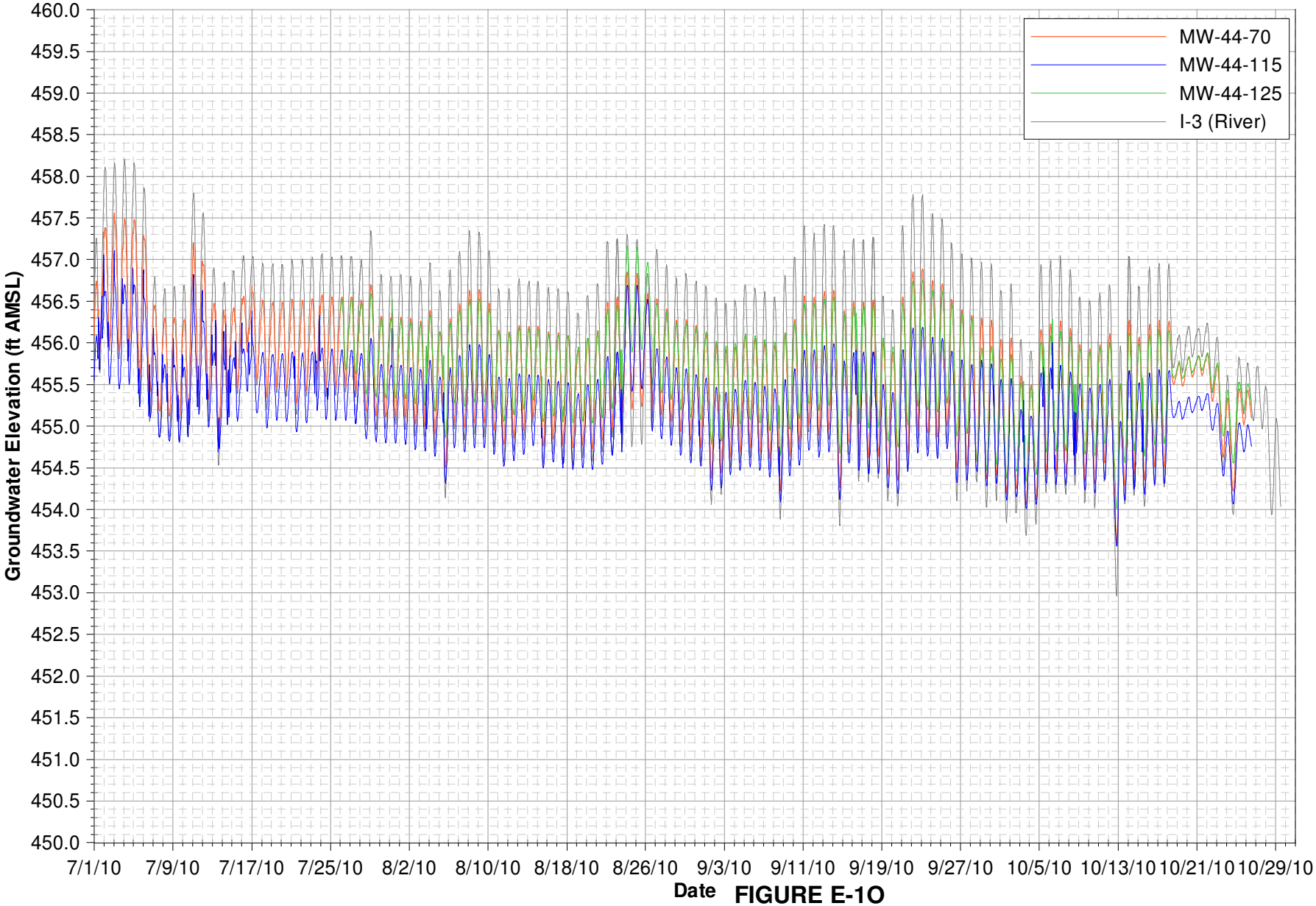
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1N
MW-43 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



Notes:
Data subject to review.
MW-44-125 data unavailable from July 1, 2010 until July 31, 2010 due to transducer failure.

FIGURE E-1O
MW-44 CLUSTER HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

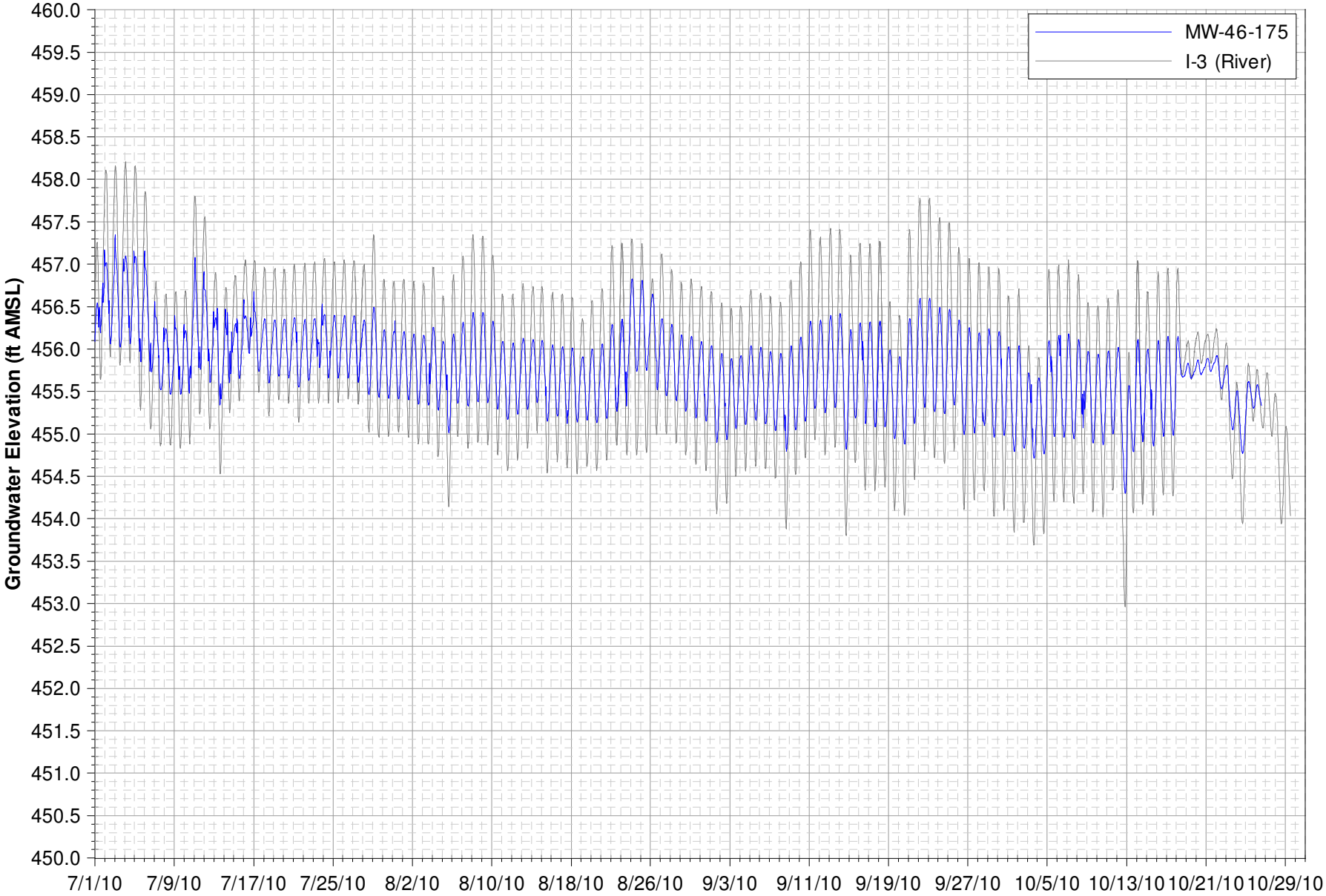
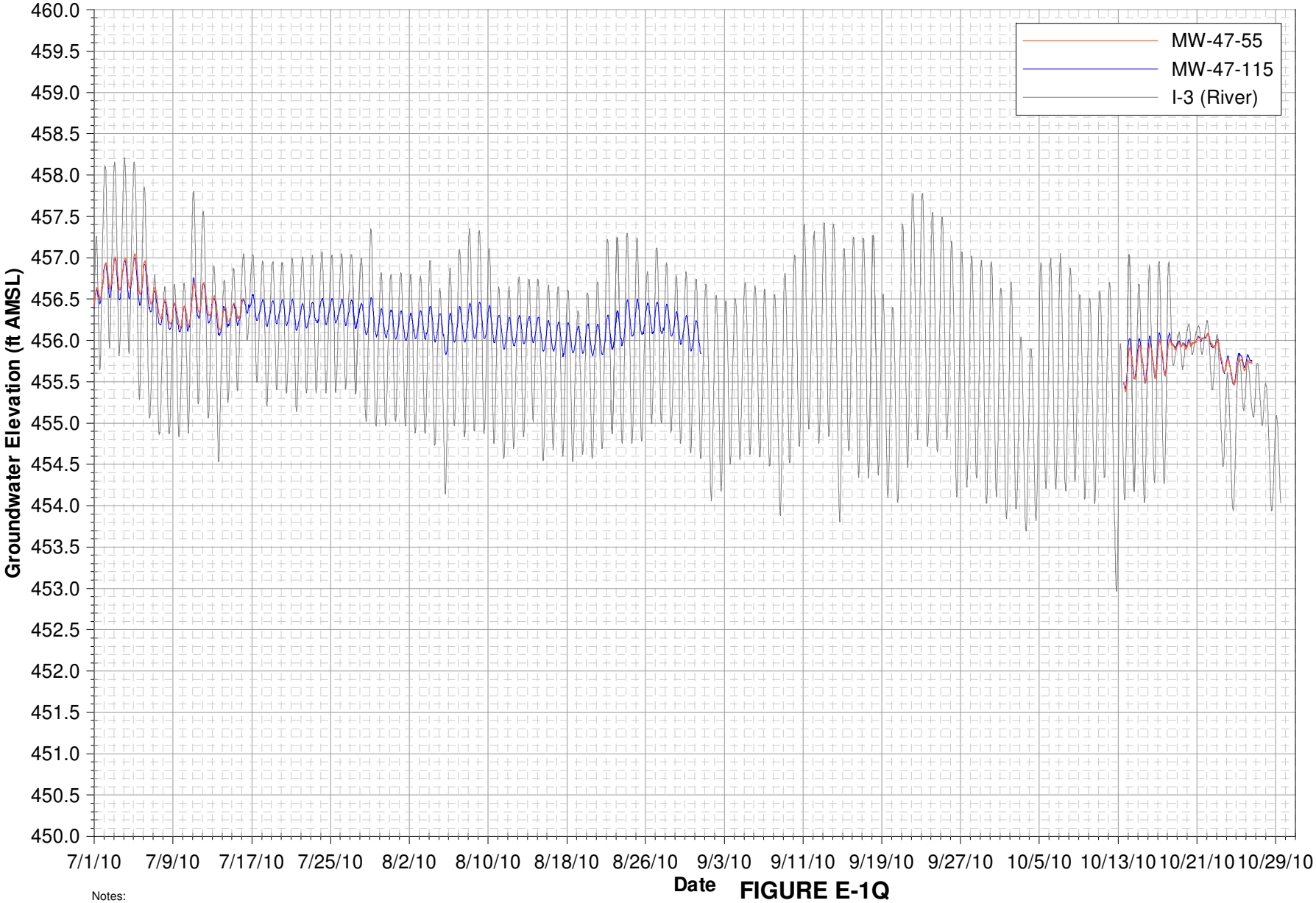


FIGURE E-1P
MW-46 HYDROGRAPH

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

Notes:
Data subject to review.

CH2MHILL



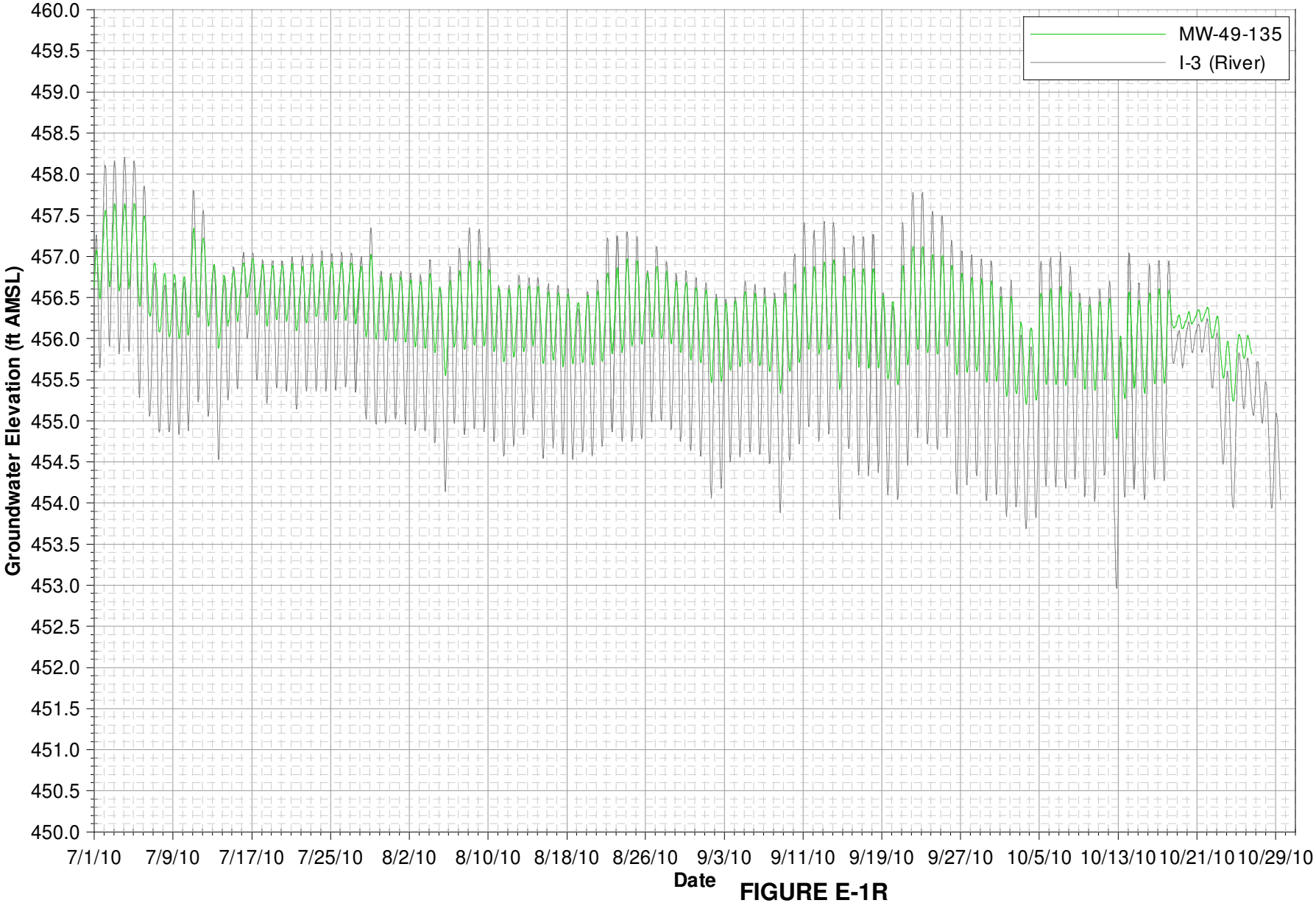
Notes:
Data subject to review.
MW-47-55 data unavailable from July 16, 2010 until October 13, 2010 due to transducer failure.
MW-47-115 data unavailable from August 31, 2010 until October 13, 2010 due to transducer failure.

FIGURE E-1Q

MW-47 CLUSTER HYDROGRAPHS

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

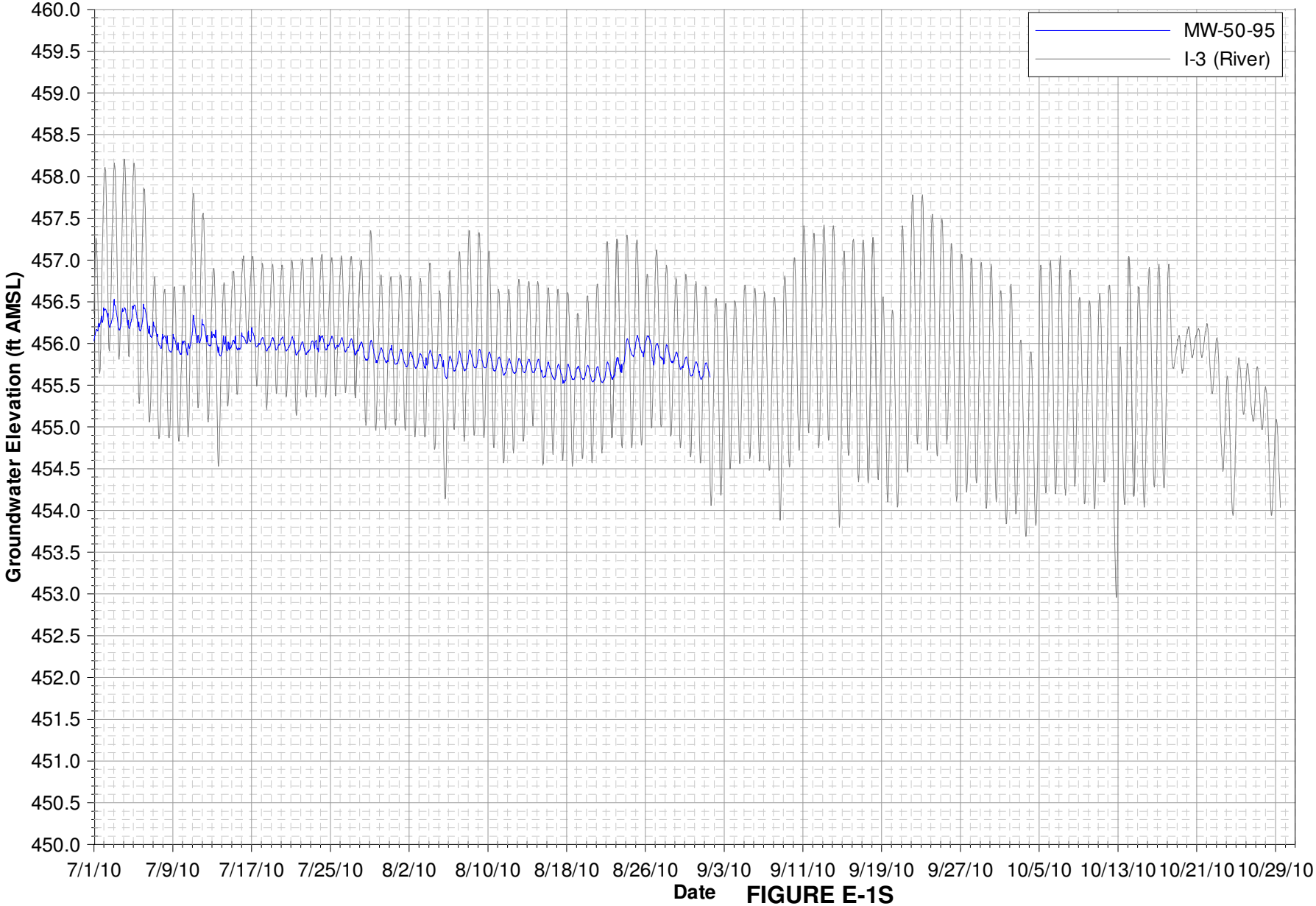
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1R
MW-49 HYDROGRAPH
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

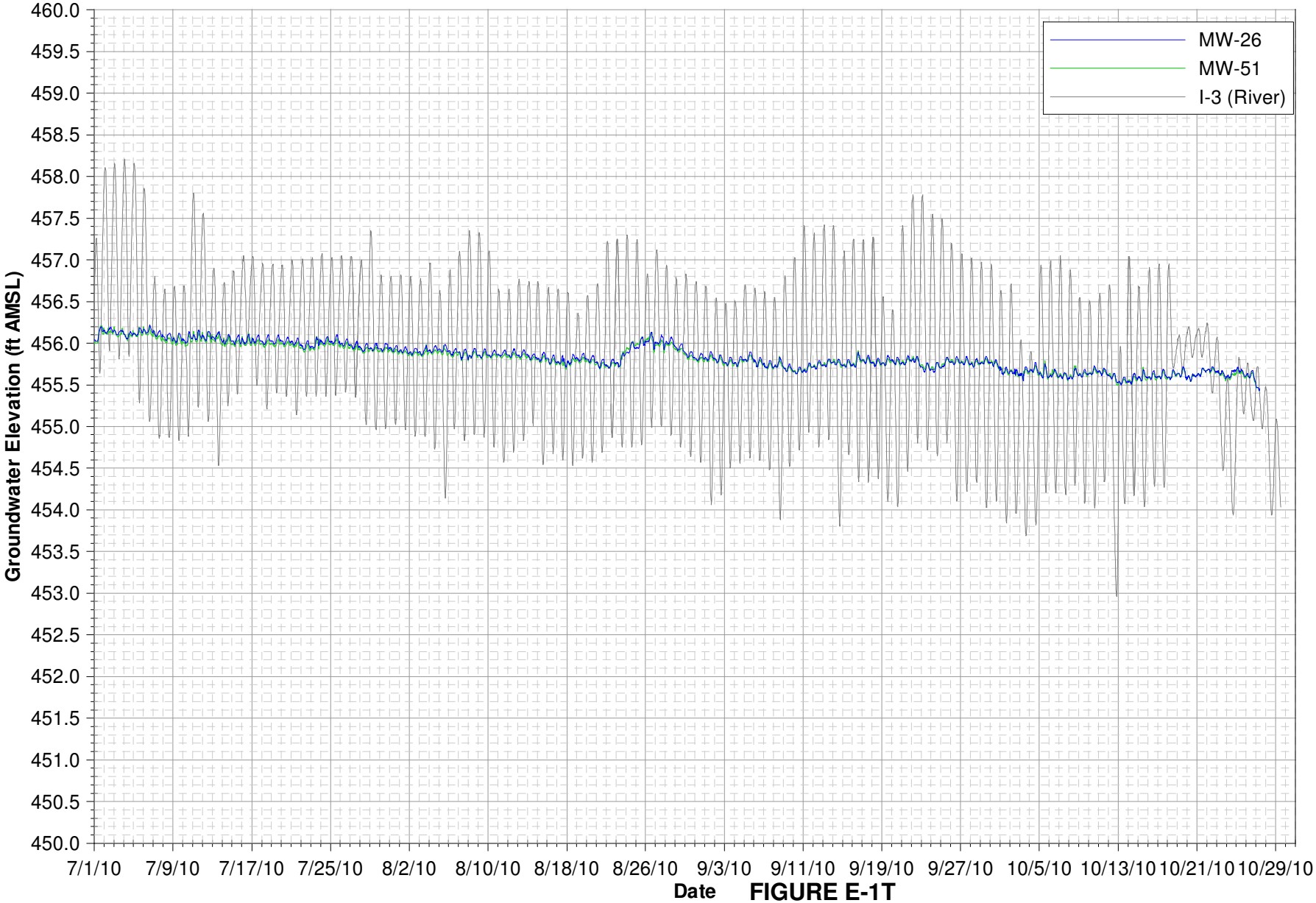
CH2MHILL



Notes:
Data subject to review.
MW-50-95 data unavailable from September 1, 2010 until October 31, 2010 due to transducer failure.

FIGURE E-1S
MW-50 HYDROGRAPH
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



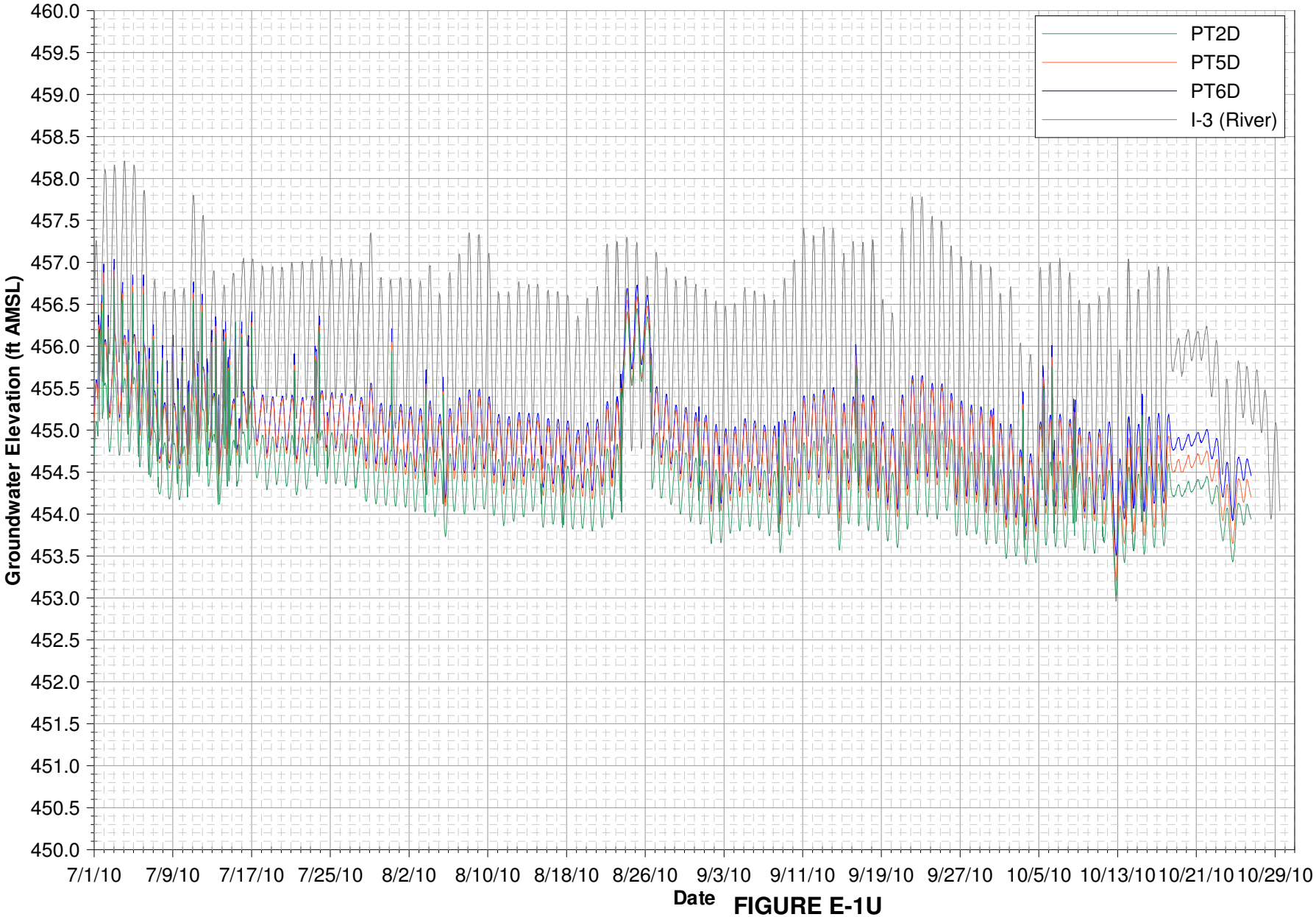
Notes:
Data subject to review.

FIGURE E-1T

MW-26 & MW-51 HYDROGRAPHS

THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



Note:
Data subject to review.

FIGURE E-1U
INSITU PILOT STUDY WELL HYDROGRAPHS
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

Notes:
Data subject to review.

FIGURE E-1V
MW-45-95a HYDROGRAPH
THIRD QUARTER 2010 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL