Topock Project Executive Abstract

Document Title: Fourth Quarter and Annual 2011 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: 3/15/12

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 combined quarterly and annual 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 fourth quarter and annual 2011 reporting period. 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 and report submittal. As a result, the fourth quarter includes only the months of November and December 2011. The average pumping rate for the IM extraction system over fourth quarter 2011 was 131.2 gallons per minute, and an estimated 58.7 kilograms (or 129.4 pounds) of chromium were removed.

Written by: PG&E

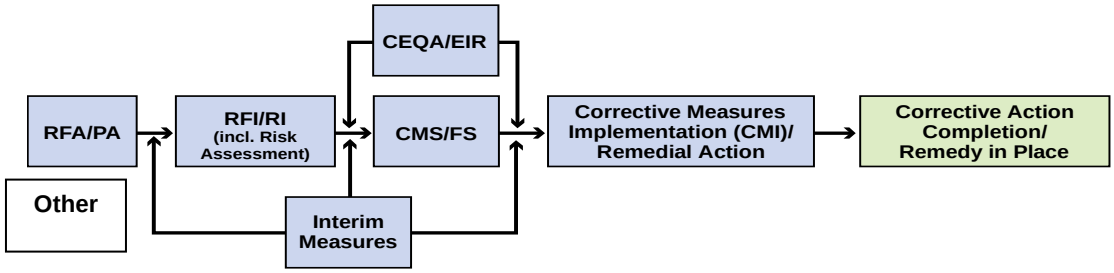
Recommendations:
Performance monitoring and evaluation of the IM hydraulic containment system will continue in accordance with the Performance Monitoring Plan and as directed by the DTSC. This report presents recommendations for changes in the PMP/GMP for 2012 onward. This report is for information only.

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

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Environmental Remediation

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March 15, 2012

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

Subject: *Fourth Quarter 2011 and Annual Interim Measures Performance and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California* (Document ID: PGE20120315A)

Dear Mr. Yue:

Enclosed is the *Fourth Quarter and Annual 2011 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 fourth quarter (November 2011 through December 2011) performance monitoring results for the Interim Measures (IM) hydraulic containment system and provides the annual performance evaluation for the 2011 reporting period (January 2011 through December 2011). This report also presents groundwater and surface water monitoring activities, results, and analyses related to the Groundwater and Surface Water Monitoring Programs during the 2011 reporting period.

The IM quarterly performance monitoring report is submitted in conformance with the reporting requirements in the California Environmental Protection Agency, Department of Toxic Substances Control's (DTSC) IM 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.

Sincerely,

Yvonne Meeks
Topock Project Manager

Enclosure
Fourth Quarter and Annual 2011 Interim Measures Performance and Site-Wide Groundwater and Surface Water Monitoring Report

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cc:

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Final Report

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report

PG&E Topock Compressor Station
Needles, California
Document ID: PGE20120315A

Prepared for

California Department of Toxic Substances Control

on behalf of

Pacific Gas and Electric Company

March 15, 2012

CH2MHILL®
155 Grand Avenue Suite 800
Oakland, CA 94612

Fourth Quarter 2011 and Annual 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

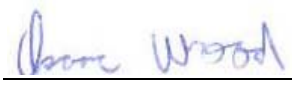
California Department of Toxic Substances Control

On behalf of

Pacific Gas and Electric Company

March 15, 2012

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



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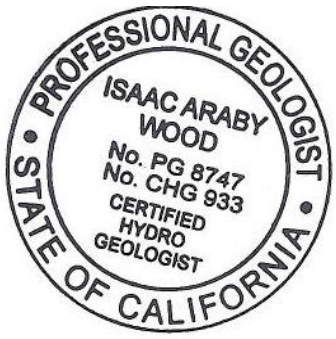

Jay Piper
CH2M HILL Project Manager

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Acronyms and Abbreviations

µg/L	micrograms per liter
BOR	United States Bureau of Reclamation
Cr(VI)	hexavalent chromium
COPC	Contaminants of Potential Concern
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 Measures
IMCP	Interim Measures Contingency Plan
IM-3	Interim Measures Number 3
MCL	maximum contaminant level
Mo	Molybdenum
ORP	oxidation-reduction potential
PG&E	Pacific Gas and Electric Company
PMP	Performance Monitoring Program
RCRA	Resource Conservation and Recovery Act
RMP	Surface Water Monitoring Program
Se	Selenium
SC	specific conductance
TDS	total dissolved solids
UTL	Upper Tolerance Limit

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. The Topock Compressor Station is located in eastern San Bernardino County, 15 miles southeast of the city of Needles, California, as shown on Figure 1-1 (figures are located at the end of this 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)

This report presents the monitoring data from PG&E's GMP, RMP, and PMP collected from November 1, 2011 through December 31, 2011. In addition, this report serves as an annual report and provides a summary of groundwater and surface water monitoring results for samples collected from January 1, 2011 through December 31, 2011 (hereafter referred to as the annual reporting period) under the Topock GMP and RMP. The data collected as part of the GMP and RMP are presented in Section 3.0. The data collected for the current quarter (November through December) as part of the PMP are presented in Section 4.0. An evaluation of data collected under the PMP for the annual reporting period are presented in Section 5.0. Further, this report provides recommended changes to future monitoring activities for the GMP and PMP (Section 7.0).

This combined GMP (including RMP) and PMP 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). See Table 1-1 for the current sampling and reporting schedule.

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 and summarized 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).

In compliance with the requirements for Groundwater and Surface Water Monitoring Program directive of April 2005 (DTSC, 2005a), this document presents the Fourth Quarter 2011 and Annual GMP and RMP report for the IM monitoring activities from November 1, 2011 through December 31, 2011.

1.1.1 GMP and RMP Monitoring Networks

Figure 1-2 shows the current locations and sampling frequencies of the monitoring wells in the GMP. Table A-1 summarizes the well construction and sampling methods for wells in the GMP and other monitoring wells at the site. The complete GMP includes 118 groundwater monitoring wells, which consist of:

- 101 monitoring wells in California (excluding bedrock wells equipped with packers and newly installed East Ravine/Topock Compressor Station Wells; excluding two dry wells and five wells currently sampled by ARCADIS under the Pilot Test Program)
- 8 monitoring wells in Arizona
- 2 water supply wells
- 2 active extraction wells
- 5 test wells

Sampling frequencies for the GMP wells were updated beginning in First Quarter 2010 following the DTSC's 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 (ADEQ, 2010) and the April 28, 2010 directive from DTSC (DTSC, 2010c).

Figure 1-3 shows the locations and sampling frequencies of the RMP. The RMP consists of:

- 10 river channel surface water monitoring locations
- 4 shoreline surface water monitoring locations
- 2 other surface water monitoring locations

1.1.2 Changes to the GMP in 2011

Packer wells MW-58BR and MW-64BR are currently being monitoring under the East Ravine/Topock Compressor Station Groundwater Investigation (CH2M HILL, 2010a-c). These wells will be reincorporated into the GMP at the completion of the investigation.

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 February 2005, and in subsequent directives from the DTSC in 2007 (DTSC, 2005b; DTSC, 2007ac), this document presents the Fourth Quarter 2011 PMP evaluation for the IM monitoring activities from November 1, 2011 through December 31, 2011.

The Topock project IM consists of groundwater extraction for hydraulic control of the chromium 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, 2005b). 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, 2005c). 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, 2005b). 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 1-4 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 December 2011 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).

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.

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 on Figure 1-4. Currently, extraction wells TW-3D and PE-1 operate full time.

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 Fourth Quarter 2011 Monitoring Activities

This section provides a summary of the monitoring and sampling activities completed during fourth quarter 2011.

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 November and December 2011.

DTSC directed that monthly sampling of open bedrock boreholes with packers installed (MW-58BR and MW-64BR) wells be continued. Monitoring continues at these wells as part of an East Ravine Groundwater Investigation as of December 2011. Results are anticipated to be reported under separate cover at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

2.1.2 Quarterly

The fourth quarter GMP groundwater monitoring event was conducted between December 5 and December 16, 2011, and consisted of sampling:

- 116 groundwater monitoring wells
- 2 active IM extraction wells

Samples from these wells were submitted for laboratory analysis of Cr(VI), chromium and specific conductance (SC). Additional parameters measured in the field consisted of oxidation-reduction potential (ORP) and pH.

In addition, the following monitoring activities were conducted at selected GMP wells during the fourth quarter 2011 sampling event:

- Three wells (MW-10, MW-12, and MW-22) were sampled for California Code of Regulations Title 22 metals analyses, which includes arsenic.
- Two wells (MW-16 and MW-17) were sampled for background metals as recommended in the background study report (CH2M HILL, 2008).
- Samples were collected from a subset of wells screened in fluvial sediments for arsenic, as directed by DTSC in the Corrective Measures Study review comment No. 186 (DTSC, 2009b).
- Arsenic was analyzed in groundwater samples from bedrock monitoring wells.
- Samples were collected from a subset of wells for contaminants of potential concern (COPCs), including molybdenum (Mo), nitrate, and selenium (Se) and potential in situ

byproducts (manganese, iron, and arsenic). In an email dated March 3, 2010, DTSC directed monitoring of these COPCs and potential in situ byproducts (DTSC, 2010b).

- To assist in the future groundwater remedy performance evaluation, groundwater samples were collected from select monitoring wells and analyzed for additional non-routine parameters during the December 2011 monitoring event. Sample analysis included chloride and bromide (anions); calcium, magnesium potassium, sodium, and boron (cations); alkalinity, and stable isotopes oxygen 18 and deuterium.

2.2 Surface Water Monitoring Program

Quarterly surface water sampling was conducted November 29 through 30, 2011 from the complete RMP monitoring network. Samples were analyzed for Cr(VI), chromium, specific conductance, and pH. Samples were also analyzed for COPCs (Mo, nitrate, and Se), in situ byproducts (manganese, iron, and arsenic), and geochemical indicator parameters to develop baseline concentrations for future remedy performance evaluation.

2.3 Performance Monitoring Program

PMP pressure transducers were downloaded in the first week of each month (November and December). The transducers in the key monitoring wells (MW-27-085, MW-31-135, MW-34-100, and MW-45-095a; see Figure 1-4) are downloaded weekly. The transducers at the MW-33 cluster, including key well MW-33-150, are downloaded daily via a cellular telemetry system.

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

This section presents the analytical results for groundwater and surface water monitoring conducted during fourth quarter 2011. In addition, this section summarizes the site-wide groundwater and surface water sample results for the 2011 annual reporting period.

3.1 Groundwater Results for Cr(VI) and Chromium

3.1.1 Fourth Quarter Groundwater Results for Cr(VI) and Chromium

Table 3-1 presents the results for Cr(VI), chromium, field ORP, SC, and field pH in groundwater samples collected from September 2010 through December 2011. During fourth quarter 2011, the maximum detected Cr(VI) concentration was 11,100 µg/L at well MW-20-130. The laboratory reports for results from November through December 2011 are presented in Appendix B.

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 fourth quarter 2011 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. The value of 32 µg/L is based on the calculated natural background upper tolerance limit (UTL) 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, 2010d-g, and 2011a-d).

3.1.2 Annual Evaluation of Groundwater Results for Cr(VI) and Chromium

Table 3-1 presents the results for Cr(VI), chromium, field ORP, SC, and field pH in groundwater samples collected from September 2010 to December 2011. Hexavalent chromium concentration trend graphs for GMP monitoring wells with consistent chromium detections are presented in Figures C-1 through C-15 in Appendix C. The fourth quarter 2011 results are shown in Figures 3-1a through 3-1c. This section presents the results for wells that are not evaluated for the PMP. Monitoring results and evaluation for wells in the PMP are presented in Sections 4.0 and 5.0 of this report.

A review of the GMP Cr(VI) concentration trend plots (Figures C-1 through C-15 and Table 3-1) reveals the following Cr(VI) trends since 2004:

- Concentrations have been generally stable at MW-10 (since March 2008), stable at MW-12 (since March 2007), and stable at MW-13 since 2004 (Figure C-1).

- Concentrations have generally been declining at MW-14, MW-18, and MW-19 (Figure C-2).
- Concentrations at the shallow alluvial well MW-25 have steadily decreased, with the lowest concentration to date reported in December 2011 (Figure C-3).
- Concentrations at MW-26 and the MW-31 cluster have decreased. The lowest concentrations reported to date for MW-26 was observed during December 2011 (Figure C-4).
- Concentrations at MW-37S and MW-40S have remained stable (Figures C-8 and C-9, respectively), while concentrations have decreased in MW-37D and increased in MW-40D (Figures C-8 and C-9, respectively).
- Concentrations in well MW-50-095 have steadily declined since June 2007, and the lowest concentration reported to date was observed in December 2011. Concentrations at MW-50-200 have generally remained variable (Figure C-12).
- Since construction in September 2009, concentrations at bedrock well MW-57-070 have been variable (Figure C-13), while concentrations at bedrock well MW-57-185 have been low and generally stable.
- Concentrations at MW-59-100 have been stable.
- Concentrations at bedrock wells MW-61-110and MW-62-110 appear to be increasing (Figure C-13 and C-14). The December 2011 result for MW-62-110 is nearly double historical concentrations reported for this well.
- Concentrations at bedrock well MW-60-125 are variable, while Cr(VI) concentrations at bedrock well MW-62-190 have been non-detect since December 2009 (Figure C-14). Concentrations at bedrock well MW-62-65 have been stable since October 2010 (Figure C-14).

Samples from the Arizona monitoring wells did not have detections of Cr(VI) or chromium in 2011, with the exception of samples from MW-55-120, which had detections of less than 7 µg/L.

The Park Moabi water production wells, Park Moabi-3 and Park Moabi-4, had detections of 6.6 and 18.9 µg/L for Cr(VI) and 7.0 and 18.2 µg/L for chromium, respectively, in December 2011. The Cr(VI) and chromium detections were below the California drinking water standard of 50 µg/L for chromium (Title 22, CCR, Division 4, Chapter 15) and consistent with regional background concentrations.

Sample results for the East Ravine bedrock wells indicate that Cr(VI) is present within bedrock and exceeds the groundwater background value of 32 µg/L in some shallow and mid-depth intervals (using the same background concentrations and elevations designated for the alluvial wells). The Cr(VI) contours in Figures 3-1a and 3-1b incorporate these data.

3.2 Other Groundwater Monitoring Results

3.2.1 COPCs and In Situ Byproducts

Table 3-2 presents the COPC sampling results for groundwater monitoring wells in fourth quarter sampling. Figures 3-2a through 3-2c present the Mo, nitrate (as N), and Se results for fourth quarter 2011, respectively. Results were compared to the UTLs calculated and reported in the Revised Final RCRA Facility Investigation/Remedial Investigation Report, Volume 2 (CH2M HILL, 2009a).

Results for 17 of the 53 wells sampled were above the calculated UTL for Mo of 36.3 µg/L. There is no state or federal MCL for Mo. The maximum Mo result was collected from MW-33-040 with a result of 270 µg/L. This was the first Mo sample analyzed from this well. Shallow wells in this vicinity have historically shown concentrations below UTL. Additional samples will be collected to verify the Mo concentrations at this location. The majority of the detections above the Mo UTL (14 out of 17) were reported for wells in the deep zone of the alluvial aquifer with three results above the Mo UTL from the shallow zone.

Results for 12 of the 114 wells sampled were above the calculated UTL for nitrate (as N) of 5.03 mg/L. Six of these 12 wells exceeded the MCL of 10.0 µg/L. The maximum nitrate result was collected from TW-01 at 25.0 mg/L. Half of the detections above the nitrate UTL (6 out of 12) were detected in the shallow zone of the alluvial aquifer with two wells results above the nitrate UTL collected from wells in the mid-depth zone, three results from the deep zone, and one result from TW-01 which is screened across all three zones. Concentrations of nitrate in Wells MW-12, MW-20-100, MW-25, MW-26, and TW-1 have showed increasing trends since the RFI Volume 2 Addendum reported historical averages through July 2008.

Results for four of 53 wells sampled were above the calculated UTL for Se of 10.3 µg/L, none of which exceeded the MCL of 50 µg/L for selenium. The maximum result was collected from TW-01 at 24.0 µg/L. Two of the detections above the Se UTL were collected from wells in the shallow zone. One result above the Se UTL came from a well in the deep zone and one from TW-01, which is screened across all three zones of the alluvial aquifer. Observed concentrations of selenium were consistent with historical ranges for each well.

Results for in situ byproduct sampling and geochemical indicator parameters are presented in Appendix D, Table D-1. An evaluation of in situ byproduct sample results for floodplain wells is presented in Section 5.3.2 with additional geochemical parameters collected for PMP performance monitoring.

3.2.2 Title 22 Metals

Table 3-3 presents the Title 22 metals results for the GMP monitoring wells (MW-10, MW-12, and MW-22) sampled during fourth quarter 2011, and previous 2011 monitoring events. The concentrations of Title 22 metals consistently detected in monitoring wells remained fairly stable overall during the 2011 monitoring period.

In addition to chromium, the trace metals detected in MW-10 during the fourth quarter 2011 groundwater sampling event were arsenic, barium, Mo, Se, silver, and vanadium. The dissolved concentrations of the trace metals detected during the fourth quarter 2011 event in

MW-10 —other than chromium—are below the respective federal and California maximum contaminant level (MCL) drinking water standards.

In addition to chromium, the trace metals detected in MW-12 during the fourth quarter 2011 groundwater sampling event were arsenic, barium, Mo, Se, vanadium, and zinc. The dissolved concentrations of the trace metals detected in MW-12 during the fourth quarter 2011 event—other than chromium and arsenic—are below the respective federal and California maximum contaminant level drinking water standards.

The trace metals detected in MW-22 during the fourth quarter 2011 groundwater sampling event were arsenic, barium, copper, Mo, and silver. The dissolved concentrations of the trace metals detected during the fourth quarter 2011 event—other than arsenic—are below the respective federal and California maximum contaminant level drinking water standards.

3.2.3 Arsenic Sampling in Monitoring Wells

Seventy fluvial/alluvial wells were sampled for arsenic in fourth quarter 2011. These results and results for previous 2011 monitoring events are presented in Appendix D, Table D-2. Arsenic was detected in 65 of the 70 samples analyzed for arsenic. Only 11 of the monitoring well samples had arsenic concentrations greater than the California maximum contaminant level of 10 µg/L. The maximum concentration was detected in MW-12 at 49.0 µg/L. Concentrations of arsenic in wells MW-26, MW-30-030, MW-39-060, MW-44-125, and MW-51 have showed increasing trends since the RFI Volume 2 Addendum reported historical averages through July 2008. Concentrations of arsenic in wells MW-12 and MW-25 have shown decreasing trends since the RFI Volume 2 Addendum.

Arsenic was detected in 9 of the 10 bedrock wells sampled for arsenic in the fourth quarter 2011 event. These results are presented in Appendix D, Table D-2. Two of the bedrock monitoring well samples had arsenic concentrations just above the California maximum contaminant level of 10 µg/L, MW-57-185 at 12.0 µg/L, and MW-62-110 at 10.0 µg/L.

3.2.4 Background Study Metals

Table D-3 in Appendix D presents the background metals sampling results for fourth quarter 2011 sampling from monitoring wells MW-16 and MW-17, as recommended in the background study report (CH2M HILL, 2008).

In addition to chromium, the background metals detected in MW-16 during the fourth quarter 2011 groundwater sampling event were arsenic, barium, boron, calcium, iron, magnesium, Mo, Se, and vanadium. The dissolved concentrations of the trace metals detected during the fourth quarter 2011 event—other than arsenic—are below the respective federal and California maximum contaminant level drinking water standards.

In addition to chromium, the background metals detected in MW-17 during the fourth quarter 2011 groundwater sampling event were arsenic, barium, boron, calcium, iron, magnesium, Mo, Se, and vanadium. The dissolved concentrations of the trace metals detected during the fourth quarter 2011 event are below the respective federal and California maximum contaminant level drinking water standards.

3.2.5 Laboratory Specific Conductance Results

In 2007, PG&E was directed by DTSC to continue collecting samples for laboratory specific conductance analysis (DTSC, 2007c). Results of this analysis for the 2011 reporting period are presented in Table D-4.

3.2.6 Water Level Monitoring

Appendix D, Table D-5 presents the manual water level measurements collected during the 2011 reporting period. Table D-6 also lists salinity data for the wells where water levels were measured. Groundwater salinity during fourth quarter 2011 ranged from 0.07 percent (MW-27-20) to 3.0 percent (well MW-32-020)—a range that is consistent with results of prior monitoring. Due to the variation in groundwater salinity at the site, the groundwater elevations measured in the monitoring wells have been adjusted (normalized) to an equivalent freshwater head (Fetter, 1994).

Beginning in June 2005, at DTSC's direction (DTSC, 2005c), a site-wide water level data set has been collected quarterly as part of the GMP to prepare a groundwater elevation contour map for the shallow zone (upper-depth interval) of the Alluvial Aquifer. That requirement was changed to annually in the September 28, 2007, letter from DTSC (DTSC, 2007d).

Figure 3-3 presents the groundwater elevation contours for the shallow-depth interval of the Alluvial Aquifer. A site-wide water level survey was conducted on December 5, 2011, that involved the manual collection of groundwater level data at 24 shallow wells within approximately a 1-hour period. Because groundwater levels at the site fluctuate continuously in response to changes in the river stage, these groundwater elevation contours reflect transient conditions at the time of measurement and may not be representative of the average groundwater flow directions.

3.2.7 Field Parameter Data

A field water quality meter and flow-through cell were used to measure parameters during well purging and groundwater sampling (CH2M HILL, 2005). Water quality field measurements were also recorded during surface water sampling. Table D-6 summarizes the field water quality data collected (specific conductance, temperature, pH, ORP, and dissolved oxygen) from January 2011 through December 2011.

3.2.8 Additional Water Quality Characterization

Additional analytes were collected from select wells to assist in future remedy performance evaluation. These data are presented in Table D-7.

3.3 Surface Water Results for Cr(VI) and Chromium

Table 3-4 presents results of Cr(VI), chromium, specific conductance, and lab pH from the fourth quarter 2011 surface water monitoring event, and the 2011 reporting period. During the fourth quarter and 2011 reporting periods, Cr(VI) and chromium were not detected above reporting limits at any in-channel, shoreline, or other surface water monitoring locations. Table 3-5 presents results for the COPCs (Mo, nitrate, and Se), in situ byproducts (manganese, iron, and arsenic), and other geochemical indicator parameters.

3.4 Data Validation and Completeness

Laboratory analytical data from the fourth quarter 2011 GMP sampling events were reviewed by project chemists to assess data quality and to identify deviations from analytical requirements.

Initial preliminary results from the November River Monitoring Project indicated a low level Cr(VI) detection (0.2 µg/L) at location SW2 as well as detects in the equipment blank and ambient blank. However, a data validation investigation and in lab audit showed the result was from a low level laboratory contamination and the results were qualified as non-detected at 0.2 µg/L.

The following bullets summarize the notable analytical qualifications in the data reported this quarter:

- Three samples from method SW 6010B (cobalt, iron, and potassium) and one ammonia sample (SM 4500-NH3C) had matrix spike recoveries that were outside the control limits. The associated non-detect results were qualified and flagged "UJ," and the associated detect results were qualified and flagged "J."
- One serial dilution sample was outside the control limits for sodium (SW 6010B) and the detect sample result was qualified and flagged "J."
- Two samples had results for nickel and cobalt (SW 6010B) that were associated with negative blanks that had absolute values greater than the reporting limit and two samples had results for nickel and Beryllium (SW 6010B) that were associated with negative blanks that had absolute values greater than the reporting limit; the non-detect result was qualified and flagged "UJ."
- One field duplicate pair had relative percent differences greater than the upper control limit for chloride, sulfate (EPA 300.0) and alkalinity (SM 2320B) and a second field duplicate pair had relative percent differences greater than the upper control limit for alkalinity (SM 2320B) and iron (SW 6010B). The non-detect result was qualified and flagged "UJ," and the detect results were qualified and flagged "J."
- Thirty-five hexavalent chromium results (EPA218.6) exhibited a matrix interference issue that required a dilution to achieve satisfactory matrix spike recovery. Resulting in an elevated reporting limit. The sample results were qualified but no flags were added.
- Based on the March 2007 United States Environmental Protection Agency ruling, pH has a 15-minute holding time. As a result, all Topock pH (SM4500-HB) samples analyzed in a certified lab require qualification. Therefore, all of the pH results for the River Monitoring Program samples were qualified as estimated and flagged "J."
- Two samples were analyzed outside the USEPA recommended holding time, one for hexavalent chromium (EPA 218.6) and one for nitrate (EPA 300.0). The detect results were qualified as estimated and flagged "J."

No other significant analytical deficiencies were identified in the fourth quarter 2011 GMP data. Additional details are provided in the data validation reports, which are kept in the project file and are available upon request.

3.5 Summary of 2011 GMP and RMP Monitoring Results

During 2011, the quarterly events occurred in March, April/May, September/October, and December. Quarterly events in April/May and September/October were timed to occur before and after Southwestern Willow Flycatcher nesting season to minimize biological impacts to potential nesting habitat from the field activities during these larger-scale sampling events. The key observations and data trends for this quarter and previous periods include the following:

- Chromium concentrations in many GMP monitoring wells are stable or declining with fluctuating concentrations present at some locations.
- During the fourth quarter and 2011 reporting periods, Cr(VI) and chromium were not detected above reporting limits at any in-channel, shoreline, or other surface water monitoring locations.
- The COPCs carried forward from the RFI Vol.2, Addendum and Corrective Measures Study/Feasibility Study (Mo, Se, and nitrate) continue to be detected in a subset of monitoring wells above the background UTL (CH2M HILL, 2009a, b, and f). The majority of wells with results above the UTL for Mo (14 out of 17) came from the deep zone of the alluvial aquifer, while half of the results above the UTL for nitrate (6 out of 12) came from the shallow zone of the alluvial aquifer. Results for four of 53 wells sampled were above the calculated UTL for Se.
- The dissolved concentrations of the trace metals (Title 22) detected during the fourth quarter 2011 event—other than chromium and arsenic—are below the respective federal and California MCL.
- Arsenic was detected in 74 of the 80 wells analyzed for arsenic. Thirteen of these samples exceeded the California MCL of 10 µg/L.

4.0 Fourth Quarter IM Performance Monitoring Program Evaluation

4.1 Water Quality Results for PMP Floodplain Wells

Table F-1 in Appendix F presents the results of general chemistry and stable isotope analyses for 15 PMP monitoring wells and 2 river stations during sampling events from March 2005 through December 2011. In July 2008, DTSC approved modifications to the PMP IM chemical performance monitoring program (DTSC, 2008b). With those modifications, there are now nine monitoring wells and one river station sampled for IM chemical performance monitoring. Figure 1-4 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 total dissolved solids (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. Section 5.3.2.2 of this report provides an evaluation of the general chemistry groundwater data for the floodplain area.

4.2 Cr(VI) Distribution and Trends in PMP Wells

The fourth quarter 2011 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 on Figure 4-1[1]. Figure 4-2 presents the fourth quarter 2011 Cr(VI) results for Cross-section B, oriented parallel to the Colorado River. The location of Cross-section B is shown on Figure 1-4.

Appendix C includes Cr(VI) concentration trend graphs for selected monitoring well clusters through December 2011. Sample results for the 2011 reporting period are presented in Table 3-1. An evaluation of chromium trends in PMP wells is presented in the annual performance evaluation in Section 5.3.

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 the fourth quarter and throughout 2011 were all below their assigned trigger levels.

[1] On 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 on 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.

4.4 Extraction Systems Operations

Pumping data for the IM-3 groundwater extraction system for the fourth quarter reporting period of November 1, 2011 through December 31, 2011 are presented in Table 4-1. From November 1, 2011 through December 31, 2011, the volume of groundwater extracted and treated by the IM-3 system was 11,522,954 gallons. An estimated 129.4 pounds (58.7 kilograms) of chromium were removed from the aquifer during the period October 1, 2011 through December 31, 2011[2].

During fourth quarter 2011, extraction wells TW-3D and PE-1 operated at a combined pump rate of 131.2 gallons per minute (gpm), excluding periods of planned and unplanned downtime. The average monthly pumping rates were 131.5 gpm (November 2011) and 130.8 gpm (December 2011) during the reporting period. Extraction well TW-2S was not operated during fourth quarter 2011. The operational run-time percentage for the IM extraction system was 97.5 percent during this reporting period. The operations log for the extraction system during fourth quarter 2011, including planned and unplanned downtime, is included in Appendix G.

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. Three containers of solids from the IM-3 facility were disposed of at the Kettleman Hills Chemical Waste Management facility during fourth quarter 2011. Daily IM-3 inspections included general facility inspections, flow measurements, and site security monitoring. Daily logs with documentation of inspections are maintained onsite.

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 2 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 on Figure 1-4.

Daily average groundwater and river elevations calculated from the pressure transducer data for the fourth quarter 2011 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 PMP. Groundwater elevation hydrographs for the PMP wells during the fourth quarter 2011 reporting period are included in Appendix E. The elevation of the Colorado River measured at the I-3 gauge station (location shown on Figure 1-4) is also shown on the hydrographs in Appendix E.

[2] On July 23, 2010 DTSC approved a revised reporting schedule for this report that included a revised IM-3 sample collection period from October 1, 2011 through December 31, 2011; this IM-3 sample collection period is in line with previous reports prior to combining the GMP with the PMP reports. The PMP/GMP reporting schedule uses July through October as third quarter and November through December as fourth quarter due to sampling event timing; these reporting periods differ from IM3.

Average fourth quarter 2011 groundwater elevations for the shallow, mid-depth, and deep wells are presented and contoured in plan view on Figures 4-3a through 4-3c. Average groundwater elevations for wells on floodplain Cross-section A are presented and contoured on Figure 4-4. 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 on Figure 4-3c.

For the fourth quarter 2011 reporting period, transducer data were 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 4-3c 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 on Figure 4-3c 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 fourth quarter 2011 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 4-2 presents the average monthly hydraulic gradients that were measured between the gradient well pairs in November and December 2011. Strong landward gradients were measured each month. The overall average gradients for all well pairs ranged from 0.0040 to 0.0042 foot per foot (ft/ft). This is 4.0 to 4.2 times greater than the required gradient of 0.001 ft/ft. The gradient for the northern well pair ranged from 1.8 to 1.9 times the target gradient of 0.001 ft/ft. For the central well pair, the average landward gradient ranged from 7.4 to 7.7 times the target gradient. The southern well pair gradients were 2.8 to 2.9 times the target gradient for the fourth quarter 2011 reporting period. Graphs of the hydraulic gradients, monthly average pumping rates, and river levels for the quarterly period are presented in the annual performance evaluation in Section 5.2.

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 4-5 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 January 2012 is based on the December 2011 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 on Figure 4-5 are summarized in Table 4-3. The future projections shown on Figure 4-5 are based on BOR long-range projections of Davis Dam releases and Lake Havasu levels from December 2011. 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 4-3, show that the average Davis Dam release for January 2012 (9,800 cubic feet per second) will be more than the actual release in December 2011 (6,262 cubic feet per second). Based on January 2012 BOR projections, it is anticipated that the Colorado River level at the I-3 gage location in January 2012 will be approximately 1.2 feet higher compared to the actual levels in December 2012. Current projections show that the water levels will increase during the next quarterly reporting period, in February and March 2012, further increasing in April 2012 to the maximum levels of the year, as shown on Figure 4-5.

4.7 Quarterly PMP Evaluation Summary

The groundwater elevation and hydraulic gradient data from November and December 2011 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 fourth quarter 2011 were 4.0 to 4.2 times the required minimum magnitude. The current gradient well pairs are adequate to define the capture of the Cr(VI)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 fourth quarter 2011 reporting period.

A total of 11,522,954 gallons of groundwater were extracted between November and December 2011 by the IM-3 treatment facility. The average pumping rate for the IM extraction system during fourth quarter 2011, excluding system down time, was 131.2 gpm. An estimated 129.4 pounds (58.7 kilograms) of chromium were removed from groundwater during the period October 1 through December 31, 2011.

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 Appendix C. Presentation

and evaluation of the Cr(VI) trends observed in the performance monitoring area during the fourth quarter 2011 reporting period are discussed in Section 5.3.

5.0 Annual PMP Evaluation

5.1 Extraction System Operations for Annual Reporting Period

5.1.1 Extraction Facilities and Operations

Pumping data for the IM-3 groundwater extraction system for the 2011 annual reporting period are presented in Table 5-1. A total of 67,520,453 gallons of groundwater were extracted from January 2011 through December 2011. Approximately 509.9 pounds (231.3 kilograms) of chromium were removed from the aquifer by pumping over the 2011 annual reporting period. The total mass of chromium removed by the IM-2 and IM-3 extraction systems during IM pumping from March 2004 through December 31, 2011, is approximately 6,984 pounds (3,168 kilograms). The average annual pumping rate during the 2011 reporting period was 128.5 gpm, while pumping from extraction wells TW-3D and PE-1.

Figure 5-1 summarizes the monthly pumping rates, cumulative volumes extracted, and the percent of time that the extraction system was in operation during the 2011 reporting period. This figure shows that pumping rates were relatively consistent month to month, which is illustrated by the high percentage of uptime for the IM extraction and treatment facilities throughout the year. The decrease in uptime during April 2011 was due to the planned annual treatment plant maintenance event.

Extraction wells TW-3D and PE-1 operated throughout the annual reporting period at the target pumping rate of 135 gpm, excluding periods of planned and unplanned downtime. During the annual reporting period, extraction well TW-2D was only operated for short-term support of the extraction system or field operations and for periodic groundwater sampling.

5.1.2 Extracted Groundwater Quality and Trends

Extraction well TW-3D was brought online in late December 2005, and groundwater extraction at well PE-1 on the floodplain began on January 25, 2006; both wells have been operating continuously for the IM. Table 5-2 presents the analytical results for Cr(VI), dissolved chromium, and TDS for extraction wells TW-3D and PE-1 during the 2011 reporting period.

The Cr(VI) and TDS concentration trends for TW-3D and PE-1 are plotted on Figure 5-2. During the 2011 reporting period, Cr(VI) concentrations in TW-3D remained stable, ranging from a maximum value of 1,130 µg/L in April and July 2011 to a minimum value of 991 µg/L in August and October 2011. TDS concentrations in TW-3D for this period have remained stable.

The Cr(VI) concentrations in the extracted groundwater at well PE-1, located on the floodplain, have ranged from 17.5 to 9.0 µg/L during the reporting period, as shown in Table 5-2. TDS concentrations in PE-1 for this period have remained relatively stable.

5.2 Capture Zone Analysis for Annual Reporting Period

5.2.1 Monthly Average Gradients

Table 5-3 presents the hydraulic gradients measured between the selected gradient control well pairs during the period January 2011 through December 2011. The overall average gradient for well pairs exceeded the threshold for each month in the reporting period. In addition, the IM target landward gradient was met each month at individual gradient control well pairs during the annual reporting period. While exceeding the performance standard each month the gradient was calculated, the northern well pair (MW-31-135/ MW-33-150) generally had the lowest measured gradients because it is not aligned along the gradient generated by pumping. The gradient measurements at the northern well pair underestimate the true gradient.

Figure 5-3 summarizes the overall average monthly hydraulic gradient, individual well pair gradients, and the river stage and average pumping rates during the 2011 reporting period. During the annual reporting period, the average daily river levels ranged from a high of 457.02 feet above mean sea level (April 2011) to a low of 452.49 feet above mean sea level (December 2011). Strong overall average landward gradients were measured each month, even during the lower river stages observed in January, November, and December 2011.

5.2.2 Annual Average Gradients

Groundwater contour maps presenting the annual average groundwater elevation data in the upper, mid-depth, and lower aquifer intervals are shown on Figures 5-4a through 5-4c for the 2011 reporting period. The fourth quarter 2011 Cr(VI) contours are also shown on the annual average gradient maps. The annual average groundwater elevation data are presented in floodplain Cross-section A on Figure 5-5. Table E-2 in Appendix E presents a listing of the annual average, minimum, and maximum groundwater elevations for the wells used for the 2011 performance monitoring evaluation.

The net annual landward gradients illustrated on the aquifer interval maps (Figures 5-4a through 5-4c) show that the gradients are landward and are comparable to the gradient maps prepared from previous monitoring data.

5.2.3 Analysis and Evaluation of Capture Zone

Two graphical methods were presented in the 2006 annual performance evaluation report to illustrate the capture zone produced by IM pumping (CH2M HILL, 2007). The methodology and results of the capture zone evaluations for 2011 are summarized in the following subsections.

5.2.3.1 Well Group Gradient Averaging

The temporal variation in magnitude and direction of horizontal hydraulic gradients in the lower-depth aquifer interval was assessed using quarterly average water levels and triangulation with linear interpretation for two well groupings (MW-31-135/MW-33-150/ MW-34-100 and MW-45-95/MW-34-100/MW-27-85) in the IM performance area. Figure 5-6 shows the two well groupings and the calculated average gradients for all four quarterly monitoring periods in 2011.

This analysis shows that strong landward gradients were achieved during the 2011 monitoring period and that there was minimal variation in the magnitude and direction of the landward gradients during each quarter. These gradients are not the same as those calculated between the gradient control well pairs (Table 5-3) because they are calculated net gradients within the plane formed by each three-well group. Stronger landward gradients were calculated using the three-well method than those measured for the northern well pair MW-31-135/MW-33-150 (Table 5-3) due to a more optimally aligned gradient direction.

5.2.3.2 Particle Track Analysis

For the 2006 performance evaluation, particle tracking was conducted to calculate the direction and distance that groundwater would likely flow using selected starting points in the floodplain under the dual well (TW-3D and PE-1) IM pumping system. During 2006 IM operations, TW-3D and PE-1 were pumping at individual annual average rates of 97.5 and 34.3 gpm, respectively. During 2011 IM operations, the extraction wells were pumped at individual annual average rates of 103.4 and 25.0 gpm, respectively. Because the pumping locations have not changed, river elevations were similar, and the gradients for the lower interval were comparable for the 2006 and 2011 annual periods, completion of particle tracking analysis using 2011 data was not performed. The 2006 annual IM performance evaluation report (CH2M HILL, 2007) contains the particle tracking figure and the methods, input parameters, and data used for this analysis.

5.3 Evaluation of Groundwater Quality Trend

5.3.1 Cr(VI) Distribution and Trends

Figure 4-1 presents the fourth quarter 2011 Cr(VI) concentration results in floodplain wells in the upper, mid-depth, and lower intervals of the Alluvial Aquifer. The Cr(VI) contours presented on this figure incorporate data from the most comprehensive sampling event of the year.

Figure 5-7 presents Cr(VI) concentration trend graphs for selected deep monitoring wells in the floodplain area through December 2011. 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 on Figure 1-4. Appendix C includes Cr(VI) concentration trend graphs for selected monitoring well clusters through December 2011. Sample results for the 2011 reporting period are presented in Table 3-1.

Wells showing marked decreases in concentration are generally in the floodplain area where IM pumping is removing chromium in groundwater. Wells with historical detections near or at reporting limits remained at these levels during the fourth quarter 2011 period. A review of Figure 5-7 and Appendix C indicates that Cr(VI) concentrations have remained steady or have decreased in many wells since IM and PE-1 pumping began in 2004 and 2005, respectively.

Key Cr(VI) concentration trends for the PMP wells sampled during the 2011 reporting period include:

- Concentrations at the MW-20 cluster (located near the TW-3D pumping well) indicate slightly increasing concentrations at the shallow well MW-20-070 (since 2008), decreasing concentrations at MW-20-100 (since May 2007), and variable concentrations at MW-20-130 (Figure C-3).
- 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-4.
- MW-33 cluster Cr(VI) concentrations have shown stable to slightly increasing trends since 2005, while MW-33-40 results have been less than or near reporting limits since 2004, as presented in Appendix C, Figure C-5.
- Cr(VI) concentrations at MW-34-80 have been less than the reporting limits since June 2004 as shown in Appendix C, Figure C-6.
- As shown on Figure 5-7 and Appendix C, Figure C-6, well MW-34-100 has shown a fluctuating trend in Cr(VI) concentration over the past four 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 movement of the plume toward the river.
- MW-36 cluster (MW-36-20 though MW-36-70) Cr(VI) concentrations in the shallow and mid-depth wells have remained less than or near reporting limits since 2004, as presented in Appendix C, Figure C-7.
- Deep well MW-36-90 Cr(VI) concentrations decreased after the start of IM pumping, diminishing further to reporting limits upon the initiation of PE-01 pumping in 2006 (Appendix C, Figure C-7).
- Deep well MW-36-100 Cr(VI) concentrations initially increased upon the startup of PE-01 pumping but decreased from 2007 through 2011 to less than 100 µg/L (Figure 5-7 and Appendix C, Figure C-4).
- Cr(VI) concentrations at shallow to mid-depth wells in the MW-39 cluster (MW-39-40 through MW-39-60) have remained less than or near reporting limits since 2004 and 2005 as presented in Appendix C, Figure C-8; while mid-depth to deep wells in the MW-39 cluster (MW-39-70 through MW-39-080) decreased to reporting limits in 2008 and 2009 (Figure C-8).
- Deep well MW-39-100 concentrations also steadily declined since the start of IM pumping, with the lowest concentration observed to date in 2011 as presented in Appendix C, Figure C-8.
- Deep well MW-44-115 has shown an overall downward trend since July 2006, as presented on Figure 5-7 and Appendix C, Figure C-10. Well MW-44-125 has also shown an overall downward trend since November 2008, as presented on Figure 5-7 and Appendix C, Figure C-10.

- Concentrations in deep well MW-46-175 have shown a fluctuating trend since 2007 as presented in Figure 5-7 and Appendix C, Figure C-11.
- MW-47-55 Cr(VI) concentration trends have been fluctuating; while Cr(VI) concentrations trends have been stable at MW-47-115, since March 2008, as presented in Appendix C, Figure C-11.
- Well TW-04, a deeper well, has shown an overall declining trend since March 2007, as presented in Appendix C, Figure C-15.

5.3.2 Groundwater Geochemistry in IM Extraction Area

5.3.2.1 Oxidation-Reduction Potential Evaluation

The fourth quarter 2011 sampling event included additional analytes not usually sampled during the quarterly events. Figure 5-8 shows the concentrations and distributions of Cr(VI), ORP, nitrate, manganese, iron, and arsenic from the fourth quarter 2011 sampling event. Arsenic and manganese samples were collected to establish baseline conditions of in situ byproducts that may be produced when the groundwater remediation remedy is implemented. Figure 5-9 shows these same results on Cross-section A, which runs west-to-east along the floodplain.

5.3.2.2 General Chemistry Evaluation

Table F-1 in Appendix F presents the results of the general chemistry and stable isotope analyses for 15 PMP monitoring wells and 2 river stations during sampling events from March 2005 through December 2011. In July 2008, DTSC approved modifications to the PMP IM chemical performance monitoring program (DTSC, 2008b). With those modifications, there are now nine monitoring wells and one river station sampled for IM chemical performance monitoring.

Fifteen floodplain wells were sampled for chemical performance monitoring parameters over the period of March 2005 through January 2011. The majority of the field parameters in groundwater samples from these wells remained stable through the reporting period (Table Table 3-1). Shallow-depth wells exhibit both increases and decreases in some of these same parameters over the reporting period, but in these cases, it is interpreted as natural variation because some values were similar to those measured in previous years. Little change was evident in the river sample R-28 in 2011 compared to prior years.

5.3.2.3 Stable Isotope Evaluation

Analysis of the stable isotopes of oxygen (^{18}O) and deuterium (^{2}H) provide a method of tracking the mixing occurring in floodplain groundwater as a result of IM extraction.

Figure 5-10 shows the results of stable isotopes of oxygen and deuterium in floodplain wells using data collected during the annual reporting period. The points that plot to the upper right in this plot are considered heavier in isotopic signature (i.e., enriched in heavy isotopes), while the points that plot to the lower left are considered lighter in isotopic signature. In this plot, it is apparent that the lighter signatures are dominated by the river signature and some offsite fluvial wells samples, whereas the heaviest signatures are found

in selected floodplain wells, which likely contain higher percentages of water that has flowed from the upland areas.

The effects of IM pumping on the isotopic signature of floodplain wells have been plotted on Figures 5-11a through 5-11c. The percent river water signature was calculated by using composite statistics for deuterium isotope data from site river water samples (light fraction) and groundwater samples with greater than 3,000 µg/L Cr(VI) (heavy fraction; termed "industrial water") between 2004 and 2011. The posted percentages each represent the sample's calculated river water signature percentage, with 100 percent being essentially the same deuterium signature as river water, and 0 percent being equal to the industrial water signature. It is evident that isotopic signature in most industrial signature wells has become more similar to river water since IM pumping began. This is a result of the continuous landward gradient created by IM pumping and the resultant mixing of industrial water with river-influenced groundwater. These changes are most likely due to lateral and downward movement of shallow floodplain water, which has an isotopic signature similar to river water.

5.4 Conclusions and Status of IM Operations

5.4.1 2011 Performance Evaluation

As of March 2012, the IM has operated full time for 8 years and has been successful in meeting the IM objectives and performance criteria. This section summarizes the conclusions of IM operations and performance monitoring for the 2011 reporting period.

5.4.1.1 Attainment of Performance Standard

Throughout 2011, the IM extraction system (combined wells TW-3D and PE-1) operated at the target pumping rate of 135 gpm, excluding periods of planned and unplanned downtime. The operational run-time percentage for the extraction system was 95.2 percent during the 2011 reporting period. The average pumping rate for the IM extraction system, including downtime, during the annual period was 128.5 gpm. The results and conclusions of the 2011 performance evaluation include:

- A total of 67,520,453gallons of groundwater was extracted and treated at the IM-3 system during the annual reporting period. The IM system removed approximately 510 pounds (231 kilograms) of chromium from the aquifer during the reporting period.
- The IM pumping rate was sufficient to exceed the minimum overall average landward gradient throughout the 2011 annual reporting period. The strong landward gradients were maintained even during the period of lower river stages in January 2011 and November 2011 through December 2011.
- The current gradient well pairs are adequate to define the capture of the plume while pumping from extraction wells TW-3D and PE-1, although the northern pair particularly underestimates the gradient as it is aligned at an angle to the true gradient.
- The annual average hydraulic gradient monitoring data showed that all floodplain monitoring wells where Cr(VI) was detected at greater than 20 µg/L were within the capture zone of the IM extraction system during the 2011 reporting period.

5.4.1.2 Cr(VI) Distribution and Trends

The key conclusions on Cr(VI) distribution and trends observed in the IM performance monitoring area during 2011 include:

- Overall, the groundwater Cr(VI) concentrations in the floodplain are stable or decreasing. The ongoing monitoring has shown marked decreases in Cr(VI) concentration in the floodplain areas where IM pumping exerts a strong influence on hydraulic gradients (e.g., well clusters MW-36, MW-39, and MW-44).
- MW-34-100 has shown a fluctuating trend in Cr(VI) concentration over the past 3 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.
- The distribution of Cr(VI) in the performance monitoring area is significantly affected by the redox conditions in the aquifer. Reducing conditions where Cr(VI) and nitrate are generally non-detect are prevalent throughout the shallow and mid-depth floodplain wells.
- The groundwater ORP, stable isotope, and river signature calculated from stable isotope data continue to confirm that continued IM extraction is drawing more oxidizing river-influenced groundwater into the performance monitoring area.

5.4.2 Status of Operations and Monitoring

Per DTSC direction, PG&E will continue to operate both TW-3D and PE-1 at a target combined pumping rate of 135 gpm, except for periods of planned and unplanned downtime. Treated groundwater will be discharged into the IM-3 injection wells in accordance with compliance requirements of the waste discharge ARARs as documented in Attachment A to the Letter Agreement issued July 26, 2011 (Water Board, 2011). Saline water generated as a byproduct of the reverse osmosis process will continue to be transported offsite for treatment and disposal.

PG&E will balance the pumping rates between TW-3D and PE-1 to maintain the target pumping rate and maintain appropriate hydraulic gradients across the Alluvial Aquifer. If, at any time, hydraulic data indicate that PE-1 pumping has the potential to draw higher concentrations of chromium away from the capture zone of TW-3D, PG&E will request authorization from DTSC to increase the pumping rate at TW-3D and decrease the rate at PE-1. TW-2D will serve as a backup extraction well to TW-3D and PE-1.

Current BOR projections show that the river levels will increase during the next quarterly reporting period (January through March 2012) and April and decline from May into the fall. The lowest river levels during the upcoming IM operations year are expected to occur in December 2012. By April 2012, the average monthly river elevations are projected to reach their maximum level of the year.

6.0 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 first quarter 2012 quarterly monitoring report, which will be submitted by April 30, 2012.

6.1 Groundwater Monitoring Program

6.1.1 Quarterly Monitoring

As described in the July 23, 2010 DTSC sampling schedule approval (DTSC, 2010a), the first quarter monitoring event occurred February 6-23, 2012. This sampling event was conducted at 55 GMP wells, including the wells located in the East Ravine area.

6.1.2 Monthly Monitoring

Monthly sampling of the two active extraction wells (TW-3D and PE-1) will continue to be performed during the first 2 weeks of each month. Results will be reported in the first quarter 2012 monitoring report.

6.2 Surface Water Monitoring Program

The RMP low river event occurred January 10-11, 2012. The first quarter 2012 surface water monitoring event was conducted February 28-29, 2012 at locations in the RMP monitoring network. Results will be reported in the first quarter 2012 quarterly monitoring report.

6.3 Performance Monitoring Program

6.3.1 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 first quarter of 2012, 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 compliance requirements of the waste discharge ARARs. 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.

6.3.2 Transducer Download

Downloads of the transducers in the key gradient control wells (MW-27-085, MW-31-135, MW-33-150, MW-34-100, and MW-45-095) will continue to be conducted weekly during the first quarter 2012 reporting period and daily for MW-33-150. Downloads of the remainder of the transducers will occur during the first week of each month during the first quarter 2012 reporting period.

7.0 Recommendations

7.1 Recommended Modifications to the PMP

Table 7-1 lists wells subject to IMCP actions if trigger levels are exceeded. Sample results for all wells have generally remained below their respective trigger levels since they were established in August 2006 and approved in July 2008 (CH2M HILL, 2006; DTSC, 2008b) and most wells greater than the IM performance standard of 20 µg/L for Cr(VI) show stable or decreasing trends (see Appendix C).

Contingency plan wells without stable or decreasing trends are mid-depth well MW-33-090 and deep well MW-47-115, where slow increasing trends are evident (see Appendix C, Figures C-5 and C-11, respectively). Both of these wells are within the IM capture zone (see Figures 5-4b and 5-4c). As a result, increasing concentrations at these wells do not warrant additional groundwater extraction. In fact, the slowly increasing Cr(VI) concentrations at these wells may be a result of the strong gradients created by IM pumping. The geochemical conditions at well MW-33-090 have gradually become more oxidizing since 2005, with a corresponding increase in chromium concentrations. A new Cr(VI) trigger level was calculated for well MW-33-090 using Shewart statistical control limits and data from the 2009 through 2011 reporting periods. The proposed new Cr(VI) trigger level is 32 µg/L. This is proposed for technical discussion and formal approval. The trigger level for MW-47-115 was updated in mid-2009 and does not appear to need updating at this time (DTSC, 2009c).

7.2 Recommended Modifications to the GMP

PG&E plans to implement the revised supplemental monitoring plan for non-chromium COPCs and in situ byproducts, as shown in Table 7-2, and started with the December 2011 sampling event. This schedule incorporates comments from DTSC following technical discussion (DTSC, 2011).

8.0 References

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Tables

Table 1-1

Topock Monitoring Reporting Schedule
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Program	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Groundwater Monitoring Program	January - March	April - June	July-October	November-December
Surface Water Monitoring Program	January - March	April - June	July-October	November-December
Performance Monitoring Program	January - March	April - June	July-October	November-December
IM-3 Monitoring (Chromium removed)	January - February	March - May	June-September	October-December

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
MW-9	SA	15-Dec-10	312	334	93	3,310	7.4
		09-Dec-11	299	290	130	2,800	7.3
MW-10	SA	07-Dec-10	912	949	82	2,710	7.9
		07-Dec-10 FD	900	909	FD	FD	FD
		05-May-11	411	384	-15	3,000	7.7
		05-May-11 FD	391	401	FD	3,000	FD
		09-Dec-11	621	622	62	2,600	7.6
MW-12	SA	30-Sep-10	2,930	2,810	210	6,390	8.2
		30-Sep-10 FD	3,110	2,810	FD	FD	FD
		16-Dec-10	2,770	2,800	59	6,430	8.3
		10-Feb-11	2,950	3,160	180	6,250	8.4
		06-May-11	2,910	2,870	150	6,400	8.2
		06-Oct-11	2,840	2,880	73	6,700	8.3
		09-Dec-11	2,240	2,830	47	6,400	8.2
MW-13	SA	07-Dec-10	21.9	22.6	3.8	2,030	7.9
		06-Dec-11	21.2	22.6	67	1,900	7.7
MW-14	SA	07-Dec-10	22.1	22.1	14	1,560	8.0
		09-Dec-11	20.1	22.8	7.0	1,500	7.6
MW-15	SA	14-Dec-10	13.8	13.4	150	1,810	7.7
		07-Dec-11	11.5	12.6	54	1,500	7.8
MW-16	SA	10-Dec-10	10.1	10.2	22	1,130	8.0
		02-May-11	10.0	10.6	R	1,100	8.5
		07-Dec-11	11.8	11.3	54	1,100	8.0
MW-17	SA	14-Dec-10	16.7	17.0	150	1,590	7.9
		03-May-11	15.0	15.9	R	1,500	8.0
		07-Dec-11	15.8	14.5	60	1,400	8.0
MW-18	SA	14-Dec-10	21.1	19.4	120	1,360	7.6
		08-Dec-11	21.4	21.6	80	1,300	7.6
MW-19	SA	15-Dec-10	387	418	120	2,360	7.5
		04-May-11	497	494	-2.1	2,200	7.8
		09-Dec-11	289	295	110	2,000	7.5
MW-20-70	SA	16-Dec-10	3,130	3,430	75	3,030	7.6
		06-May-11	3,570	3,510	150	2,700	7.4
		07-Dec-11	3,570	3,560	130	2,600	7.6

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
[b] MW-20-100	MA	10-Feb-11	4,500	4,520	210	3,090	7.5
		06-May-11	5,640	5,600	140	3,100	7.1
		08-Dec-11	3,770	3,930	80	2,800	7.3
[b] MW-20-130	DA	10-Feb-11	10,100	10,600	220	12,200	7.6
		06-May-11	12,100	11,500	120	12,000	7.3
		09-Dec-11	11,100	11,500	82	11,000	7.4
MW-21	SA	28-Sep-10	ND (1.0)	1.1	-84	13,100	7.1
		07-Dec-10	ND (1.0)	ND (1.0)	13	12,400	7.2
		08-Feb-11	3.3	3.6	190	8,450	7.4
		03-May-11	2.0	2.3	R	9,000	7.6
		29-Sep-11	ND (1.0)	ND (1.0)	23	13,000	7.1
		06-Dec-11	2.1	2.7	200	11,000	7.0
MW-22	SA	07-Dec-10	ND (1.0)	ND (1.0)	-66	28,500	6.7
		03-May-11	ND (1.0)	ND (1.0)	-64	14,000	8.5
		16-Dec-11	ND (2.1)	1.0	-120	32,000	6.7
MW-23-060	BR	29-Sep-10	29.6	31.1	51	16,500	R
		14-Dec-10	30.4	33.3	53	16,100	R
		09-Feb-11	31.5	30.8	93	16,900	R
		04-May-11	30.2	31.3	-77	15,000	R
		29-Sep-11	26.8	29.8	-29	16,000	R
		13-Dec-11	29.9	30.6	110	16,000	R
MW-23-080	BR	29-Sep-10	6.0	8.0	-53	17,300	R
		14-Dec-10	12.2	12.8	3.5	17,400	R
		09-Feb-11	19.8	20.7	63	17,400	R
		04-May-11	14.1	13.3	-170	15,000	R
		04-May-11 FD	14.4	12.5	FD	16,000	FD
		29-Sep-11	5.6	5.6	-66	16,000	R
		12-Dec-11	8.7	8.8	-43	16,000	R
		12-Dec-11 FD	8.2	8.6	FD	16,000	FD
MW-24BR	BR	30-Sep-10	ND (1.0)	1.1	-170	15,000	8.0
		08-Dec-10	ND (1.0)	ND (1.0)	-160	15,000	8.3
		08-Feb-11	ND (1.0)	ND (1.0)	-170	14,900	8.1
		05-May-11	ND (1.0)	ND (1.0)	-130	14,000	8.5
		30-Sep-11	ND (1.0)	8.2 J	-130	14,000	8.3
		09-Dec-11	ND (1.0)	ND (1.0)	-150	14,000	8.2

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
MW-24BR	BR	09-Dec-11 FD	ND (1.0)	ND (1.0)	FD	14,000	FD
MW-25	SA	07-Dec-10	280	344	35	1,360	7.6
		15-Dec-11	249	265	130	1,600	7.2
		15-Dec-11 FD	269 J	259	FD	1,500	FD
MW-26	SA	15-Dec-10	1,890	2,030	110	4,120	7.4
		05-May-11	2,010	1,890	63	4,000	7.3
		09-Dec-11	1,840	1,750	5.5	4,000	7.4
MW-27-20	SA	07-Dec-10	ND (0.2)	ND (1.0)	-170	1,000	7.7
		05-Dec-11	ND (0.2)	ND (1.0)	-160	1,000	7.5
MW-27-60	MA	07-Dec-10	ND (0.2)	ND (1.0)	-160	1,180	8.2
		05-Dec-11	ND (0.2)	ND (1.0)	-200	1,100	8.1
MW-27-85	DA	01-Oct-10	ND (1.0)	1.2	-37	15,100	7.2
		07-Dec-10	ND (1.0)	ND (1.0)	-80	14,400	7.2
		08-Feb-11	ND (1.0)	ND (1.0)	-53	14,400	7.2
		08-Feb-11 FD	ND (1.0)	ND (1.0)	FD	FD	FD
		28-Apr-11	ND (1.0)	ND (1.0)	20	13,000	7.4
		28-Apr-11 FD	ND (1.0)	ND (1.0)	FD	13,000	FD
		03-Oct-11	ND (1.0)	ND (1.0)	-83	12,000	7.2
		03-Oct-11 FD	ND (1.0)	ND (1.0)	FD	12,000	FD
		05-Dec-11	ND (1.0)	ND (1.0)	-87	13,000	7.1
MW-28-25	SA	08-Dec-10	ND (1.0)	ND (1.0)	-34	1,140	7.3
		02-May-11	ND (0.2)	1.2	-8.8	1,000	7.6
		12-Dec-11	ND (0.2)	ND (1.0)	-29	1,200	7.1
MW-28-90	DA	28-Sep-10	ND (0.2)	ND (1.0)	-110	7,480	7.3
		08-Dec-10	ND (1.0)	ND (1.0)	-140	7,670	7.3
		08-Feb-11	ND (0.2)	ND (1.0)	-79	7,730	7.2
		02-May-11	ND (0.2)	ND (1.0)	-70	7,100	8.1
		26-Sep-11	ND (0.2)	ND (1.0)	-140	7,200	7.3
		12-Dec-11	ND (1.0)	ND (1.0)	-120	7,400	7.0
MW-29	SA	14-Dec-10	ND (0.2)	ND (1.0)	-140	2,330	7.3
		29-Apr-11	0.24	ND (1.0)	-120	2,200	7.3
		07-Dec-11	ND (0.2)	ND (1.0)	-110	2,400	7.2
MW-30-30	SA	07-Dec-10	ND (1.0)	ND (1.0)	-170	22,800	7.3
		03-May-11	ND (1.0)	ND (1.0)	-160	12,000	7.4

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance [a] (µS/cm)	Field pH
MW-30-30	SA	07-Dec-11	ND (2.1)	ND (1.0)	-190	33,000	7.3
MW-30-50	MA	07-Dec-10	ND (0.2)	ND (1.0)	-210	1,330	8.0
		08-Dec-11	ND (0.2)	ND (1.0)	-190	1,200	7.7
MW-31-60	SA	15-Dec-10	353	386	150	3,300	7.5
		04-May-11	331	324	-6.2	3,800	7.8
		06-Dec-11	489	500	55	3,200	7.7
MW-31-135	DA	15-Dec-10	17.8	15.9	89	11,700	7.8
		06-Dec-11	14.4	15.1	1.9	11,000	7.9
MW-32-20	SA	08-Dec-10	ND (1.0)	ND (1.0)	-140	51,700	6.8
		08-Dec-11	ND (2.1)	ND (2.0)	-160	52,000	6.5
MW-32-35	SA	09-Dec-10	ND (1.0)	3.0	-180	19,700	7.2
		02-May-11	ND (1.0)	ND (1.0)	-230	17,000	7.7
		09-Dec-11	ND (1.0)	ND (1.0)	-170	16,000	6.9
MW-33-40	SA	28-Sep-10	ND (0.2)	3.5	-26	5,490	8.2
		10-Dec-10	ND (1.0)	ND (1.0)	45	14,000	7.7
		09-Feb-11	ND (1.0)	1.7	22	10,500	7.7
		02-May-11	ND (0.2)	ND (1.0)	-150	5,900	8.5
		27-Sep-11	ND (1.0)	1.0	-66	12,000	7.8
		12-Dec-11	ND (1.0)	2.6	-45	9,900	7.7
MW-33-90	MA	29-Sep-10	24.4	20.9	-24	10,700	7.4
		10-Dec-10	24.5	25.0	-91	10,600	7.5
		09-Feb-11	24.2	25.3	7.7	10,600	7.4
		04-May-11	20.7	21.3	100	9,600	7.5
		04-Oct-11	16.8	20.2	63	10,000	7.3
		13-Dec-11	21.9	19.8	8.0	10,000	7.3
MW-33-150	DA	29-Sep-10	10.8	10.8	62	17,500	7.4
		29-Sep-10 FD	11.2	11.0	FD	FD	FD
		10-Dec-10	11.5	11.9	-44	17,600	7.6
		09-Feb-11	12.2	12.3	R	17,700	7.5
		04-May-11	11.2	11.4	-93	15,000	7.4
		04-Oct-11	10.4	10.1	110	16,000	7.4
		13-Dec-11	12.7	12.4	42	17,000	7.3
MW-33-210	DA	29-Sep-10	13.0	13.5	88	19,600	7.3
		10-Dec-10	14.1	15.5	-69	19,900	7.4

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance [a] (µS/cm)	Field pH
MW-33-210	DA	09-Feb-11	14.8	15.2	61	20,000	7.3
		04-May-11	10.7	11.0	-170	1,700	7.2
		27-Sep-11	12.7	12.9	-84	18,000	7.3
		13-Dec-11	14.5	14.5	9.9	18,000	7.2
MW-34-55	MA	07-Dec-10	ND (0.2)	ND (1.0)	-150	1,020	7.7
		06-Dec-11	ND (0.2)	ND (1.0)	-160	990	7.7
MW-34-80	DA	01-Oct-10	ND (0.2)	ND (1.0)	-60	8,400	7.4
		07-Dec-10	ND (0.2)	ND (1.0)	-100	7,830	7.4
		07-Feb-11	ND (0.2)	1.3	3.9	7,660	7.4
		07-Feb-11 FD	ND (0.2)	ND (1.0)	FD	FD	FD
		28-Apr-11	ND (1.0)	ND (1.0)	-19	7,600	7.6
		03-Oct-11	ND (1.0)	ND (1.0)	-92	7,800	7.3
		06-Dec-11	ND (1.0)	ND (1.0)	-83	7,300	7.4
MW-34-100	DA	01-Oct-10	75.1	66.6	33	18,500	7.4
		01-Oct-10 FD	75.6	67.1	FD	FD	FD
		09-Nov-10	110	104	83	18,400	8.9
		08-Dec-10	145	132	-76	18,600	7.5
		08-Dec-10 FD	141	127	FD	FD	FD
		11-Jan-11	290	259	150	18,400	7.5
		07-Feb-11	210	201	28	18,400	7.5
		28-Apr-11	15.9	15.8	12	16,000	7.6
		28-Apr-11 FD	16.1	16.8	FD	16,000	FD
		03-Oct-11	55.8	56.9	5.7	17,000	7.4
		03-Oct-11 FD	57.0	61.7	FD	17,000	FD
		09-Nov-11	144	147	74	---	7.6
		06-Dec-11	210	209	-1	17,000	7.6
		06-Dec-11 FD	202	210	FD	17,000	FD
MW-35-60	SA	14-Dec-10	30.2	25.4	110	7,490	7.3
		04-May-11	26.1	26.4	-19	6,700	7.9
		07-Dec-11	26.2	25.9	100	6,700	7.3
MW-35-135	DA	14-Dec-10	37.8	34.8	130	10,100	7.7
		04-May-11	29.4	31.0	-37	9,800	8.1
		07-Dec-11	35.3	36.9	97	9,600	7.6
MW-36-20	SA	07-Dec-10	ND (0.2)	ND (1.0)	-170	7,260	7.6
		14-Dec-11	ND (1.0)	1.1	-140	8,100	7.5

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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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 [a] (µS/cm)	Field pH
MW-36-40	SA	07-Dec-10	ND (0.2)	ND (1.0)	-200	2,120	7.9
		14-Dec-11	ND (0.2)	ND (1.0)	-150	1,300	7.7
MW-36-50	MA	08-Dec-10	ND (0.2)	ND (1.0)	-110	1,810	7.5
		14-Dec-11	ND (0.2)	ND (1.0)	-100	1,400	7.5
MW-36-70	MA	07-Dec-10	ND (0.2)	ND (1.0)	-100	R	8.1
		14-Dec-11	ND (0.2)	ND (1.0)	-77	1,100	7.9
MW-36-90	DA	08-Dec-10	ND (0.2)	ND (1.0)	-69	1,430	8.2
		08-Dec-10 FD	ND (0.2)	ND (1.0)	FD	FD	FD
		02-May-11	ND (0.2)	ND (1.0)	-71	1,300	8.9
		14-Dec-11	ND (0.2)	ND (1.0)	-100	1,200	8.3
MW-36-100	DA	15-Dec-10	69.6	64.6	-160	11,000	7.1
		03-May-11	56.4	62.5	-140	9,700	7.0
		06-Dec-11	73.3	76.4	-100	10,000	7.1
MW-37S	MA	10-Dec-10	9.6	10.0	120	5,240	7.7
		07-Dec-11	10.1	9.9	-16	5,000	7.7
MW-37D	DA	15-Dec-10	128	146	92	16,000	7.7
		05-May-11	178	172	90	15,000	7.6
		08-Dec-11	62.5	70.8	-88	15,000	7.7
MW-39-40	SA	15-Dec-11	ND (0.2)	ND (1.0)	-160	2,000	7.9
		15-Dec-11 FD	ND (0.2)	ND (1.0)	FD	2,000	FD
MW-39-50	MA	08-Dec-10	ND (0.2)	ND (1.0)	-7.5	1,720	8.0
		15-Dec-11	ND (0.2)	ND (1.0)	-97	1,500	8.1
MW-39-60	MA	09-Dec-10	ND (0.2)	ND (1.0)	-63	2,040	7.9
		15-Dec-11	ND (0.2)	ND (1.0)	-60	1,700	7.9
MW-39-70	MA	08-Dec-10	ND (0.2)	ND (1.0)	79	3,850	7.4
		15-Dec-11	ND (0.2)	ND (1.0)	-4.2	3,500	7.5
MW-39-80	DA	09-Dec-10	ND (0.2)	ND (1.0)	-38	9,460	7.0
		15-Dec-11	ND (1.0)	ND (1.0)	-4.5	1,100	7.0
MW-39-100	DA	14-Dec-10	206	240	6.4	20,300	6.7
		14-Dec-11	130	138	18	17,000	6.5
MW-40S	SA	07-Dec-11	7.6	7.8	93	2,300	7.5
MW-40D	DA	15-Dec-10	172	159	22	16,200	7.5

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance [a] (µS/cm)	Field pH
MW-40D	DA	05-May-11	140	124	-7.7	14,000	7.4
		07-Dec-11	169	172	9.0	15,000	7.4
MW-41S	SA	08-Dec-10	19.5	16.4 J	-66	5,090	8.1
		08-Dec-10 FD	19.7	21.3 J	FD	FD	FD
		07-Dec-11	19.0	19.1	-22	5,000	7.9
		07-Dec-11 FD	19.0	18.5	FD	5,000	FD
MW-41M	DA	08-Dec-10	11.0	10.4	-83	15,700	7.8
		05-Dec-11	10.6	12.2	160	15,000	7.6
MW-41D	DA	08-Dec-10	2.2	3.1	-110	22,100	7.9
		02-May-11	1.9	2.4	R	18,000	7.8
		05-Dec-11	3.4	4.5	-56	18,000	7.6
MW-42-30	SA	06-Dec-10	ND (0.2)	ND (1.0)	-220	4,850	7.8
		06-Dec-11	0.2	1.3	-240	---	7.9
MW-42-55	MA	27-Sep-10	ND (0.2)	ND (1.0)	R	9,130	7.2
		06-Dec-10	ND (1.0)	ND (1.0)	-170	8,830	7.3
		07-Feb-11	ND (0.2)	ND (1.0)	-110	8,650	7.4
		29-Apr-11	ND (0.2)	ND (1.0)	-100	7,500	7.3
		26-Sep-11	ND (0.2)	ND (1.0)	-120	6,300	7.4
		06-Dec-11	ND (0.2)	ND (1.0)	-170	5,700	7.5
MW-42-65	MA	27-Sep-10	ND (1.0)	ND (1.0)	R	10,800	7.1
		06-Dec-10	ND (1.0)	ND (1.0)	-110	11,200	7.1
		07-Feb-11	ND (1.0)	ND (1.0)	-59	11,500	7.1
		29-Apr-11	ND (1.0)	ND (1.0)	-62	9,500	7.1
		26-Sep-11	ND (1.0)	ND (1.0)	-41	9,100	7.2
		06-Dec-11	ND (1.0)	ND (1.0)	-99	9,800	7.2
MW-43-25	SA	09-Dec-10	ND (0.2)	ND (1.0)	-190	1,260	7.6
		29-Apr-11	ND (0.2)	ND (1.0)	-180	1,200	7.4
		09-Dec-11	ND (0.2)	ND (1.0)	-180	1,200	7.4
MW-43-75	DA	09-Dec-10	ND (1.0)	ND (1.0)	-170	11,700	7.6
		09-Dec-11	ND (1.0)	ND (1.0)	-170	12,000	7.3
MW-43-90	DA	09-Dec-10	ND (1.0)	ND (1.0)	-98	18,400	7.0
		29-Apr-11	ND (1.0)	ND (1.0)	-92	17,000	6.8
		09-Dec-11	ND (1.0)	ND (1.0)	-100	17,000	6.6
MW-44-70	MA	09-Dec-10	ND (0.2)	ND (1.0)	-230	2,850	7.6

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
MW-44-70	MA	03-May-11	ND (0.2)	ND (1.0)	-160	2,500	7.4
		08-Dec-11	ND (0.2)	ND (1.0)	-160	2,200	7.4
MW-44-115	DA	28-Sep-10	228	218	-200	11,800	7.9
		28-Sep-10 FD	236	219	FD	FD	FD
		09-Dec-10	219	191	-230	12,100	8.0
		09-Dec-10 FD	187	191	FD	FD	FD
		08-Feb-11	203	206	-170	9,990	7.8
		03-May-11	184	201	-120	11,000	7.7
		27-Sep-11	144	150	-150	11,000	7.9
		08-Dec-11	129	132	-160	11,000	7.8
		08-Dec-11 FD	128	130	FD	11,000	FD
MW-44-125	DA	28-Sep-10	ND (0.2)	16.0	-220	12,000	7.7
		09-Dec-10	24.5	26.9	-280	12,900	7.9
		09-Dec-10 FD	25.0	27.4	FD	FD	FD
		08-Feb-11	65.6	71.1	-230	13,300	7.8
		08-Feb-11 FD	65.4	75.1	FD	FD	FD
		03-May-11	ND (0.2)	10.8 J	-320	11,000	7.5
		03-May-11 FD	1.0	14.7 J	FD	10,000	FD
		27-Sep-11	ND (1.0)	6.0	-170	11,000	7.8
		27-Sep-11 FD	ND (1.0)	7.1	FD	12,000	FD
		08-Dec-11	21.5	26.8	-190	11,000	7.7
		08-Dec-11 FD	20.6	27.2	FD	9,800	FD
MW-45-095a	DA	14-Dec-10	---	---	-98	9,550	7.5
		14-Dec-11	29.6	30.0	65	9,000	7.5
		14-Dec-11 FD	29.8	30.2	FD	9,400	FD
MW-46-175	DA	28-Sep-10	74.5	72.3	-210	17,300	8.3
		09-Nov-10	102	115	-65	17,600	8.6
		08-Dec-10	130	123	-190	17,700	8.3
		08-Dec-10 FD	134	124	FD	FD	FD
		11-Jan-11	169	174	60	18,000	8.2
		08-Feb-11	149	151	-65	18,100	8.3
		03-May-11	53.4	55.9	-200	16,000	8.3
		03-May-11 FD	53.2	56.8	FD	16,000	FD
		26-Sep-11	69.4	70.6	-180	17,000	8.3
		09-Nov-11	110	106	-80	---	8.4

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] Conductance (µS/cm)	Field pH
MW-46-175	DA	13-Dec-11	121	129	-130	17,000	8.3
MW-46-205	DA	08-Dec-10	5.6	6.4	-100	21,800	8.3
		04-May-11	5.8	6.6	41	18,000	8.1
		13-Dec-11	4.4	6.5	-67	19,000	8.2
MW-47-55	SA	13-Dec-10	25.0	22.0	69	4,810	7.4
		13-Dec-10 FD	23.2	22.3	FD	FD	FD
		03-May-11	19.3	19.4	65	4,300	7.5
		08-Dec-11	24.8	23.8	55	4,600	7.6
MW-47-115	DA	13-Dec-10	22.5	18.4	58	14,300	7.4
		03-May-11	22.5	24.4	-40	12,000	7.5
		08-Dec-11	16.9	18.0	18	14,000	7.6
MW-48	BR	29-Sep-10	ND (1.0)	ND (1.0)	110	16,800	7.1
		08-Dec-10	ND (1.0)	ND (1.0)	-4.3	21,400	7.5
		09-Feb-11	ND (1.0)	ND (1.0)	160	18,300	7.0
		04-May-11	ND (1.0)	ND (1.0)	-120	16,000	7.3
		30-Sep-11	ND (0.2)	ND (1.0)	31	17,000	7.2
		07-Dec-11	ND (1.0)	1.0	---	17,000	6.8
MW-49-135	DA	13-Dec-10	ND (1.0)	3.1	-1.2	14,400	7.8
		07-Dec-11	ND (1.0)	ND (1.0)	1.1	13,000	7.9
MW-49-275	DA	13-Dec-10	ND (1.0)	1.8	-200	26,400	8.1
		07-Dec-11	ND (1.0)	1.8	-200	28,000	8.1
MW-49-365	DA	13-Dec-10	ND (2.1)	ND (1.0)	-220	40,200	7.9
		07-Dec-11	ND (2.1)	ND (1.0)	-230	42,000	8.0
MW-50-095	MA	10-Dec-10	18.9	19.7	36	5,240	7.8
		03-May-11	18.3	18.9	R	5,000	8.2
		06-Dec-11	14.1	15.6	42	5,100	8.0
[b] MW-50-200	DA	30-Sep-10	10,200	9,670	170	21,700	7.7
		10-Feb-11	9,160	9,350	230	21,800	7.9
		10-Feb-11 FD	9,100	9,240	FD	FD	FD
		06-May-11	9,720	9,080	51	18,000	7.7
		04-Oct-11	7,860	7,350	70	19,000	7.7
		08-Dec-11	8,740	8,730	76	19,000	7.7
MW-51	MA	16-Dec-10	4,590	4,720	80	11,100	7.4
		06-May-11	4,730	4,690	130	10,000	7.4

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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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 [a] (µS/cm)	Field pH
MW-51	MA	07-Dec-11	4,810	4,710	140	10,000	7.3
MW-52S	MA	09-Dec-10	ND (1.0)	ND (1.0)	-180	11,200	7.2
		03-May-11	ND (2.1)	ND (1.0)	-130	10,000	8.8
		15-Dec-11	ND (1.0)	ND (1.0)	-120	7,500	6.9
MW-52M	DA	09-Dec-10	ND (1.0)	ND (1.0)	-210	16,800	7.6
		03-May-11	ND (2.1)	ND (1.0)	-140	15,000	9.0
		15-Dec-11	ND (1.0)	ND (1.0)	-140	11,000	7.8
MW-52D	DA	09-Dec-10	ND (1.0)	ND (1.0)	-220	21,700	8.0
		03-May-11	ND (1.0)	ND (1.0)	-150	18,000	9.3
		15-Dec-11	ND (1.0)	ND (1.0)	-180	16,000	7.9
MW-53M	DA	10-Dec-10	ND (1.0)	ND (1.0)	-210	21,000	8.1
		03-May-11	ND (1.0)	ND (1.0)	-150	18,000	R
		16-Dec-11	ND (1.0)	ND (1.0)	-180	18,000	7.9
MW-53D	DA	09-Dec-10	ND (1.0)	ND (1.0)	-220	26,200	8.4
		03-May-11	6.6 J	ND (1.0)	-150	32,000	R
		03-Oct-11	ND (2.1)	ND (1.0)	-220	33,000	8.3
		03-Oct-11 FD	ND (2.1)	ND (1.0)	FD	33,000	FD
		16-Dec-11	ND (2.1)	ND (1.0)	-220	28,000	8.3
		16-Dec-11 FD	ND (2.1)	1.0	FD	28,000	FD
MW-54-85	DA	14-Dec-10	ND (1.0)	ND (1.0)	-190	10,700	7.6
		05-May-11	ND (0.2)	ND (1.0)	-200	10,100	7.4
		06-Dec-11	ND (1.0)	ND (1.0)	-180	10,100	7.5
MW-54-140	DA	14-Dec-10	ND (1.0)	ND (1.0)	-110	13,100	7.8
		05-May-11	ND (0.2)	ND (1.0)	-40	13,000	8.1
		06-Dec-11	ND (1.0)	ND (1.0)	46	12,300	7.7
MW-54-195	DA	14-Dec-10	ND (1.0)	ND (1.0)	-250	19,700	8.1
		05-May-11	ND (1.0)	ND (1.0) J	-180	20,000	8.9
		05-May-11 FD	ND (1.0)	ND (5.0)	FD	20,000	FD
		06-Dec-11	ND (1.0)	ND (5.0)	-220	18,800	8.1
MW-55-45	MA	09-Dec-10	ND (0.2)	ND (1.0)	-200	1,560	7.8
		06-Dec-11	ND (0.2)	ND (1.0)	-150	1,450	7.6
MW-55-120	DA	09-Dec-10	6.2	6.8	-120	9,320	8.0
		09-Dec-10 FD	6.2	6.8	FD	FD	FD
		06-Dec-11	6.9	7.0	5.0	8,520	7.9

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Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Field Parameters		
					ORP (mV)	Specific Conductance [a] (µS/cm)	Field pH
MW-55-120	DA	06-Dec-11 FD	6.8	6.9	FD	8,580	FD
MW-56S	SA	14-Dec-10	ND (0.2)	ND (1.0)	-140	6,440	7.3
		04-May-11	ND (0.2)	ND (1.0)	-150	6,310	7.1
		13-Dec-11	ND (1.0)	ND (1.0)	-160	5,980	7.2
MW-56M	DA	14-Dec-10	ND (2.0)	ND (1.0)	-130	15,300	7.2
		04-May-11	ND (0.2)	ND (1.0) J	-150	14,900	7.1
		13-Dec-11	ND (1.0)	ND (1.0)	-150	14,600	7.2
MW-56D	DA	14-Dec-10	ND (2.0)	ND (1.0)	-110	22,400	7.8
		04-May-11	ND (1.0)	ND (5.0)	-100	21,700	7.6
		13-Dec-11	ND (1.0)	ND (5.0)	-170	21,000	7.7
MW-57-070	BR	30-Sep-10	856	733	36	1,940	7.2
		15-Dec-10	456 J	438	1.8	2,160	7.2
		15-Dec-10 FD	330 J	368	FD	FD	FD
		10-Feb-11	507	612	130	2,510	7.3
		05-May-11	486	475	58	2,400	7.0
		05-May-11 FD	500	421	FD	2,400	FD
		29-Sep-11	309	352	56	2,400	6.9
		15-Dec-11	291	296	-21	2,500	7.1
MW-57-185	BR	29-Sep-10	5.6	5.9	11	18,900	8.6
		09-Dec-10	3.7	2.4	-180	19,500	8.7
		08-Feb-11	5.9	6.6	-20	19,200	8.6
		03-May-11	6.3	7.2	R	17,000	8.4
		28-Sep-11	7.0	8.5	-130	17,000	8.5
		13-Dec-11	7.4	7.3	-130	18,000	8.3
MW-58BR-LWR	BR	16-Sep-10	200	200	-20	9,960	7.7
		07-Oct-10	199	173	-66	9,890	7.5
MW-58BR-LWR-160	BR	10-Feb-11	140	130	120	8,950	8.4
		04-Apr-11	100	110	-61	---	7.9
MW-58BR-UPR	BR	14-Sep-10	3.8	3.5	-27	11,800	8.0
		06-Oct-10	4.7	8.4	-78	11,800	8.0
MW-58BR-UPR-160	BR	01-Feb-11	ND (1.0)	ND (1.0)	-110	12,000	7.5
		18-Mar-11	ND (5.0)	ND (1.0)	-120	12,800	7.9
MW-59-100	SA	30-Sep-10	5,140	4,630	240	10,700	6.9
		16-Dec-10	5,660	4,830	110	9,940	7.0

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
MW-59-100	SA	10-Feb-11	5,090	5,020	210	10,200	7.2
		10-Feb-11 FD	5,110	5,120	FD	FD	FD
		06-May-11	5,240	4,520	120	10,000	6.9
		04-Oct-11	4,330	4,850	120	10,000	6.8
		15-Dec-11	4,600	4,950	1.8	9,000	6.9
		15-Dec-11 FD	4,990	4,890	FD	9,100	FD
MW-60-125	BR	30-Sep-10	806	795	-16	9,210	7.4
		16-Dec-10	1,090	992	49	9,250	7.3
		16-Dec-10 FD	1,070	1,000	FD	FD	FD
		10-Feb-11	1,160	1,170	170	9,330	7.5
		05-May-11	1,040	959	-14	8,700	7.3
		04-Oct-11	715	760	-27	8,200	7.3
		14-Dec-11	901	915	-53	8,100	7.4
MW-61-110	BR	30-Sep-10	512	507	38	16,400	7.4
		15-Dec-10	567	510	-100	16,600	7.6
		09-Feb-11	684	653	60	16,300	7.5
		05-May-11	522	531	-31	15,000	7.3
		30-Sep-11	611	698	-30	15,000	7.3
		14-Dec-11	682	722	-46	15,000	7.3
MW-62-065	BR	30-Sep-10	500	462	130	6,640	7.3
		15-Dec-10	598	494	19	6,270	7.4
		09-Feb-11	481	475	110	6,430	7.4
		05-May-11	488	472	51	6,000	7.3
		29-Sep-11	457	500	44	6,300	7.4
		13-Dec-11	532	500	30	3,900	7.3
MW-62-110	BR	29-Sep-10	414	363	-60	9,130	7.8
		16-Dec-10	390	378	110	8,880	7.8
		09-Feb-11	565	540	190	8,850	7.6
		05-May-11	569	531	95	8,500	7.6
		29-Sep-11	598	739	-60	8,700	7.7
		14-Dec-11	1,140	1,060	-87	8,400	7.9
MW-62-190	BR	29-Sep-10	ND (1.0)	ND (1.0)	43	19,100	7.7
		16-Dec-10	ND (1.0)	1.3	-30	17,500	7.9
		09-Feb-11	ND (1.0)	ND (1.0)	130	18,100	7.8
		05-May-11	ND (1.0)	ND (1.0)	-110	17,000	7.7

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] Conductance (µS/cm)	Field pH
MW-62-190	BR	29-Sep-11	ND (1.0)	ND (1.0)	-88	17,000	7.7
		14-Dec-11	ND (1.0)	ND (1.0)	-110	16,000	7.7
MW-63-065	BR	27-Sep-10	1.7	2.2	73	7,440	7.1
		27-Sep-10 FD	1.7	2.2	FD	FD	FD
		06-Dec-10	1.2	ND (1.0)	-23	8,250	7.1
		08-Feb-11	1.3	1.7	61	7,530	7.2
		03-May-11	1.0	1.7	-120	7,200	7.0
		28-Sep-11	1.6	2.8	4.5	7,500	7.1
		12-Dec-11	1.2	2.1	57	4,600	7.1
MW-64-150	BR	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
		11-Nov-10	ND (0.2)	ND (1.0)	-26	8,550	7.3
MW-64-205	BR	29-Sep-10	ND (1.0)	3.8	-110	15,900	6.8
		20-Oct-10	ND (1.0)	3.6	-46	14,900	7.0
		11-Nov-10	ND (1.0)	4.0	-56	14,700	7.3
MW-64-260	BR	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
		11-Nov-10	ND (1.0)	ND (1.0)	-160	14,500	7.2
[c] MW-64BR	BR	20-Dec-10	140	140	32	14,700	7.3
MW-64BR-LWR-150	BR	24-Feb-11	100	97.0	46	17,200	7.6
		20-Apr-11	2.1	3.2	-100	---	7.8
MW-64BR-UPR-150	BR	26-Jan-11	220	220	88	14,000	7.5
		12-Apr-11	130	140	-50	---	7.5
OW-3S	SA	08-Dec-10	25.2	25.6	-49	1,650	7.9
		05-Dec-11	27.9	29.1	67	1,500	7.7
OW-3M	MA	08-Dec-10	18.0	18.6	-100	5,730	8.2
		05-Dec-11	17.8	18.7	15	5,600	8.0
OW-3D	DA	08-Dec-10	9.4	10.4	-110	8,920	8.2
		06-Dec-11	9.5	11.0	40	8,900	8.1
PE-1	DA	01-Sep-10	14.9	12.4 LF	---	---	---
		05-Oct-10	13.2	12.3 LF	---	---	---
		03-Nov-10	12.9	12.0 LF	---	---	---
		07-Dec-10	15.2	14.4 LF	---	---	---

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] Conductance (µS/cm)	Field pH
PE-1	DA	04-Jan-11	17.5	16.6 LF	---	---	---
		01-Feb-11	15.4	13.4 LF	---	---	---
		01-Mar-11	12.9	15.2 LF	---	---	---
		05-Apr-11	10.5	10.0 LF	---	5,180	---
		02-May-11	9.9	10.5 LF	---	5,240	---
		07-Jun-11	9.5	11.0 LF	---	5,180	---
		05-Jul-11	10.2 J	7.6 JLF	---	5,140	---
		02-Aug-11	9.0	8.8 LF	---	5,090	---
		06-Sep-11	9.5	9.0 LF	---	5,040	---
		04-Oct-11	11.1	10.1 LF	---	4,930	---
		01-Nov-11	10.3	10.3 LF	---	4,960	---
		06-Dec-11	10.9	10.8 LF	---	4,900	---
PGE-7BR	BR	09-Dec-10	ND (1.0)	ND (1.0)	-250	20,400	7.3
		07-Dec-11	ND (1.0)	ND (1.0)	-310	18,000	7.3
[b] PGE-8	BR	10-Feb-11	ND (1.0)	2.0	-330	20,800	8.0
		08-Dec-11	ND (1.0)	2.1	-320	18,000	8.1
Park Moabi-3	MA	10-Dec-10	11.9	10.5 UF	48	1,300	7.6
		12-Dec-11	6.6	7.0 UF	13	1,400	7.5
Park Moabi-4	MA	10-Dec-10	21.0	20.6 UF	40	1,960	7.4
		12-Dec-11	18.9	18.2 UF	---	1,800	7.7
TW-1	SA-MA-DA	28-Sep-10	3,690	3,490	2.1	7,130	7.3
		09-Dec-10	3,520	3,780	29	7,330	7.4
		09-Feb-11	3,710	3,620	32	7,440	7.2
		05-May-11	3,700	3,520	R	6,900	7.4
		28-Sep-11	3,200	3,040	170	7,000	7.3
		15-Dec-11	3,610	3,510	130	7,400	7.2
TW-2S	SA-MA	15-Dec-10	700	815	200	2,550	7.6
		12-Dec-11	619	662	140	2,400	7.7
		12-Dec-11 FD	511	680	FD	2,300	FD
TW-2D	DA	15-Dec-10	274	287	230	9,370	7.2
		12-Dec-11	339	362	190	9,000	7.3
TW-3D	DA	01-Sep-10	1,130	1,160 LF	---	---	---
		05-Oct-10	1,280	1,150 LF	---	---	---
		03-Nov-10	1,160	1,130 LF	---	---	---

Refer to table footnotes for data qualifier explanation.

Table 3-1
Groundwater Sampling Results, September 2010 through December 2011
Fourth Quarter 2011 and Annual 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 [a] (µS/cm)	Field pH
TW-3D	DA	07-Dec-10	1,080	1,170 LF	---	---	---
		04-Jan-11	1,100	1,200 LF	---	---	---
		01-Feb-11	1,000	1,100 LF	---	---	---
		01-Mar-11	1,090	1,320 LF	---	---	---
		05-Apr-11	1,130	1,220 LF	---	8,710	---
		02-May-11	1,100	1,070 LF	---	8,620	---
		07-Jun-11	1,030	1,090 LF	---	8,530	---
		05-Jul-11	1,130	953 LF	---	8,460	---
		02-Aug-11	991	948 LF	---	8,440	---
		06-Sep-11	1,000	992 LF	---	8,510	---
		04-Oct-11	991	1,010 LF	---	8,420	---
		01-Nov-11	1,060	1,070 LF	---	8,610	---
		06-Dec-11	1,080	1,150 LF	---	8,430	---
TW-4	DA	13-Dec-10	11.4	11.9	83	21,700	7.4
		08-Dec-11	9.0	9.9	29	19,000	7.7
TW-5	DA	10-Dec-10	---	---	63	14,500	7.7
		06-Dec-11	14.0	14.6	49	15,000	7.9

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.

[a] Field Specific Conductance reported through First Quarter 2011; Lab Specific Conductance reported starting in Second Quarter 2011

[b] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

[c] One-time sample collected from an open 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, 2011) 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 with a packer system installed. 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. In January 2011 the packer was moved to a new location at about 160 ft bgs. Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

In accordance with DTSC direction, the Flexible Liner Underground Technologies (FLUTe) multi-level monitoring system, which allowed discrete sampling at the 150, 205 and 260 ft bgs depth intervals, was removed from the MW-64BR borehole in December 2010. Following removal of the FLUTe system, the open borehole was developed and a sample of the open borehole was collected on December 20, 2010. At the direction of DTSC, a packer system was installed in January 2011 at about 150 ft bgs. Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

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.
BR: well completed in bedrock (Miocene Conglomerate or pre-Tertiary crystalline rock).

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date		Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
MW-9	SA	09-Dec-11		1.3	5.4	9.60
MW-10	SA	05-May-11		64.0	5.5	11.0
		05-May-11	FD	61.0	5.5	11.0
		09-Dec-11		74.0	6.0	11.0
MW-12	SA	10-Feb-11		13.0	9.8	---
		06-May-11		13.0	9.5	10.0
		06-Oct-11		11.0	9.7	9.80
		09-Dec-11		13.0	11.0	9.90
MW-13	SA	06-Dec-11		---	---	4.40
MW-14	SA	09-Dec-11		---	---	4.70
MW-15	SA	07-Dec-11		---	---	4.70
MW-16	SA	02-May-11		13.0	1.6	---
		07-Dec-11		13.0	1.8	3.80 J
MW-17	SA	03-May-11		15.0	11.0	---
		07-Dec-11		20.0	10.0	4.60 J
MW-18	SA	08-Dec-11		---	---	3.80
MW-19	SA	09-Dec-11		---	---	4.20
MW-20-70	SA	06-May-11		35.0	9.0	13.0
		07-Dec-11		36.0	7.7	11.0
MW-20-100	MA	06-May-11		4.2	11.0	18.0
		08-Dec-11		4.5	6.5	13.0
MW-20-130	DA	06-May-11		43.0	16.0	11.0
		09-Dec-11		46.0	20.0	12.0
MW-21	SA	03-May-11		59.0	21.0	2.10
		06-Dec-11		---	---	2.70
MW-22	SA	03-May-11		28.0	ND (2.5)	---
		16-Dec-11		21.0	ND (12)	ND (5.0)
MW-23-060	BR	13-Dec-11		12.0	4.7	5.00
MW-23-080	BR	12-Dec-11		41.0	4.8	4.90
		12-Dec-11	FD	41.0	5.3	4.80
MW-24BR	BR	09-Dec-11		63.0	ND (2.5)	ND (2.5)
		09-Dec-11	FD	63.0	ND (2.5)	ND (2.5)
MW-25	SA	15-Dec-11		---	---	5.90
		15-Dec-11	FD	---	---	6.00

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
MW-26	SA	05-May-11	17.0	5.6	14.0
		09-Dec-11	31.0	34.0	14.0
MW-27-20	SA	05-Dec-11	6.9	ND (0.5)	ND (0.5)
MW-27-60	MA	05-Dec-11	4.4	ND (0.5)	ND (0.5)
MW-27-85	DA	05-Dec-11	23.0	ND (2.5)	ND (2.5)
MW-28-25	SA	12-Dec-11	5.5	ND (0.5)	ND (0.5)
MW-28-90	DA	12-Dec-11	19.0	ND (0.5)	ND (1.0)
MW-29	SA	07-Dec-11	6.6	4.7	ND (0.5)
MW-30-30	SA	03-May-11	24.0	ND (2.5)	ND (1.0)
		07-Dec-11	65.0	ND (12)	ND (5.0)
MW-30-50	MA	08-Dec-11	5.1	ND (0.5)	ND (0.5)
MW-31-60	SA	06-Dec-11	---	---	3.40
MW-31-135	DA	06-Dec-11	31.0	0.5	ND (2.5)
MW-32-20	SA	08-Dec-11	---	---	ND (5.0)
MW-32-35	SA	09-Dec-11	---	---	ND (2.5)
MW-33-40	SA	12-Dec-11	270	ND (0.5)	ND (1.0)
MW-33-90	MA	13-Dec-11	20.0	ND (2.5)	ND (2.5)
MW-33-150	DA	13-Dec-11	38.0	ND (2.5)	ND (2.5)
MW-33-210	DA	13-Dec-11	16.0	ND (2.5)	ND (2.5)
MW-34-55	MA	06-Dec-11	5.4	ND (0.5)	ND (0.5)
MW-34-80	DA	06-Dec-11	---	---	ND (1.0)
MW-34-100	DA	06-Dec-11	57.0	ND (2.5)	ND (2.5)
		06-Dec-11 FD	56.0	ND (2.5)	ND (2.5)
MW-35-60	SA	07-Dec-11	8.5	1.1	1.90 J
MW-35-135	DA	07-Dec-11	26.0	ND (2.5)	2.60 J
MW-36-20	SA	14-Dec-11	---	---	ND (1.0)
MW-36-40	SA	14-Dec-11	5.8	ND (0.5)	ND (0.5)
MW-36-50	MA	14-Dec-11	---	---	ND (0.5)
MW-36-70	MA	14-Dec-11	---	---	ND (0.5)
MW-36-90	DA	14-Dec-11	---	---	ND (0.5)
MW-36-100	DA	03-May-11	42.0	0.77	ND (1.0)
		06-Dec-11	35.0	ND (0.5)	ND (2.5)
MW-37D	DA	05-May-11	47.0	ND (2.5)	ND (2.5)

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date		Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
MW-37D	DA	08-Dec-11		---	---	ND (2.5)
MW-37S	MA	07-Dec-11		---	---	1.40 J
MW-39-50	MA	15-Dec-11		7.8	ND (0.5)	ND (0.5)
MW-39-60	MA	15-Dec-11		19.0	ND (0.5)	ND (0.5)
MW-39-70	MA	15-Dec-11		---	---	ND (0.5)
MW-39-80	DA	15-Dec-11		---	---	ND (1.0)
MW-39-100	DA	14-Dec-11		8.4	ND (2.5)	ND (2.5)
MW-40D	DA	05-May-11		48.0	ND (2.5)	2.70
		07-Dec-11		47.0	ND (2.5)	ND (2.5)
MW-40S	SA	07-Dec-11		7.1	2.7	3.70 J
MW-41D	DA	05-Dec-11		---	---	ND (2.5)
MW-41M	DA	05-Dec-11		---	---	ND (2.5)
MW-41S	SA	07-Dec-11		---	---	1.20 J
		07-Dec-11	FD	---	---	1.30 J
MW-42-30	SA	06-Dec-11		23.0	ND (0.5)	ND (1.0)
MW-42-55	MA	06-Dec-11		---	---	ND (0.5)
MW-42-65	MA	06-Dec-11		---	---	ND (2.5)
MW-43-25	SA	09-Dec-11		---	---	ND (0.5)
MW-43-75	DA	09-Dec-11		---	---	ND (2.5)
MW-43-90	DA	09-Dec-11		---	---	ND (2.5)
MW-44-70	MA	08-Dec-11		---	---	ND (0.5)
MW-44-115	DA	03-May-11		83.0	ND (2.5)	ND (1.0)
		27-Sep-11		82.0	ND (2.5)	ND (1.0)
		08-Dec-11		77.0	ND (12)	ND (2.5)
		08-Dec-11	FD	76.0	ND (0.5)	ND (2.5)
MW-44-125	DA	03-May-11		83.0 J	0.81	ND (1.0)
		03-May-11	FD	130 J	ND (2.5)	0.55
		27-Sep-11		140	ND (2.5)	ND (1.0)
		27-Sep-11	FD	150	ND (2.5)	ND (1.0)
		08-Dec-11		160	ND (2.5)	ND (2.5)
		08-Dec-11	FD	150	ND (2.5)	ND (1.0)
MW-45-095a	DA	14-Dec-11		---	---	ND (1.0)
		14-Dec-11	FD	---	---	ND (1.0)
MW-46-175	DA	03-May-11		170	2.9	ND (2.5)

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
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Well ID	Aquifer Zone	Sample Date		Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
MW-46-175	DA	03-May-11	FD	170	4.9	ND (2.5)
		26-Sep-11		170	ND (2.5)	ND (2.5)
		13-Dec-11		200	ND (2.5)	ND (2.5)
MW-46-205	DA	13-Dec-11		---	---	ND (2.5)
MW-47-55	SA	08-Dec-11		---	---	1.60
MW-47-115	DA	08-Dec-11		---	---	ND (2.5)
MW-48	BR	07-Dec-11		---	---	ND (2.5)
MW-49-135	DA	07-Dec-11		---	---	ND (2.5) J
MW-49-275	DA	07-Dec-11		---	---	ND (5.0)
MW-49-365	DA	07-Dec-11		---	---	ND (5.0)
MW-50-095	MA	06-Dec-11		---	---	1.50
MW-50-200	DA	08-Dec-11		---	---	5.30
MW-51	MA	06-May-11		39.0	13.0	10.0
		07-Dec-11		---	---	11.0
MW-52D	DA	15-Dec-11		---	---	ND (2.5)
MW-52M	DA	15-Dec-11		---	---	ND (2.5)
MW-52S	MA	15-Dec-11		---	---	ND (2.5)
MW-53D	DA	16-Dec-11		---	---	ND (5.0)
		16-Dec-11	FD	---	---	ND (2.5)
MW-53M	DA	16-Dec-11		---	---	ND (2.5)
MW-54-85	DA	06-Dec-11		---	---	ND (0.5)
MW-54-140	DA	06-Dec-11		---	---	0.847
MW-54-195	DA	06-Dec-11		---	---	ND (0.5)
MW-55-45	MA	06-Dec-11		---	---	ND (0.5)
MW-55-120	DA	06-Dec-11		---	---	1.40
		06-Dec-11	FD	---	---	1.41
MW-56D	DA	13-Dec-11		---	---	ND (2.5)
MW-56M	DA	13-Dec-11		---	---	ND (1.0)
MW-56S	SA	13-Dec-11		---	---	ND (0.5)
MW-57-070	BR	15-Dec-11		ND (5.0)	3.0	7.40
MW-57-185	BR	03-May-11		88.0	3.3	ND (2.5)
		28-Sep-11		88.0	ND (2.5)	ND (2.5)
		13-Dec-11		78.0	ND (2.5)	ND (2.5)

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
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Well ID	Aquifer Zone	Sample Date	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
MW-59-100	SA	06-May-11	ND (12)	4.7	3.80
		04-Oct-11	ND (12)	5.6	4.00
		15-Dec-11	ND (5.0)	5.3	4.30
		15-Dec-11 FD	ND (5.0)	3.7	4.40
MW-60-125	BR	05-May-11	32.0	34.0	3.60
		04-Oct-11	20.0	ND (12)	2.60
		14-Dec-11	15.0	5.4	3.40
MW-61-110	BR	05-May-11	23.0	ND (2.5)	ND (2.5)
		30-Sep-11	24.0	ND (2.5)	ND (2.5)
		14-Dec-11	17.0	ND (2.5)	ND (2.5)
MW-62-065	BR	29-Sep-11	14.0	3.0	3.50
		13-Dec-11	12.0	3.2	3.60
MW-62-110	BR	05-May-11	60.0	2.5	2.50
		29-Sep-11	54.0	3.2	3.00
		14-Dec-11	44.0	ND (12)	3.70
MW-62-190	BR	05-May-11	82.0	ND (2.5)	ND (2.5)
		29-Sep-11	85.0	ND (12)	ND (2.5)
		14-Dec-11	76.0	ND (2.5)	ND (2.5)
MW-63-065	BR	03-May-11	27.0	1.8	1.00
		28-Sep-11	24.0	ND (2.5)	1.40
		12-Dec-11	21.0	1.1	1.30
OW-3D	DA	06-Dec-11	30.0	0.58	0.67
OW-3M	MA	05-Dec-11	---	---	1.00
OW-3S	SA	05-Dec-11	---	---	3.50
PGE-7BR	BR	07-Dec-11	---	---	ND (10)
PGE-8	BR	08-Dec-11	110	ND (2.5)	ND (2.5)
Park Moabi-3	MA	12-Dec-11	---	---	3.10
Park Moabi-4	MA	12-Dec-11	---	---	2.20
TW-1	SA-MA-DA	05-May-11	14.0	28.0	24.0
		28-Sep-11	15.0	25.0	24.0
		15-Dec-11	15.0	24.0	25.0
TW-2D	DA	12-Dec-11	---	---	1.50
TW-2S	SA-MA	12-Dec-11	---	---	4.40
		12-Dec-11 FD	---	---	4.40
TW-4	DA	08-Dec-11	---	---	ND (2.5)

Table 3-2
Groundwater COPCs Sampling Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Nitrate as N (mg/L)
TW-5	DA	06-Dec-11	---	---	ND (2.5)

NOTES:

µg/L = micrograms per liter.
mg/L = milligrams per liter.
ND = not detected at listed reporting limit.
FD = field duplicate sample.
--- = data not collected, available, rejected, or field instrument malfunction.
J = concentration or RL estimated by laboratory or data validation.

The Background Study Upper Tolerance Limit (UTL) for Molybdenum is 36.3 µg/L.
There is no U.S. EPA and California Maximum Contaminant Level for Molybdenum.
The Background Study Upper Tolerance Limit (UTL) for Nitrate as N is 5.03 mg/L.
The U.S. EPA and California Maximum Contaminant Level for Nitrate as N is 10 mg/L.
The Background Study Upper Tolerance Limit (UTL) Selenium is 10.3 µg/L.
The U.S. EPA and California Maximum Contaminant Level for Selenium is 50.0 µg/L.

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).

Table 3-3
Title 22 Metals Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	California MCL: / Sample Date	6 Antimony	10 Arsenic	1,000 Barium	4 Beryllium	5 Cadmium	NE Cobalt	50 Chromium	1,000* Copper	15 Lead	2 Mercury	NE Molybdenum	100 Nickel	50 Selenium	100* Silver	2 Thallium	NE Vanadium	5,000* Zinc
MW-10	12/09/2011	ND (10)	6.3	54.0	ND (1.0) J	ND (3.0)	ND (3.0)	**622**	ND (5.0)	ND (10)	ND (0.2)	74.0	ND (5.0) J	6.0	3.4	ND (0.5)	32.0	ND (10)
MW-12	02/10/2011	ND (10)	**48.0**	51.0	ND (1.0)	ND (3.0)	ND (3.0)	**3,160**	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0)	9.8	ND (3.0)	ND (0.5)	13.0	ND (10)
	05/06/2011	ND (10)	**49.0**	59.0	ND (1.0)	ND (3.0)	ND (3.0)	**2,870**	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0)	9.5	ND (3.0)	ND (2.5)	9.9	ND (10)
	10/06/2011	ND (10)	**47.0**	66.0	ND (1.0)	ND (3.0)	ND (3.0)	**3,200**	ND (5.0)	ND (10)	ND (0.2)	11.0	ND (5.0)	9.7	ND (3.0)	ND (2.5)	10.0	ND (10)
	12/09/2011	ND (10)	**49.0**	69.0	ND (1.0) J	ND (3.0)	ND (3.0)	**2,830**	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0) J	11.0	ND (3.0)	ND (2.5)	14.0	18.0
MW-22	05/03/2011	ND (10)	**12.0**	60.0	ND (1.0)	ND (3.0)	ND (3.0)	ND (1.0)	ND (5.0)	ND (10)	ND (0.2)	28.0	ND (5.0)	ND (2.5)	ND (3.0)	ND (12)	ND (3.0)	ND (10)
	12/16/2011	ND (20)	**14.0**	84.0	ND (2.0)	ND (6.0)	ND (6.0)	1.0	14.0	ND (20)	ND (0.2)	21.0	ND (10)	ND (12)	15.0	ND (12)	ND (6.0)	ND (20)

Notes:

ND not detected at listed reporting limit.
FD field duplicate sample.
NE not established.
J concentration or reporting limit estimated by laboratory or data validation.
* 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 3-4
Surface Water Sampling Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual 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	01/18/2011	ND (0.2)	ND (1.0)	933	8.10 J
C-BNS-D	03/09/2011	ND (0.2)	ND (1.0)	945	8.25 J
C-BNS-D	06/07/2011	ND (0.2)	ND (1.0)	987	7.99 J
C-BNS-D	08/23/2011	ND (0.2)	ND (1.0)	944	8.03 J
C-BNS-D	11/29/2011	ND (0.2)	ND (1.0)	915	8.15 J
C-CON-S	01/19/2011	ND (0.2)	ND (1.0)	951	8.26 J
C-CON-S	03/10/2011	ND (0.2)	ND (1.0)	948	8.48 J
C-CON-S	06/08/2011	ND (0.2)	ND (1.0)	940	8.05 J
C-CON-S	08/24/2011	ND (0.2)	ND (1.0)	935	7.82 J
C-CON-S	11/30/2011	ND (0.2)	ND (1.0)	923	8.21 J
C-CON-D	01/19/2011	ND (0.2)	ND (1.0)	952	8.25 J
C-CON-D	03/10/2011	ND (0.2)	ND (1.0)	945	8.45 J
C-CON-D	06/08/2011	ND (0.2)	ND (1.0)	948	7.91 J
C-CON-D	08/24/2011	ND (0.2)	ND (1.0)	941	7.81 J
C-CON-D	11/30/2011	ND (0.2)	ND (1.0)	908	8.22 J
C-I-3-S	01/18/2011	ND (0.2)	ND (1.0)	952	8.19 J
C-I-3-S	03/09/2011	ND (0.2)	ND (1.0)	937	8.29 J
C-I-3-S	06/07/2011	ND (0.2)	ND (1.0)	952	8.17 J
C-I-3-S	08/23/2011	ND (0.2)	ND (1.0)	945	8.02 J
C-I-3-S	11/29/2011	ND (0.2)	ND (1.0)	922	8.19 J
C-I-3-D	01/18/2011	ND (0.2)	ND (1.0)	941	8.14 J
C-I-3-D	03/09/2011	ND (0.2)	ND (1.0)	939	8.20 J
C-I-3-D	06/07/2011	ND (0.2)	ND (1.0)	953	8.17 J
C-I-3-D	08/23/2011	ND (0.2)	ND (1.0)	936	8.04 J
C-I-3-D	11/29/2011	ND (0.2)	ND (1.0)	921	8.18 J
C-MAR-S	03/09/2011	ND (0.2)	ND (1.0)	1010	8.12 J
C-MAR-S	06/07/2011	ND (0.2)	ND (1.0)	970	7.80 J
C-MAR-S	08/23/2011	ND (0.2)	ND (1.0)	970	7.92 J
C-MAR-D	01/18/2011	ND (0.2)	ND (1.0)	1470	7.77 J
C-MAR-D	03/09/2011	ND (0.2)	ND (1.0)	1010	8.13 J
C-MAR-D	06/07/2011	ND (0.2)	ND (1.0)	980	7.83 J
C-MAR-D	08/23/2011	ND (0.2)	ND (1.0)	970	7.89 J
C-MAR-D	11/29/2011	ND (0.2)	ND (1.0)	1570	7.73 J
C-NR1-S	01/19/2011	ND (0.2)	ND (1.0)	952	8.25 J
C-NR1-S	03/10/2011	ND (0.2)	ND (1.0)	950	8.44 J
C-NR1-S	06/08/2011	ND (0.2)	ND (1.0)	944	8.14 J
C-NR1-S	08/24/2011	ND (0.2)	ND (1.0)	942	7.98 J

Table 3-4
Surface Water Sampling Results, January 2011 through December 2011
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Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
In-channel Locations					
C-NR1-S	11/30/2011	ND (0.2)	ND (1.0)	920	8.28 J
C-NR1-D	01/19/2011	ND (0.2)	ND (1.0)	949	8.27 J
C-NR1-D	03/10/2011	ND (0.2)	ND (1.0)	948	8.45 J
C-NR1-D	06/08/2011	ND (0.2)	ND (1.0)	954	8.12 J
C-NR1-D	08/24/2011	ND (0.2)	ND (1.0)	931	7.94 J
C-NR1-D	11/30/2011	ND (0.2)	ND (1.0)	923	8.26 J
C-NR3-S	01/19/2011	ND (0.2)	ND (1.0)	945	8.25 J
C-NR3-S	03/10/2011	ND (0.2)	ND (1.0)	950	8.44 J
C-NR3-S	06/08/2011	ND (0.2)	ND (1.0)	948	8.11 J
C-NR3-S	08/24/2011	ND (0.2)	ND (1.0)	946	7.97 J
C-NR3-S	11/30/2011	ND (0.2)	ND (1.0)	905	8.30 J
C-NR3-D	01/19/2011	ND (0.2)	ND (1.0)	950	8.24 J
C-NR3-D	03/10/2011	ND (0.2)	ND (1.0)	946	8.43 J
C-NR3-D	06/08/2011	ND (0.2)	ND (1.0)	950	8.13 J
C-NR3-D	08/24/2011	ND (0.2)	ND (1.0)	948	7.97 J
C-NR3-D	11/30/2011	ND (0.2)	ND (1.0)	915	8.28 J
C-NR4-S	01/19/2011	ND (0.2)	ND (1.0)	951	8.16 J
C-NR4-S	03/10/2011	ND (0.2)	ND (1.0)	951	8.42 J
C-NR4-S	06/08/2011	ND (0.2)	ND (1.0)	953	8.07 J
C-NR4-S	08/24/2011	ND (0.2)	ND (1.0)	945	8.04 J
C-NR4-S	11/30/2011	ND (0.2)	ND (1.0)	918	8.21 J
C-NR4-D	01/19/2011	ND (0.2)	ND (1.0)	948	8.19 J
C-NR4-D	03/10/2011	ND (0.2)	ND (1.0)	946	8.42 J
C-NR4-D	06/08/2011	ND (0.2)	ND (1.0)	951	8.12 J
C-NR4-D	08/24/2011	ND (0.2)	ND (1.0)	950	8.04 J
C-NR4-D	11/30/2011	ND (0.2)	ND (1.0)	909	8.22 J
C-R22a-S	01/18/2011	ND (0.2)	ND (1.0)	955	8.24 J
C-R22a-S	03/09/2011	ND (0.2)	ND (1.0)	951	8.39 J
C-R22a-S	06/07/2011	ND (0.2)	ND (1.0)	957	8.27 J
C-R22a-S	08/23/2011	ND (0.2)	ND (1.0)	940	8.11 J
C-R22a-S	11/29/2011	ND (0.2)	ND (1.0)	919	8.20 J
C-R22a-D	01/18/2011	ND (0.2)	ND (1.0)	953	8.22 J
C-R22a-D	03/09/2011	ND (0.2)	ND (1.0)	948	8.38 J
C-R22a-D	06/07/2011	ND (0.2)	ND (1.0)	939	8.24 J
C-R22a-D	08/23/2011	ND (0.2)	ND (1.0)	946	8.10 J
C-R22a-D	11/29/2011	ND (0.2)	ND (1.0)	924	8.19 J
C-R27-S	01/18/2011	ND (0.2)	ND (1.0)	955	8.19 J

Table 3-4
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Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
In-channel Locations					
C-R27-S	03/09/2011	ND (0.2)	ND (1.0)	947	8.42 J
C-R27-S	06/07/2011	ND (0.2)	ND (1.0)	947	8.23 J
C-R27-S	08/23/2011	ND (0.2)	ND (1.0)	946	7.92 J
C-R27-S	11/29/2011	ND (0.2)	ND (1.0)	923	8.16 J
C-R27-D	01/18/2011	ND (0.2)	ND (1.0)	951	8.18 J
C-R27-D	03/09/2011	ND (0.2)	ND (1.0)	948	8.41 J
C-R27-D	06/07/2011	ND (0.2)	ND (1.0)	943	8.23 J
C-R27-D	08/23/2011	ND (0.2)	ND (1.0)	945	8.08 J
C-R27-D	11/29/2011	ND (0.2)	ND (1.0)	928	8.21 J
C-TAZ-S	01/18/2011	ND (0.2)	ND (1.0)	950	8.24 J
C-TAZ-S	03/09/2011	ND (0.2)	ND (1.0)	908	8.48 J
C-TAZ-S	06/07/2011	ND (0.2)	ND (1.0)	955	8.27 J
C-TAZ-S	08/23/2011	ND (0.2)	ND (1.0)	947	8.07 J
C-TAZ-S	11/29/2011	ND (0.2)	ND (1.0)	921	8.19 J
C-TAZ-D	01/18/2011	ND (0.2)	ND (1.0)	952	8.25 J
C-TAZ-D	03/09/2011	ND (0.2)	ND (1.0)	961	8.46 J
C-TAZ-D	06/07/2011	ND (0.2)	ND (1.0)	958	8.26 J
C-TAZ-D	08/23/2011	ND (0.2)	ND (1.0)	915	8.02 J
C-TAZ-D	11/29/2011	ND (0.2)	ND (1.0)	918	8.17 J
Shoreline Samples					
R-19	01/18/2011	ND (0.2)	ND (1.0)	961	8.22 J
R-19	03/09/2011	ND (0.2)	ND (1.0)	949	8.45 J
R-19	06/08/2011	ND (0.2)	ND (1.0)	942	8.25 J
R-19	08/24/2011	ND (0.2)	ND (1.0)	938	8.06 J
R-19	11/30/2011	ND (0.2)	ND (1.0)	929	8.27 J
R-28	01/18/2011	ND (0.2)	ND (1.0)	959	8.24 J
R-28	03/09/2011	ND (0.2)	ND (1.0)	944	8.47 J
R-28	06/08/2011	ND (0.2)	ND (1.0)	947	8.26 J
R-28	08/23/2011	ND (0.2)	ND (1.0)	935	8.15 J
R-28	11/30/2011	ND (0.2)	ND (1.0)	922	8.30 J
R63	01/18/2011	ND (0.2)	ND (1.0)	951	8.14 J
R63	03/09/2011	ND (0.2)	ND (1.0)	948	8.48 J
R63	06/07/2011	ND (0.2)	1.20	952	8.33 J
R63	08/23/2011	ND (0.2)	ND (1.0)	930	8.22 J
R63	08/23/2011 FD	ND (0.2)	ND (1.0)	940	8.19 J
R63	11/29/2011	ND (0.2)	ND (1.0)	936	8.14 J

Table 3-4
Surface Water Sampling Results, January 2011 through December 2011
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Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
Shoreline Samples					
RRB	01/19/2011	ND (0.2)	ND (1.0)	1100	8.10 J
RRB	03/10/2011	ND (0.2)	ND (1.0)	953	8.40 J
RRB	06/08/2011	ND (0.2)	ND (1.0)	947	8.17 J
RRB	08/24/2011	ND (0.2)	ND (1.0)	926	8.17 J
RRB	11/30/2011	ND (0.2)	ND (1.0)	1410	7.72 J
Other Surface Water Monitoring Locations					
SW1	01/18/2011	ND (0.2)	ND (1.0)	1050	7.75 J
SW1	03/09/2011	ND (0.2)	ND (1.0)	984	7.91 J
SW1	06/07/2011	ND (0.2)	ND (1.0)	968	7.60 J
SW1	08/23/2011	ND (0.2)	ND (1.0)	957	7.70 J
SW1	11/30/2011	ND (0.2)	ND (1.0)	993	7.72 J
SW2	01/19/2011	ND (0.2)	ND (1.0)	1050	7.37 J
SW2	03/09/2011	ND (0.2)	ND (1.0)	962	7.92 J
SW2	06/07/2011	ND (0.2)	ND (1.0)	960	7.81 J
SW2	08/23/2011	ND (0.2)	ND (1.0)	956	7.74 J
SW2	11/30/2011	ND (0.2)	ND (1.0)	986	7.42 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.

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 3-5

COPCs, In Situ Byproducts, and Geochemical Indicator Parameters in Surface Water Samples, January 2011 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Alkalinity, bicarbonate as CaCO3 mg/L	Alkalinity, carbonate as CaCO3 mg/L	Alkalinity, total as CaCO3 mg/L	Arsenic, Total µg/L	Arsenic, dissolved µg/L	Iron, Total µg/L	Iron, dissolved µg/L	Manganese, Total µg/L	Manganese, dissolved µg/L	Molybdenum, dissolved µg/L	Nitrate as Nitrogen mg/L	Selenium, dissolved µg/L	Total suspended solids mg/L
In-channel Locations														
C-BNS-D	06/07/2011	127	ND (5)	127	2.7	2.8	51.8	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)
C-BNS-D	08/23/2011	125	ND (5)	125	---	2.5	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-BNS-D	11/29/2011	125	ND (5)	125	---	2.6	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-CON-S	06/08/2011	123	ND (5)	123	2.2 J	2.5	25.8	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-CON-S	08/24/2011	125	ND (5)	125	---	3.4	24.6	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-CON-S	11/30/2011	128	ND (5)	128	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-CON-D	06/08/2011	120	ND (5)	120	2.4 J	2.4	24.7	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-CON-D	08/24/2011	140	ND (5)	140	---	2.7	28	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-CON-D	11/30/2011	126	ND (5)	126	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-I-3-S	06/07/2011	125	ND (5)	125	2.6	2.8	89.5	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)
C-I-3-S	08/23/2011	116	ND (5)	116	---	2.4	22.6	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-I-3-S	11/29/2011	129	ND (5)	129	---	2	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-I-3-D	06/07/2011	116	ND (5)	116	2.6	2.5	32.3	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)
C-I-3-D	08/23/2011	123	ND (5)	123	---	2.6	39.1	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-I-3-D	11/29/2011	130	ND (5)	130	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-MAR-S	06/07/2011	135	ND (5)	135	3.2	2.5	675	40.9	33	17.6	ND (11.1)	1.88	ND (11.1)	18.8
C-MAR-S	08/23/2011	125	ND (5)	125	---	2.7	730	ND (20)	---	15.4	ND (10)	ND (0.5)	ND (10)	13.6
C-MAR-D	06/07/2011	125	ND (5)	125	2.9	2.4	650	ND (20)	32	16.3	ND (11.1)	ND (0.5)	ND (11.1)	15.8
C-MAR-D	08/23/2011	125	ND (5)	125	---	2.7	857	ND (20)	---	15.5	ND (10)	ND (0.5)	ND (10)	19.3
C-MAR-D	11/29/2011	201	ND (5)	201	---	4.1	1510	ND (20)	---	34.2	ND (10)	ND (0.5)	ND (10)	45.2
C-NR1-S	06/08/2011	108	ND (5)	108	2.4 J	2	24	ND (20)	13.2	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR1-S	08/24/2011	120	ND (5)	120	---	2.8	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR1-S	11/30/2011	116	ND (5)	116	---	2.3	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-NR1-D	06/08/2011	115	ND (5)	115	2.7 J	2.3	38.7	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR1-D	08/24/2011	130	ND (5)	130	---	2.6	24.1	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR1-D	11/30/2011	126	ND (5)	126	---	2.8	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-NR3-S	06/08/2011	135	ND (5)	135	2.5 J	2.3	ND (20)	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR3-S	08/24/2011	136	ND (5)	136	---	2.9	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR3-S	11/30/2011	114	ND (5)	114	---	2.6	26.1	24	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-NR3-D	06/08/2011	124	ND (5)	124	2.5 J	2.2	20.8	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR3-D	08/24/2011	120	ND (5)	120	---	2.6	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR3-D	11/30/2011	117	ND (5)	117	---	2.6	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
C-NR4-S	06/08/2011	116	ND (5)	116	2.6 J	2.2	ND (20)	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR4-S	08/24/2011	115	ND (5)	115	---	2.5	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR4-S	11/30/2011	125	ND (5)	125	---	2.1	26.4	25	---	ND (10)	ND (10)	2.57	ND (10)	ND (10)
C-NR4-D	06/08/2011	116	ND (5)	116	2.4 J	2.2	23.3	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-NR4-D	08/24/2011	132	ND (5)	132	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-NR4-D	11/30/2011	120	ND (5)	120	---	2.3	ND (20)	ND (20)	---	ND (10)	ND (10)	3.34	ND (10)	ND (10)
C-R22a-S	06/07/2011	126	ND (5)	126	2.6	2.8	22.9	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)
C-R22a-S	08/23/2011	120	ND (5)	120	---	2.6	23.5	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R22a-S	11/29/2011	125	ND (5)	125	---	2.4	31.1	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R22a-D	06/07/2011	114	ND (5)	114	2.5	2.6	33	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)

Table 3-5

COPCs, In Situ Byproducts, and Geochemical Indicator Parameters in Surface Water Samples, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Alkalinity, bicarbonate as CaCO3 mg/L	Alkalinity, carbonate as CaCO3 mg/L	Alkalinity, total as CaCO3 mg/L	Arsenic, Total µg/L	Arsenic, dissolved µg/L	Iron, Total µg/L	Iron, dissolved µg/L	Manganese, Total µg/L	Manganese, dissolved µg/L	Molybdenum, dissolved µg/L	Nitrate as Nitrogen mg/L	Selenium, dissolved µg/L	Total suspended solids mg/L
In-channel Locations														
C-R22a-D	08/23/2011	110	ND (5)	110	---	2.6	23.6	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R22a-D	11/29/2011	133	ND (5)	133	---	2.4	28.3	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R27-S	06/07/2011	132	ND (5)	132	2.5	2.8	23.5	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-R27-S	08/23/2011	118	ND (5)	118	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R27-S	11/29/2011	125	ND (5)	125	---	3.8	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R27-D	06/07/2011	125	ND (5)	125	2.5	2.2	20.6	ND (20)	ND (11.1)	ND (10)	ND (11.1)	ND (0.5)	ND (11.1)	ND (2.5)
C-R27-D	08/23/2011	118	ND (5)	118	---	2.6	33	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-R27-D	11/29/2011	128	ND (5)	128	---	2.3	22.3	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-TAZ-S	06/07/2011	122	ND (5)	122	2.6	2.5	ND (20)	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-TAZ-S	08/23/2011	122	ND (5)	122	---	3.1	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-TAZ-S	11/29/2011	---	---	---	---	2	30.3	ND (20)	---	ND (10)	ND (10)	0.795	ND (10)	ND (10)
C-TAZ-D	06/07/2011	120	ND (5)	120	2.6	2.5	38.3	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
C-TAZ-D	08/23/2011	123	ND (5)	123	---	2.6	24.4	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
C-TAZ-D	11/29/2011	135	ND (5)	135	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
Shoreline Samples														
R-19	06/08/2011	114	ND (5)	114	2.4 J	2.4	22.4	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
R-19	08/24/2011	135	ND (5)	135	---	2.4	20.9	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
R-19	11/30/2011	125	ND (5)	125	---	2.5	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
R-28	06/08/2011	116	ND (5)	116	2.4 J	2.1	24.3	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
R-28	08/23/2011	115	ND (5)	115	---	2.8	44	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
R-28	11/30/2011	119	ND (5)	119	---	2.4	ND (20)	ND (20)	---	ND (10)	ND (10)	ND (1)	ND (10)	ND (10)
R63	06/07/2011	120	ND (5)	120	2.8	2.4	89	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
R63	08/23/2011	114	ND (5)	114	---	2.6	46.6	ND (20)	---	ND (10)	ND (10)	0.718	ND (10)	ND (10)
R63	08/23/2011 FD	120	ND (5)	120	---	2.8	49.5	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
R63	11/29/2011	---	---	---	---	2.1	82.8	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
RRB	06/08/2011	115	ND (5)	115	2.3 J	2.7	42.2	ND (20)	ND (11.1)	ND (10)	ND (10)	ND (0.5)	ND (11.1)	ND (2.5)
RRB	08/24/2011	125	ND (5)	125	---	2.8	27.4	ND (20)	---	ND (10)	ND (10)	ND (0.5)	ND (10)	ND (10)
RRB	11/30/2011	136	ND (5)	136	---	2.6	58	21.5	---	69.1	ND (10)	ND (1)	ND (10)	33.4

Notes:

µg/L micrograms per liter.
mg/L milligrams per liter.
ND not detected at listed reporting limit.
J concentration or reporting limit estimated by laboratory or data validation.

Methods:
Alkalinity - SM2320B.
Metals - SW6010B/SW6020A.
Nitrate - EPA 300.0.
Total Suspended Solids - SM2540D.

TABLE 4-1

Pumping Rate and Extracted Volume for IM System, Fourth Quarter 2011 and Annual 2011

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,

PG&E Topock Compressor Station, Needles, California

Extraction Well ID	November 2011		December 2011		Fourth Quarter 2011		Annual 2011	
	Average Pumping Rate [a] (gpm)	Volume Pumped (gal)	Average Pumping Rate [a] (gpm)	Volume Pumped (gal)	Average Pumping Rate [a] (gpm)	Volume Pumped (gal)	Average Pumping Rate [a] (gpm)	Volume Pumped (gal)
TW-02S	0.00	0	0.00	0	0.00	0	0.00	0
TW-02D	0.00	0	0.36	16,237	0.18	16,237	0.03	16,237
TW-03D	106.23	4,589,331	105.42	4,706,076	105.83	9,295,407	103.40	54,339,772
PE-01	25.29	1,092,661	25.06	1,118,649	25.18	2,211,310	25.05	13,164,445
TOTAL	**131.5**	**5,681,992**	**130.8**	**5,840,962**	**131.2**	**11,522,954**	**128.5**	**67,520,453**

Chromium Removed This Quarter (kg)	58.7
Chromium Removed This Year (kg)	231.3
Chromium Removed Project to Date (kg)	3,168.0
Chromium Removed This Quarter (lb)	129.4
Chromium Removed This Year (lb)	509.9
Chromium Removed Project to Date (lb)	6,984.1

NOTES:

gpm gallons per minute.
gal gallons.
ac-ft acre-feet.
kg kilograms.
lb pounds.

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

Chromium removed includes the period of October 1, 2011 through December 31, 2011. On July 23, 2010 DTSC approved a revised reporting schedule for this report that included a revised IM-3 sample collection period from October 1, 2011 through December 31, 2011; this IM-3 sample collection period is in line with previous reports prior to combining the GMP with the PMP reports.

TABLE 4-2
Average Hydraulic Gradients, Fourth Quarter 2011
Fourth Quarter 2011 and Annual Interim Measure Performace 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 (feet/foot) [b]	Days in Monthly Average [c]
	November	0.0040	NA
Overall Average	December	0.0042	NA
Northern Gradient Pair	November	0.0018	30 / 30
MW-31-135 / MW-33-150	December	0.0019	23 / 31
Central Gradient Pair	November	0.0074	30 / 30
MW-45-95 / MW-34-100	December	0.0077	31 / 31
Southern Gradient Pair	November	0.0028	30 / 30
MW-45-95 / MW-27-85	December	0.0029	31 / 31

NOTES:

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

a Refer to Figure 1-4 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 4-3
Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3
Fourth Quarter 2011 and Annual 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 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	10,597	303	454.3	454.92	0.6
December 2010	9,800	9,286	514	453.9	453.86	-0.1
January 2011	7,700	8,172	-472	453.1	453.34	0.2
February 2011	11,000	10,547	453	454.2	454.38	0.2
March 2011	15,900	15,875	25	455.9	456.22	0.3
April 2011	17,900	17,595	305	456.9	457.02	0.2
May 2011	16,400	15,437	963	456.6	456.40	-0.2
June 2011	16,100	16,024	76	456.5	456.75	0.2
July 2011	15,500	15,333	167	456.3	456.30	0.1
August 2011	13,300	13,368	-68	455.4	455.67	0.3
September 2011	12,700	12,052	648	455.2	455.25	0.1
October 2011	9,200	9,934	-734	453.9	454.30	0.4
November 2011	8,600	7,838	762	453.7	453.61	-0.1
December 2011	6,600	6,262	338	452.6	452.49	-0.1
January 2012	9,800			453.7		

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 December 2011 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 2009 please see *Fourth Quarter 2010 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California* (CH2M HILL, 2011a)

Table 5-1
Summary of Pumping Rate and Extracted Volume for 2011 Reporting Period
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Reporting Period	**Target Pump Rate** (gpm)	**Actual Monthly Pump Rate** (gpm)	**Individual Extraction Well Operations**				**Total Volume** (gallons)
			TW-2S (gallons)	**TW-2D** (gallons)	**TW-3D** (gallons)	**PE-1** (gallons)	
Jan-11	135	130.7	0	0	4,716,116	1,118,297	5,834,413
Feb-11	135	132.9	0	0	4,329,155	1,027,699	5,356,854
Mar-11	135	132.4	0	0	4,753,953	1,154,848	5,908,801
Apr-11	135	116.0	0	0	4,021,693	988,946	5,010,639
May-11	135	133.3	0	0	4,773,302	1,178,718	5,952,020
Jun-11	135	124.4	0	0	4,312,859	1,059,462	5,372,321
Jul-11	135	127.9	0	0	4,588,151	1,122,571	5,710,722
Aug-11	135	117.9	0	0	4,221,841	1,041,457	5,263,298
Sep-11	135	132.5	0	0	4,593,164	1,131,346	5,724,510
Oct-11	135	131.4	0	0	4,734,132	1,129,789	5,863,921
Nov-11	135	131.5	0	0	4,589,331	1,092,661	5,681,992
Dec-11	135	130.8	0	16,237	4,706,076	1,118,649	5,840,962
Totals for 2011 Annual Period		**128.5**	**0**	**16,237**	**54,339,772**	**13,164,445**	**67,520,453**

Notes:
gpm: gallons per minute
[a]The target pumping rate of 135 gpm, excluding periods of planned and unplanned downtime, was maintained by pumping from extraction wells TW-3D and PE-1 during the 2011 reporting period.
Extraction well TW-2D was only used for interim service or to support field operations.

Table 5-2
Analytical Results for Extraction Wells, January 2011 through December 2011
Fourth Quarter 2011 and Annual 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	04-Jan-11	1,200 LF	1,100	5,550
	01-Feb-11	1,100 LF	1,000	4,700
	01-Mar-11	1,320 LF	1,090	5,380
	05-Apr-11	1,220 LF	1,130	5,120
	02-May-11	1,070 LF	1,100	5,080
	07-Jun-11	1,090 LF	1,030	5,120
	05-Jul-11	953 LF	1,130	5,020
	02-Aug-11	948 LF	991	5,120
	06-Sep-11	992 LF	1,000	5,140
	04-Oct-11	1,010 LF	991	5,040
	01-Nov-11	1,070 LF	1,060	4,880
	06-Dec-11	1,150 LF	1,080	4,650
PE-1	04-Jan-11	16.6 LF	17.5	3,110
	01-Feb-11	13.4 LF	15.4	3,120
	01-Mar-11	15.2 LF	12.9	3,200
	05-Apr-11	10.0 LF	10.5	2,920
	02-May-11	10.5 LF	9.90	3,100
	07-Jun-11	11.0 LF	9.50	3,190
	05-Jul-11	7.60 JLF	10.2 J	3,120
	02-Aug-11	8.80 LF	9.00	3,060
	06-Sep-11	9.00 LF	9.50	2,860
	04-Oct-11	10.1 LF	11.1	2,900
	01-Nov-11	10.3 LF	10.3	2,790
	06-Dec-11	10.8 LF	10.9	2,930

NOTES:

µg/L = concentration in micrograms per liter.
mg/L = concentration in milligrams per liter.
LF = lab filtered.
J = concentration or reporting limit estimated by laboratory or data validation.

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 SW6020A or EPA200.8 or EPA200.7, hexavalent chromium analyzed by Method SM3500-CrB or EPA218.6 and total dissolved solids were analyzed by Method SM2540C.

TABLE 5-3

Calculated Hydraulic Gradients for Well Pairs by Month for 2011 Reporting Period

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

	Mean Landward Hydraulic Gradient (ft/ft)[a]			
Reporting Period 2011	Overall Average[b]	Northern Gradient Pair[c] MW-31-135 / MW-33-150	Central Gradient Pair MW-45-95 / MW-34-100	Southern Gradient Pair MW-45-95 / MW-27-85
January	0.0050	0.0018	0.0098	0.0033
February	0.0052	0.0021	0.0097	0.0037
March	0.0056	0.0024	0.0103	0.0042
April	0.0042	0.0020	0.0077	0.0029
May	0.0052	0.0021	0.0101	0.0035
June	0.0043	0.0022	0.0080	0.0029
July	0.0043	0.0021	0.0078	0.0030
August	0.0032	0.0017	0.0058	0.0022
September	0.0046	0.0020	0.0088	0.0032
October	0.0040	0.0017	0.0075	0.0027
November	0.0040	0.0018	0.0074	0.0028
December	0.0042	0.0019	0.0077	0.0029

Notes:

a. For IM pumping, the target landward gradient for the selected well pairs is 0.001 feet/foot

b. Overall average gradients are calculated using all available data.

c. Refer to Figure 1-4 for location of well pairs

TABLE 7-1

Proposed Trigger Level Updates to Interim Measures Contingency Plan, Fourth Quarter 2011

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Assessment Monitoring Well	July 2008 Cr(VI) Trigger Level (µg/L) [(1)]	Most Recent Cr(VI) Concentration		Cr(VI) Concentration Trend 2010-2011 (see Appendix C)	Proposed 2011 Updated Cr(VI) Trigger Level (µg/L)[3]	Basis / Rationale	Historic Max Cr(VI) µg/L	Date of Maximum Cr(VI)
		(µg/L)	Date					
Shallow Zone Wells								
MW-21	20	2.1	6-Dec-11	NA	No Change		ND(5)	4-Oct-07
MW-32-20	20	ND (2.1)	8-Dec-11	NA	No Change		ND(5)	2-Oct-06
MW-32-35	20	ND (1.0)	9-Dec-11	NA	No Change		ND(2)	10-Mar-06
MW-33-40	20	ND (1.0)	12-Dec-11	NA	No Change		ND (1.05)	9-Dec-08
MW-39-40	20	ND (0.2)	15-Dec-11	NA	No Change		1.1	1-Oct-09
MW-47-55	150	24.8	8-Dec-11	fluctuating, overall stable	No Change		152	12-Dec-07
Mid-Depth Zone Wells								
MW-33-90	25	21.9	13-Dec-11	slowly increasing	32	Shewart Statistical Control Limit	24.5	10-Dec-10
MW-36-70	20	ND (0.2)	14-Dec-11	NA	No Change		ND (10)	10-Feb-06
MW-42-55	20	ND (0.2)	6-Dec-11	NA	No Change		ND (2)	14-Dec-06
MW-42-65	20	ND (1.0)	6-Dec-11	NA	No Change		ND (2)	14-Dec-06
MW-44-70	20	ND (0.2)	8-Dec-11	NA	No Change		ND (1)	9-Mar-07
Deep Zone Wells								
MW-27-85	20	ND (1.0)	5-Dec-11	NA	No Change		ND (2)	12-Jul-06
MW-28-90	20	ND (1.0)	12-Dec-11	NA	No Change		ND (1.05)	9-Dec-08
MW-33-150	20	12.7	13-Dec-11	stable	No Change		12.3J	29-Sep-09
MW-33-210	20	14.5	13-Dec-11	stable	No Change		14.8	9-Feb-11
MW-34-80	20	ND (1.0)	6-Dec-11	NA	No Change		ND (2)	16-Feb-05
MW-34-100	750	210	6-Dec-11	decreasing	No Change		976	28-Jun-06
MW-43-75	20	ND (1.0)	9-Dec-11	NA	No Change		ND (2)	3-Nov-05
MW-43-90	20	ND (1.0)	9-Dec-11	NA	No Change		ND (2)	10-Mar-06

TABLE 7-1

Proposed Trigger Level Updates to Interim Measures Contingency Plan, Fourth Quarter 2011

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Assessment Monitoring Well	July 2008 Cr(VI) Trigger Level (µg/L) [1]	Most Recent Cr(VI) Concentration		Cr(VI) Concentration Trend 2010-2011 (see Appendix C)	Proposed 2011 Updated Cr(VI) Trigger Level (µg/L)[3]	Basis / Rationale	Historic Max Cr(VI) µg/L	Date of Maximum Cr(VI)
		(µg/L)	Date					
MW-44-115	1,200	129	8-Dec-11	decreasing	No Change		1,710	4-May-06
MW-44-125	475	21.5	8-Dec-11	decreasing	No Change		634J	10-May-06
MW-46-175	225	121	13-Dec-11	fluctuating, overall stable	No Change		287	14-Mar-06
MW-46-205	20	4.4	13-Dec-11	stable	No Change		5.7	11-Mar-11
MW-47-115	31 [2]	16.9	8-Dec-11	slowly increasing	No Change		22.5	12/13/2010 & 5/3/11

Notes:

1. The Cr(VI) sampling **Trigger Levels** for implementing the Contingency Plan (CH2M HILL, 2005; 2006; 2007).
2. Updated trigger level of 31 ug/L for MW-47-115, based on Shewart statistical control limit calculated using all data up to May 2009 was approved in DTSC email communication of June 24, 2009.
3. Updated trigger level based upon Shewart statistical control limit calculated for data from 2009 through 2011.

µg/L = micrograms per liter.
NA = not applicable.
ND = not detected at listed reporting limit.
J = the concentration is estimated by laboratory or data validation.

TABLE 7-2

Planned Sampling Frequency for COPCs and In Situ By-Products for 2012

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Monitoring Well Locations	COPCs			By-Products		Other	2012 Planned COPCs/By-Products Sampling Frequency
	Mo	Se	Nitrate	As	Mn	Fluoride	
Uplands/West of National Trails Hwy							
MW-9			2				A
MW-10	1					1	SA
MW-12	2		2				Q
MW-13				3	3		A
MW-24BR	2						remove
MW-25				3	3		A
MW-37D * (in BCW)	7						SA
MW-37S (in BCW)				3	3		A
MW-38D (in BCW - damaged/usable Waterra)	2	5	2				SA
MW-40D	2		2	3	3		SA
MW-40S			2	3	3		A
MW-41D				3	3		A
MW-41M				3	3		A
MW-41S	7	7		3	3		A
PGE-8 (Bedrock)	1						A
OW-3D	2			3	3		A
Floodplain/East of National Trails Hwy							
MW-20-70			2, 8				SA
MW-20-100	2	2	2				SA
MW-20-130	5	5	5	3	3		SA
MW-21*	7	7					SA
MW-22				(1)	4		SA
MW-23-060 (bedrock)				3	3		Q
MW-23-080 (bedrock)				3	3		Q
MW-26	3	2	2	(1)	4		SA
MW-27-20	8	8		(1), 8	4		SA
MW-27-60	8	8		(1), 8	4	8	Q
MW-27-85	8	8		(1)	4	8	Q
MW-28-25	8	8		(1)	4		SA
MW-28-90	5, 8	8		(1)	3,4	8	Q
MW-29	8	8		(1)	4		SA
MW-30-30	1						SA
MW-30-50	5			(1)	4		A
MW-31-60				3	3		A
MW-31-135	5	5		3	3		A
MW-32-20				(1)	4		A
MW-32-35				(1)	4		SA
MW-33-40	8	8		(1)	4	1, 8	Q

TABLE 7-2

Planned Sampling Frequency for COPCs and In Situ By-Products for 2012

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Monitoring Well Locations	COPCs			By-Products		Other	2012 Planned COPCs/By-Products Sampling Frequency
	Mo	Se	Nitrate	As	Mn	Fluoride	
MW-33-90	2, 8	3, 8		3	3	8	Q
MW-33-150	5, 8	8		8		8	Q
MW-33-210	5, 8	8		8		8	Q
MW-34-55	8	8		(1)	4		A
MW-34-80				(1)	4		A
MW-34-100	2			(1)	4		A
MW-35-60	8	8		8			Q
MW-35-135	8	8		3	3		A
MW-36-40	5			(1)	4		A
MW-36-50				(1)	4		A
MW-36-70				(1)	4		A
MW-36-100	5			(1)	4		SA
MW-39-50			2	(1)	4		A
MW-39-60			2	3	4		A
MW-39-100	5		2	3	3		A
MW-42-30	5						A
MW-42-65				(1)	4		Q
MW-43-25				(1)	4		SA
MW-43-75				(1)	4		A
MW-43-90				(1)	4		SA
MW-44-70				(1)	4		A
MW-44-115	1			3	3		Q
MW-44-125	1			3	3		Q
MW-46-175	1						Q
MW-47-55				3	3		A
MW-49-135				3	3		A
MW-51		7		3	3		SA
MW-52S (CA slant)				(1)	4		A
MW-52M (CA slant)				(1)	4		A
MW-52D (CA slant)				(1)	4		SA
MW-53M (CA Slant)				(1)	4		SA
MW-53D (CA Slant)				(1)	4		SA

TABLE 7-2

Planned Sampling Frequency for COPCs and In Situ By-Products for 2012

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Monitoring Well Locations	COPCs			By-Products		Other	
	Mo	Se	Nitrate	As	Mn	Fluoride	2012 Planned COPCs/By-Products Sampling Frequency
East Ravine							
MW-57-070	6	6	6	6	6		A
MW-57-185	6	6	6	6	6		Q
MW-59-100	6	6	6	6	6		Q
MW-60-125	6	6	6	6	6		Q
MW-61-110	6	6	6	6	6		Q
MW-62-065	6	6	6	6	6		A
MW-62-110 (Flute)	6	6	6	6	6		Q
MW-62-190 (Flute)	6	6	6	6	6		Q
MW-63-065	6	6	6	6	6		Q
MW-64BR-UPR (packer location)	6	6	6	6	6		remove
MW-64BR-LWR (packer location)	6	6	6	6	6		remove
CMP Wells							
CW-2D			8			1	A
CW-3M	2		2, 8				A
CW-3D	2		8				A
CW-4D	2,3	3	3	3	3		remove
Test Wells							
TW-1		1					Q
MW-11		7	2				A
MW-24A		2	2				remove
MW-24B	2	2	2				remove
Offsite Wells							
MW-54-085 *				7	7		SA
MW-54-140 *				7	7		SA
MW-54-195 *				7	7		SA

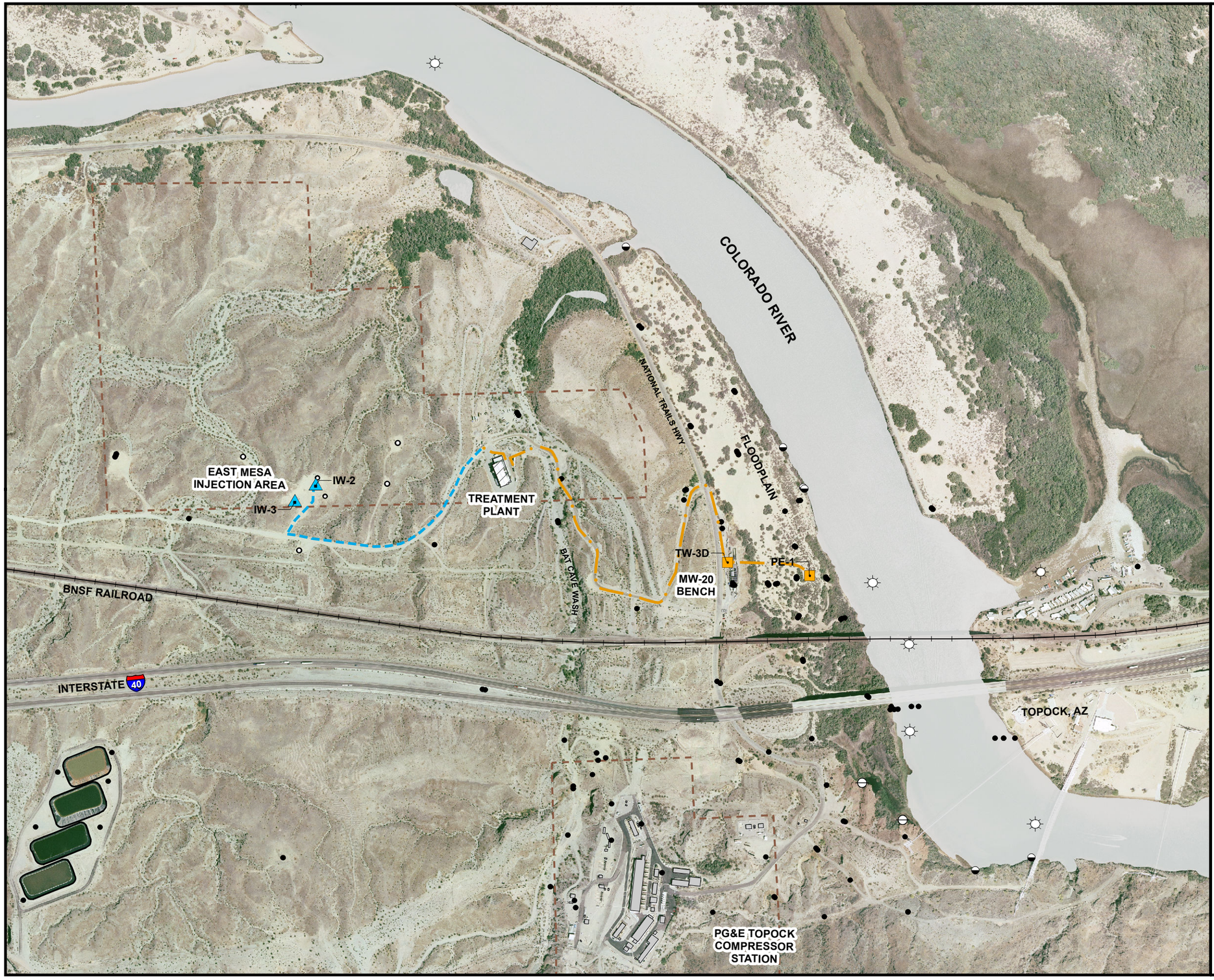
NOTES

If sampling is indicated for one analyte in each category, all the category analytes will be sampled.
For example, As will be sampled with Mn. Mo, Se, and NO3 will all be sampled if any one is indicated by a reas
* Not on the original sampling list
SA = Semiannual
UTL = Upper tolerance limit
Q = Quarterly
HI = Health Index
As = Arsenic
Mo = Molybdenum
Se = Selenium
Mn = Manganese

Code for Reasons

(1) = Fluvial wells currently sampled for As on quarterly basis.
1 = HI>1
2 = Exceeds UTL
3 = Strategic location for Remedy Design
4 = Add Mn to As Fluvial Wells
5 = wells in proximity of HI>1 wells, that did not have an adequate data set
6 = complete 4 quarters of monitoring after well installation
7 = Added after Fourth Quarter 2010 sampling event
8 = Added by DTSC (November, 2011)

Figures



VICINITY MAP

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.

N

0 600 1,200 Feet

FIGURE 1-1
LOCATIONS OF IM-3 FACILITIES AND MONITORING LOCATIONS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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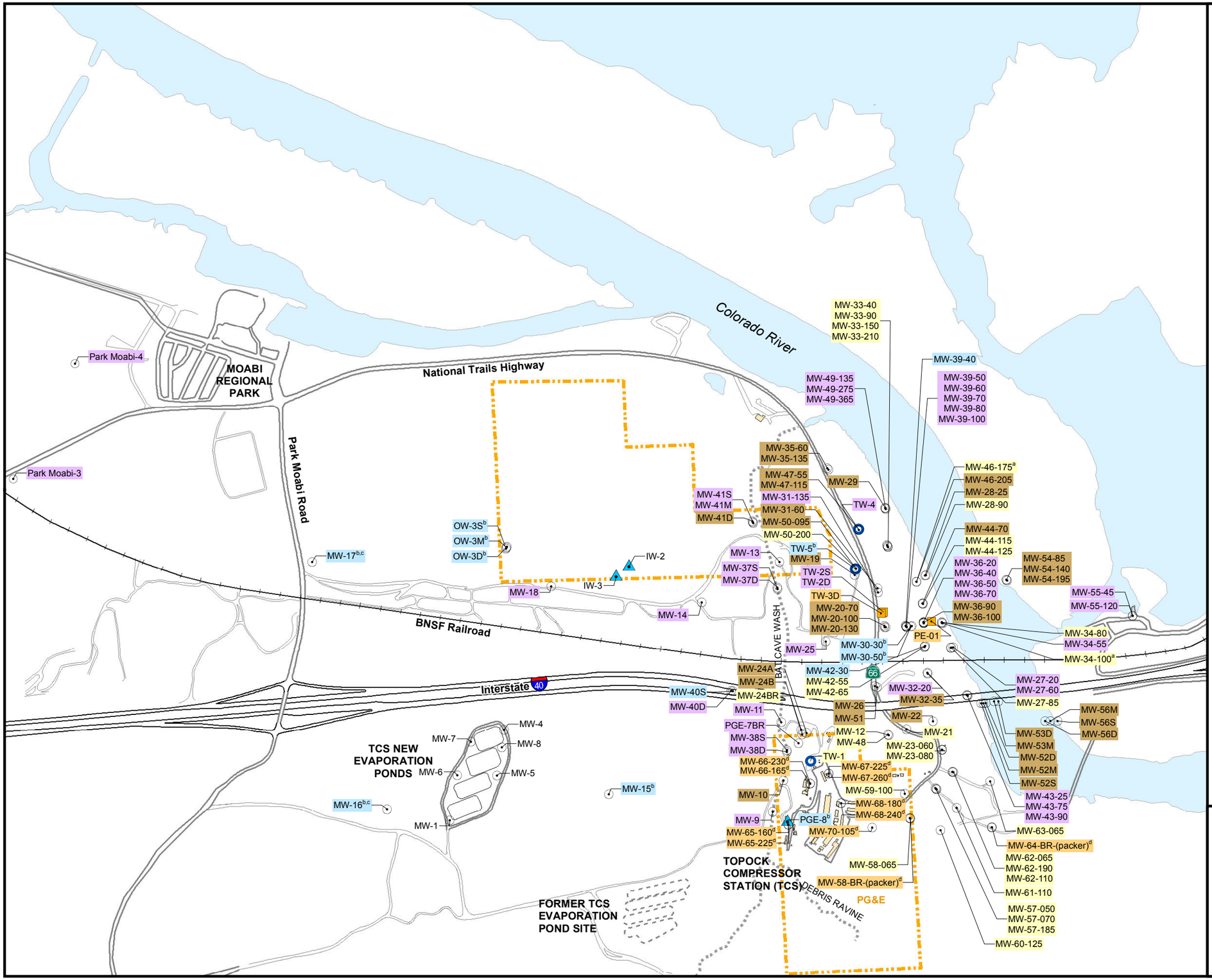

LEGEND

- Injection Well
- Groundwater Monitoring Well
- Test Well or Supply Well (inactive)
- Extraction Well
- Property Boundary

Sampling Frequency for Groundwater Monitoring Program (GMP)

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] Planned to be reincorporated/incorporated into GMP Monitoring Program at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

N

0 500 1,000 Feet

California State Plane NAD83 Zone 5 US Feet

FIGURE 1-2
MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR GMP

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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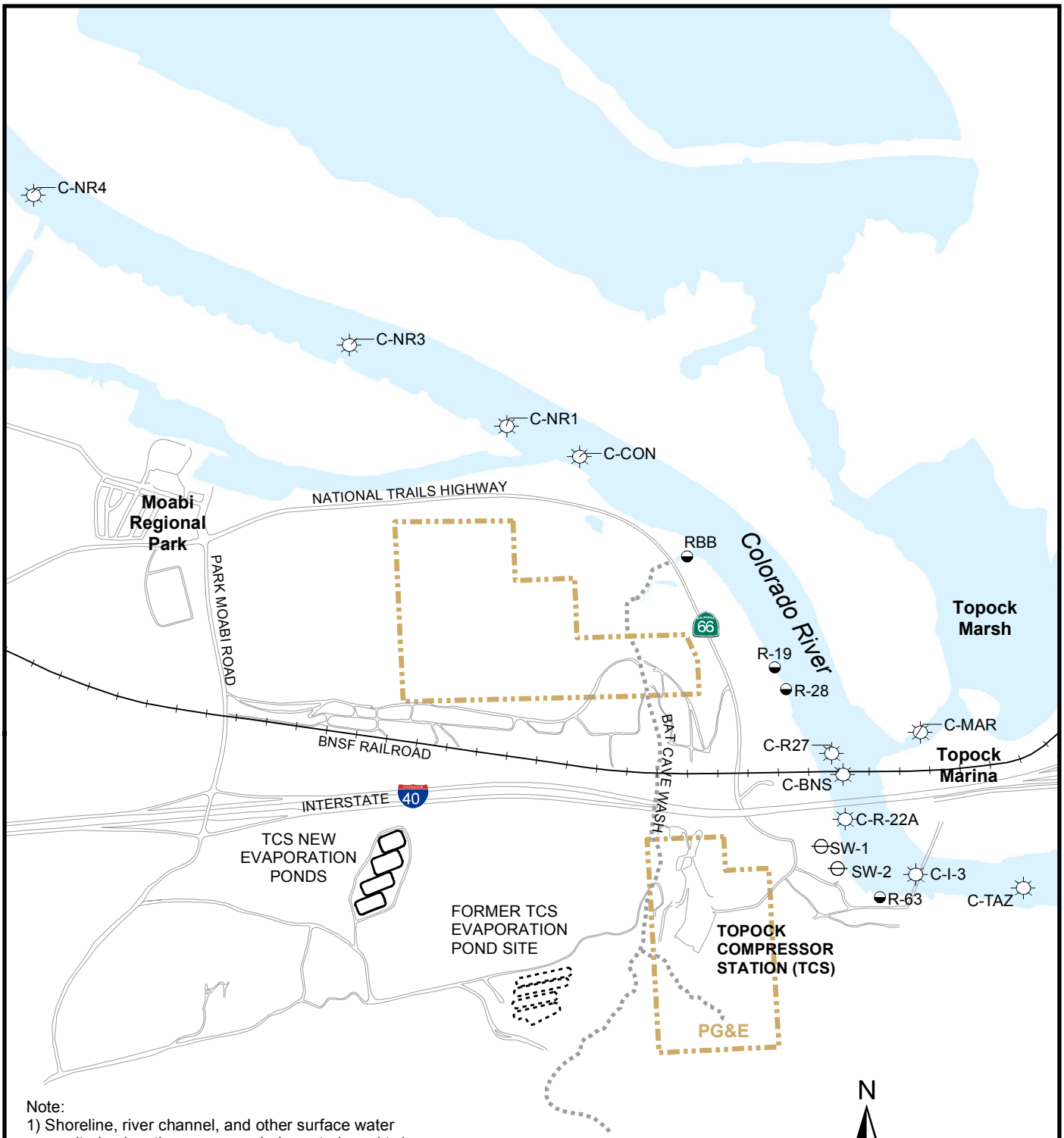

Note:
1) Shoreline, river channel, and other surface water monitoring locations are sampled quarterly and twice during periods of low river stage (typically November - January).
2) Location for SW-2 is approximate. GPS Coverage was not available.
3) RMP = River Monitoring Program

LEGEND

- Shoreline Surface Water Monitoring Location
- River Channel Surface Water Monitoring Location
- Other Surface Water Monitoring Location

FIGURE 1-3
MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR RMP

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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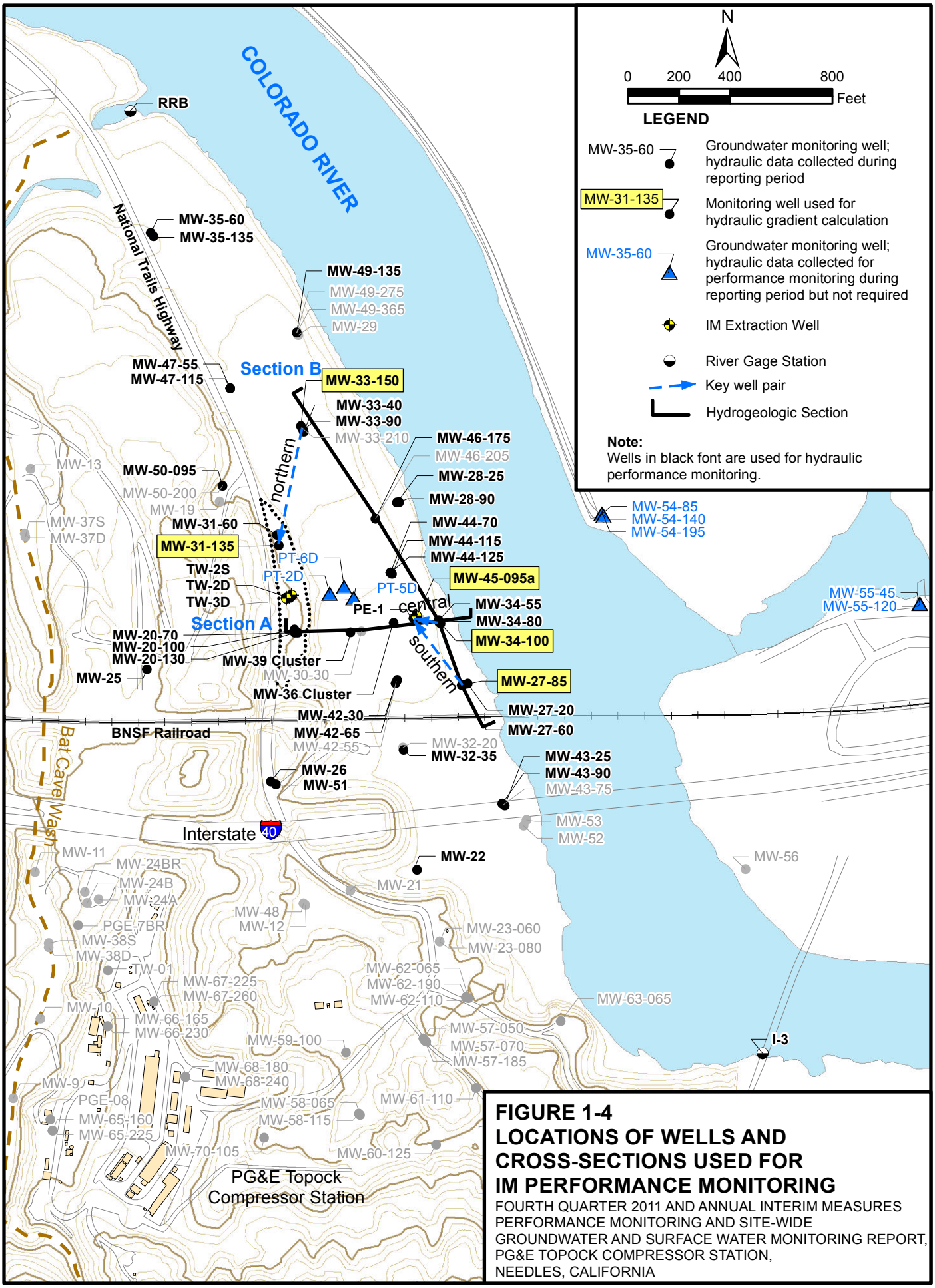

FIGURE 1-4
LOCATIONS OF WELLS AND CROSS-SECTIONS USED FOR IM PERFORMANCE MONITORING
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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Colorado River

NATIONAL TRAILS HIGHWAY

MOABI REGIONAL PARK

PARK MOABI ROAD

BATCAVE WASH

BNSF RAILROAD

INTERSTATE 40

32

MW-17 15.8

OW-3S 27.9

MW-18 21.4

MW-14 20.1

MW-41S 19.0

MW-13 21.2

MW-35-60 26.2

MW-29 ND (0.2)

MW-33-40 ND (1.0)

MW-39-40 ND (0.2)

MW-47-55 24.8

MW-28-25 ND (0.2)

MW-19 289

MW-30-30 ND (2.1)

MW-31-60 489

MW-36-20 ND (1.0)

MW-20-70 3,570

MW-36-40 ND (0.2)

MW-27-20 ND (0.2)

MW-25 269 J

MW-32-20 ND (2.1)

MW-42-30 0.2

MW-32-35 ND (1.0)

MW-26 1,840

MW-22 ND (2.1)

MW-43-25 ND (0.2)

MW-56S ND (1.0)

MW-40S 7.6

MW-12 2,240

MW-23-060 29.9

MW-23-080 8.7

MW-21 2.1

MW-62-065 532

MW-10 621

MW-63-065 1.2

MW-15 11.5

MW-59-100 4,990

MW-16 11.8

MW-9 299

MW-61-110 682

MW-57-070 291

MW-60-125 901

TCS NEW EVAPORATION PONDS

TOPOCK COMPRESSOR STATION (TCS)

FORMER TCS EVAPORATION POND SITE

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 - Fourth Quarter 2011

- 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 Fourth Quarter 2011 groundwater sampling results.

Approximate bedrock contact at 455 feet above mean sea level.

Notes:

1. Results plotted are maximum concentration from primary and duplicate samples, see Table 3-1 for complete results.
2. Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results and Table A-1 for well construction information.

N

0 500 1,000 Feet

FIGURE 3-1a
Cr(VI) SAMPLING RESULTS, SHALLOW WELLS IN ALLUVIAL AQUIFER AND BEDROCK, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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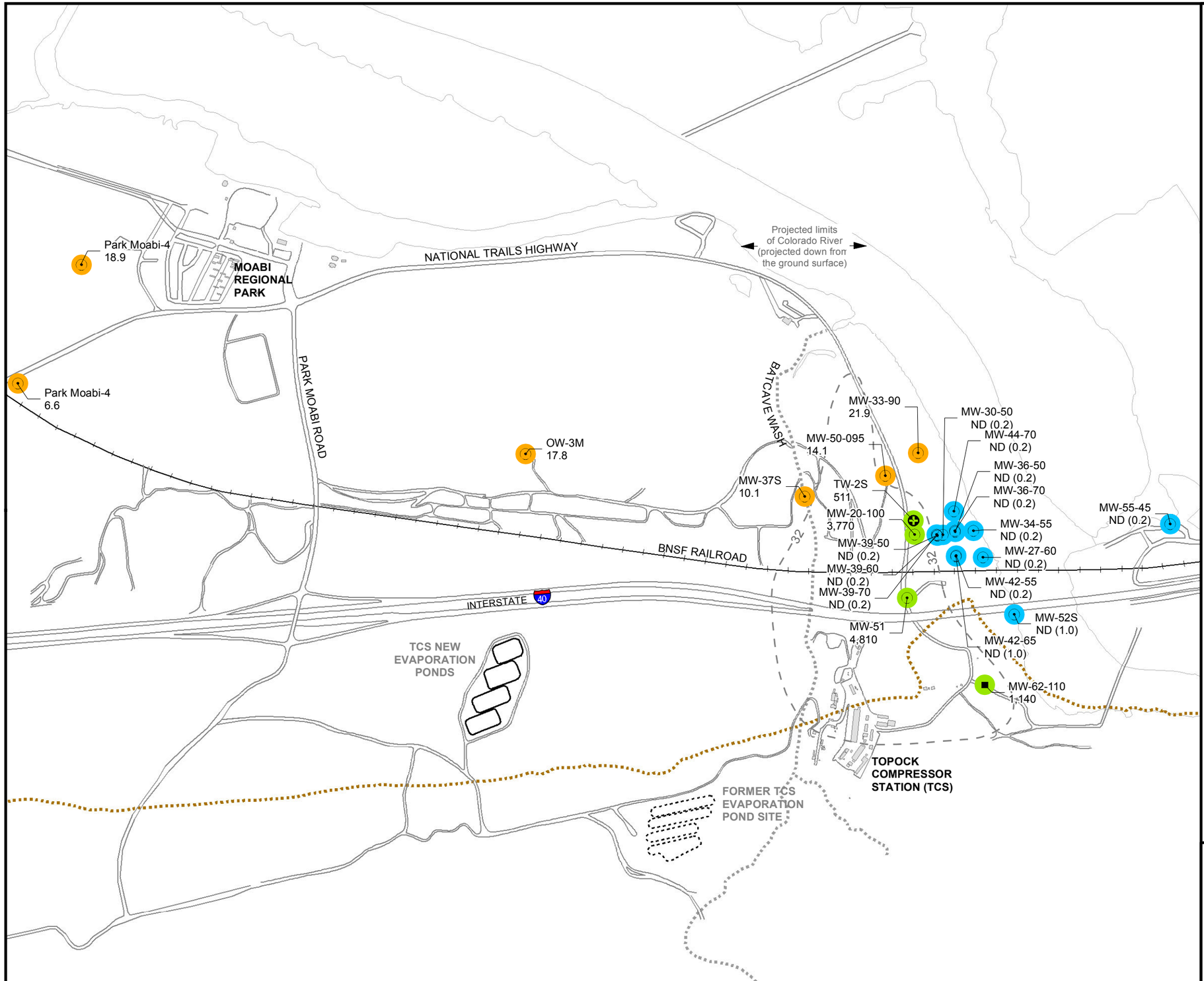

LEGEND

- Alluvial Aquifer well sampled during sampling event
- Bedrock well sampled during sampling event
- Inactive extraction well sampled during 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 - Fourth Quarter 2011

- 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 Fourth Quarter 2011 groundwater sampling results.

Approximate bedrock contact at 425 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. Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results and Table A-1 for well construction information.

N

0 500 1,000 Feet

FIGURE 3-1b
Cr(VI) SAMPLING RESULTS MID-DEPTH WELLS IN ALLUVIAL AQUIFER AND BEDROCK, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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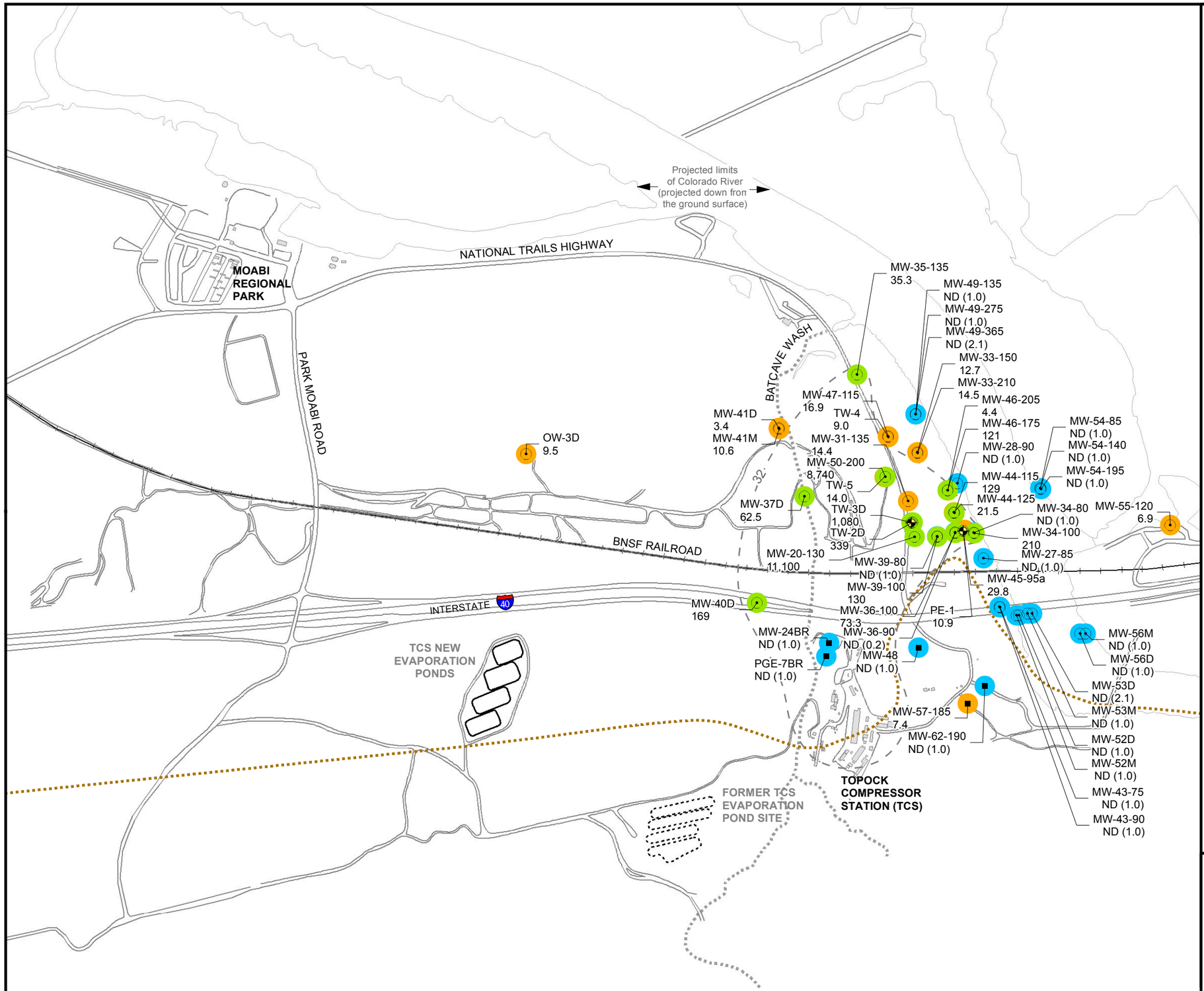

LEGEND

- Extraction well sampled during sampling event
- 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 - Fourth Quarter 2011

- 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 Fourth Quarter 2011 groundwater sampling results. Data from the Second Quarter 2011 East Ravine Groundwater Investigation was also used to develop contours near the compressor station.

Approximate bedrock contact at 395 feet above mean sea level.

Notes:

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.
3. Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results and Table A-1 for well construction information.

N

0 500 1,000 Feet

FIGURE 3-1c
Cr(VI) SAMPLING RESULTS, DEEP WELLS IN ALLUVIAL AQUIFER AND BEDROCK, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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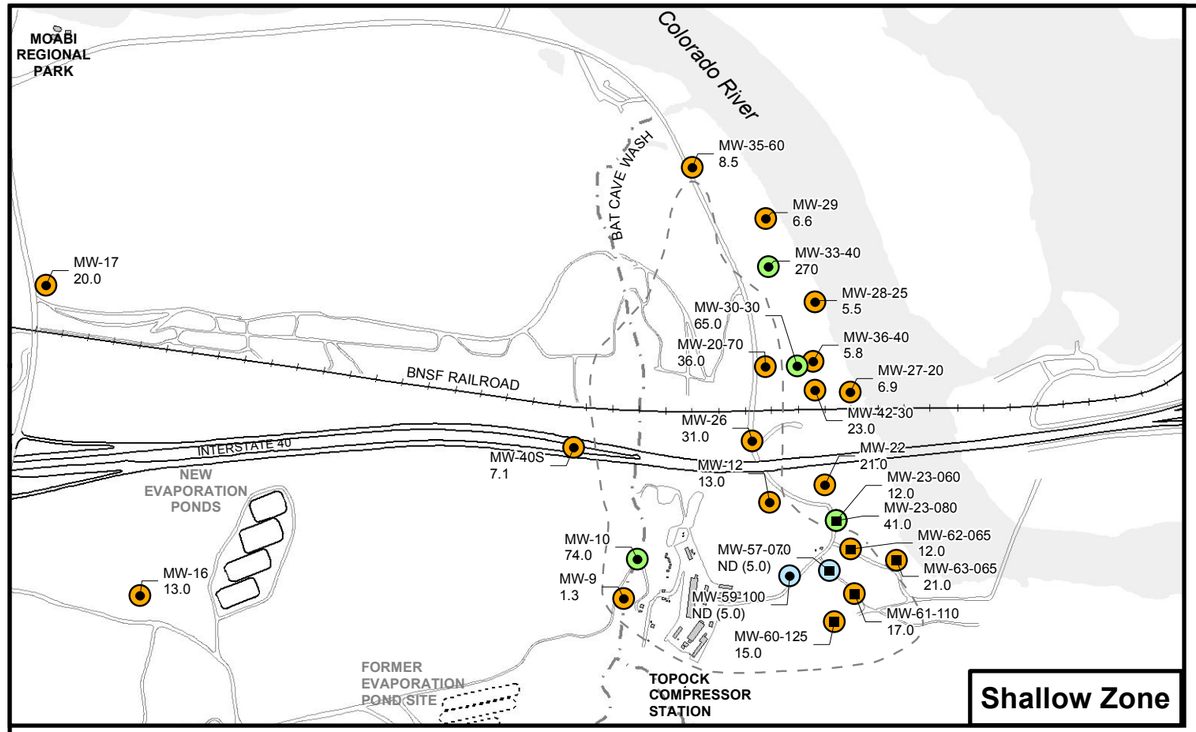

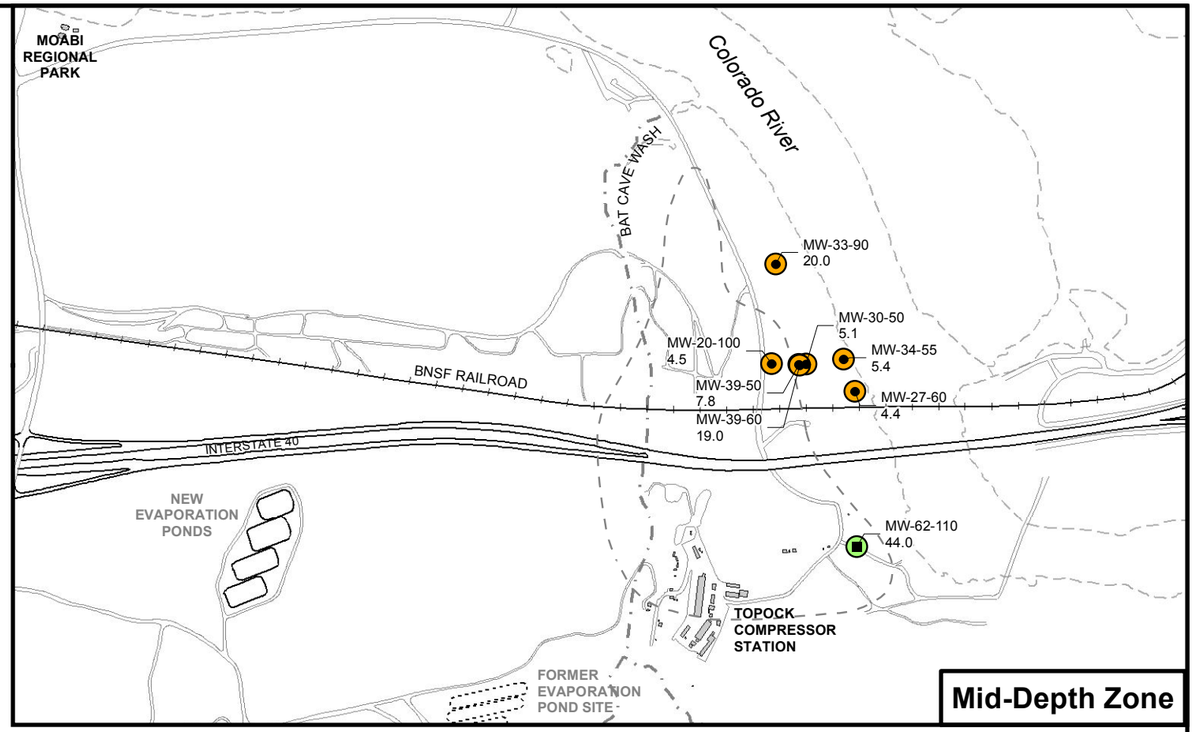

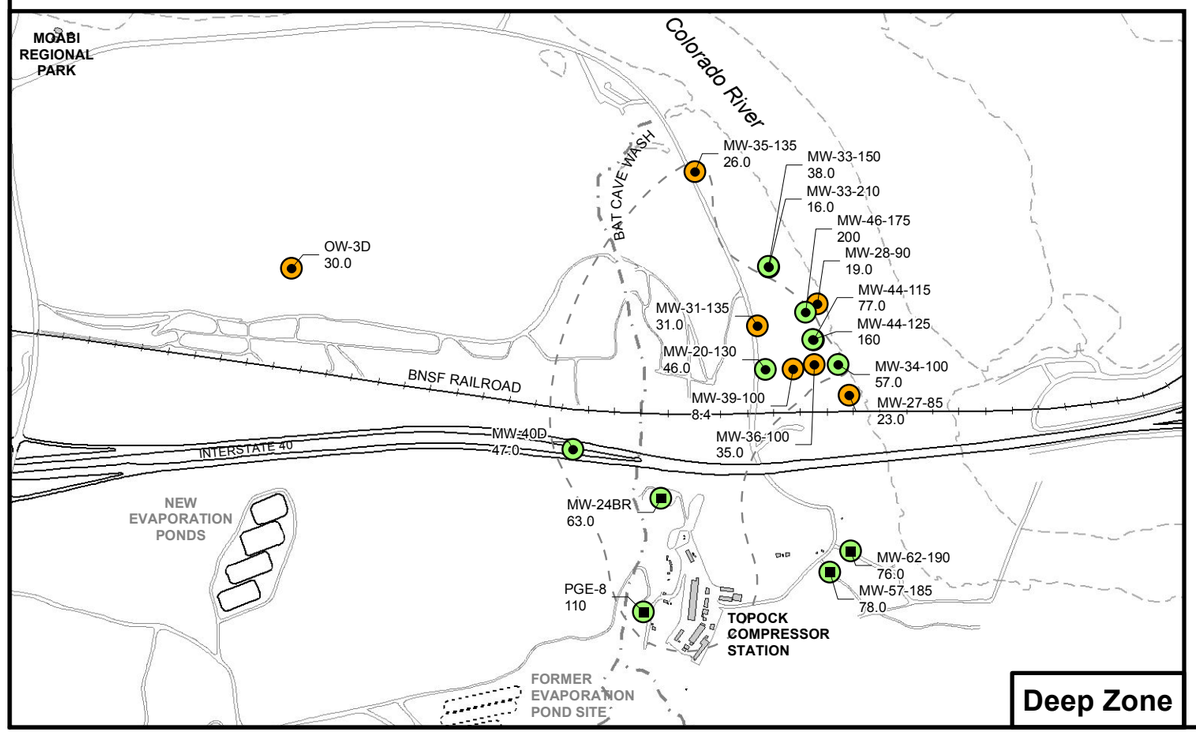

LEGEND

- Groundwater Well Completed in Alluvial Aquifer
- Groundwater Well Completed in Bedrock Aquifer
- Not Detected
- Concentration < 36.3 µg/L
- Concentration > 36.3 µg/L
- Approximate Outline of Cr(VI) in Alluvial Aquifer depth zone >= 32 µg/L, December 2011

Dissolved Molybdenum Concentrations

MW-10 ← Well ID

5.8 ← Concentration in µg/L (micrograms per Liter)

Notes:
1) Molybdenum Background Study Upper Tolerance Limit (UTL) = 36.3 µg/L
2) There is no U.S. EPA and California Maximum Contaminant Level for Molybdenum.
3) ND = Not detected at listed reporting limit (RL)
4) Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-2 for complete results and Table A-1 for well construction information.

FIGURE 3-2a
MOLYBDENUM SAMPLING RESULTS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURE PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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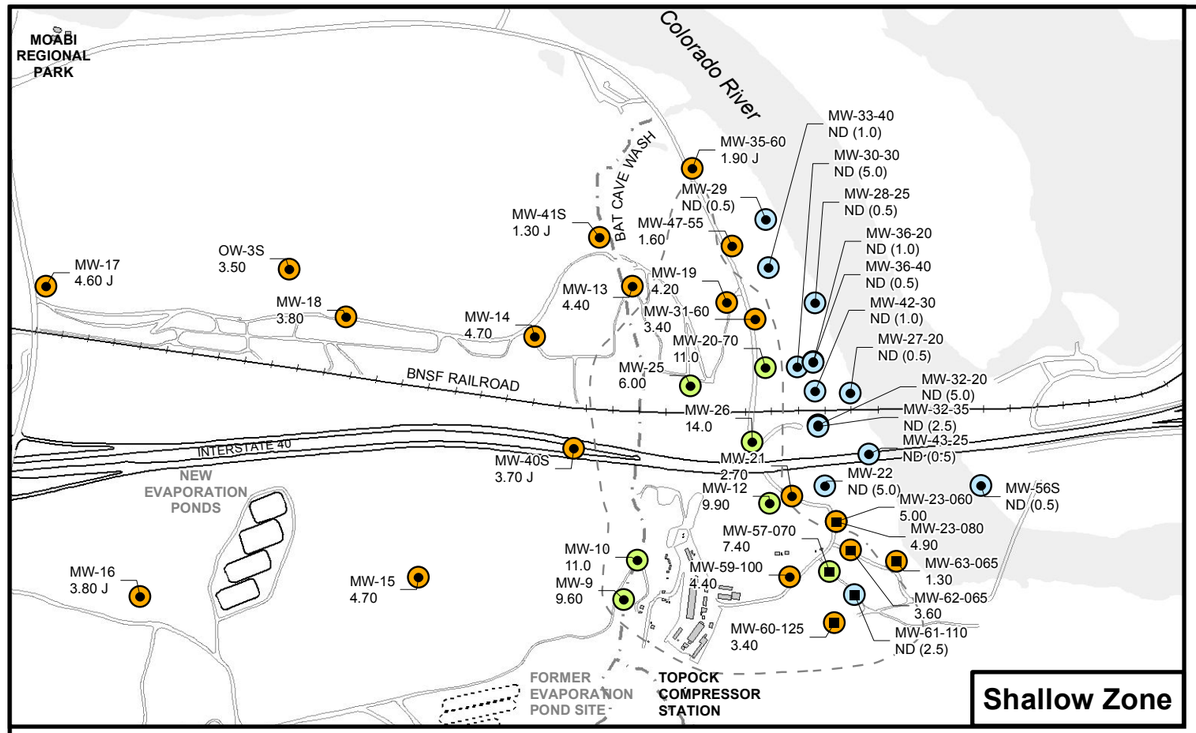

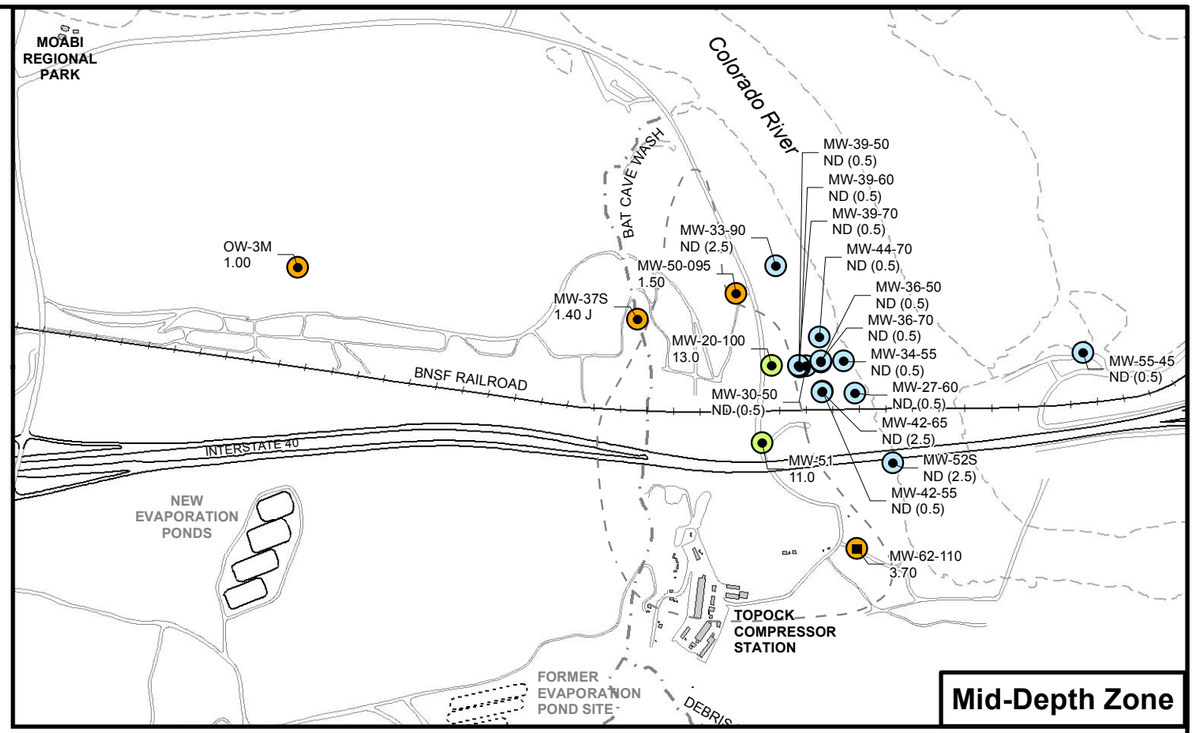

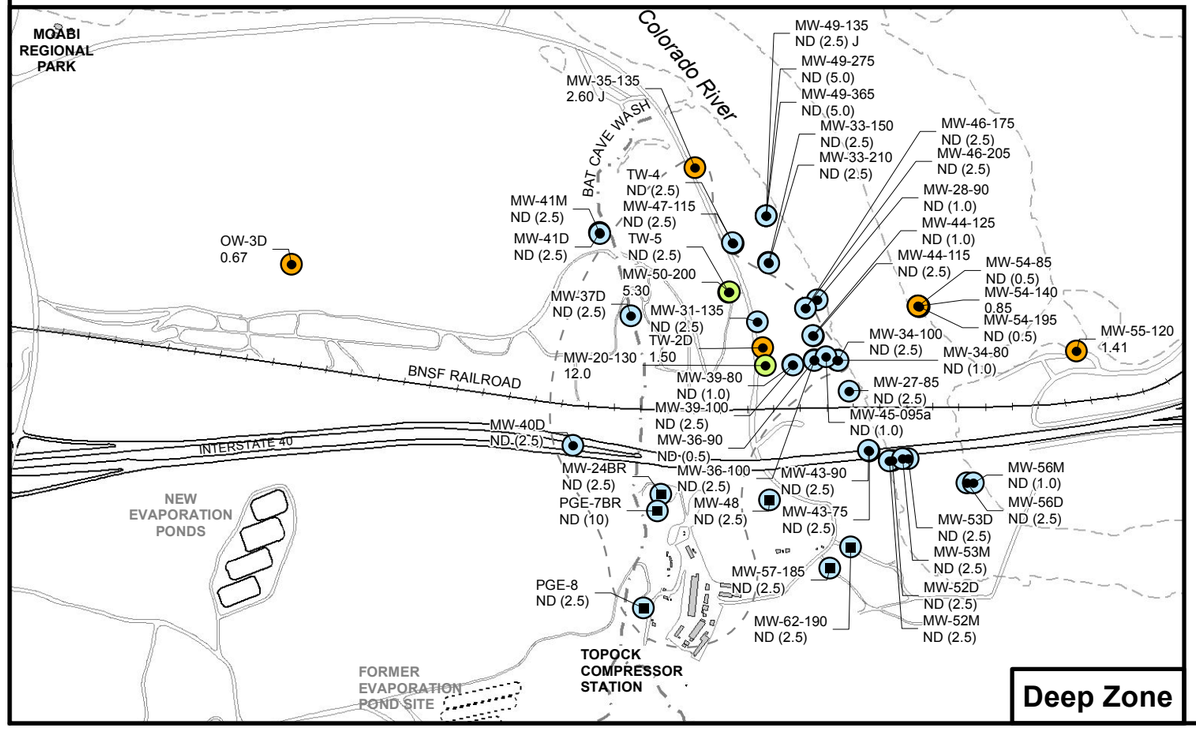

LEGEND

- Groundwater Well Completed in Alluvial Aquifer
- Groundwater Well Completed in Bedrock Aquifer
- Not Detected
- < 5.03 mg/L
- > 5.03 mg/L
- Approximate Outline of Cr(VI) in Alluvial Aquifer depth zone >= 32 µg/L, December 2011

Dissolved Nitrate as Nitrogen (N) Concentrations

MW-10 ← Well ID

5.8 ← Concentration in µg/L (milligrams per Liter)

Notes:
1) Nitrate as N Background Study Upper Tolerance Limit (UTL) = 5.03 mg/L
2) Nitrate as N Maximum Contaminant Level = 10 mg/L
3) ND = Not Detected at listed reporting limit (RL)
4) Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-2 for complete results and Table A-1 for well construction information.

FIGURE 3-2b
NITRATE SAMPLING RESULTS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURE PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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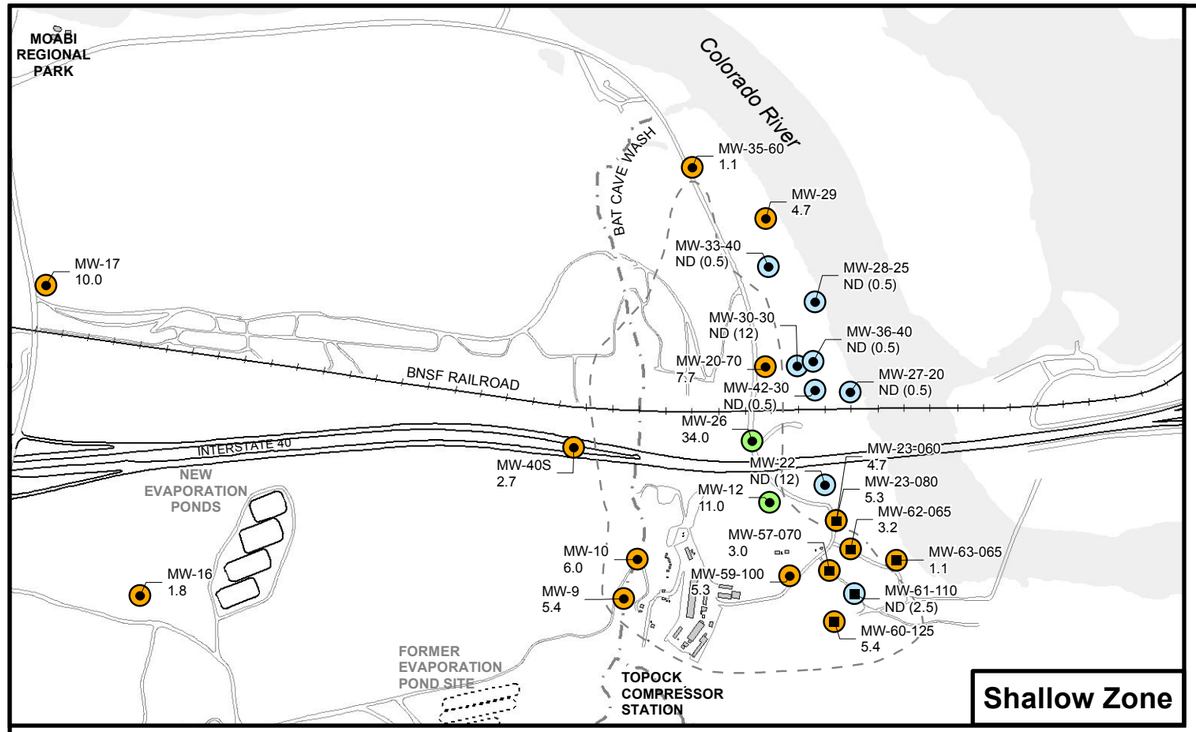

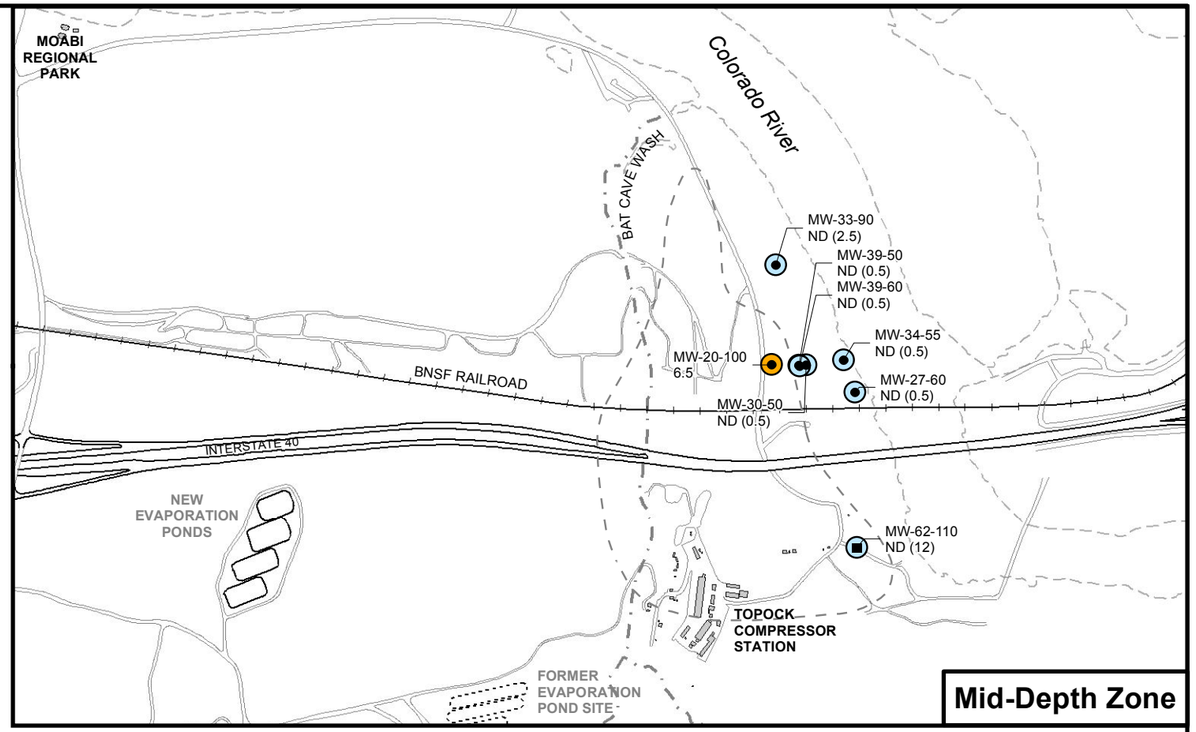

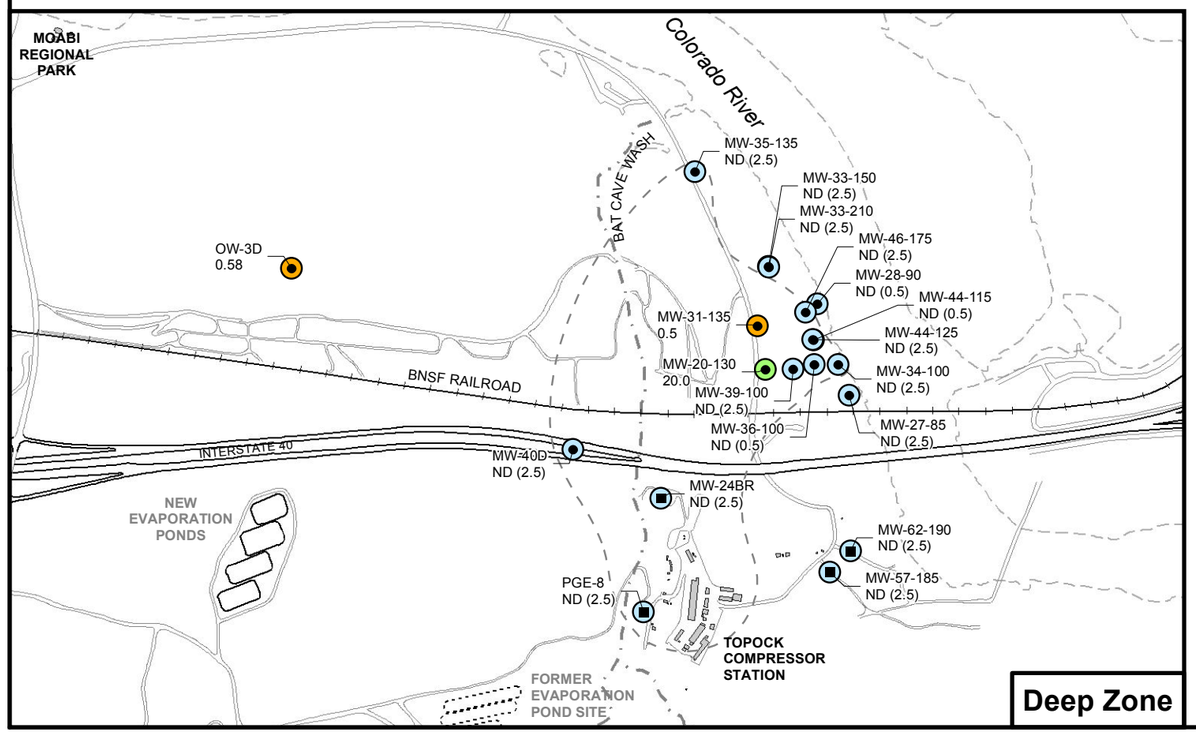

LEGEND

- Groundwater Well Completed in Alluvial Aquifer
- Groundwater Well Completed in Bedrock Aquifer
- Not Detected
- Concentration < 10.3 µg/L
- Concentration > 10.3 µg/L
- Approximate Outline of Cr(VI) in Alluvial Aquifer depth zone >= 32 µg/L, December 2011

Dissolved Selenium Concentrations

MW-10 ← Well ID

5.8 ← Concentration in µg/L (micrograms per Liter)

Notes:
1) Selenium Background Study Upper Tolerance Limit (UTL) = 10.3 µg/L
2) Selenium applicable or relavant and appropriate requirement (ARAR) = 50.0 µg/L
3) ND = Not Detected at listed reporting limit (RL)
4) Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-2 for complete results and Table A-1 for well construction information.

FIGURE 3-2c
SELENIUM SAMPLING RESULTS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURE PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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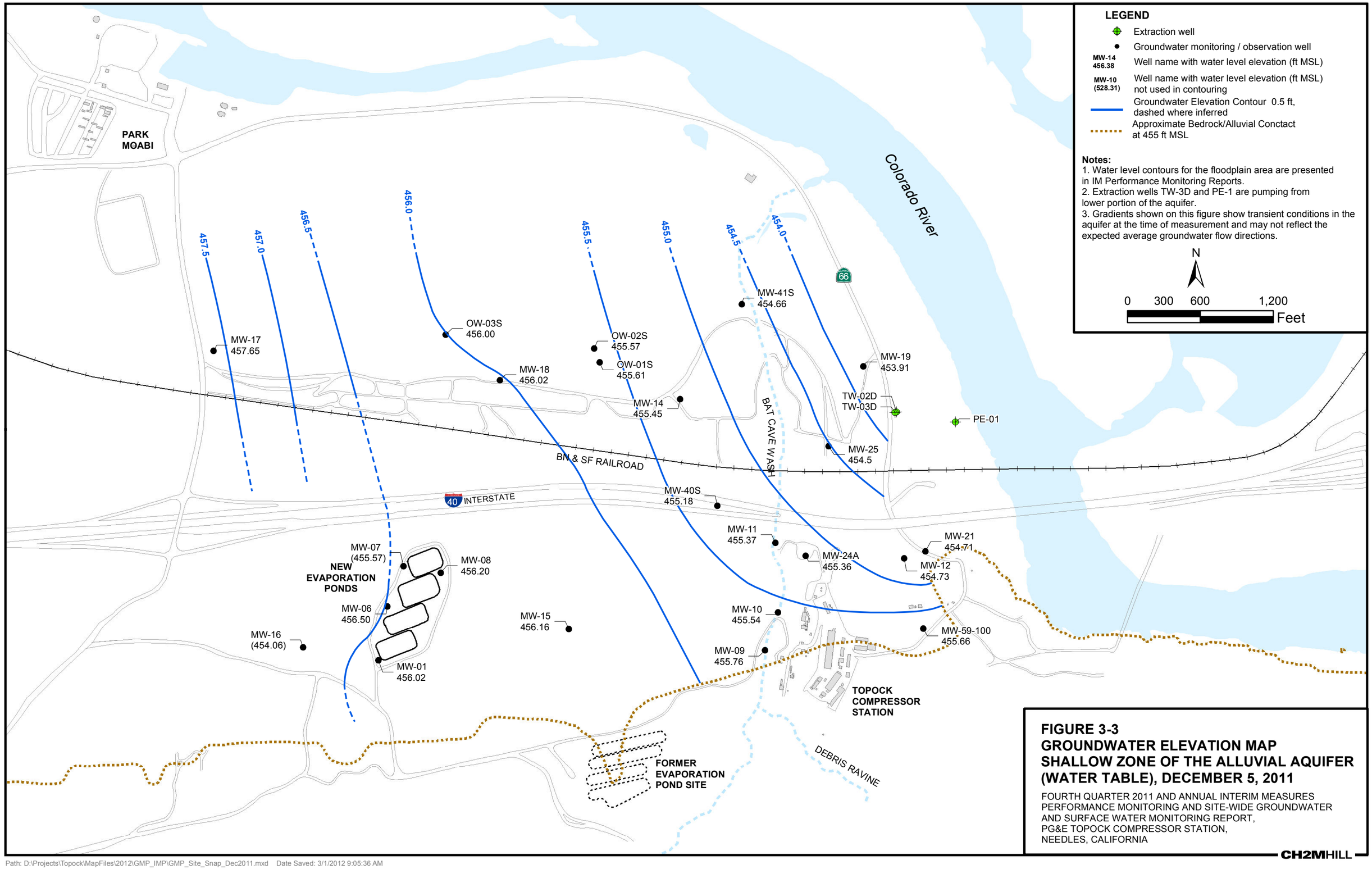

FIGURE 3-3
GROUNDWATER ELEVATION MAP SHALLOW ZONE OF THE ALLUVIAL AQUIFER (WATER TABLE), DECEMBER 5, 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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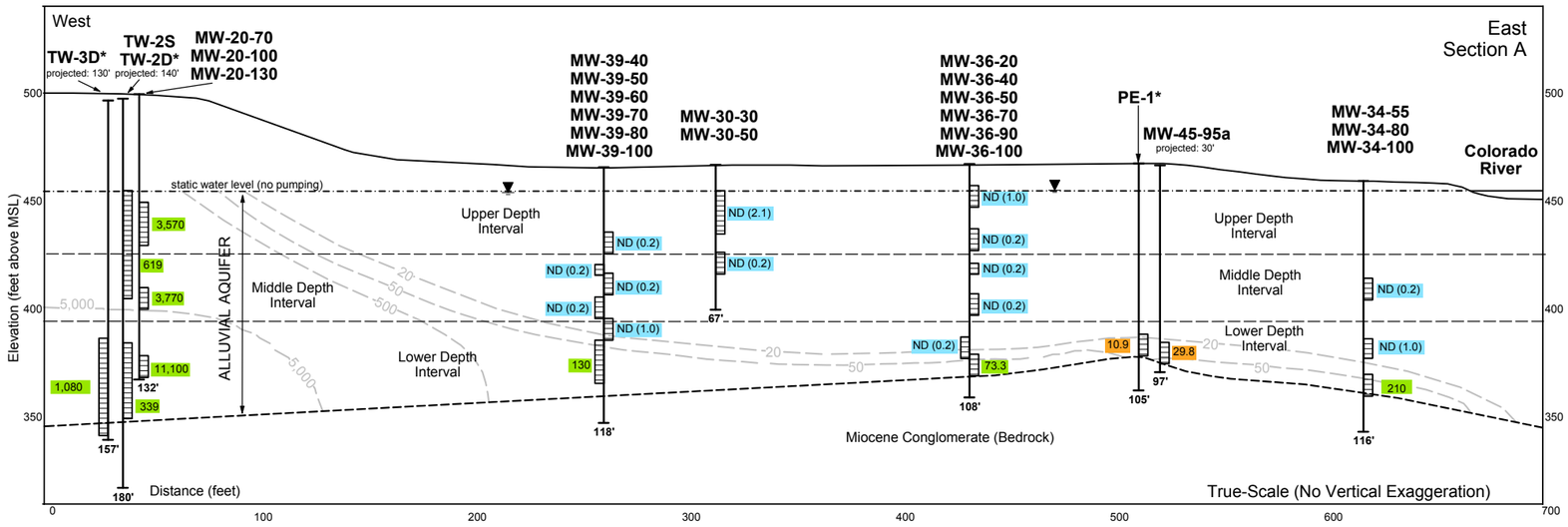
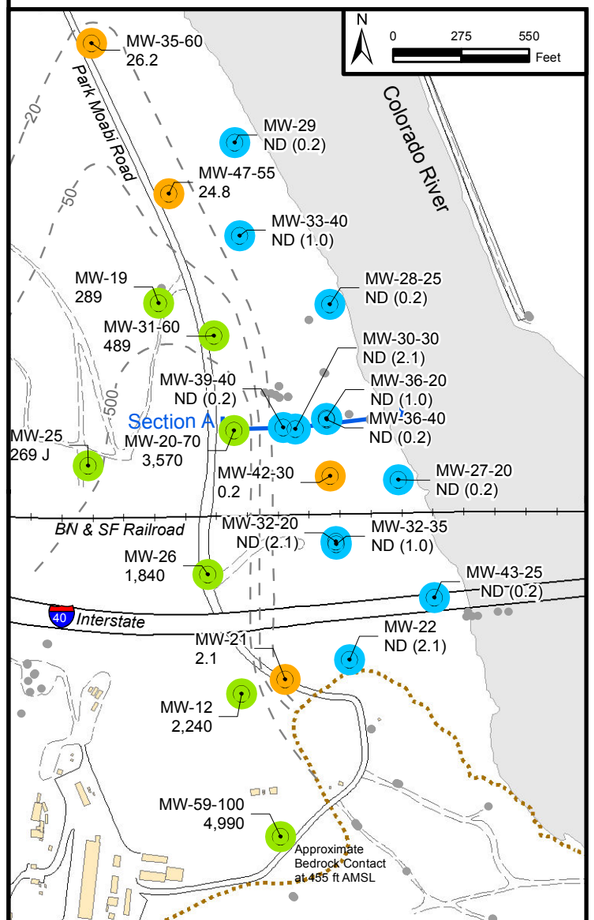
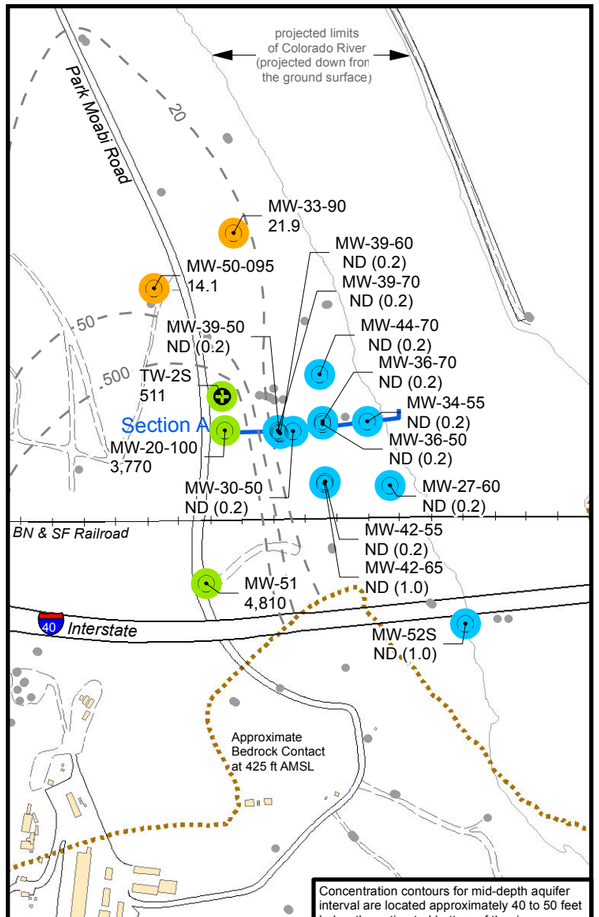
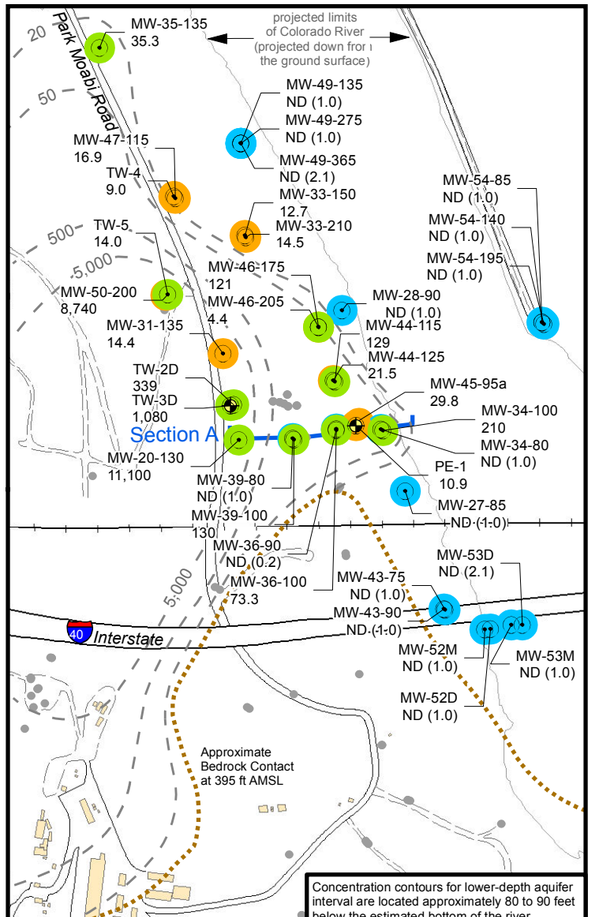




Shallow Wells (Upper Depth Interval)



Mid-Depth Wells (Middle-Depth Interval)



Deep Wells (Lower Depth Interval)

LEGEND

- Alluvial Aquifer well sampled during sampling event
- Extraction well sampled during sampling event
- Inactive extraction well sampled during sampling event
- Well 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 - Fourth Quarter 2011

- Not detected at analytical reporting limit
- Concentration between reporting limit and 32 µg/L
- Concentration ≥ 32 µg/L
- 50 Inferred Cr(VI) concentration contour within Alluvial aquifer depth interval based on Fourth Quarter 2011 groundwater sampling results.
- Hydrogeologic Section A
- Approximate bedrock contact

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. Extraction wells PE-1, TW-2D 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.
4. Long screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results and Table A-1 for well construction information.

FIGURE 4-1
MAXIMUM Cr(VI) CONCENTRATIONS IN ALLUVIAL AQUIFER, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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North

South
Section B

Cross-Section Parallel to the Colorado River

BN & SF
Railroad

MW-33-40
MW-33-90
MW-33-150
MW-33-210

MW-46-175
MW-46-205

MW-28-25
MW-28-90
projected: 110'

MW-44-70
MW-44-115
MW-44-125

MW-34-55
MW-34-80
MW-34-100

MW-27-20
MW-27-60
MW-27-85

Elevation (feet above MSL)

700
600
500
400
300
200
100
0

water table (average 455' MSL)

ALLUVIAL AQUIFER

Oldest Alluvium

Fluvial Deposits

Upper Depth Interval

Middle Depth Interval

Lower Depth Interval

Approximate geologic contact between alluvial fan and fluvial deposits

-20

-50

ND (1.0)
21.9
12.7
14.5
237'

ND (0.2)
ND (1.0)
121
4.4
216'

ND (0.2)
ND (0.2)
129
21.5
134'

Upper Depth Interval
ND (0.2)
Middle Depth Interval
ND (0.2)
ND (1.0)
Lower Depth Interval
210
116'

ND (0.2)
ND (0.2)
ND (1.0)
107'

Miocene Conglomerate (Bedrock)

True-Scale (No Vertical Exaggeration)

-100 0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400

Distance (feet)

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 1-4 for location of this cross-section.

water level

well screen

3,810

boring depth (feet)

103'

-— — 50 -— —

Inferred hexavalent chromium contours (ppb) in Alluvial Aquifer from Fourth Quarter 2011.

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

ND (0.2)	Not detected at listed reporting limit (ppb)
24.2	Less than 32 µg/L
203	Greater than 32 µg/L

FIGURE 4-2
Cr(VI) CONCENTRATIONS
FLOODPLAIN CROSS-SECTION B,
FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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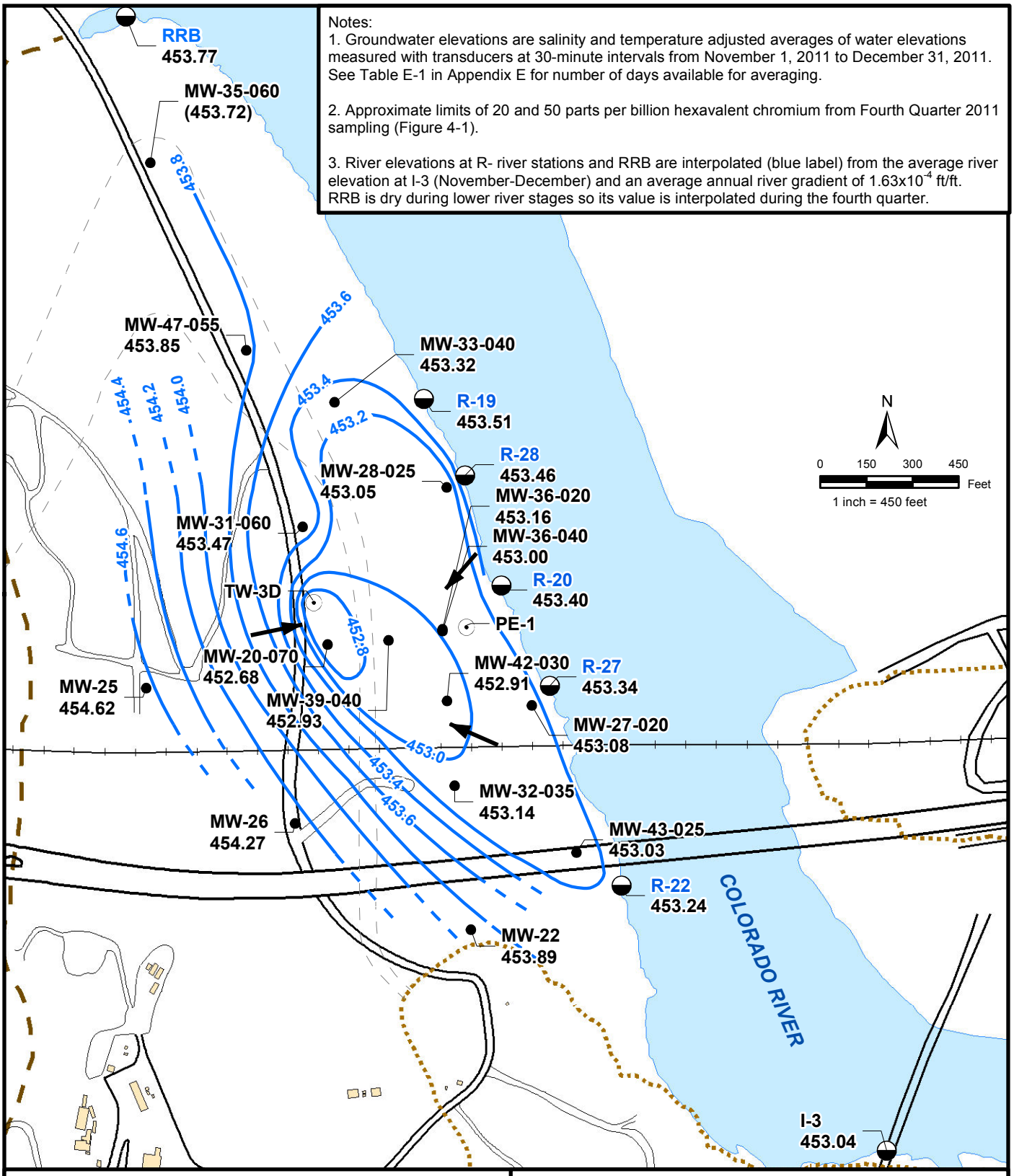

Notes:
1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30-minute intervals from November 1, 2011 to December 31, 2011. See Table E-1 in Appendix E for number of days available for averaging.

2. Approximate limits of 20 and 50 parts per billion hexavalent chromium from Fourth Quarter 2011 sampling (Figure 4-1).

3. River elevations at R- river stations and RRB are interpolated (blue label) from the average river elevation at I-3 (November-December) and an average annual river gradient of 1.63×10^{-4} ft/ft. RRB is dry during lower river stages so its value is interpolated during the fourth quarter.

MW-29 455.85 — Average Groundwater Elevation at Monitoring Station (ft AMSL)

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

R-22 455.85 — River Elevation (ft MSL) Interpolated Average

Interpreted Groundwater Flow Direction

Bedrock Contact at 455 ft elevation

Monitoring Well

River Station

Extraction Well

Groundwater Elevation Contour 0.2 ft (dashed where inferred)

FIGURE 4-3a
AVERAGE GROUNDWATER ELEVATIONS IN SHALLOW WELLS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNA

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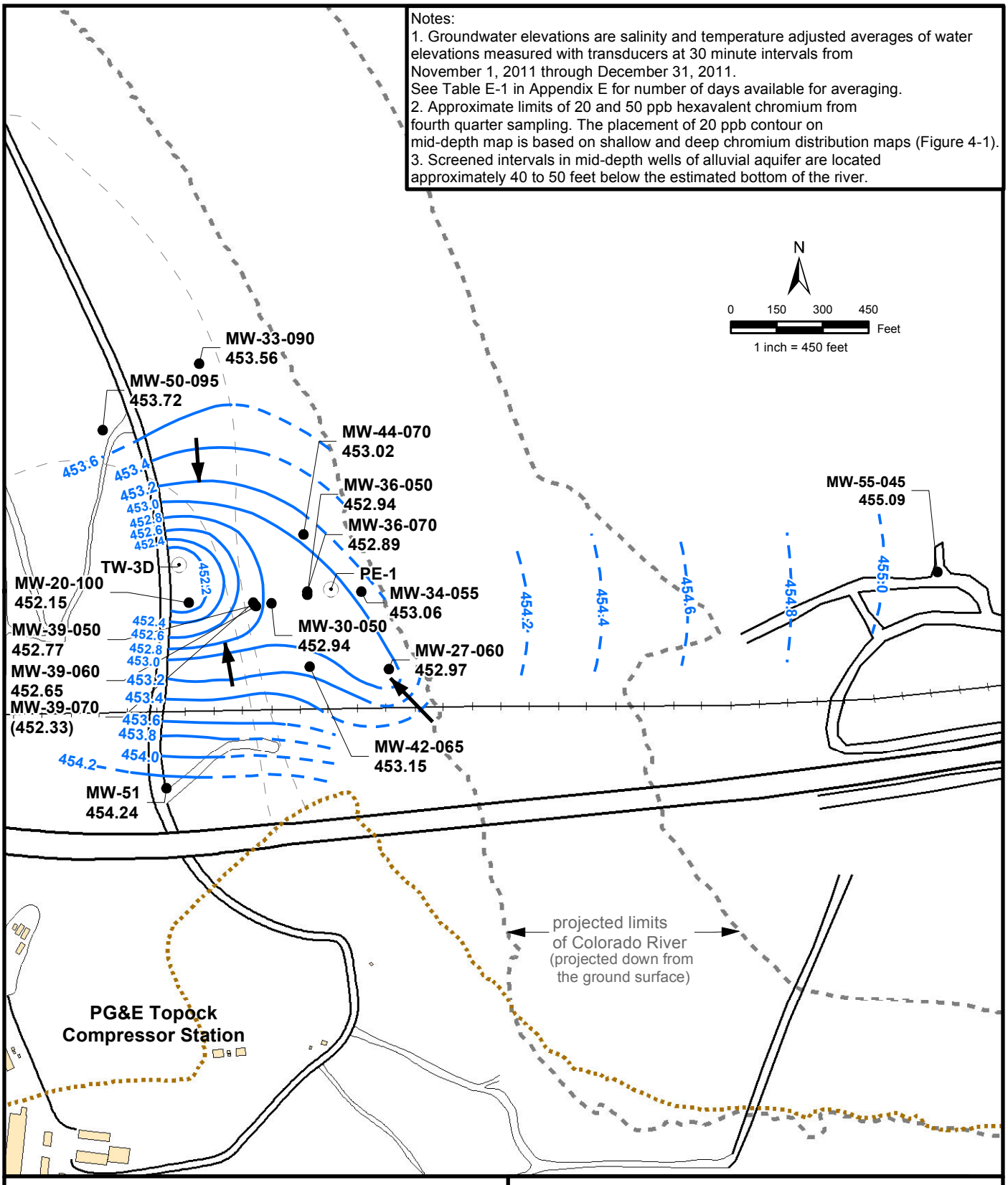

FIGURE 4-3b
AVERAGE GROUNDWATER ELEVATIONS IN MID-DEPTH WELLS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNA

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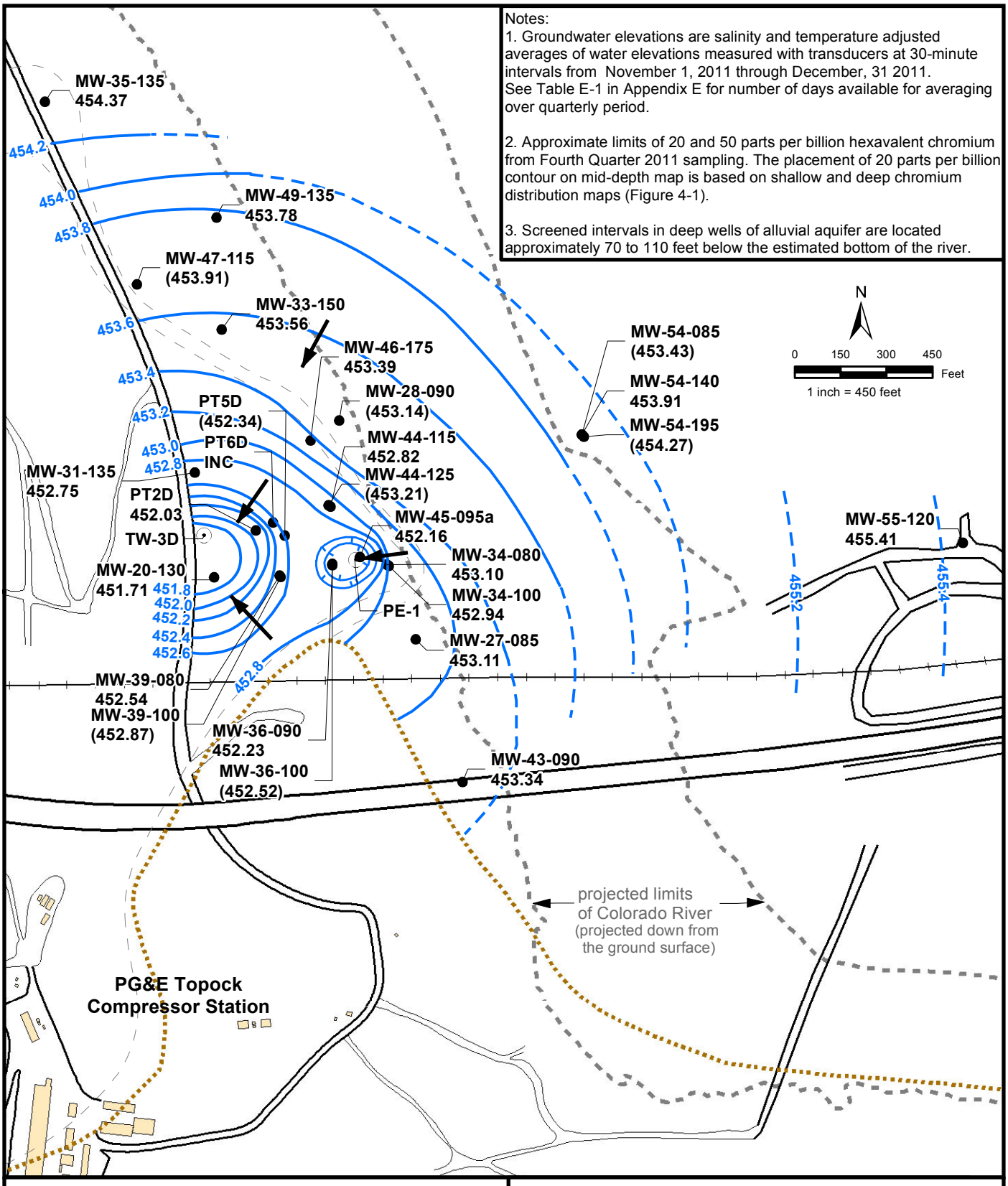

FIGURE 4-3c
AVERAGE GROUNDWATER ELEVATIONS IN DEEP WELLS, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNA

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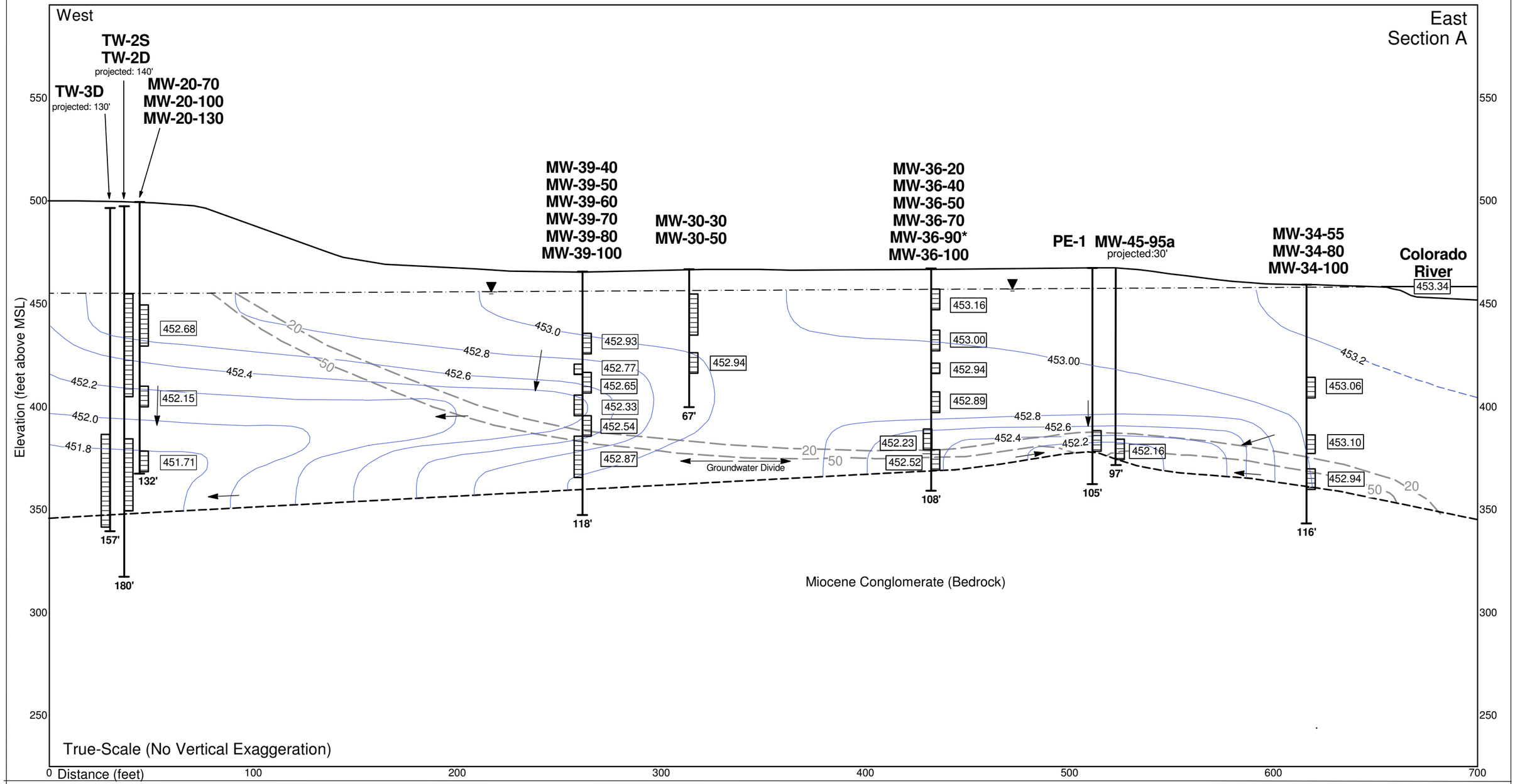

Notes:
Results show average groundwater elevations for November 1, 2011 through December 31, 2011 measured with transducers at 30 minute intervals.

Groundwater elevations adjusted for salinity and temperature.
Well MW-36-90* is excluded from contouring.
River elevation (R-27) 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) in Alluvial Aquifer from Fourth Quarter 2011.

453.5 Groundwater head contour

453.5 Inferred groundwater head contour

Interpreted groundwater flow direction

FIGURE 4-4
AVERAGE GROUNDWATER ELEVATIONS FOR WELLS IN FLOODPLAIN CROSS-SECTION A, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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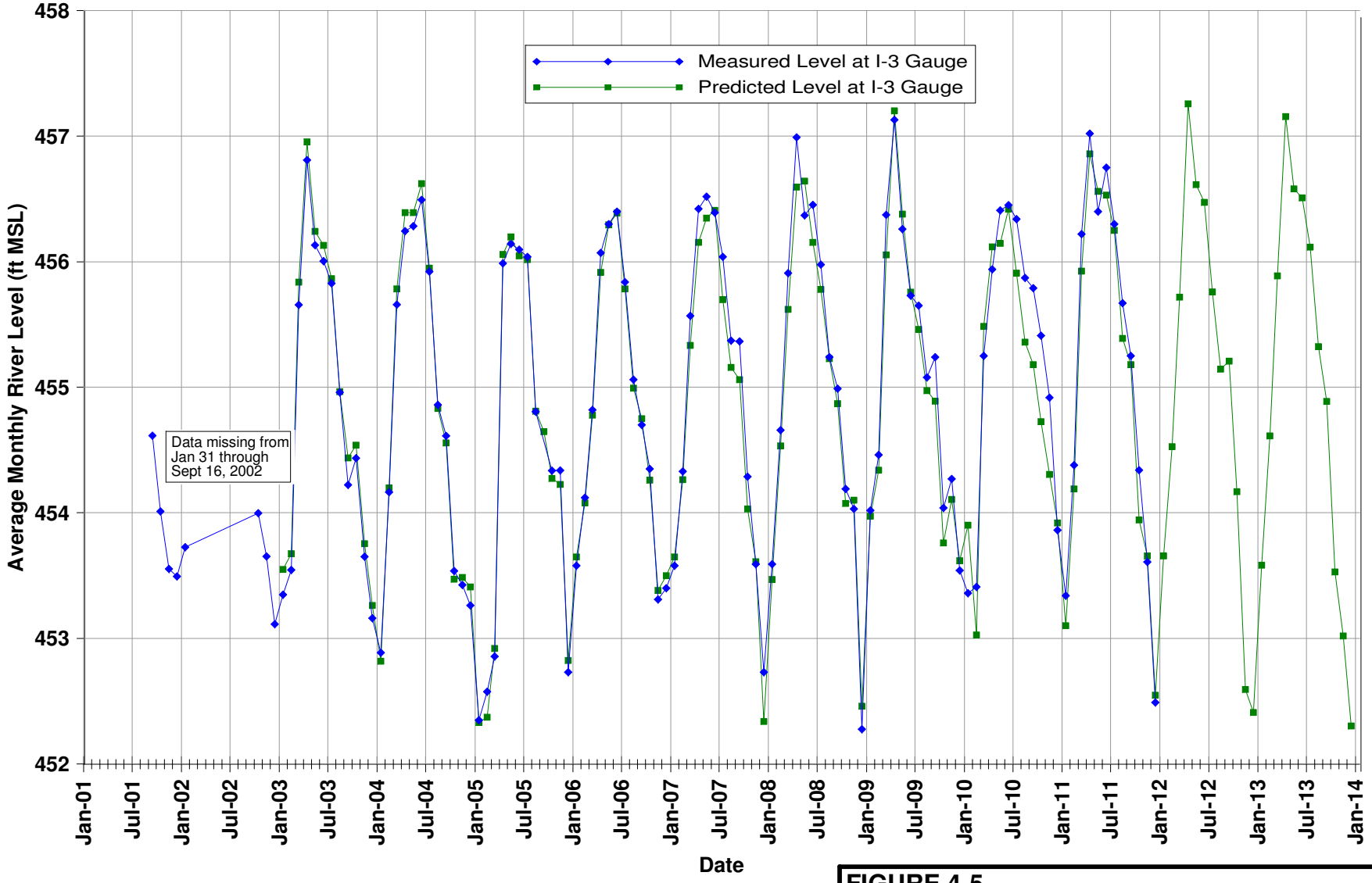

Note:
Projected river level for each month in the past is calculated based on the preceding months USBR projections of Davis Dam release and stage in Lake Havasu. Future projections of river level at I-3 are based upon December 2011 USBR projections. These data are reported monthly by the US Department of Interior, at http://www.usbr.gov/lc/region/g4000/24mo.pdf

FIGURE 4-5
PAST AND PREDICTED FUTURE RIVER LEVELS AT TOPOCK COMPRESSOR STATION

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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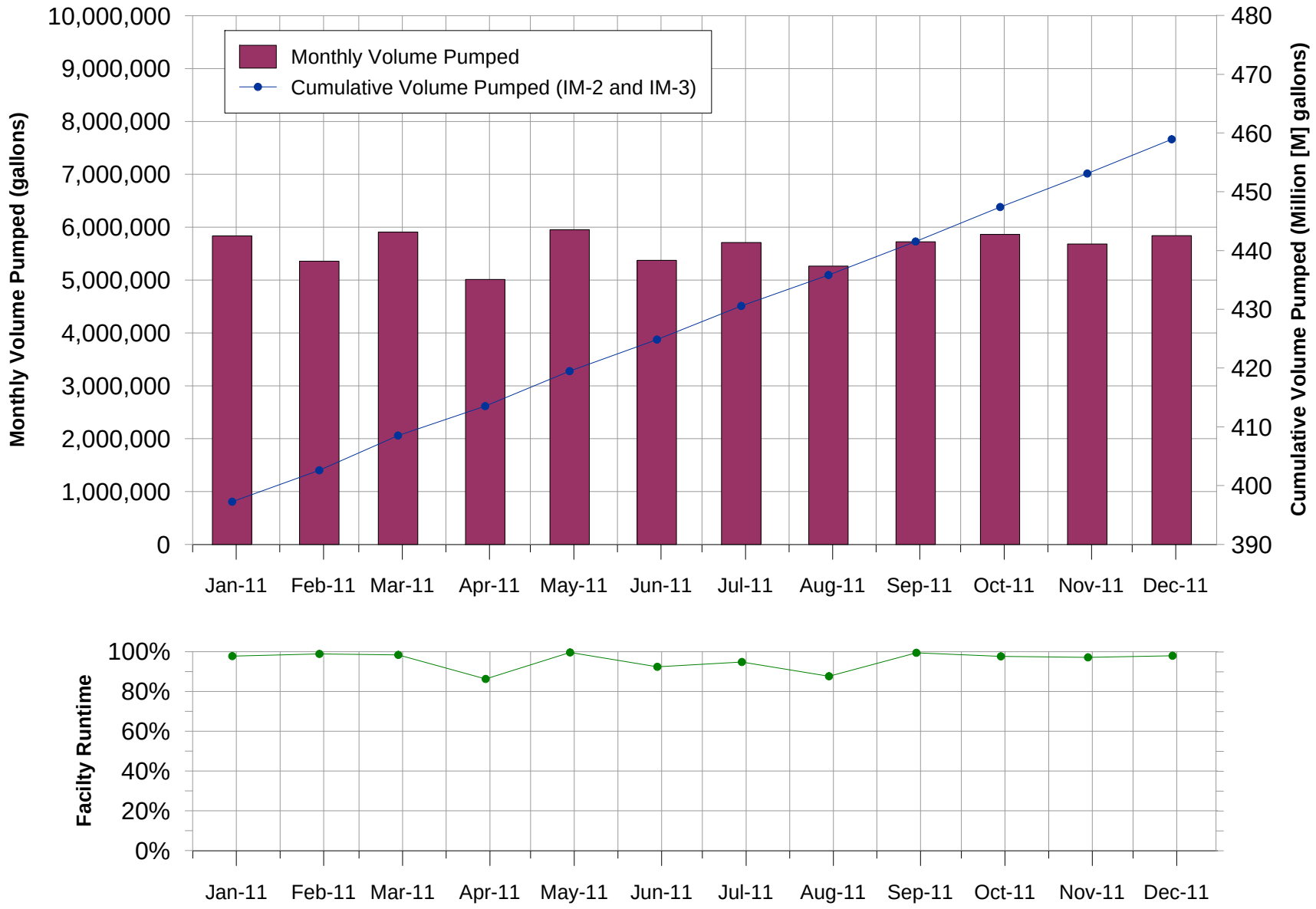

FIGURE 5-1
MONTHLY COMBINED PUMPING VOLUMES AND PERCENT UPTIME, 2011 REPORTING PERIOD
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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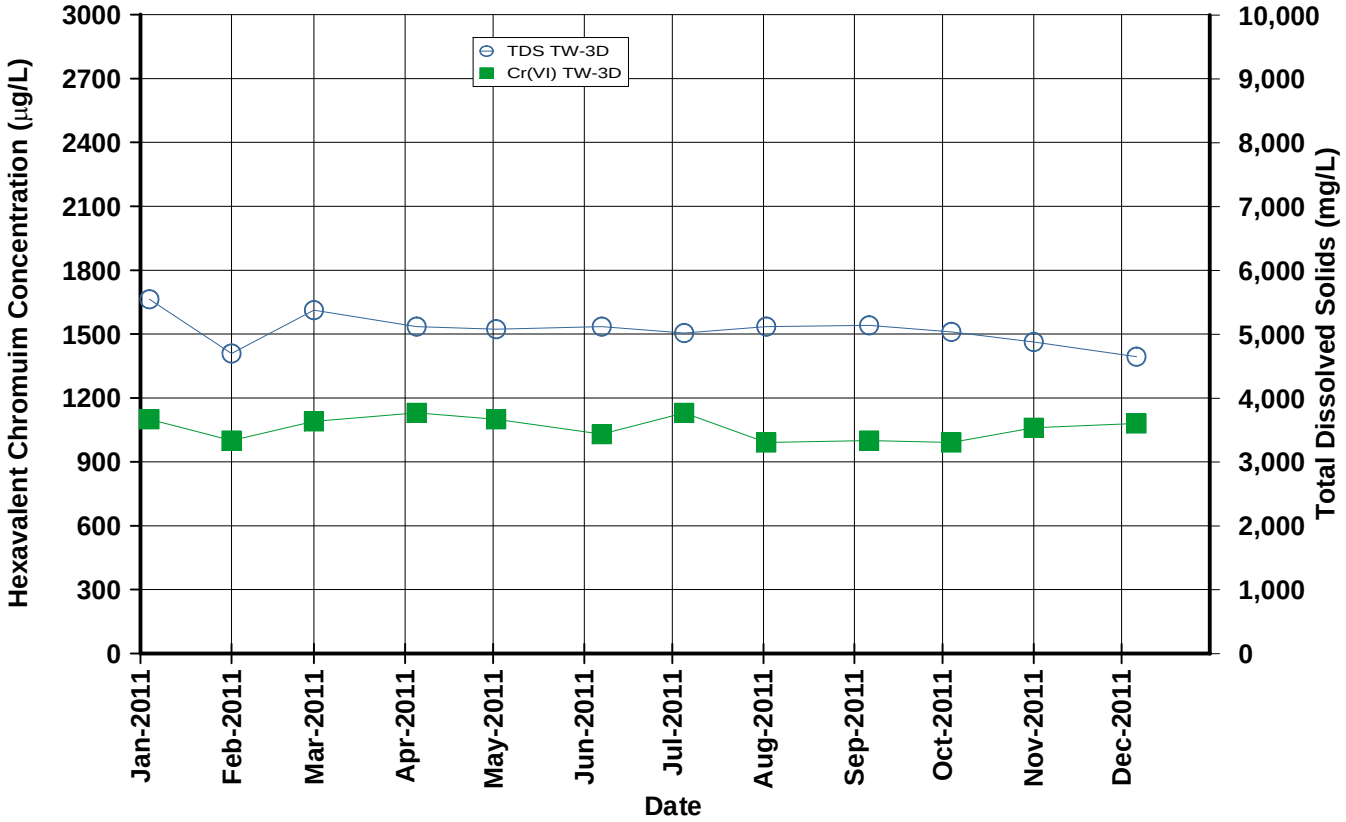

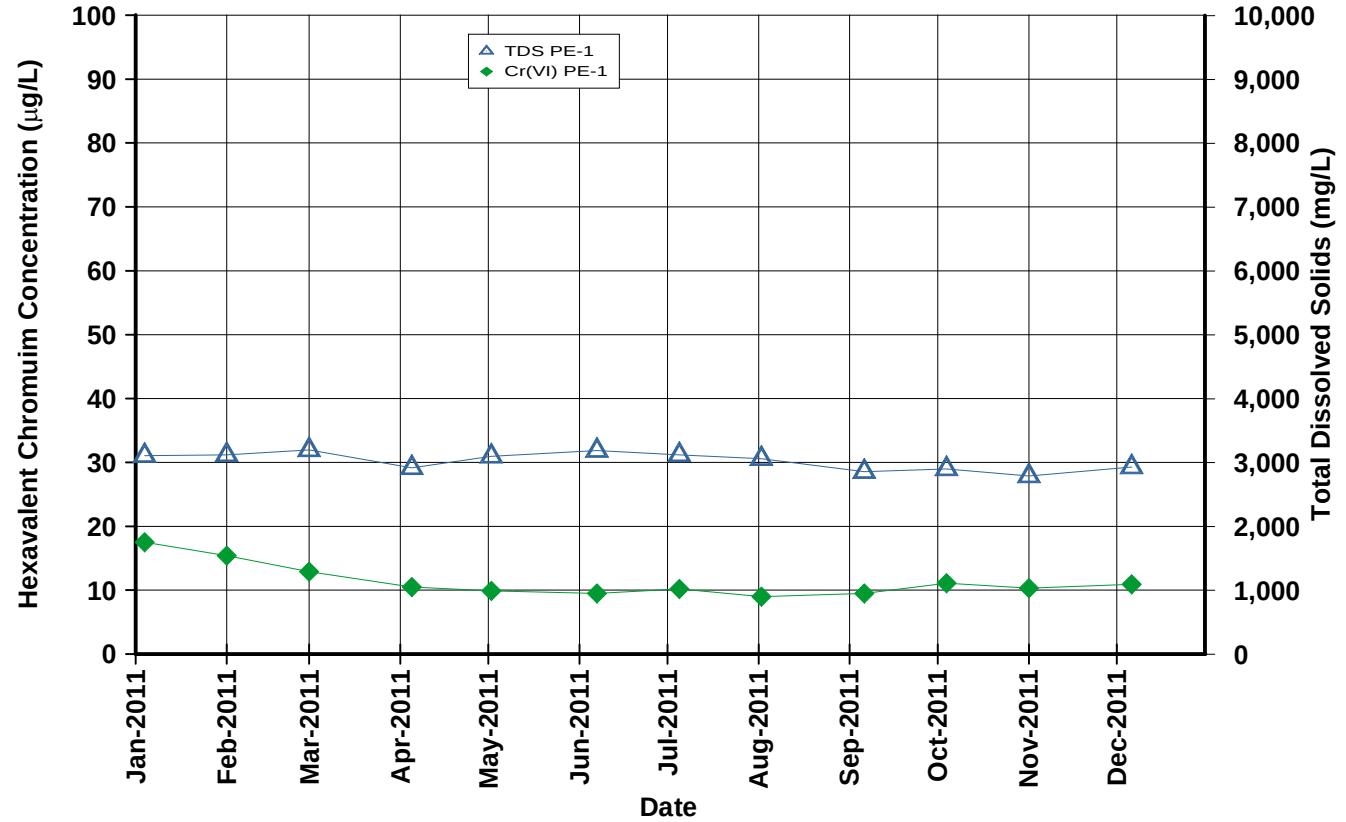

Notes:
TW-3D pumping began on 20-Dec-05.
TW-3D average extraction rate during 2011 was 103.4 gpm.
PE-1 pumping began on 26-Jan-06.
PE-01 average extractopm rate during 2011 was 25.0 gpm.

FIGURE 5-2
Cr(VI) AND TOTAL DISSOLVED SOLIDS CONCENTRATIONS IN EXTRACTION WELLS TW-3D AND PE-1, 2011 REPORTING PERIOD
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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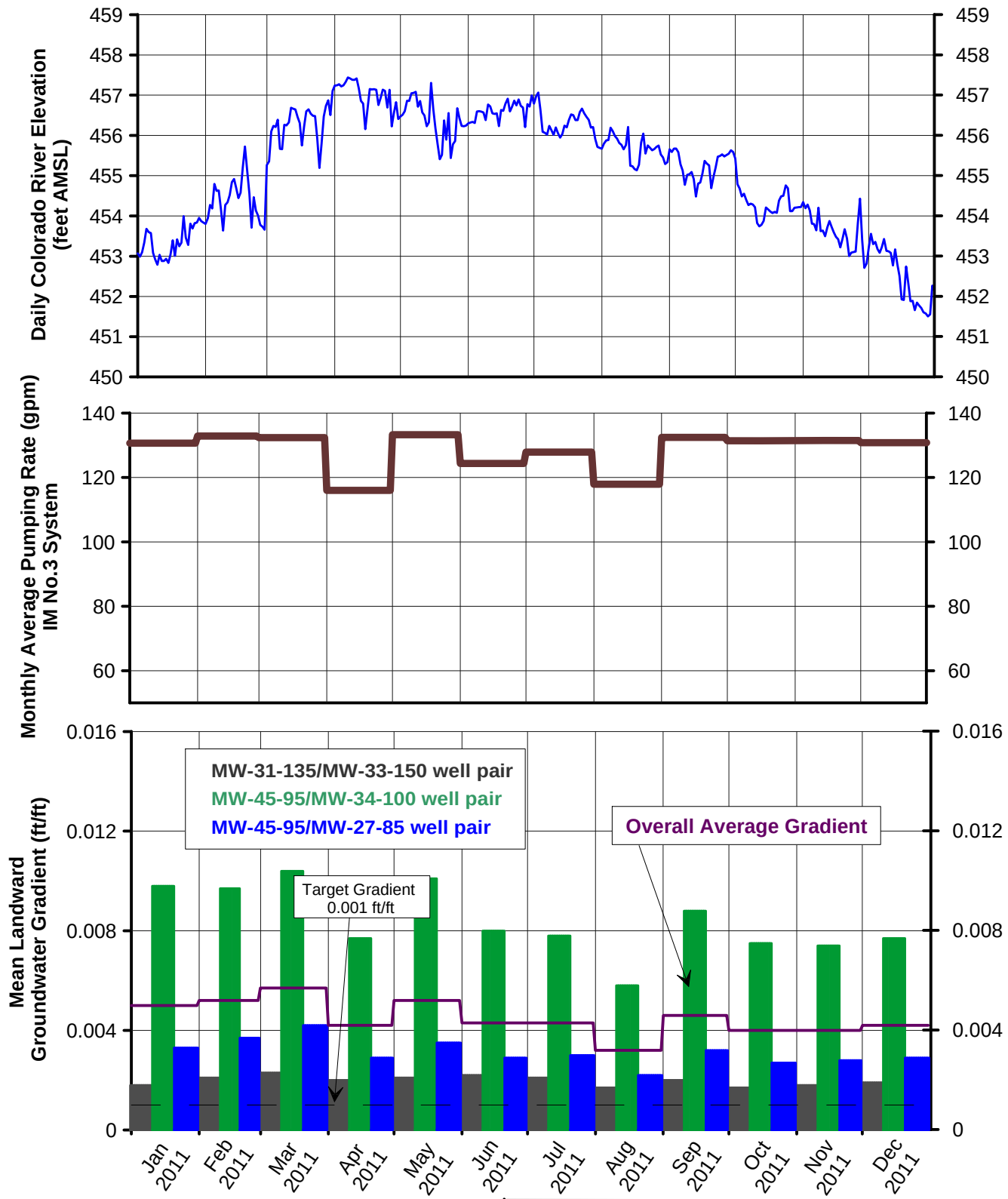

Notes:

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 4-2 and Section 4.5 for discussion of gradient data.

FIGURE 5-3
MEASURED HYDRAULIC GRADIENTS, RIVER ELEVATION, AND PUMPING RATE, 2011 REPORTING PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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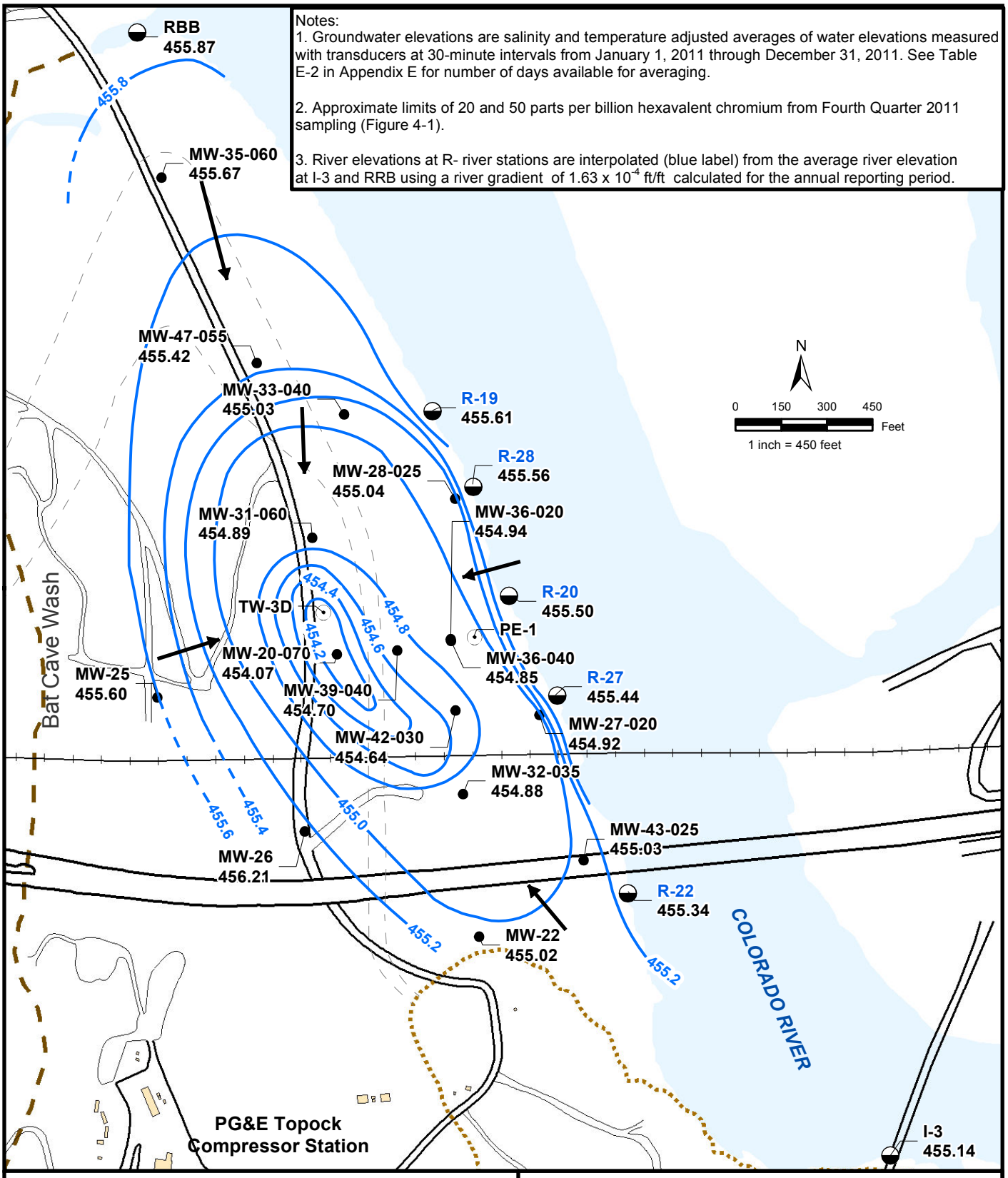

FIGURE 5-4a
AVERAGE GROUNDWATER ELEVATIONS IN SHALLOW WELLS AND RIVER ELEVATIONS, 2011 REPORTING PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNA

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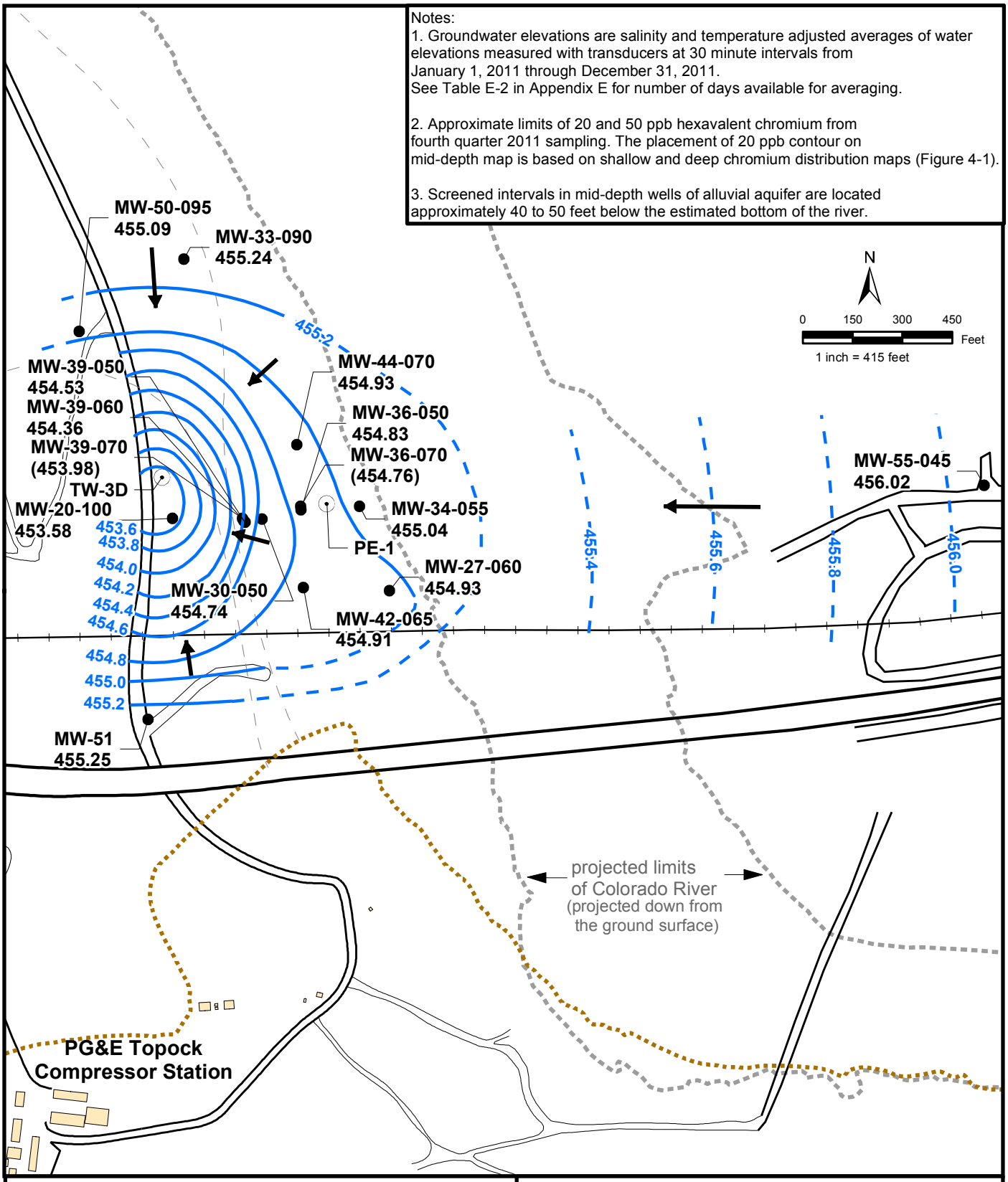

FIGURE 5-4b
AVERAGE GROUNDWATER ELEVATIONS IN MID-DEPTH WELLS 2011 REPORTING PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNA

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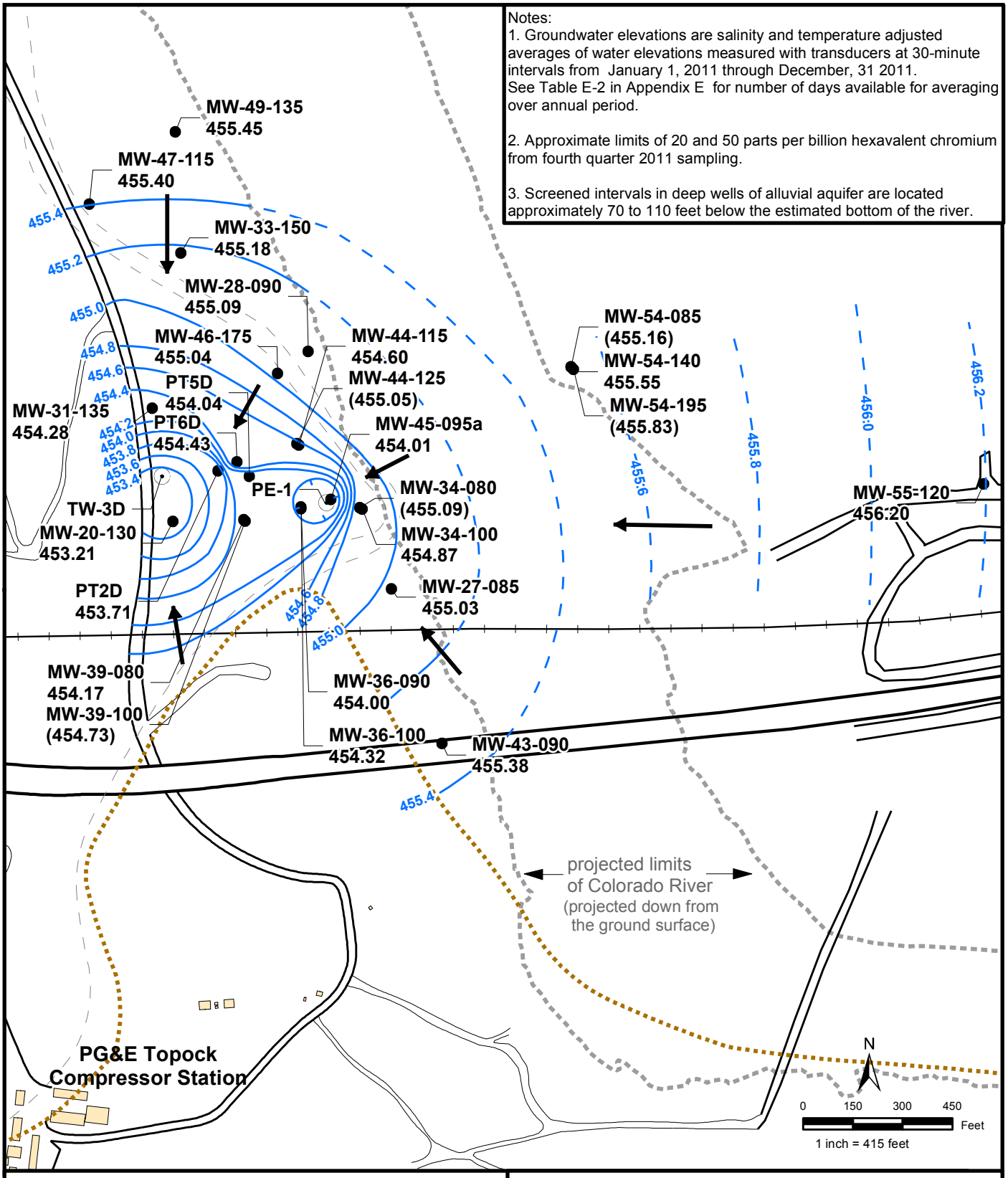

FIGURE 5-4c
AVERAGE GROUNDWATER ELEVATIONS IN DEEP WELLS, 2011 REPORTING PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNA

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West

East
Section A

TW-2S
TW-2D
projected: 140'

TW-3D
projected: 130'

MW-20-70
MW-20-100
MW-20-130

MW-39-40
MW-39-50
MW-39-60
MW-39-70
MW-39-80
MW-39-100

MW-30-30
MW-30-50

MW-36-20
MW-36-40
MW-36-50
MW-36-70
MW-36-90*
MW-36-100

PE-1

MW-45-95a
projected:30'

MW-34-55
MW-34-80
MW-34-100

Colorado River
455.44

Elevation (feet above MSL)

550
500
450
400
350
300
250

454.07
453.58
453.21
132'
157'
180'

453.8
453.6
453.4
453.2
454.0
454.4
454.6
454.2
20
50

454.70
454.53
454.36
453.98
454.17
454.73
118'

454.74
67'

Groundwater Divide

454.94
454.85
454.83
454.76
454.8
454.6
454.4
454.2
454.00
454.32
108'

454.01
97'
105'

455.0
455.2
455.4
455.04
455.09
454.87
116'

Miocene Conglomerate (Bedrock)

True-Scale (No Vertical Exaggeration)

0 Distance (feet) 100 200 300 400 500 600 700

Notes:
Results show average groundwater elevations for January 1, 2011 through December 31, 2011 measured with transducers at 30 minute intervals.

Groundwater elevations adjusted for salinity and temperature.
Well MW-36-90* is excluded from contouring.
River elevation (R-27) 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
103 boring depth (feet)

20 — Inferred hexavalent chromium contours (ppb) in Alluvial Aquifer from Fourth Quarter 2011.

Average groundwater head (ft AMSL)

453.5 — Groundwater head contour

453.5 — Inferred groundwater head contour

Interpreted groundwater flow direction

FIGURE 5-5
AVERAGE GROUNDWATER ELEVATIONS FOR WELLS IN FLOODPLAIN CROSS-SECTION A, 2011 REPORTING PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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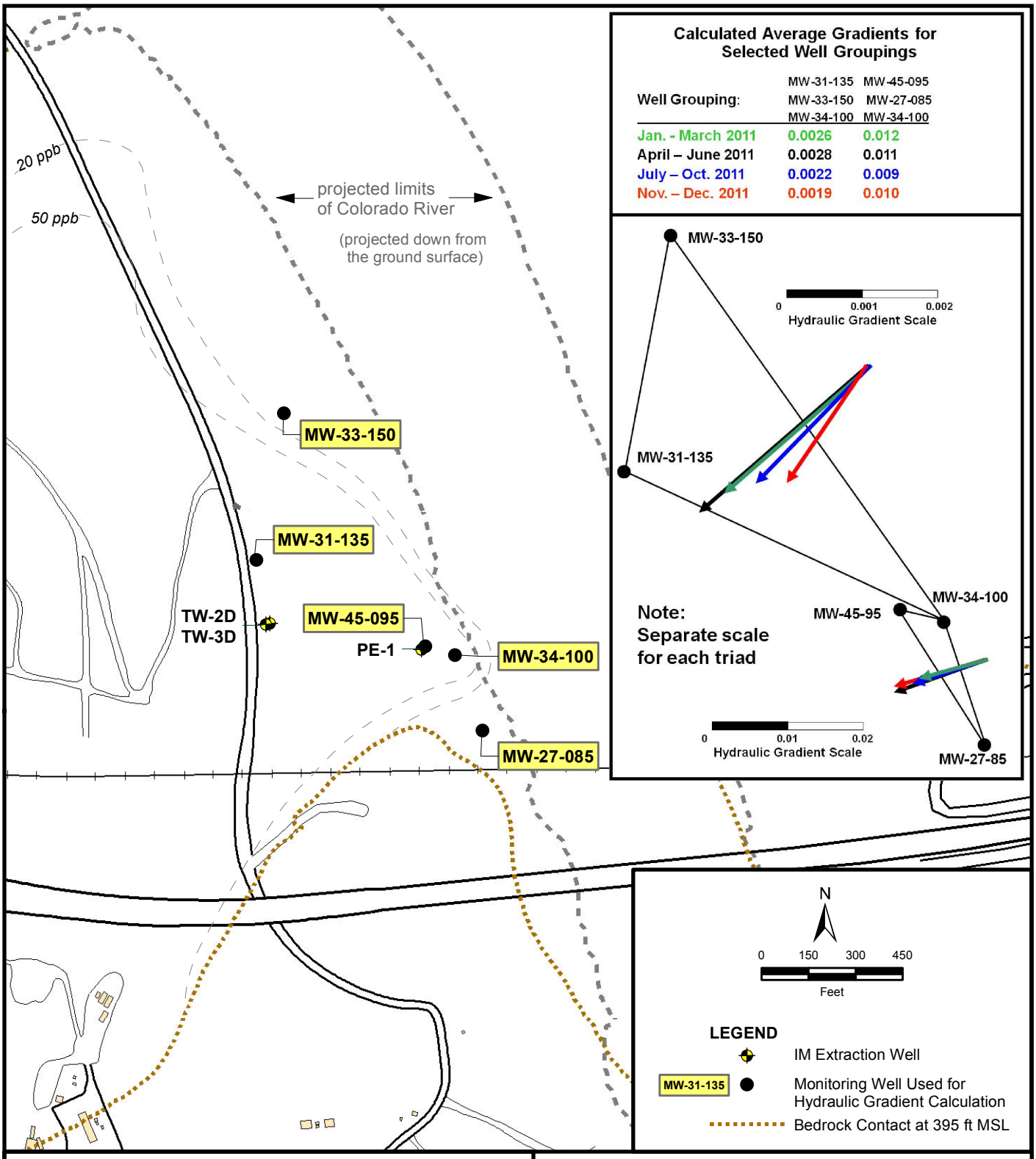
C:\USERS\E2USER\DOCUMENTS\TOPOCK\GINT\2011_4Q\FIGURE_5-5_XSECA_GW-ANNUAL.GDW;



Notes:
1. Direction and magnitude of hydraulic gradient for each well triad (MW-45-095, MW-33-150, MW-31-135 and MW-45-095, MW-34-100, MW-27-085) were calculated using triangulation with linear interpretation and average head values for each quaterly reporting period.

2. Approximate limits of 20 and 50 ppb hexavalent chromium from fourth quarter 2011 sampling.

3. Screened intervals in deep wells of alluvial aquifer are located approximately 80 to 90 feet below the estimated bottom of the river.

FIGURE 5-6
MAGNITUDE AND DIRECTION OF HYDRAULIC GRADIENTS IN LOWER DEPTH INTERVAL DURING 2011 ANNUAL PERIOD

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNA

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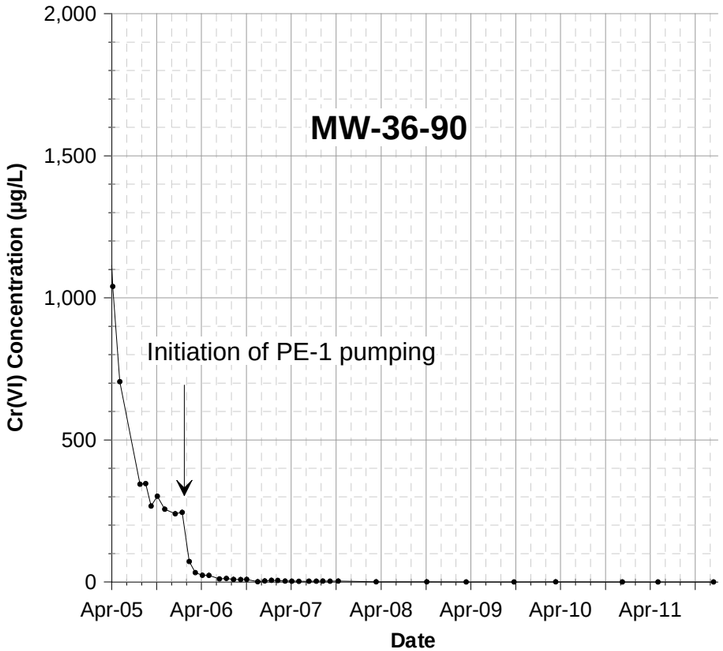

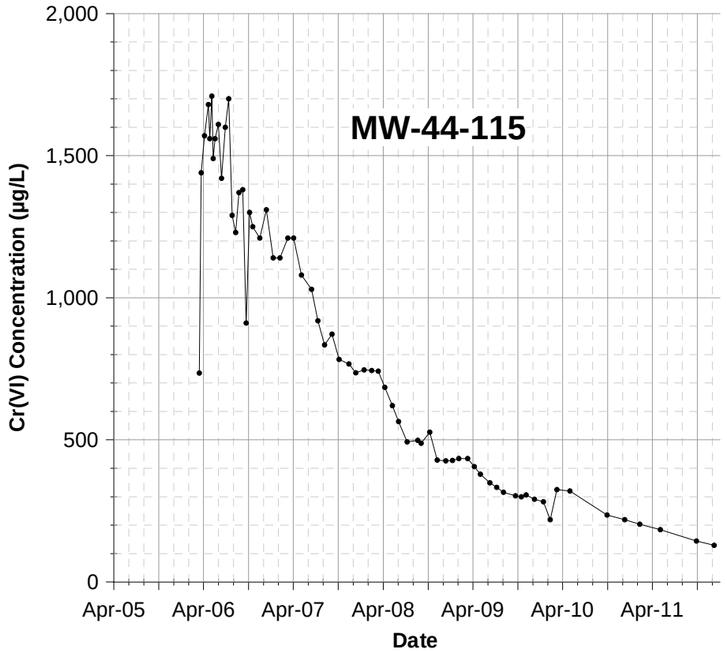

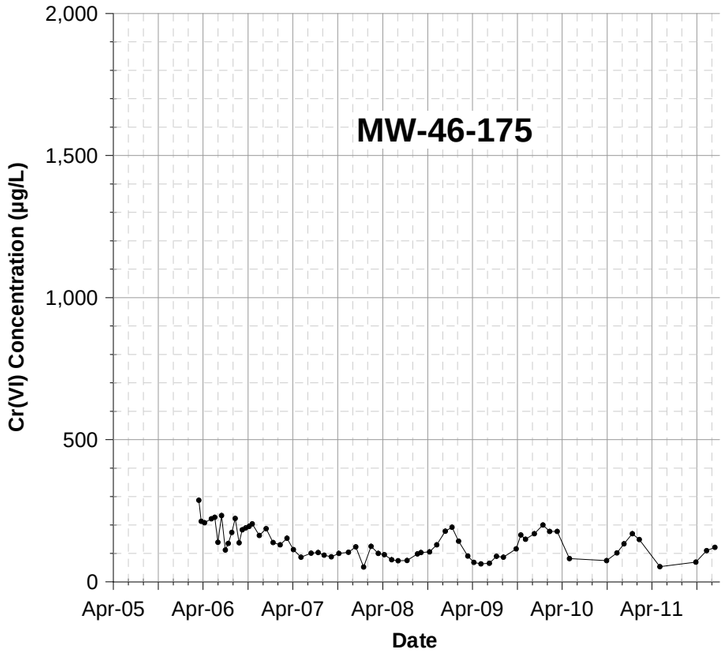

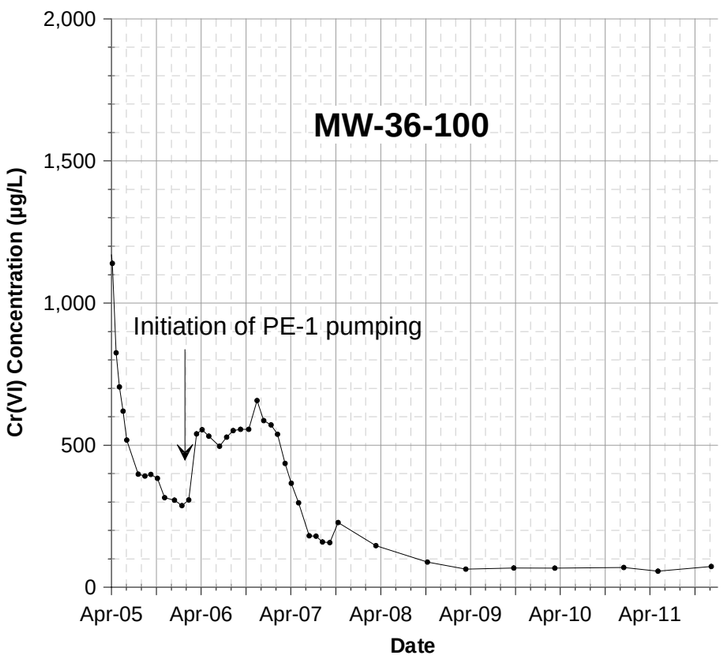

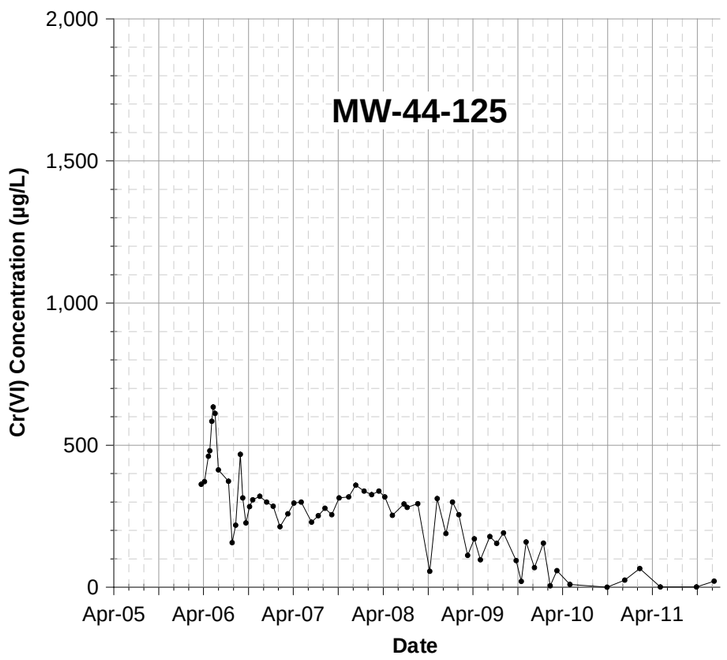

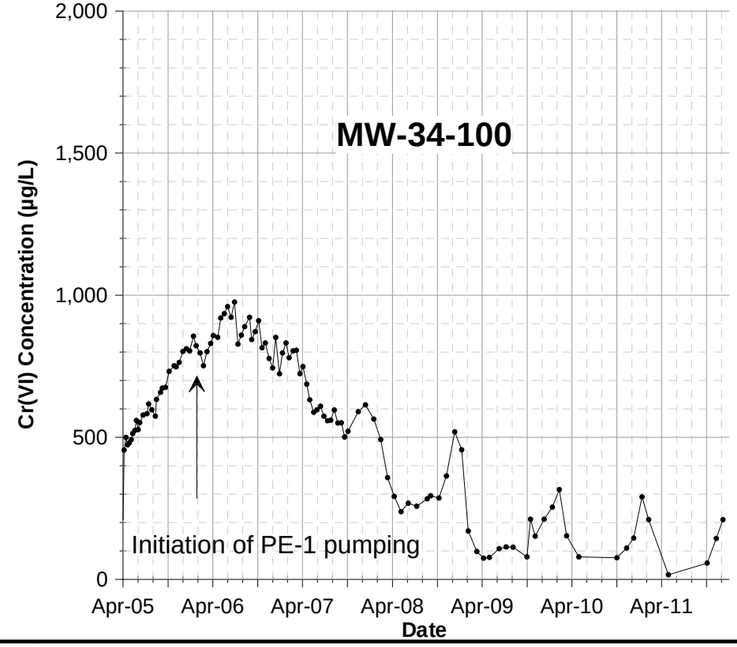

Notes
1. Hexavalent chromium [Cr(VI)] results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. Results plotted are maximum concentrations from primary and duplicate samples; see Table 3-1 for complete results.
3. MW-36 wells selected to monitor effects of PE-1 pumping on plume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

FIGURE 5-7
Cr(VI) CONCENTRATION TRENDS IN SELECTED PERFORMANCE MONITORING WELLS, APRIL 2005 THROUGH DECEMBER 2011
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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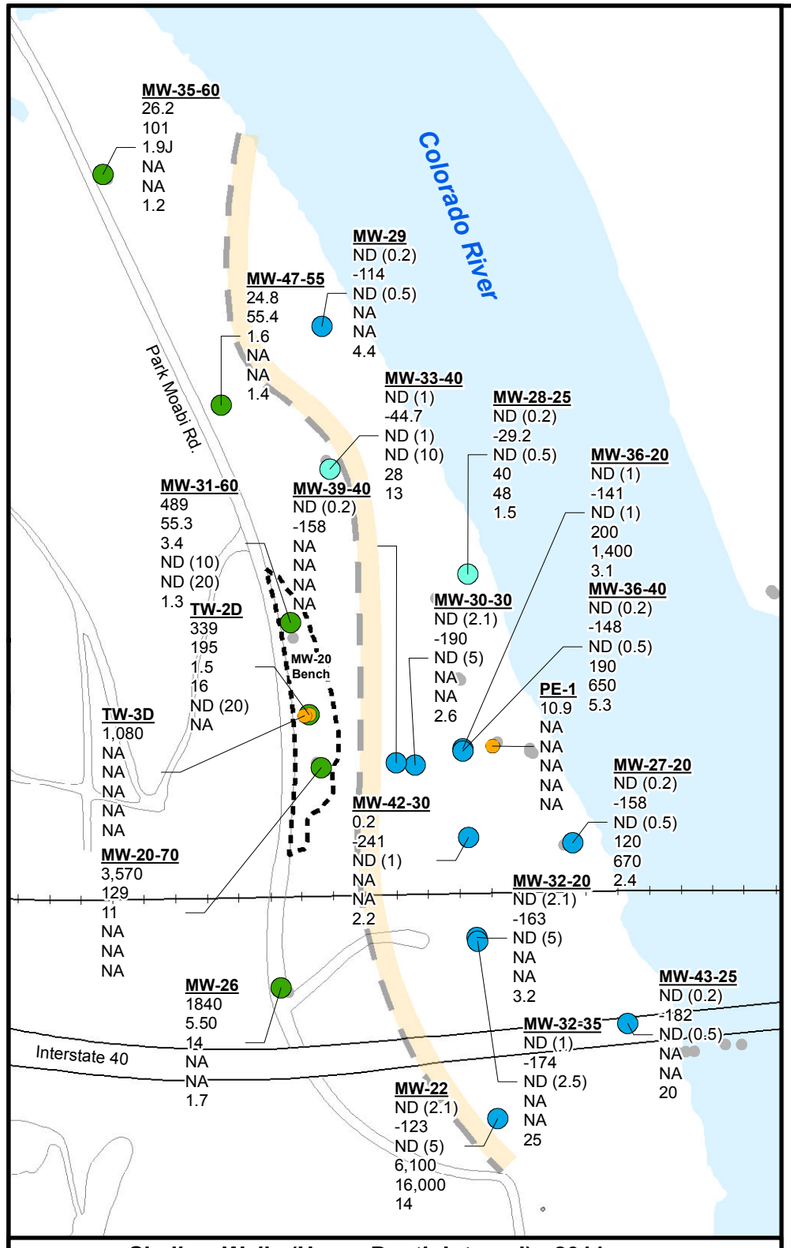
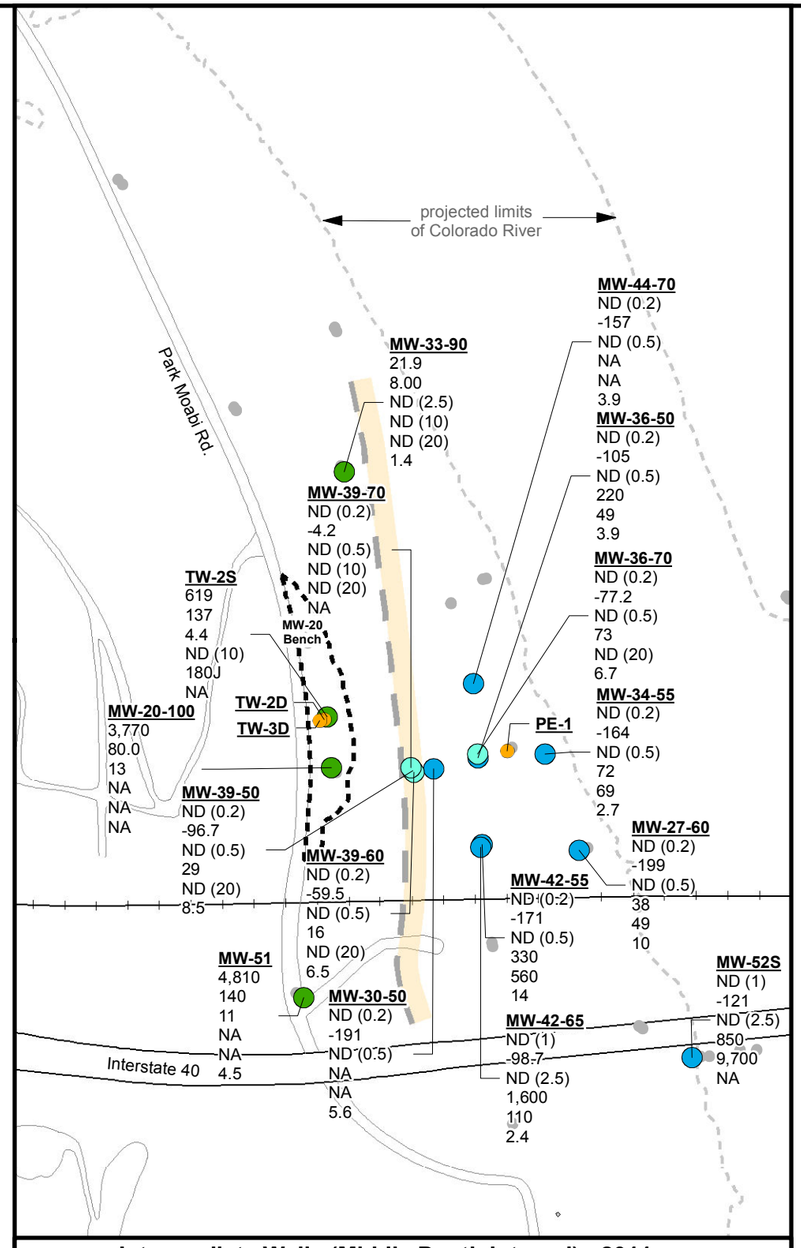
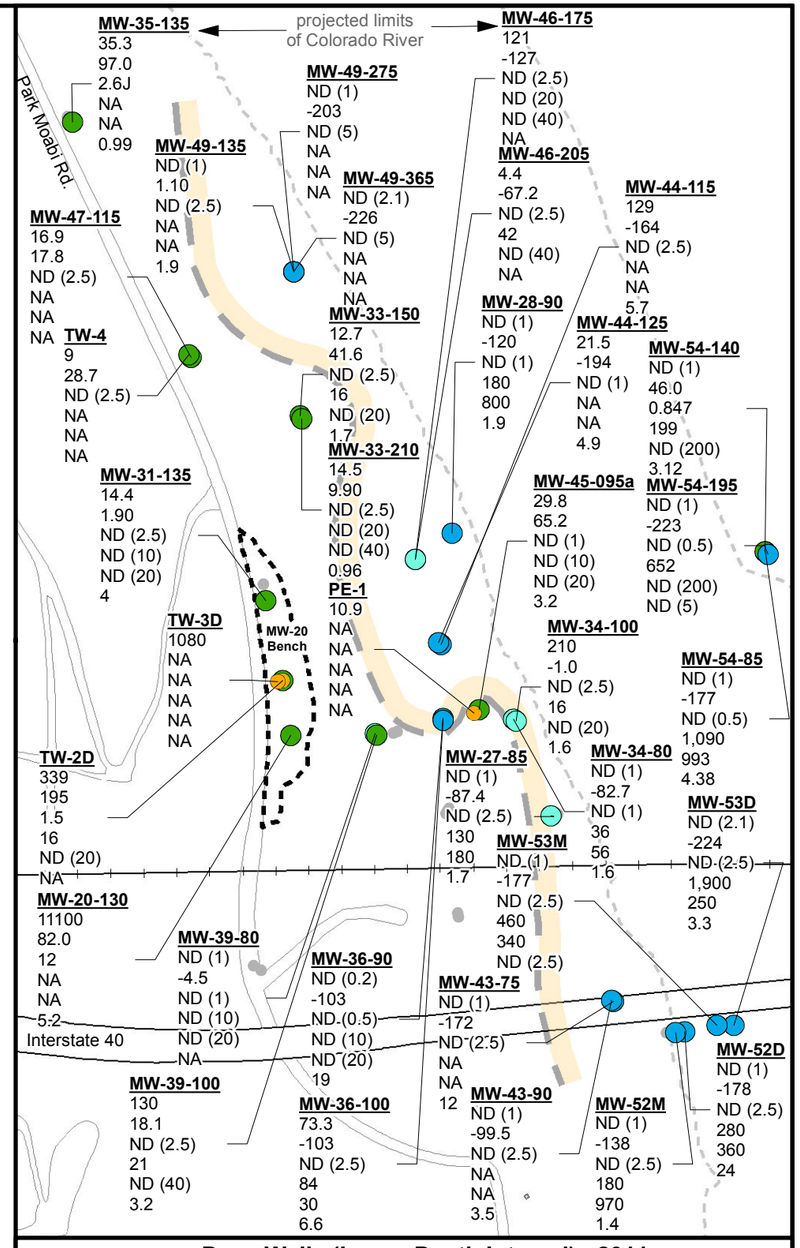


Shallow Wells (Upper Depth Interval) - 2011



Intermediate Wells (Middle Depth Interval) - 2011



Deep Wells (Lower Depth Interval) - 2011

LEGEND

- Groundwater ORP < -90 mV
- Groundwater -90 mV < ORP < 1 mV
- Groundwater ORP > 1 mV
- IM3 Extraction Wells (TW-2D, TW-3D, and PE-1)

Notes:
ND = not detected at listed reporting limit
NA = data not collected during reporting period
J = the value is an estimate

MW-22	Groundwater Results, Fourth Quarter 2011
ND (1)	Hexavalent chromium, micrograms per liter (µg/L)
-65.7	Oxidation reduction potential (ORP), millivolts (mV)
ND (2.5)	Nitrate as N, milligrams per liter (mg/L)
4400	Manganese (Mn), mircrograms per liter (µg/L)
9400	Iron (Fe), mircrograms per liter (µg/L)
12	Arsenic (As), mircrograms per liter (µg/L)

Approximate limit of reducing groundwater based upon a combination of redox indicator parameters.

N

0 400 800 Feet

FIGURE 5-8
DISTRIBUTION OF Cr(VI), GEOCHEMICAL INDICATOR PARAMETERS, AND IN SITU BYPRODUCTS IN FLOODPLAIN WELLS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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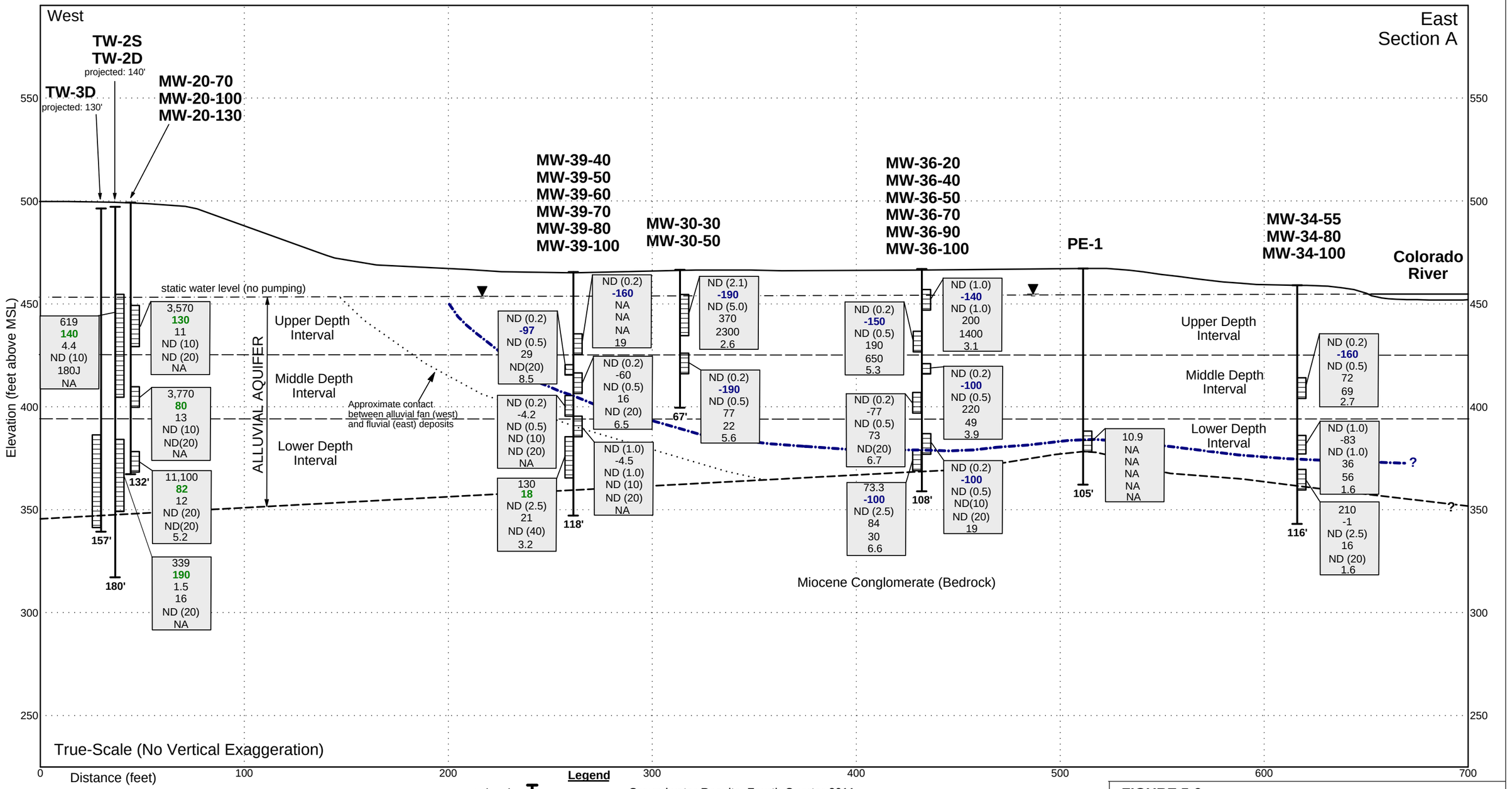

Notes:
ND = not detected at listed reporting limit.
NA = data not collected during reporting period.

Legend

water level

well screen

boring depth (feet) 103

3,130
75.2
16
ND (10)
ND (20)
16.0

Groundwater Results, Fourth Quarter 2011

Hexavalent chromium, micrograms per liter (ug/L)
Oxidation reduction potential, millivolts (mV)
Nitrate as N, milligrams per liter (mg/L)
Manganese (Mn), micrograms per liter (ug/L)
Iron (Fe), micrograms per liter (ug/L)
Arsenic (As), micrograms per liter (ug/L)

ORP values less than -90 mV highlighted blue.
Positive ORP values highlighted green.

Approximate limit of reducing water; based on a combination of redox indicator parameters.

Groundwater ORP <-90mV
Groundwater ORP -90mV <ORP<1mV
Groundwater ORP >1mV

FIGURE 5-9
DISTRIBUTION OF Cr(VI), GEOCHEMICAL INDICATOR PARAMETERS, AND IN SITU BYPRODUCTS IN FLOODPLAIN WELLS CROSS-SECTION A, FOURTH QUARTER 2011

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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C:\USERS\E2USER\DOCUMENTS\TOPOCK\GINT\2011_4Q\FIGURE_5-9_X-SEC_GEOCHEM_ANNUAL_2011.GDW;

Site Fluvial Plume
Site Fluvial Non-Plume
Offsite Fluvial Non-Plume
Site Alluvial Plume
Offsite Alluvial Non-Plume
River
Global Meteoric Water Line

δ^2H ,ppt

-40
-80
-120

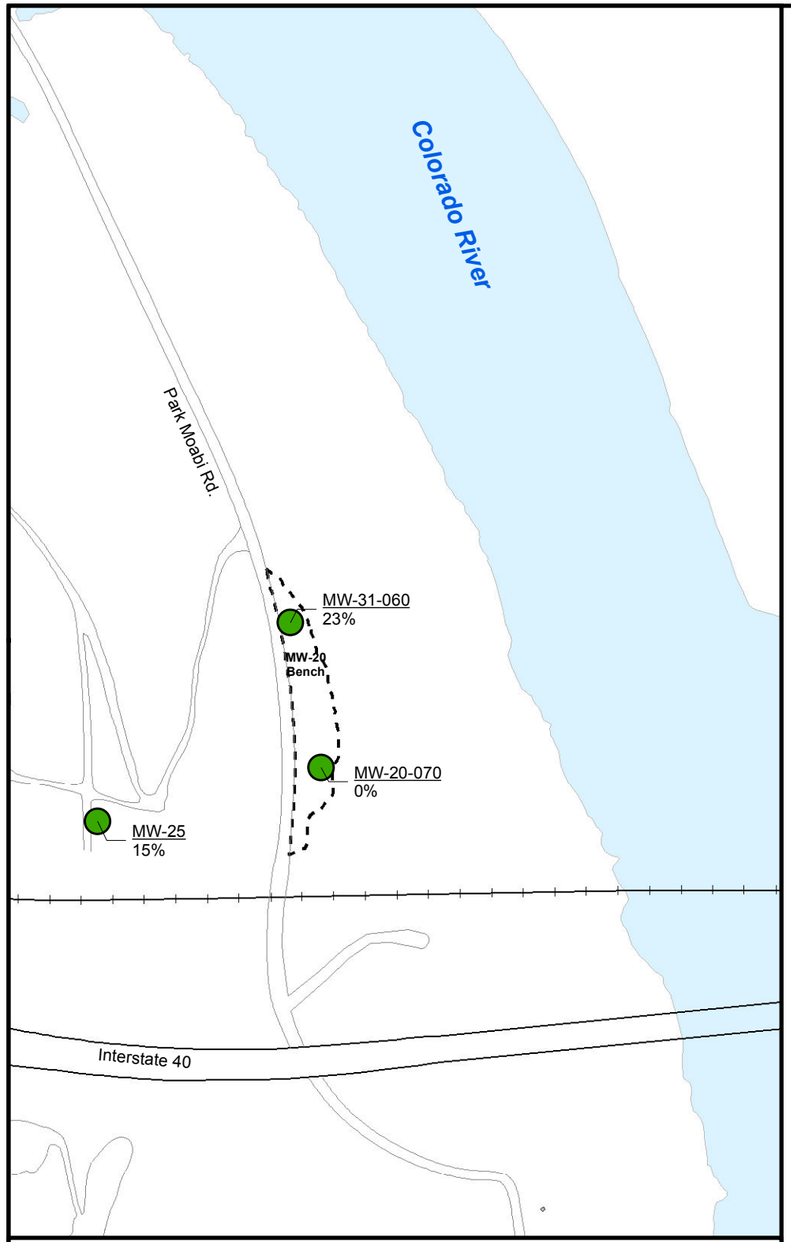
-15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4

δ^{18}O ,ppt

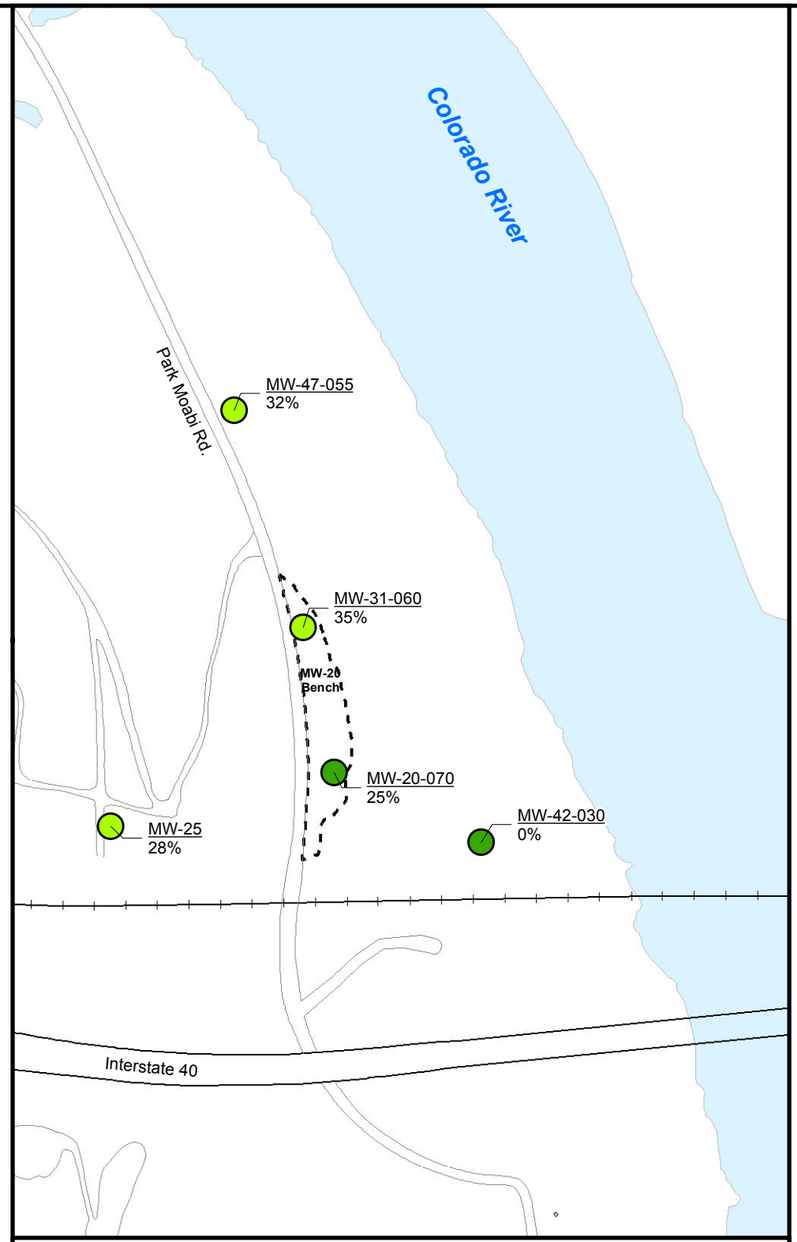
CA Agriculture Station
MW-20-70
Park Moabi-3
Tayloe
Langmaack
MW-20-100
GSRV-2
GSWC-4
GSWC-1
TMLP-2
MW-20-130
CW-2M
Sanders
MW-26
MW-25
ADOT New Well
MW-31-60
Lily Hill
EPNG-2
CW-1M
PGE-9S
Topock-2
GSWC-2
GSWC-3
Needles MW-12
PGE-9N
MW-34-100
Needles MW-10
USFW-5
MW-32-35
Topock-3
NR-1
MW-34-80
BOR-2
MW-34-55
New Farm Well
Needles MW-11
BOR-3

Notes:
Values for Performance Monitoring Program Wells are averages from the 2011 Reporting Period.
Values from Background Wells are cumulative averages from all years.

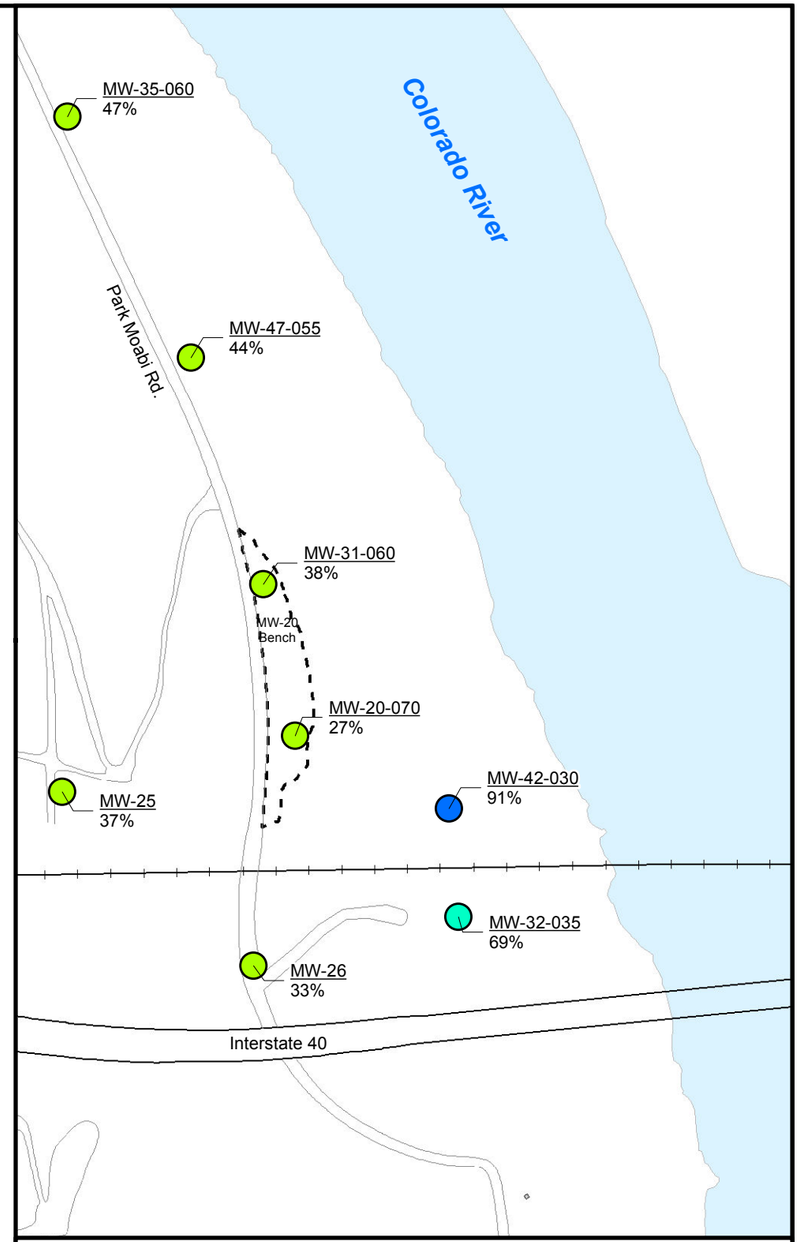
FIGURE 5-10
AVERAGE STABLE ISOTOPES OF OXYGEN AND DEUTERIUM
JANUARY 2011 THROUGH DECEMBER 2011
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Shallow Wells (Upper Depth Interval) - 2004



Shallow Wells (Upper Depth Interval) - 2006



Shallow Wells (Upper Depth Interval) - 2011

LEGEND

Calculated Riverine Signature

- <25%
- 26-50%
- 51-75%
- 76-100%

MW-22 **Well ID**
22% Percent River Signature

Note:
Percent river water signature was calculated using composite statistics for deuterium isotope data from site river water samples and plume groundwater samples between 2004 and 2011. The posted percentages each represent the sample's calculated river water signature percentage, with 100% being essentially the same deuterium signature as river water, and 0% being equal to the plume water signature.

N

0 400 800 Feet

FIGURE 5-11a
DISTRIBUTION OF RIVER SIGNATURE IN FLOODPLAIN WELLS, SHALLOW WELLS (UPPER DEPTH INTERVAL)
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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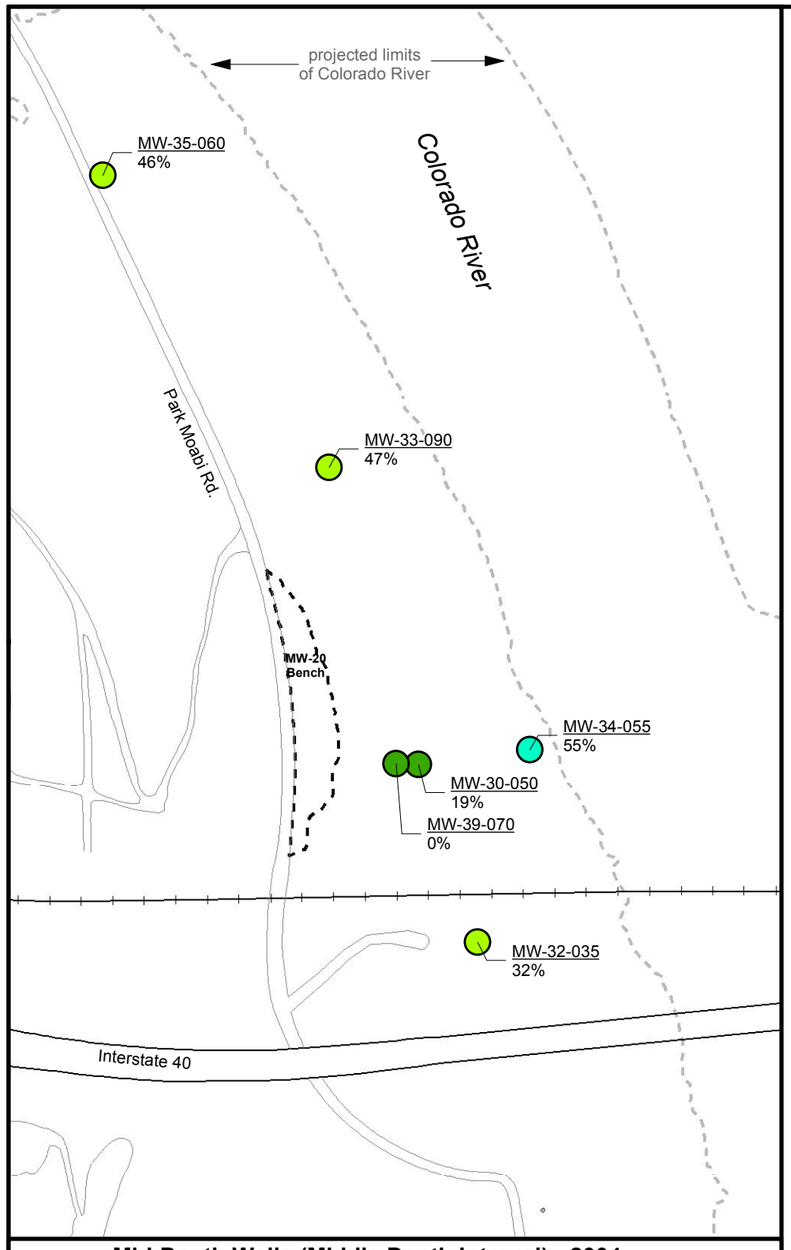
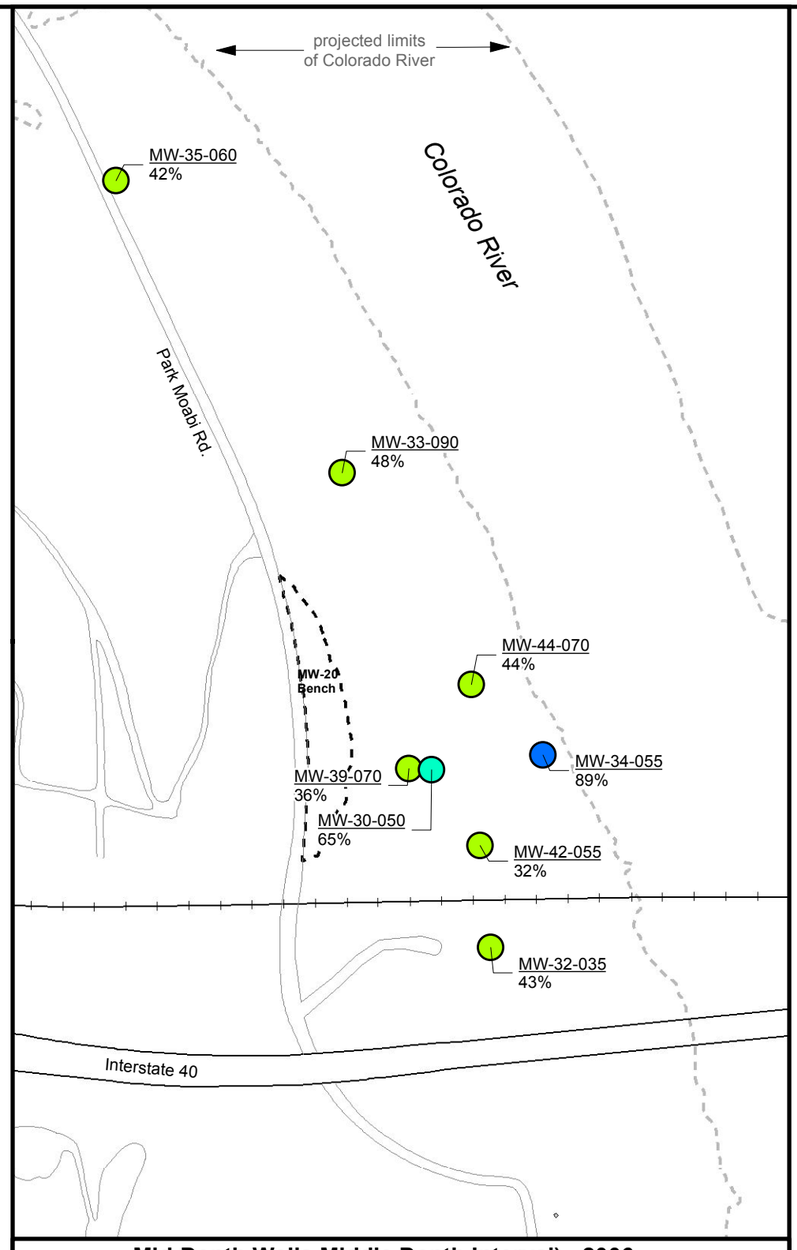
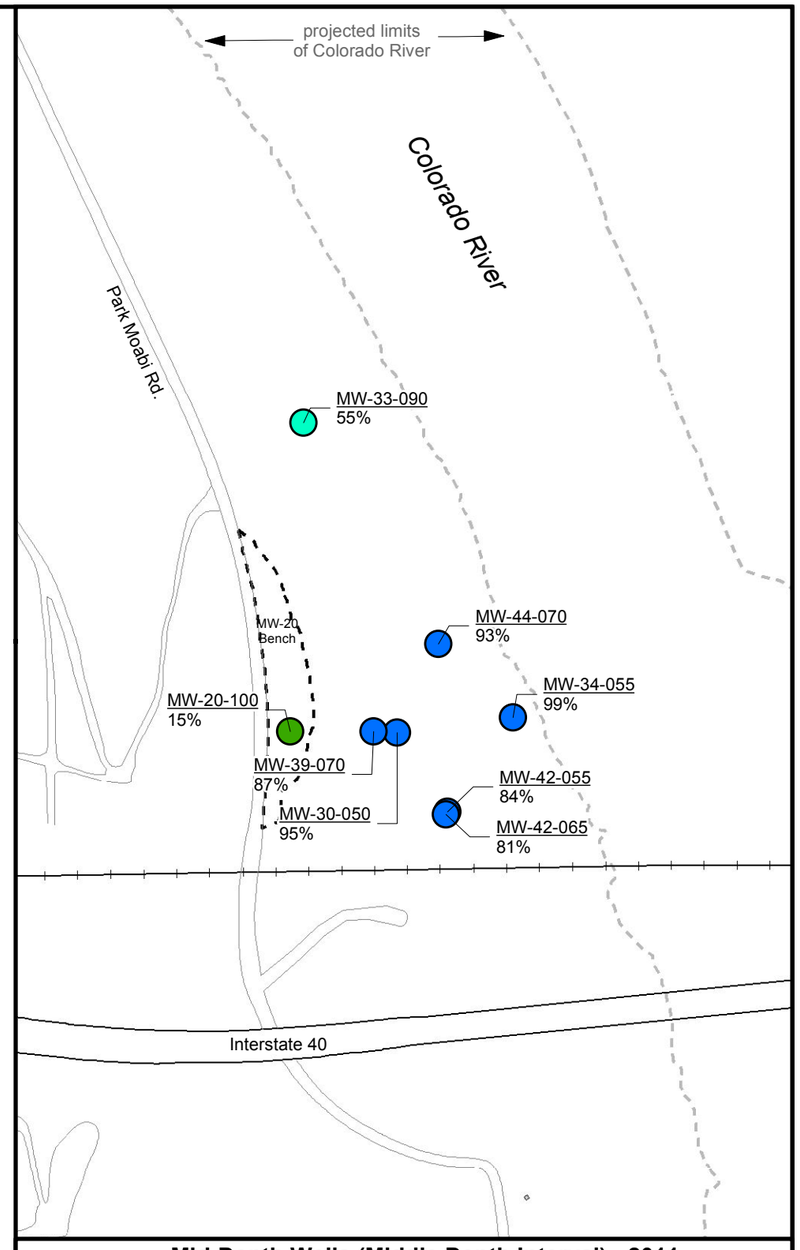


Mid-Depth Wells (Middle Depth Interval) - 2004



Mid-Depth Wells Middle Depth Interval) - 2006



Mid-Depth Wells (Middle Depth Interval) - 2011

LEGEND

Calculated Riverine Signature

- <25%
- 26-50%
- 51-75%
- 76-100%

MW-22 **Well ID**
22% Percent River Signature

Note:
Percent river water signature was calculated using composite statistics for deuterium isotope data from site river water samples and plume groundwater samples between 2004 and 2011. The posted percentages each represent the sample's calculated river water signature percentage, with 100% being essentially the same deuterium signature as river water, and 0% being equal to the plume water signature.

N

0 400 800 Feet

FIGURE 5-11b
DISTRIBUTION OF RIVER SIGNATURE IN FLOODPLAIN WELLS, MID-DEPTH WELLS (MIDDLE DEPTH INTERVAL)
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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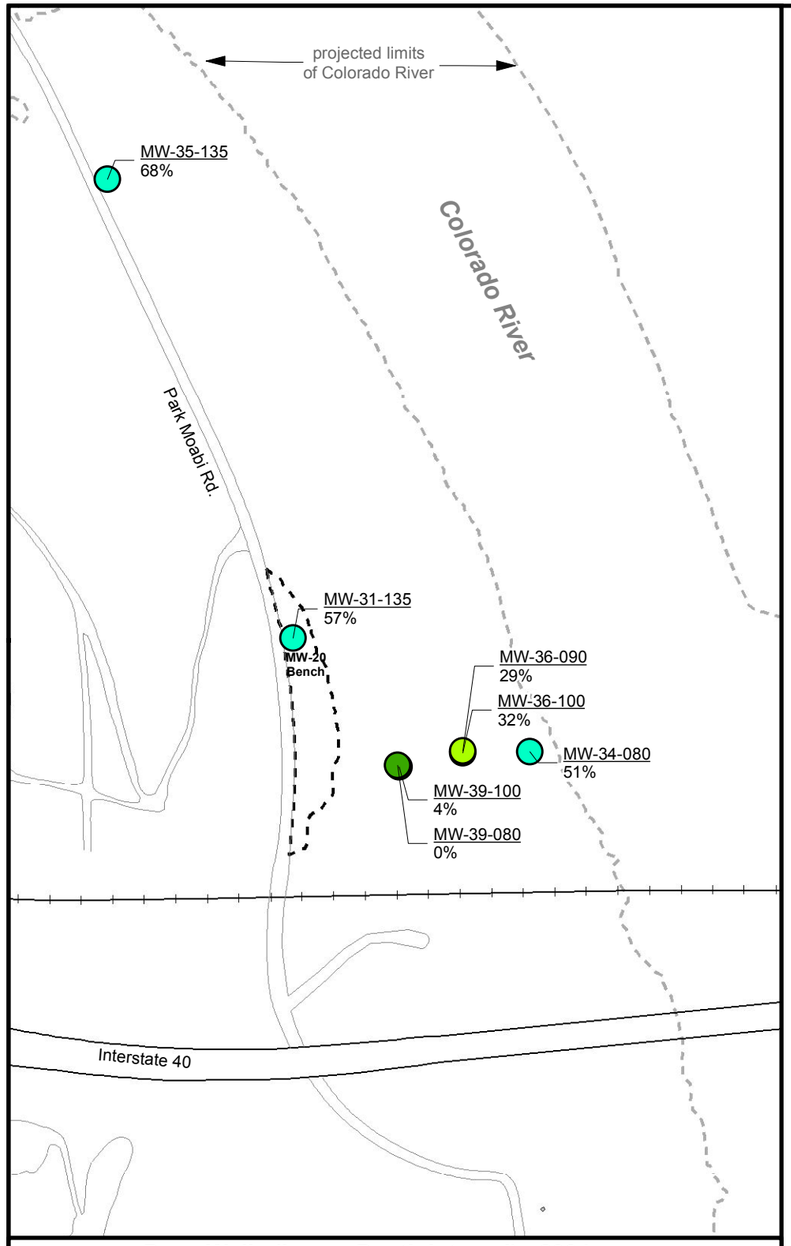
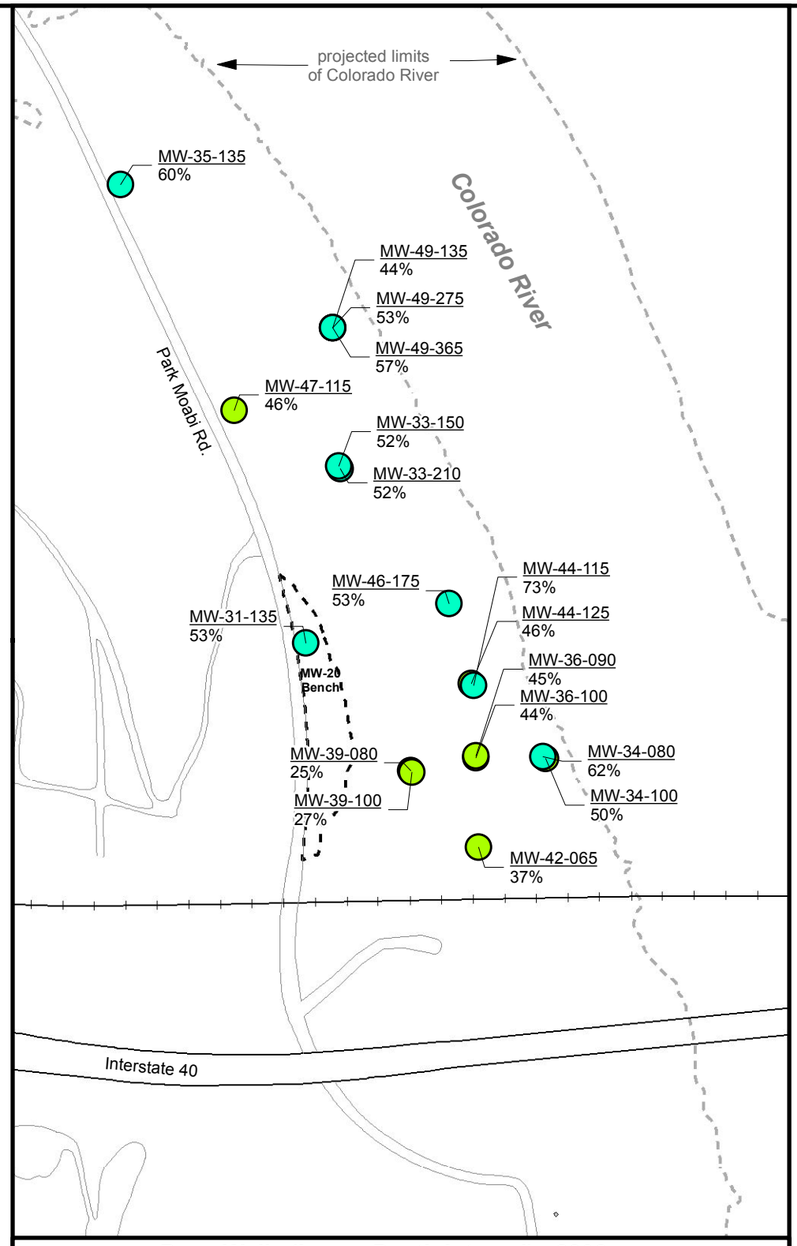
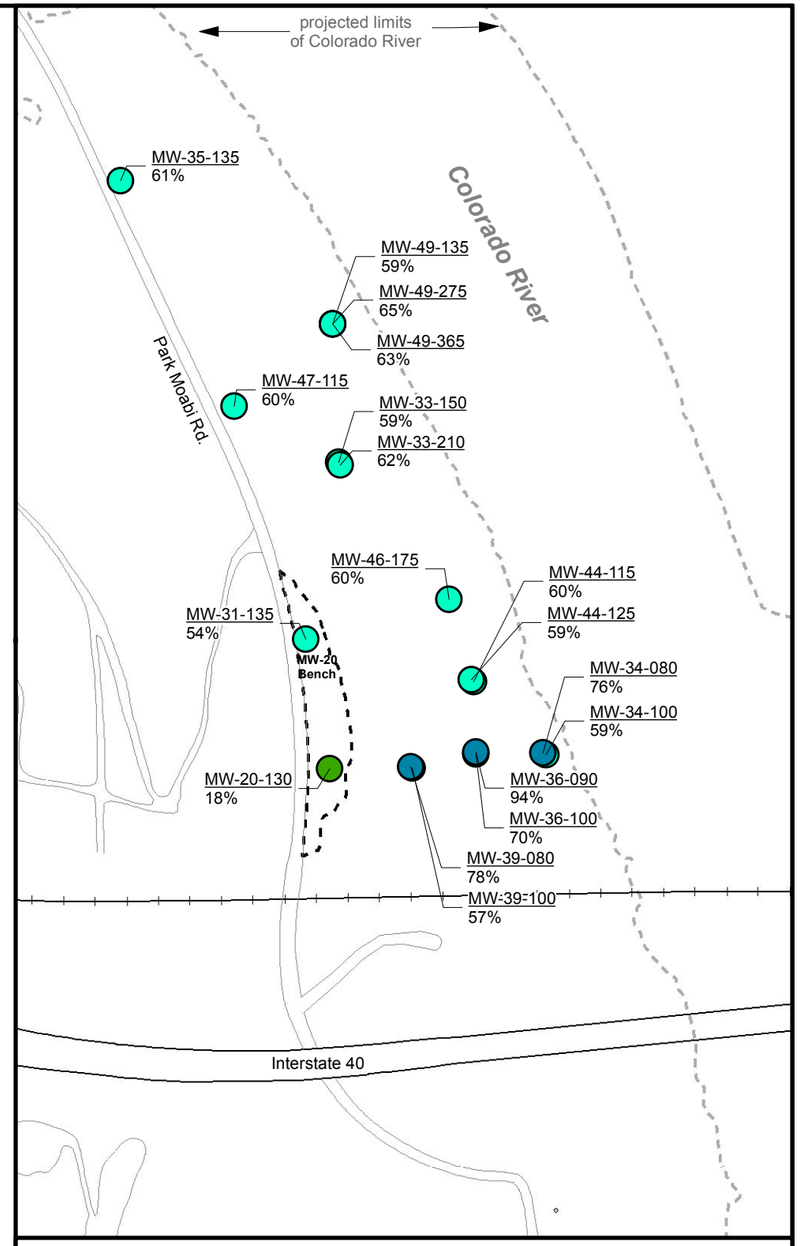


Deep Wells (Lower Depth Interval) - 2004



Deep Wells (Lower Depth Interval) - 2006



Deep Wells (Lower Depth Interval) - 2011

LEGEND

Calculated Riverine Signature

- <25%
- 26-50%
- 51-75%
- 76-100%

MW-22 **Well ID**
22% Percent River Signature

Note:
Percent river water signature was calculated using composite statistics for deuterium isotope data from site river water samples and plume groundwater samples between 2004 and 2011. The posted percentages each represent the sample's calculated river water signature percentage, with 100% being essentially the same deuterium signature as river water, and 0% being equal to the plume water signature.

N

0 400 800
Feet

FIGURE 5-11c
DISTRIBUTION OF RIVER SIGNATURE IN FLOODPLAIN WELLS, DEEP WELLS (LOWER DEPTH INTERVAL)
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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Path: D:\Projects\Topock\MapFiles\2012\PMR\PMR_River_Signature_2004_2006_2011_Deep.mxd Date Saved: 2/16/2012 1:46:57 PM

Appendix A
Well Construction

Table A-1

Well Construction and Sampling Summary, Fourth Quarter 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
GMP Monitoring Wells											
MW-9	Bat Cave Wash	536.56	77 - 87	Alluvial	4 in PVC	89.4	80.6	Temp. pump	2	11	
MW-10	Bat Cave Wash	530.65	74 - 94	Alluvial	4 in PVC	96.9	75.1	CD pump	5	40	
MW-11	Bat Cave Wash	522.61	62.5 - 82.5	Alluvial	4 in PVC	86.1	67.2	CD pump	5	30	
MW-12	East of Station	484.01	27.5 - 47.5	Alluvial	4 in PVC	50.4	29.3	Temp. pump	3	40	
MW-13	Bat Cave Wash	488.64	28.5 - 48.5	Alluvial	4 in PVC	52.0	32.4	CD pump	4	30	
MW-14	East Mesa	570.99	111 - 131	Alluvial	4 in PVC	133.8	115.6	CD pump	4	30	
MW-15	East of New Ponds	641.52	180.5 - 200.5	Alluvial	4 in PVC	203.0	185.1	CD pump	5	30	
MW-16	Near New Ponds	657.31	198 - 218	Alluvial	4 in PVC	218.1	200.1	Temp. pump	2	35	
MW-17	West of Mesa Area	589.96	130 - 150	Alluvial	4 in PVC	153.6	133.0	CD pump	7	32	
MW-18	West Mesa	545.32	85 - 105	Alluvial	4 in PVC	106.7	89.2	Temp. pump	2	30	
MW-19	Route 66	499.92	46 - 66	Alluvial	4 in PVC	65.8	46.0	CD pump	7	41	
MW-20-70	MW-20 bench	500.15	50 - 70	Alluvial	4 in PVC	69.6	47.4	Temp. pump	4	53	
MW-20-100	MW-20 bench	500.58	89.5 - 99.5	Alluvial	4 in PVC	101.4	48.3	Temp. pump	5	110	
MW-20-130	MW-20 bench	500.66	121 - 131	Alluvial	4 in PVC	132.3	49.2	Temp. pump	5	180	
MW-21	Route 66	505.55	39 - 59	Alluvial	4 in PVC	58.5	50.8	Temp. pump	2	10	low recharge well; typically purges dry at 1 casing volume
MW-22	Floodplain	460.72	5.5 - 10.5	Fluvial	2 in PVC	12.4	7.2	Peristaltic	0.2	4	
MW-23-060	East Ravine	504.08	50 - 60	Bedrock	2 in Sch 40 PVC	60.2	52.3	Temp. pump	NA	NA	
MW-23-080	East Ravine	504.13	75 - 80	Bedrock	2 in Sch 40 PVC	80.8	49.5	Temp. pump	NA	NA	
MW-24A	MW-24 Bench	567.16	104 - 124	Alluvial	4 in PVC	127.5	111.8	CD pump	3	30	
MW-24B	MW-24 Bench	564.76	193 - 213	Alluvial	4 in PVC	214.8	109.5	CD pump	7	210	
MW-24BR	MW-24 Bench	563.95	378 - 437	Bedrock	4 in PVC	441.0	108.1	Temp. pump	5	185	low recharge well; typically purges dry at 1 casing volume

Table A-1

Well Construction and Sampling Summary, Fourth Quarter 2011

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Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
GMP Monitoring Wells											
MW-25	Near Bat Cave Wash	542.90	84.5 - 104.5	Alluvial	4 in PVC	106.5	83.5	CD pump	7	32	
MW-26	Route 66	502.22	51.5 - 71.5	Alluvial	2 in PVC	70.1	48.0	CD pump	7	50	
MW-27-20	Floodplain	460.56	7 - 17	Fluvial	2 in PVC	14.4	7.1	Temp. pump	1	7	
MW-27-60	Floodplain	461.38	47.3 - 57.3	Fluvial	2 in PVC	59.0	8.4	Temp. pump	2	25	
MW-27-85	Floodplain	460.99	77.5 - 87.5	Fluvial	2 in PVC	80.0	8.2	Temp. pump	2	36	
MW-28-25	Floodplain	466.77	13 - 23	Fluvial	2 in PVC	21.1	13.9	Ded. RF	1	5	
MW-28-90	Floodplain	467.53	70 - 90	Fluvial	2 in PVC	98.4	14.8	Temp. pump	2	50	
MW-29	Floodplain	485.21	29.5 - 39.5	Fluvial	2 in PVC	41.5	31.2	Temp. pump	0.5	6	
MW-30-30	Floodplain	468.12	12 - 32	Fluvial	2 in PVC	26.9	14.8	Ded. RF	1	10	
MW-30-50	Floodplain	468.81	40 - 50	Fluvial	4 in PVC	52.6	15.3	Ded. RF	2	75	
MW-31-60	MW-20 Bench	496.81	41.5 - 61.5	Alluvial	4 in PVC	64.0	43.3	CD pump	10	40	
MW-31-135	MW-20 Bench	498.11	113 - 133	Alluvial	2 in PVC	135.4	45.3	Temp. pump	3	60	
MW-32-20	Floodplain	461.51	10 - 20	Fluvial	2 in PVC	19.6	8.4	Ded. RF	1.5	6	
MW-32-35	Floodplain	461.63	27.5 - 35	Fluvial	4 in PVC	37.2	8.5	Ded. RF	2	60	
MW-33-40	Floodplain	487.38	29 - 39	Fluvial	4 in PVC	41.8	34.0	Temp. pump	0.5	4	
MW-33-90	Floodplain	487.55	69 - 89	Alluvial	4 in PVC	88.3	33.9	Temp. pump	2	110	
MW-33-150	Floodplain	487.77	132 - 152	Alluvial	2 in PVC	155.4	34.5	Temp. pump	3	60	
MW-33-210	Floodplain	487.25	190 - 210	Alluvial	2 in PVC	223.0	34.5	Temp. pump	3	90	
MW-34-55	Floodplain	460.95	45 - 55	Fluvial	4 in PVC	56.6	7.6	Ded. RF	2	100	
MW-34-80	Floodplain	461.20	73 - 83	Fluvial	4 in PVC	84.3	7.6	Temp. pump	3	150	
MW-34-100	Floodplain	460.97	89.5 - 99.5	Fluvial	2 in PVC	117.0	8.4	Ded. RF	2	55	

Table A-1
Well Construction and Sampling Summary, Fourth Quarter 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
GMP Monitoring Wells											
MW-35-60	Route 66	484.33	41 - 61	Alluvial	2 in PVC	56.8	30.1	Temp. pump	2	18	
MW-35-135	Route 66	484.24	116 - 136	Alluvial	2 in PVC	158.7	29.7	Temp. pump	3	66	
MW-36-20	Floodplain	469.33	10 - 20	Fluvial	1 in PVC	20.3	16.4	Peristaltic	0.5	4	
MW-36-40	Floodplain	469.59	30 - 40	Fluvial	1 in PVC	40.3	16.5	Peristaltic	0.5	4	
MW-36-50	Floodplain	469.62	46 - 51	Fluvial	1 in PVC	108.0	16.6	Peristaltic	0.75	5	
MW-36-70	Floodplain	469.27	60 - 70	Fluvial	1 in PVC	70.3	16.2	Peristaltic	0.5	7	
MW-36-90	Floodplain	469.64	80 - 90	Fluvial	1 in PVC	90.3	17.3	Peristaltic	0.4	10	
MW-36-100	Floodplain	469.65	88 - 98	Fluvial	2 in PVC	108.0	17.6	Ded. RF	2	45	
MW-37D	Bat Cave Wash	486.19	180 - 200	Alluvial	2 in PVC	226.7	31.8	Temp. pump	3	100	
MW-37S	Bat Cave Wash	485.97	64 - 84	Alluvial	2 in PVC	85.0	31.8	Temp. pump	2	30	
MW-39-40	Floodplain	468.02	30 - 40	Fluvial	1 in PVC	42.1	15.3	Peristaltic	0.5	3.5	
MW-39-50	Floodplain	467.93	47 - 52	Fluvial	1 in PVC	54.6	15.3	Peristaltic	0.5	5	
MW-39-60	Floodplain	468.00	49 - 59	Alluvial	1 in PVC	66.3	15.5	Peristaltic	0.5	6	
MW-39-70	Floodplain	468.02	60 - 70	Alluvial	1 in PVC	71.7	15.9	Peristaltic	0.5	7	
MW-39-80	Floodplain	467.92	70 - 80	Alluvial	1 in PVC	82.6	15.8	Peristaltic	0.5	9	
MW-39-100	Floodplain	468.12	80 - 100	Alluvial	2 in PVC	117.7	15.7	Ded. RF	2	45	
MW-40D	I-40 Median	566.08	240 - 260	Alluvial	2 in PVC	266.0	110.2	Temp. pump	3	75	
MW-40S	I-40 Median	566.04	115 - 135	Alluvial	2 in PVC	134.0	110.7	Temp. pump	2	13	
MW-41D	Bat Cave Wash	479.42	271 - 291	Alluvial	2 in PVC	311.5	24.9	Temp. pump	5	145	
MW-41M	Bat Cave Wash	479.84	170 - 190	Alluvial	2 in PVC	190.0	24.9	Temp. pump	3	85	
MW-41S	Bat Cave Wash	480.07	40 - 60	Alluvial	2 in PVC	60.0	25.3	Temp. pump	2	42	

Table A-1

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Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
GMP Monitoring Wells											
MW-42-30	Floodplain	463.74	9.8 - 29.8	Fluvial	2 in Sch 40 PVC	30.1	10.8	Temp. pump	2	28	
MW-42-55	Floodplain	463.85	42.5 - 52.5	Fluvial	2 in PVC	52.8	10.8	Temp. pump	3	21	
MW-42-65	Floodplain	463.37	56.2 - 66.2	Fluvial	2 in PVC	80.0	10.6	Temp. pump	3	36	
MW-43-25	Floodplain	462.54	15 - 25	Fluvial	2 in PVC	25.0	9.1	Temp. pump	1	9	
MW-43-75	Floodplain	462.71	65 - 75	Fluvial	2 in PVC	75.0	9.4	Ded. RF	2	28	
MW-43-90	Floodplain	462.76	80 - 90	Fluvial	2 in PVC	97.0	9.7	Temp. pump	2	47	
MW-44-70	Floodplain	471.90	61 - 71	Fluvial	2 in PVC	70.0	18.3	Temp. pump	1.5	38	
MW-44-115	Floodplain	472.01	105 - 115	Alluvial	2 in PVC	113.5	19.1	Ded. RF	3	60	
MW-44-125	Floodplain	472.04	116 - 125	Alluvial	2 in PVC	128.8	19.0	Ded. RF	0.35	57	
MW-46-175	Floodplain	482.16	165 - 175	Alluvial	2 in PVC	175.5	29.5	Ded. RF	1.5	100	
MW-46-205	Floodplain	482.23	196.5 - 206.5	Alluvial	2 in PVC	206.5	29.5	Temp. pump	2	90	
MW-47-55	Floodplain	484.04	45 - 55	Alluvial	2 in PVC	55.0	30.0	Temp. pump	2	30	
MW-47-115	Floodplain	484.17	105 - 115	Alluvial	2 in PVC	115.0	30.3	Temp. pump	1.5	55	
MW-48	East of Station	486.22	124 - 134	Bedrock	2 in PVC	138.0	31.6	Temp. pump	0.5	22	low recharge well; typically purges dry at 1 casing volume
MW-49-135	Floodplain	484.02	125 - 135	Alluvial	1.5 in PVC	135.0	30.1	Temp. pump	0.6	30	
MW-49-275	Floodplain	483.95	255 - 275	Alluvial	2 in PVC	274.7	30.9	Temp. pump	3	126	
MW-49-365	Floodplain	484.01	346 - 366	Alluvial	2 in PVC	367.4	32.5	Temp. pump	2	180	
MW-50-095	Route 66	496.49	85 - 95	Alluvial	2 in PVC	95.0	42.5	Temp. pump	2	36	
MW-50-200	Route 66	496.35	190 - 200	Alluvial	2 in PVC	204.5	43.0	Temp. pump	5	85	
MW-51	Route 66	501.56	97 - 112	Alluvial	4 in PVC	113.3	47.4	Temp. pump	4	180	
MW-52D	Floodplain	462.16	85 - 87	Fluvial	0.75 in MLABS	89.5	12.9	Peristaltic	0.2	4.5	

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Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
GMP Monitoring Wells											
MW-52M	Floodplain	462.16	66 - 68	Fluvial	0.75 in MLABS	70.5	12.8	Peristaltic	0.2	4.5	
MW-52S	Floodplain	462.16	47 - 49	Fluvial	0.75 in MLABS	51.5	12.9	Peristaltic	0.2	4.5	
MW-53D	Floodplain	461.32	123.5 - 125	Fluvial	0.75 in MLABS	---	14.3	Peristaltic	0.2	5.1	
MW-53M	Floodplain	461.32	98.5 - 100	Fluvial	0.75 in MLABS	---	13.7	Peristaltic	0.06	5.4	
MW-54-85	Arizona	466.10	77 - 87	Fluvial	2 in PVC	93.2	12.3	---	NA	NA	
MW-54-140	Arizona	465.98	128 - 138	Fluvial	2 in PVC	138.0	12.1	---	NA	NA	
MW-54-195	Arizona	466.32	185 - 195	Fluvial	2 in PVC	195.0	12.9	---	NA	NA	
MW-55-45	Arizona	463.41	37 - 47	Fluvial	2 in PVC	51.8	8.2	---	NA	NA	
MW-55-120	Arizona	463.21	108 - 118	Fluvial	2 in PVC	118.0	7.9	---	NA	NA	
MW-56D	Arizona	461.36	103.5 - 105.5	Fluvial	0.75 in MLABS	---	16.3	---	NA	NA	
MW-56M	Arizona	461.36	73.5 - 75.5	Fluvial	0.75 in MLABS	---	15.2	---	NA	NA	
MW-56S	Arizona	461.36	33.5 - 35.5	Fluvial	0.75 in MLABS	---	14.1	---	NA	NA	
MW-57-050	East Ravine	508.76	40 - 50	Bedrock	2 in Sch 40 PVC	50.0	---	Temp. pump	NA	NA	Dry
MW-57-070	East Ravine	509.37	55 - 70	Bedrock	2 in Sch 40 PVC	70.0	54.0	Temp. pump	0.3	10	
MW-57-185	East Ravine	508.97	70 - 184	Bedrock	3 in Sch 40 PVC	184.7	53.6	Temp. pump	3	270	
MW-58-065	East Ravine	523.26	54 - 64	Bedrock	2 in Sch 40 PVC	66.0	66.2	Temp. pump	NA	NA	Damaged
MW-59-100	East Ravine	541.61	86 - 101	Alluvial	2 in Sch 40 PVC	101.0	86.0	Temp. pump	0.5	8	
MW-60-125	East Ravine	555.47	103 - 123	Bedrock	2 in Sch 40 PVC	122.5	100.2	Temp. pump	0.3	13	
MW-61-110	East Ravine	544.03	92 - 112	Bedrock	2 in Sch 40 PVC	112.5	87.7	Temp. pump	0.4	14	
MW-62-065	East Ravine	503.56	44.5 - 64.5	Bedrock	2 in Sch 40 PVC	67.4	49.1	Temp. pump	0.3	9	
MW-62-110	East Ravine	504.05	85 - 110	Bedrock	---	110.0	35.8	Flute	NA	2	

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GMP Monitoring Wells											
MW-62-190	East Ravine	504.05	155 - 192	Bedrock	---	190.0	35.8	Flute	NA	2	
MW-63-065	East Ravine	504.47	46 - 66	Bedrock	2 in Sch 40 PVC	65.6	51.4	Temp. pump	0.5	10	
MW-64-150	East Ravine	575.90	120 - 150	Bedrock	---	150.0	120.1	Flute	NA	1	
OW-3D	West Mesa	558.63	242 - 262	Alluvial	2 in Sch 40 PVC	272.5	102.6	Temp. pump	3	90	
OW-3M	West Mesa	558.90	180 - 200	Alluvial	2 in Sch 40 PVC	200.3	102.7	Temp. pump	3	54	
OW-3S	West Mesa	558.58	86 - 116	Alluvial	2 in Sch 40 PVC	116.3	103.4	Temp. pump	2	30	
Other Site Wells not in GMP											
MW-1	New Ponds	661.76	201 - 211	Alluvial	4 in PVC	217.0	205.7	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-3	New Ponds	650.51	193 - 203	Alluvial	4 in PVC	205.0	194.6	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-4	New Ponds	625.73	164.5 - 174.5	Alluvial	4 in PVC	176.3	169.1	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-5	New Ponds	635.69	175.9 - 184.9	Alluvial	4 in PVC	186.2	178.8	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-6	New Ponds	642.84	184.5 - 193.5	Alluvial	4 in PVC	194.9	186.3	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-7	New Ponds	631.91	172.7 - 182.7	Alluvial	4 in PVC	185.0	176.3	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-8	New Ponds	627.54	169 - 178	Alluvial	4 in PVC	179.9	171.3	Ded. RF	NA	NA	active PG&E pond monitoring well
MW-45-095a	Floodplain	470.03	83 - 93	Fluvial	2 in PVC	97.0	17.9	Temp. pump	1	40	pressure transducer location
Test and Extraction Wells											
PE-1	Floodplain	457.52	79 - 89	Fluvial	6 in Sch 40 PVC	99.0	16.4	CD pump	3	400	active IM extraction well
TW-1	Plan B Test	620.55	169 - 269	Alluvial	5 in PVC	271.0	165.2	CD pump	20	200	inactive pilot test well
TW-2D	MW-20 bench	493.29	113 - 148	Alluvial	6 in Sch 80 PVC	150.0	69.3	CD pump	70.1	160	inactive IM extraction well
TW-2S	MW-20 bench	499.05	42.5 - 92.5	Alluvial	6 in Sch 80 PVC	97.5	34.0	CD pump	6	75	inactive IM extraction well
TW-3D	MW-20 bench	498.09	111 - 156	Alluvial	8 in PVC	156.0	46.5	CD pump	NA	NA	active IM extraction well
TW-4	Floodplain	484.11	210 - 250	Alluvial	4 in PVC	255.0	30.5	Temp. pump	NA	NA	

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Well ID	Site Area	Measuring Point Elevation (ft MSL)	Screen Interval (ft bgs)	Well Screen Lithology	Well Casing (inches)	Well Depth (ft bgs)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Remarks
Test and Extraction Wells											
TW-5	Route 66	496.30	110 - 150	Alluvial	4 in PVC	155.0	41.4	Temp. pump	3	150	
Water Supply Wells											
PGE-7BR	MW-24 Bench	---	249 - 300	Bedrock	7 in	300.0	110.3	---	NA	NA	
PGE-8	Station	596.01	405 - 554	Bedrock	6.75 in Steel	564.0	140.6	CD pump	20	1900	inactive injection
Park Moabi-3	Park Moabi	518.55	80 - 200	Alluvial	8 in Steel	252.0	61.3	active supply well	NA	NA	call Park Ranger to schedule sampling
Park Moabi-4	Park Moabi	---	93 - 140	Alluvial	Steel	---	---	---	NA	NA	

Notes:

bgs	below ground surface.
MSL	mean sea level.
btoc	below top of casing.
NA	not known or available.
CD pump	dedicated constant-discharge electric submersible pump.
Redi-Flo AR	adjustable-rate electric submersible pump.
Temp. pump	temporary pump.
PVC	polyvinyl chloride.
Ded. RF	dedicated Redi - Flo submersible pump.
GMP	Groundwater Monitoring Program.
Flute	Flexible Liner Underground Technologies.

Depth to water shown is the most recently measured depth to water.

All GMP wells except low recharge wells, active IM extraction wells, and Park Moabi wells are purged and sampled using well-volume method.

Appendix B
Lab Reports, November through December 2011
(Provided on CD-ROM only with hardcopy submittal)

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-28-2011
EMAX Batch No.: 11L055

Attn: Priya Kumar

CH2M HILL
155 Grand, Suite 1000
Oakland CA 94612

Subject: Laboratory Report
Project: PG&E's Topock Gas Compressor Stat

Enclosed is the Laboratory report for samples received on 12/07/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-54-085-183	L055-01	12/06/11	WATER	SPECIFIC CONDUCTANCE
				AMMONIA-N BY SM4500-NH3 F
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC
MW-54-140-183	L055-02	12/06/11	WATER	SPECIFIC CONDUCTANCE
				AMMONIA-N BY SM4500-NH3 F
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC
MW-54-195-183	L055-03	12/06/11	WATER	SPECIFIC CONDUCTANCE
				AMMONIA-N BY SM4500-NH3 F
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC
MW-55-045-183	L055-04	12/06/11	WATER	SPECIFIC CONDUCTANCE

Sample ID	Control #	Col Date	Matrix	Analysis
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC
MW-55-120-183	L055-05	12/06/11	WATER	SPECIFIC CONDUCTANCE
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC
MW-90-120-183	L055-06	12/06/11	WATER	SPECIFIC CONDUCTANCE
				ALKALINITY
				DISSOLVED METALS IN WATER/WASTE
				ANIONS BY IC
				CHROMIUM HEXAVALENT BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

EMax AZ-183 11L0055

CH2MHILL CH_0408

CHAIN OF CUSTODY RECORD

12/6/2011 3:07:17 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.05.AZ
Task Order
Project 2011-GMP-183-AZ
Turnaround Time 12 Days
Shipping Date: 12/6/2011
COC Number: 1

	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6R) Field Filtered	Arsenic (6020A) Field Filtered Chromium	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
Container:				1Liter Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly		
Preservatives:				4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
Filtered:				NA	Field	Field	Field	Field	NA	NA	NA	NA		
Holding Time:				30	28	180	180	180	2	2	2	28		
1	MW-54-085-183	12/6/2011	9:49	Water	X	X	X	X	X	X	X	X	X	8	
2	MW-54-140-183	12/6/2011	9:05	Water	X	X	X	X	X	X	X	X	X	8	
3	MW-54-195-183	12/6/2011	11:01	Water	X	X	X	X	X	X	X	X	X	8	
4	MW-55-045-183	12/6/2011	14:10	Water	X	X		X	X	X	X	X		6	
5	MW-55-120-183	12/6/2011	13:35	Water	X	X		X	X	X	X	X		6	
6	MW-90-120-183	12/6/2011	13:38	Water	X	X		X	X	X	X	X		6	
												TOTAL NUMBER OF CONTAINERS	42	

T = 3.8°C
T = 3.0°C

	Signatures	Date/Time
Approved by		
Sampled by		12/6/11 17:00
Relinquished by		
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by	Linda	12/6/11 23:30

Relinquished by: TLT, Linda 12/7/11 9:50 Keith Stout 12/7/11 9:50 Keith Stout 12/7/11 1528

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name:
Lab Phone:

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

RCVD BY: 12/7/11 1528

Report Copy to
Shawn Duffy
(530) 229-3303

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 111055
☑ EMAX Courier	SEE COC	Recepient J-LUNA
☐ Client Delivery		Date 12-7-11
☐ Third Party		Time 1528

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☐ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 1 3.8 °C	A ☑ Cooler 2 3.0 °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Thermometer: ***A - S/N 101541371*** ***B - S/N 101541382***

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time .**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample Labeling _____ Date 12/7/11 EG

SRF _____ Date 12/7/11

PM _____ Date 12/8/11

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

Molly Nguyen

From: Molly Nguyen
Sent: Friday, December 09, 2011 2:01 PM
To: Shawn.Duffy@CH2M.com
Cc: 'edata@ch2m.com'
Subject: Log in for Topock, SDG 11L055
Attachments: 11L055.pdf

Hi Shawn,

Attached is the log in from Topock, SDG 11L055, for your review. As per our discussion this morning, the following changes will be made to Metals analysis:

1. Raise the RL for Arsenic from 0.1ug/L to 1.0ug/L
2. Change the Internal Standard control limits from 60-120% (per the method) to 70-130% (project specific)

Please let me know if you have any questions or concerns.

Thanks,
--Molly
310-618-8889 ext. 119

For the upcoming holidays, EMAX will be closed on:
1. Christmas: 12/23/11, 12/24/11 & 12/26/11
2. New Year: 12/30/11, 12/31/11 & 01/02/12

CLIENT: CH2M HILL TOPOCK

SDG: 11L055

Analyst names:

1. 200.8 : Tina Hoang
2. 120.1 : Nina Macalinao
3. 218.6 : Cherry Dam
4. 300.0 : Jadelyn Chun
5. SM2320B : Raymond Cheung
6. SM4500NH3-C: Raymond Cheung

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD 200.8
DISSOLVED METALS BY ICP-MS

A total of six (6) water samples were received on 12/07/11 for Dissolved Metals In Water/Waste analysis, Method 200.8 in accordance with Methods for the Determination of Metals in Environmental Samples, Supplement 1 (EPA/600/R-94/111) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source. Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for IML014WX/Y were all within QC limits.

Matrix QC Sample
Matrix QC sample was analyzed at the frequency prescribed by the project. Percent recoveries were within project QC limits except for results qualified with [*] in L055-01M/S summary form, most likely due to low spike level. Refer to QC summary form for details.
In addition, analytical spike and serial dilution were analyzed for matrix interference evaluation. Results were within method acceptance criteria.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.
Due to high Sodium level, all samples, except for L055-04, were initially analyzed and reported at DF 10 or higher.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO. : 11L055
Instrument ID : T-198

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML014WQ	1	NA	12/16/1112:59	12/12/1111:16	98L12018	98L12016	IML014W	Method Blank
LCS1W	IML014WX	1	NA	12/16/1113:06	12/12/1111:16	98L12019	98L12016	IML014W	Lab Control Sample (LCS)
LCD1W	IML014WY	1	NA	12/16/1113:13	12/12/1111:16	98L12020	98L12016	IML014W	LCS Duplicate
MW-54-085-183AS	L055-01A	10	NA	12/16/1113:20	12/12/1111:16	98L12021	98L12016	IML014W	Analytical Spike Sample
MW-54-085-183	L055-01T	10	NA	12/16/1113:27	12/12/1111:16	98L12022	98L12016	IML014W	Diluted Sample
MW-54-085-183DL	L055-01J	50	NA	12/16/1113:34	12/12/1111:16	98L12023	98L12016	IML014W	Diluted Sample
MW-54-085-183MS	L055-01M	10	NA	12/16/1113:41	12/12/1111:16	98L12024	98L12016	IML014W	Matrix Spike Sample (MS)
MW-54-085-183MSD	L055-01S	10	NA	12/16/1113:48	12/12/1111:16	98L12025	98L12016	IML014W	MS Duplicate (MSD)
MW-54-140-183	L055-02T	10	NA	12/16/1114:30	12/12/1111:16	98L12031	98L12028	IML014W	Diluted Sample
MW-54-195-183	L055-03T	10	NA	12/16/1114:52	12/12/1111:16	98L12034	98L12028	IML014W	Diluted Sample
MW-55-045-183	L055-04	1	NA	12/16/1114:59	12/12/1111:16	98L12035	98L12028	IML014W	Field Sample
MW-55-120-183	L055-05T	10	NA	12/16/1115:06	12/12/1111:16	98L12036	98L12028	IML014W	Diluted Sample
MW-90-120-183	L055-06T	10	NA	12/16/1115:13	12/12/1111:16	98L12037	98L12028	IML014W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/06/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/07/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MW-54-085-183	Date Analyzed:	#02/01/12 15:10 12/16/11 13:27
Lab Samp ID:	#L055-01W L055-01T	Dilution Factor:	#1 10
Lab File ID:	#98B01039 98L12022	Matrix :	WATER
Ext Btch ID:	IML014W	% Moisture :	NA
Calib. Ref.:	#98B01031 98L12016	Instrument ID :	T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
# Arsenic	4.38	1.00	0.200
# Chromium	ND	1.00	0.200
Calcium	182000	1000	250
Iron	993	200	100
Magnesium	97100	1000	100
Manganese	1090	100	2.00
Sodium	1890000	5000	500

Members of the Associated File

Revised

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client : CH2M HILL	Date Collected: 12/06/11
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received: 12/07/11
SDG NO. : 11L055	Date Extracted: 12/12/11 11:16
Sample ID: MW-54-140-183	Date Analyzed: 02/01/12 15:41 # 12/16/11 14:30
Lab Samp ID: L055-02W #L055-02T	Dilution Factor: 1 # 10
Lab File ID: 98B01045 #98L12031	Matrix : WATER
Ext Btch ID: IML014W	% Moisture : NA
Calib. Ref.: 98B01043 #98L12028	Instrument ID : T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	3.12	1.00	0.200
Chromium	ND	1.00	0.200
# Calcium	145000	1000	250
Iron	ND	20.0	10.0
# Magnesium	10900	1000	100
Manganese	167	10.0	0.200
# Sodium	2560000	5000	500

Members of the Associated File

Revised Report

7004

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/06/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/07/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MW-54-195-183	Date Analyzed:	#02/01/12 16:50 12/16/11 14:52 ## 12/16/11 15:20
Lab Samp ID:	#L055-03 L055-03T ##L055-03I	Dilution Factor:	#5 10 ## 100
Lab File ID:	#98B01057 98L12034 ##98L12038	Matrix	: WATER
Ext Btch ID:	IML014W	% Moisture	: NA
Calib. Ref.:	#98B01052 98L12028 ##98L12028	Instrument ID	: T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
# Arsenic	ND	5.00	1.00
# Chromium	ND	5.00	1.00
Calcium	126000	1000	250
# Iron	125	100	50
Magnesium	4510	1000	100
Manganese	652	100	2.00
## Sodium	4310000	50000	5000

Members of the First Associated File
Members of the Second Associated File

Revised Report

7005

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/06/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/07/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MW-55-045-183	Date Analyzed:	12/16/11 14:59
Lab Samp ID:	L055-04	Dilution Factor:	1
Lab File ID:	98L12035	Matrix :	WATER
Ext Btch ID:	IML014W	% Moisture :	NA
Calib. Ref.:	98L12028	Instrument ID :	T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200
Calcium	41500	100	25.0
Iron	68.6	20.0	10.0
Magnesium	9320	100	10.0
Manganese	1080	10.0	0.200
Sodium	245000	500	50.0

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/06/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/07/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MW-55-120-183	Date Analyzed:	02/01/12 15:56 # 12/16/11 15:06
Lab Samp ID:	L055-05W #L055-05T	Dilution Factor:	1 # 10
Lab File ID:	98B01048 #98L12036	Matrix :	WATER
Ext Btch ID:	IML014W	% Moisture :	NA
Calib. Ref.:	98B01043 #98L12028	Instrument ID :	T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	6.99	1.00	0.200
# Calcium	115000	1000	250
Iron	ND	20.0	10.0
# Magnesium	2620	1000	100
Manganese	15.2	10.0	0.200
# Sodium	1740000	5000	500

Members of the Associated File

Revised Report

7007

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/06/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/07/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MW-90-120-183	Date Analyzed:	02/01/12 16:02 # 12/16/11 15:13
Lab Samp ID:	L055-06W #L055-06T	Dilution Factor:	1 # 10
Lab File ID:	98B01049 #98L12037	Matrix :	WATER
Ext Btch ID:	IML014W	% Moisture :	NA
Calib. Ref.:	98B01043 #98L12028	Instrument ID :	T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	6.90	1.00	0.200
# Calcium	116000	1000	250
Iron	ND	20.0	10.0
# Magnesium	2670	1000	100
Manganese	13.6	10.0	0.200
# Sodium	1760000	5000	500

Members of the Associated File

Revised Report

7008

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	NA
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/12/11
SDG NO.	: 11L055	Date Extracted:	12/12/11 11:16
Sample ID:	MBLK1W	Date Analyzed:	12/16/11 12:59
Lab Samp ID:	IML014WQ	Dilution Factor:	1
Lab File ID:	98L12018	Matrix :	WATER
Ext Btch ID:	IML014W	% Moisture :	NA
Calib. Ref.:	98L12016	Instrument ID :	T-I98

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.200
Chromium	ND	1.00	0.200
Calcium	ND	100	25.0
Iron	ND	20.0	10.0
Magnesium	ND	100	10.0
Manganese	ND	10.0	0.200
Sodium	ND	500	50.0

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11L055
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IML014WQ	IML014WX	IML014WY		
LAB FILE ID:	98L12018	98L12019	98L12020		
DATIME EXTRCTD:	12/12/1111:16	12/12/1111:16	12/12/1111:16	DATE COLLECTED:	NA
DATIME ANALYZD:	12/16/1112:59	12/16/1113:06	12/16/1113:13	DATE RECEIVED:	12/12/11
PREP. BATCH:	IML014W	IML014W	IML014W		
CALIB. REF:	98L12016	98L12016	98L12016		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	25.0	25.1	101	25.0	24.8	99	1	85-115	20
Chromium	ND	25.0	24.3	97	25.0	24.4	98	0	85-115	20
Calcium	ND	2500	2690	108	2500	2700	108	0	85-115	20
Iron	ND	2500	2560	102	2500	2570	103	1	85-115	20
Magnesium	ND	2500	2460	99	2500	2490	100	1	85-115	20
Manganese	ND	25.0	26.1	104	25.0	26.0	104	0	85-115	20
Sodium	ND	2500	2530	101	2500	2530	101	0	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11L055
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	10	10	10		
SAMPLE ID:	MW-54-085-183				
CONTROL NO.:	L055-01T	L055-01M	L055-01S		
LAB FILE ID:	98L12022	98L12024	98L12025		
DATIME EXTRCTD:	12/12/1111:16	12/12/1111:16	12/12/1111:16	DATE COLLECTED:	12/06/11
DATIME ANALYZD:	12/16/1113:27	12/16/1113:41	12/16/1113:48	DATE RECEIVED:	12/07/11
PREP. BATCH:	IML014W	IML014W	IML014W		
CALIB. REF:	98L12016	98L12016	98L12016		

ACCESSION:

PARAMETER	SMPL RSLT ug/L	SPIKE AMT ug/L	MS RSLT ug/L	MS % REC	SPIKE AMT ug/L	MSD RSLT ug/L	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	25.0	30.9	124	25.0	30.9	123	0	75-125	20
Chromium	ND	25.0	24.6	98	25.0	24.5	98	0	75-125	20
Calcium	182000	2500	193000	436*	2500	192000	396*	1	75-125	20
Iron	993	2500	3460	99	2500	3460	99	0	75-125	20
Magnesium	97100	2500	101000	166*	2500	97800	27*	4	75-125	20
Manganese	1090	25.0	1080	-8*	25.0	1090	8*	0	75-125	20
Sodium	1890000	2500	1970000	2960*	2500	1960000	2320*	1	75-125	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	10	50		
SAMPLE ID:	MW-54-085-183	MW-54-085-183DL		
EMAX SAMP ID:	L055-01T	L055-01J		
LAB FILE ID:	98L12022	98L12023		
DATE EXTRACTED:	12/12/1111:16	12/12/1111:16	DATE COLLECTED:	12/06/11
DATE ANALYZED:	12/16/1113:27	12/16/1113:34	DATE RECEIVED:	12/07/11
PREP. BATCH:	IML014W	IML014W		
CALIB. REF:	98L12016	98L12016		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Arsenic^	4.38	5.40	23*	10
Chromium^	ND	ND	0	10
Calcium	182000	185000	1	10
Iron	993	ND	NA	10
Magnesium	97100	102000	5	10
Manganese	1090	1050	4	10
Sodium	1890000	1890000	0	10

^ L055-01J : Analyzed @ DF 5 on 02/01/12 15:15 | File ID 98B01040

Revised

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11L055
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	10	10		
SAMPLE ID:	MW-54-085-183			
CONTROL NO.:	L055-01T	L055-01A		
LAB FILE ID:	98L12022	98L12021		
DATIME EXTRCTD:	12/12/1111:16	12/12/1111:16	DATE COLLECTED:	12/06/11
DATIME ANALYZD:	12/16/1113:27	12/16/1113:20	DATE RECEIVED:	12/07/11
PREP. BATCH:	IML014W	IML014W		
CALIB. REF:	98L12016	98L12016		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Arsenic^	4.38	25	29.8	102	75-125
Chromium^	ND	25	24.0	96	75-125
Calcium	182000	25000	212000	118	75-125
Iron	993	25000	27000	104	75-125
Magnesium	97100	25000	114000	68*	75-125
Manganese	1090	250	1330	100	75-125
Sodium	1890000	25000	1910000	56*	75-125

^ L055-01A : Analyzed @ DF 1 on 02/01/12 15:04 | File ID 98B01038

Revised
7013

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD 120.1
SPECIFIC CONDUCTANCE

A total of six (6) water samples were received on 12/07/11 for Specific Conductance analysis, Method 120.1 in accordance with Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020.)

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method. All calibration requirements were within acceptance criteria.

Matrix QC Sample
No matrix QC sample was designated for this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD 120.1
SPECIFIC CONDUCTANCE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : D4

SAMPLE ID	EMAX SAMPLE ID	RESULTS (umhos/cm)	DLF	MOIST	RL (umhos/cm)	MDL (umhos/cm)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MW-54-085-183	L055-01	10100	1	NA	2.00	2.00	12/08/1112:13	NA	ECL00110	ECL00101	ECL001W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	12300	1	NA	2.00	2.00	12/08/1112:14	NA	ECL00111	ECL00101	ECL001W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	18800	1	NA	2.00	2.00	12/08/1112:15	NA	ECL00112	ECL00101	ECL001W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	1450	1	NA	2.00	2.00	12/08/1112:16	NA	ECL00113	ECL00101	ECL001W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	8520	1	NA	2.00	2.00	12/08/1112:17	NA	ECL00114	ECL00101	ECL001W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	8580	1	NA	2.00	2.00	12/08/1112:18	NA	ECL00115	ECL00101	ECL001W	12/06/1113:38	12/07/11

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CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD 218.6
HEXAVALENT CHROMIUM

A total of six (6) water samples were received on 12/07/11 for Chromium Hexavalent by IC analysis, Method 218.6 in accordance with Methods for the Determination of Metals in Environmental Samples, Supplement 1 (EPA/600/R-94/111) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary forms for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for HCL019WL/C were all within QC limits.
Percent recoveries for HCL021WL/C were all within QC limits.

Matrix QC Sample
Matrix QC samples were analyzed at the frequency prescribed by the project.
Percent recovery for L055-01U was within project QC limits.
Percent recovery for L055-02U was within project QC limits.
Percent recovery for L055-03U was within project QC limits.
Percent recovery for L055-04M was within project QC limits.
Percent recovery for L055-05U was within project QC limits.
Percent recovery for L055-06U was within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.
Samples L055-01 and -02 were re-analyzed and reported from DF 5 due to out of retention time window of the spikes from the initial runs.
Sample L055-03 was re-analyzed and reported from DF 5 due to no recovery of the spike from the initial run.
Samples L055-05 and -06 were re-analyzed and reported from DF 2 due to low spiking level from the initial runs.

METHOD 218.6
HEXAVALENT CHROMIUM

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : I59

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	HCL019WB	ND	1	NA	0.200	0.100	12/16/1116:46	NA	IL18010	IL18008	HCL019W	NA	NA
LCS1W	HCL019WL	1.88	1	NA	0.200	0.100	12/16/1116:56	NA	IL18011	IL18008	HCL019W	NA	NA
LCD1W	HCL019WC	2.00	1	NA	0.200	0.100	12/16/1117:07	NA	IL18012	IL18008	HCL019W	NA	NA
MW-54-195-183	L055-03	ND	5	NA	1.00	0.500	12/16/1117:17	NA	IL18013	IL18008	HCL019W	12/06/1111:01	12/07/11
MW-54-195-183MS	L055-03U	4.70	5	NA	1.00	0.500	12/16/1117:28	NA	IL18014	IL18008	HCL019W	12/06/1111:01	12/07/11
MW-55-120-183	L055-05	6.91	2	NA	0.400	0.200	12/16/1117:38	NA	IL18015	IL18008	HCL019W	12/06/1113:35	12/07/11
MW-55-120-183MS	L055-05U	13.0	2	NA	0.400	0.200	12/16/1117:48	NA	IL18016	IL18008	HCL019W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	6.79	2	NA	0.400	0.200	12/16/1117:59	NA	IL18017	IL18008	HCL019W	12/06/1113:38	12/07/11
MW-90-120-183MS	L055-06U	13.1	2	NA	0.400	0.200	12/16/1118:09	NA	IL18018	IL18008	HCL019W	12/06/1113:38	12/07/11
MW-55-045-183	L055-04R	ND	1	NA	0.200	0.100	12/16/1119:43	NA	IL18027	IL18019	HCL019W	12/06/1114:10	12/07/11
MW-55-045-183MS	L055-04M	1.07	1	NA	0.200	0.100	12/16/1119:53	NA	IL18028	IL18019	HCL019W	12/06/1114:10	12/07/11
MBLK2W	HCL021WB	ND	1	NA	0.200	0.100	12/19/1115:15	NA	IL19003	IL19001	HCL021W	NA	NA
LCS2W	HCL021WL	2.00	1	NA	0.200	0.100	12/19/1115:25	NA	IL19004	IL19001	HCL021W	NA	NA
LCD2W	HCL021WC	1.82	1	NA	0.200	0.100	12/19/1115:35	NA	IL19005	IL19001	HCL021W	NA	NA
MW-54-085-183	L055-01	ND	5	NA	1.00	0.500	12/19/1116:01	NA	IL19007	IL19001	HCL021W	12/06/1109:49	12/07/11
MW-54-085-183MS	L055-01U	4.97	5	NA	1.00	0.500	12/19/1116:12	NA	IL19008	IL19001	HCL021W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	ND	5	NA	1.00	0.500	12/19/1116:34	NA	IL19010	IL19001	HCL021W	12/06/1109:05	12/07/11
MW-54-140-183MS	L055-02U	5.02	5	NA	1.00	0.500	12/19/1116:45	NA	IL19011	IL19001	HCL021W	12/06/1109:05	12/07/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HCL019WB	HCL019WL	HCL019WC		
LAB FILE ID:	IL18010	IL18011	IL18012		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/16/1116:46	12/16/1116:56	12/16/1117:07	DATE RECEIVED:	NA
PREP. BATCH:	HCL019W	HCL019W	HCL019W		
CALIB. REF:	IL18008	IL18008	IL18008		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	2.00	1.88	94	2.00	2.00	100	6	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	HCL021WB	HCL021WL	HCL021WC		
LAB FILE ID:	IL19003	IL19004	IL19005		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/19/1115:15	12/19/1115:25	12/19/1115:35	DATE RECEIVED:	NA
PREP. BATCH:	HCL021W	HCL021W	HCL021W		
CALIB. REF:	IL19001	IL19001	IL19001		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	2.00	2.00	100	2.00	1.82	91	9	90-110	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	MW-54-085-183			
LAB SAMP ID:	L055-01	L055-01U		
LAB FILE ID:	IL19007	IL19008		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:49
DATE ANALYZED:	12/19/1116:01	12/19/1116:12	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL021W	HCL021W		
CALIB. REF:	IL19001	IL19001		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.97	99	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	MW-54-140-183			
LAB SAMP ID:	L055-02	L055-02U		
LAB FILE ID:	IL19010	IL19011		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:05
DATE ANALYZED:	12/19/1116:34	12/19/1116:45	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL021W	HCL021W		
CALIB. REF:	IL19001	IL19001		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	5.02	100	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	MW-54-195-183			
LAB SAMP ID:	L055-03	L055-03U		
LAB FILE ID:	IL18013	IL18014		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 11:01
DATE ANALYZED:	12/16/1117:17	12/16/1117:28	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL019W	HCL019W		
CALIB. REF:	IL18008	IL18008		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.70	94	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-55-045-183			
LAB SAMP ID:	L055-04R	L055-04M		
LAB FILE ID:	IL18027	IL18028		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 14:10
DATE ANALYZED:	12/16/1119:43	12/16/1119:53	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL019W	HCL019W		
CALIB. REF:	IL18019	IL18019		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	1.00	1.07	107	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	2	2		
SAMPLE ID:	MW-55-120-183			
LAB SAMP ID:	L055-05	L055-05U		
LAB FILE ID:	IL18015	IL18016		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 13:35
DATE ANALYZED:	12/16/1117:38	12/16/1117:48	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL019W	HCL019W		
CALIB. REF:	IL18008	IL18008		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	6.91	6.00	13.0	101	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	2	2		
SAMPLE ID:	MW-90-120-183			
LAB SAMP ID:	L055-06	L055-06U		
LAB FILE ID:	IL18017	IL18018		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 13:38
DATE ANALYZED:	12/16/1117:59	12/16/1118:09	DATE RECEIVED:	12/07/11
PREP. BATCH:	HCL019W	HCL019W		
CALIB. REF:	IL18008	IL18008		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	6.79	6.00	13.1	105	90-110

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD 300.0
ANIONS BY IC

A total of six (6) water samples were received on 12/07/11 for Anions (Chloride, Nitrate and Sulfate) by IC analysis, Method 300.0 in accordance with Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for ICL007WL/C were all within QC limits.
Percent recoveries for ICL025WL/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated for this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD 300.0
CHLORIDE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL025WB	ND	1	NA	0.500	0.100	12/12/1121:01	NA	AL09-34	AL09-32	ICL025W	NA	NA
LCS1W	ICL025WL	2.00	1	NA	0.500	0.100	12/12/1121:17	NA	AL09-35	AL09-32	ICL025W	NA	NA
LCD1W	ICL025WC	2.03	1	NA	0.500	0.100	12/12/1121:34	NA	AL09-36	AL09-32	ICL025W	NA	NA
MW-54-085-183	L055-01	3630	200	NA	100	20.0	12/12/1123:59	NA	AL09-45	AL09-43	ICL025W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	4670	250	NA	125	25.0	12/13/1100:15	NA	AL09-46	AL09-43	ICL025W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	7040	400	NA	200	40.0	12/13/1100:31	NA	AL09-47	AL09-43	ICL025W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	364	20	NA	10.0	2.00	12/13/1100:48	NA	AL09-48	AL09-43	ICL025W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	3150	200	NA	100	20.0	12/13/1101:20	NA	AL09-50	AL09-43	ICL025W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	3120	200	NA	100	20.0	12/13/1101:52	NA	AL09-52	AL09-43	ICL025W	12/06/1113:38	12/07/11

METHOD 300.0
NITRATE-N

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL007WB	ND	1	NA	0.500	0.0500	12/07/1113:49	NA	AL05-03	AL05-01	ICL007W	NA	NA
LCS1W	ICL007WL	0.959	1	NA	0.500	0.0500	12/07/1114:06	NA	AL05-04	AL05-01	ICL007W	NA	NA
LCD1W	ICL007WC	0.964	1	NA	0.500	0.0500	12/07/1114:22	NA	AL05-05	AL05-01	ICL007W	NA	NA
MW-54-085-183	L055-01	ND	1	NA	0.500	0.0500	12/07/1118:27	NA	AL05-20	AL05-13	ICL007W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	0.847	1	NA	0.500	0.0500	12/07/1118:44	NA	AL05-21	AL05-13	ICL007W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	ND	1	NA	0.500	0.0500	12/07/1119:00	NA	AL05-22	AL05-13	ICL007W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	ND	1	NA	0.500	0.0500	12/07/1119:16	NA	AL05-23	AL05-13	ICL007W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	1.40	1	NA	0.500	0.0500	12/07/1119:32	NA	AL05-24	AL05-13	ICL007W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	1.41	1	NA	0.500	0.0500	12/07/1120:20	NA	AL05-27	AL05-25	ICL007W	12/06/1113:38	12/07/11

METHOD 300.0
SULFATE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL025WB	ND	1	NA	0.500	0.250	12/12/1121:01	NA	AL09-34	AL09-32	ICL025W	NA	NA
LCS1W	ICL025WL	5.20	1	NA	0.500	0.250	12/12/1121:17	NA	AL09-35	AL09-32	ICL025W	NA	NA
LCD1W	ICL025WC	5.23	1	NA	0.500	0.250	12/12/1121:34	NA	AL09-36	AL09-32	ICL025W	NA	NA
MW-54-085-183	L055-01	589	200	NA	100	50.0	12/12/1123:59	NA	AL09-45	AL09-43	ICL025W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	518	250	NA	125	62.5	12/13/1100:15	NA	AL09-46	AL09-43	ICL025W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	994	400	NA	200	100	12/13/1100:31	NA	AL09-47	AL09-43	ICL025W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	55.1	20	NA	10.0	5.00	12/13/1100:48	NA	AL09-48	AL09-43	ICL025W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	341	20	NA	10.0	5.00	12/13/1101:04	NA	AL09-49	AL09-43	ICL025W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	336	20	NA	10.0	5.00	12/13/1101:36	NA	AL09-51	AL09-43	ICL025W	12/06/1113:38	12/07/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 300.0

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL025WB	ICL025WL	ICL025WC		
LAB FILE ID:	AL09-34	AL09-35	AL09-36		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/12/1121:01	12/12/1121:17	12/12/1121:34	DATE RECEIVED:	NA
PREP. BATCH:	ICL025W	ICL025W	ICL025W		
CALIB. REF:	AL09-32	AL09-32	AL09-32		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride-Cl	ND	2.00	2.00	100	2.00	2.03	102	1	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 300.0

==

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL007WB	ICL007WL	ICL007WC		
LAB FILE ID:	AL05-03	AL05-04	AL05-05		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/07/1113:49	12/07/1114:06	12/07/1114:22	DATE RECEIVED:	NA
PREP. BATCH:	ICL007W	ICL007W	ICL007W		
CALIB. REF:	AL05-01	AL05-01	AL05-01		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE-N	ND	1.00	0.959	96	1.00	0.964	97	1	90-110	20

8113

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD 300.0

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL025WB	ICL025WL	ICL025WC		
LAB FILE ID:	AL09-34	AL09-35	AL09-36		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/12/1121:01	12/12/1121:17	12/12/1121:34	DATE RECEIVED:	NA
PREP. BATCH:	ICL025W	ICL025W	ICL025W		
CALIB. REF:	AL09-32	AL09-32	AL09-32		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
SULFATE	ND	5.00	5.20	104	5.00	5.23	105	0	90-110	20

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD SM2320B
ALKALINITY

A total of six (6) water samples were received on 12/07/11 for Bicarbonate, Carbonate and Total Alkalinity analysis, Method SM2320B in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for ALL001WL/C were all within QC limits.

Matrix QC Sample
Matrix QC sample was analyzed at the frequency prescribed by the project.
Percent recovery for L055-02M was within project QC limits.
Sample duplicate was also analyzed with the samples. RPD was within project limit.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD SM2320B
BICARBONATE ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL001WB	ND	1	NA	5.00	5.00	12/12/1115:20	NA	11E5L01004	11E5L01002	ALL001W	NA	NA
MW-54-085-183	L055-01	172	1	NA	5.00	5.00	12/12/1115:41	NA	11E5L01007	11E5L01002	ALL001W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	102	1	NA	5.00	5.00	12/12/1115:48	NA	11E5L01008	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-140-183DUP	L055-02D	102	1	NA	5.00	5.00	12/12/1115:55	NA	11E5L01009	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	60.7	1	NA	5.00	5.00	12/12/1116:15	NA	11E5L01011	11E5L01002	ALL001W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	195	1	NA	5.00	5.00	12/12/1116:22	NA	11E5L01012	11E5L01002	ALL001W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	59.3	1	NA	5.00	5.00	12/12/1116:30	NA	11E5L01013	11E5L01002	ALL001W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	58.5	1	NA	5.00	5.00	12/12/1116:49	NA	11E5L01016	11E5L01014	ALL001W	12/06/1113:38	12/07/11

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-140-183			
EMAX SAMP ID:	L055-02	L055-02D		
LAB FILE ID:	11E5L01008	11E5L01009		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:05
DATE ANALYZED:	12/12/1115:48	12/12/1115:55	DATE RECEIVED:	12/07/11
PREP. BATCH:	ALL001W	ALL001W		
CALIB. REF:	11E5L01002	11E5L01002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Bicarbonate	102	102	0	20

METHOD SM2320B
CARBONATE ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL001WB	ND	1	NA	5.00	5.00	12/12/1115:20	NA	11E5L01004	11E5L01002	ALL001W	NA	NA
MW-54-085-183	L055-01	ND	1	NA	5.00	5.00	12/12/1115:41	NA	11E5L01007	11E5L01002	ALL001W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	ND	1	NA	5.00	5.00	12/12/1115:48	NA	11E5L01008	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-140-183DUP	L055-02D	ND	1	NA	5.00	5.00	12/12/1115:55	NA	11E5L01009	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	ND	1	NA	5.00	5.00	12/12/1116:15	NA	11E5L01011	11E5L01002	ALL001W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	ND	1	NA	5.00	5.00	12/12/1116:22	NA	11E5L01012	11E5L01002	ALL001W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	ND	1	NA	5.00	5.00	12/12/1116:30	NA	11E5L01013	11E5L01002	ALL001W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	ND	1	NA	5.00	5.00	12/12/1116:49	NA	11E5L01016	11E5L01014	ALL001W	12/06/1113:38	12/07/11

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-140-183			
EMAX SAMP ID:	L055-02	L055-02D		
LAB FILE ID:	11E5L01008	11E5L01009		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:05
DATE ANALYZED:	12/12/1115:48	12/12/1115:55	DATE RECEIVED:	12/07/11
PREP. BATCH:	ALL001W	ALL001W		
CALIB. REF:	11E5L01002	11E5L01002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Carbonate	ND	ND	NA	20

METHOD SM2320B
TOTAL ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL001WB	ND	1	NA	5.00	5.00	12/12/1115:20	NA	11E5L01004	11E5L01002	ALL001W	NA	NA
LCS1W	ALL001WL	210	1	NA	5.00	5.00	12/12/1115:26	NA	11E5L01005	11E5L01002	ALL001W	NA	NA
LCD1W	ALL001WC	210	1	NA	5.00	5.00	12/12/1115:33	NA	11E5L01006	11E5L01002	ALL001W	NA	NA
MW-54-085-183	L055-01	172	1	NA	5.00	5.00	12/12/1115:41	NA	11E5L01007	11E5L01002	ALL001W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	102	1	NA	5.00	5.00	12/12/1115:48	NA	11E5L01008	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-140-183DUP	L055-02D	102	1	NA	5.00	5.00	12/12/1115:55	NA	11E5L01009	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-140-183MS	L055-02M	208	1	NA	5.00	5.00	12/12/1116:05	NA	11E5L01010	11E5L01002	ALL001W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	60.7	1	NA	5.00	5.00	12/12/1116:15	NA	11E5L01011	11E5L01002	ALL001W	12/06/1111:01	12/07/11
MW-55-045-183	L055-04	195	1	NA	5.00	5.00	12/12/1116:22	NA	11E5L01012	11E5L01002	ALL001W	12/06/1114:10	12/07/11
MW-55-120-183	L055-05	59.3	1	NA	5.00	5.00	12/12/1116:30	NA	11E5L01013	11E5L01002	ALL001W	12/06/1113:35	12/07/11
MW-90-120-183	L055-06	58.5	1	NA	5.00	5.00	12/12/1116:49	NA	11E5L01016	11E5L01014	ALL001W	12/06/1113:38	12/07/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD SM2320B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ALL001WB	ALL001WL	ALL001WC		
LAB FILE ID:	11E5L01004	11E5L01005	11E5L01006		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/12/1115:20	12/12/1115:26	12/12/1115:33	DATE RECEIVED:	NA
PREP. BATCH:	ALL001W	ALL001W	ALL001W		
CALIB. REF:	11E5L01002	11E5L01002	11E5L01002		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Alkalinity	ND	230	210	91	230	210	91	0	85-115	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-140-183			
LAB SAMP ID:	L055-02	L055-02M		
LAB FILE ID:	11E5L01008	11E5L01010		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:05
DATE ANALYZED:	12/12/1115:48	12/12/1116:05	DATE RECEIVED:	12/07/11
PREP. BATCH:	ALL001W	ALL001W		
CALIB. REF:	11E5L01002	11E5L01002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Alkalinity	102	100	208	105	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L055
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-140-183			
EMAX SAMP ID:	L055-02	L055-02D		
LAB FILE ID:	11E5L01008	11E5L01009		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/06/11 09:05
DATE ANALYZED:	12/12/1115:48	12/12/1115:55	DATE RECEIVED:	12/07/11
PREP. BATCH:	ALL001W	ALL001W		
CALIB. REF:	11E5L01002	11E5L01002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Alkalinity	102	102	0	20

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L055

METHOD SM4500NH3-C
AMMONIA (NH3-N)

A total of three (3) water samples were received on 12/07/11 for Ammonia-N by Method SM4500NH3-C in accordance with Standard Methods for the Examination of Water and Wastewater, 18th Edition and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for NHL011WL/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated for this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD SM4500NH3-C
AMMONIA (NH3-N)

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L055

Matrix : WATER
Instrument ID : 70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	NHL011WB	ND	1	NA	0.100	0.0600	12/22/1116:12	12/22/1111:30	NHL01113	NHL01109	NHL011W	NA	12/22/11
LCS1W	NHL011WL	0.846	1	NA	0.100	0.0600	12/22/1116:12	12/22/1111:30	NHL01114	NHL01109	NHL011W	NA	12/22/11
LCD1W	NHL011WC	1.02	1	NA	0.100	0.0600	12/22/1116:13	12/22/1111:30	NHL01115	NHL01109	NHL011W	NA	12/22/11
MW-54-085-183	L055-01	ND	1	NA	0.100	0.0600	12/22/1116:14	12/22/1111:30	NHL01116	NHL01109	NHL011W	12/06/1109:49	12/07/11
MW-54-140-183	L055-02	ND	1	NA	0.100	0.0600	12/22/1116:14	12/22/1111:30	NHL01117	NHL01109	NHL011W	12/06/1109:05	12/07/11
MW-54-195-183	L055-03	ND	1	NA	0.100	0.0600	12/22/1116:15	12/22/1111:30	NHL01118	NHL01109	NHL011W	12/06/1111:01	12/07/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
METHOD: SM4500NH3-C
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11L055
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: NHL011WL/C

DATE RECEIVED: 12/22/11
DATE EXTRACTED: 12/22/11 11:30
DATE ANALYZED: 12/22/11 16:12/16:13

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Ammonia (NH3-N)	ND	1.00	0.846	85	1.00	1.02	102	19	85-115	20

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 01-04-2012
EMAX Batch No.: 11L134

Attn: Priya Kumar

CH2M HILL
155 Grand, Suite 1000
Oakland CA 94612

Subject: Laboratory Report
Project: PG&E's Topock Gas Compressor Stat

Enclosed is the Laboratory report for samples received on 12/14/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-56D-183	L134-01	12/13/11	WATER	SPECIFIC CONDUCTANCE AMMONIA-N BY SM4500-NH3 F ALKALINITY DISSOLVED METALS IN WATER/WASTE ANIONS BY IC CHROMIUM HEXAVALENT BY IC
MW-56M-183	L134-02	12/13/11	WATER	SPECIFIC CONDUCTANCE AMMONIA-N BY SM4500-NH3 F ALKALINITY DISSOLVED METALS IN WATER/WASTE ANIONS BY IC CHROMIUM HEXAVALENT BY IC
MW-56S-183	L134-03	12/13/11	WATER	SPECIFIC CONDUCTANCE AMMONIA-N BY SM4500-NH3 F ALKALINITY DISSOLVED METALS IN WATER/WASTE ANIONS BY IC CHROMIUM HEXAVALENT BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

EMAX GMP-183-AZ XR 11L134

CH2MHILL CH-0408-

CHAIN OF CUSTODY RECORD

12/13/2011 4:57:55 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.05.AZ
Task Order
Project 2011-GMP-183-AZ
Turnaround Time 12 Days
Shipping Date: 12/13/2011
COC Number: 2

	DATE	TIME	Matrix	Container:	1Liter Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	Number of Containers	COMMENTS
				Preservatives:	4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
				Filtered:	NA	Field	Field	Field	NA	NA	NA	NA		
				Holding Time:	30	28	180	180	2	2	2	28		
					Extra (*)	Cr6 (E218.6R) Field Filtered	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		
1	MW-56D-183	12/13/2011	15:55	Water	X	X	X	X	X	X	X	X	7	
2	MW-56M-183	12/13/2011	14:18	Water	X	X	X	X	X	X	X	X	7	
3	MW-56S-183	12/13/2011	13:23	Water	X	X	X	X	X	X	X	X	7	
												TOTAL NUMBER OF CONTAINERS	21	

T=3.5°C

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1905
Relinquished by		
Received by	Rafael Davila	12/13/11 17:18
Relinquished by	Rafael Davila	12/13/11 23:30
Received by		

Shipping Details
Method of Shipment: Courier
On Ice: yes / no
Airbill No:
Lab Name:
Lab Phone:

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

12/14/11 1540

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 111134
☒ EMAX Courier	GSE COC	Receipt J-LUNA
☐ Client Delivery		Date 12-14-11
☐ Third Party		Time 1540

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☐ Matrix
☐ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues	☐ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☐ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☐ Cooler 1 3.5 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Thermometer: *A - S/N 101541371* *B - S/N 101541382*

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time .**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample Labeling _____ Date 12/14/11

SRF _____ Date 12/14/11

PM _____ Date 12/15/11

LEGEND:

Code	Description- Sample Management
A1	Analysis is not indicated in COC
A2	Analysis is not indicated in label
A3	Analysis is inconsistent in COC vis-à-vis label
A4	_____
B1	Sample ID is not indicated in COC
B2	Sample ID is not indicated in label
B3	Sample ID is inconsistent in COC vis-à-vis label
B4	_____
C1	Wrong container
C2	Broken container
C3	Leaking container
C4	_____

Code	Description-Sample Management
D1	Date and/or time is not indicated in COC
D2	Date and/or time is not indicated in label
D3	Date and/or time is inconsistent in COC vis-à-vis label
E1	Insuficient preservative
E2	Improper preservation
F1	Insufficient Sample
F2	Bubble is> 6mm
G1	Temperature is out of range
G2	Out of Holding Time
G3	>20 % solid particle
H1	_____
H2	_____

Code	Description-Project Management
R1	Hold sample(s); wait for further instructions
R2	Proceed as indicated in COC
R3	Refer to attached instruction
R4	Cancel the analysis
R5	_____
R6	_____

CLIENT: CH2M HILL TOPOCK

SDG: 11L134

Analyst names:

1. 200.8 : Christopher Capulong
2. 120.1 : Nina Macalinao
3. 218.6 : Cherry Dam
4. 300.0 : Jadelyn Chun
5. SM2320B : Raymond Cheung
6. SM4500NH3-C: Raymond Cheung

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD 200.8
DISSOLVED METALS BY ICP-MS

A total of three (3) water samples were received on 12/14/11 for Dissolved Metals In Water/Waste analysis, Method 200.8 in accordance with Methods for the Determination of Metals in Environmental Samples, Supplement 1 (EPA/600/R-94/111) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source. Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for IML019WL/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated for this SDG. Analytical spike and serial dilution were analyzed for matrix interference evaluation. Results were within method acceptance criteria.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter. All samples were initially analyzed and reported at 10x dilution due to high sodium concentration.

LAB CHRONICLE

DISSOLVED METALS BY ICP-MS

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG NO. : 11L134
Instrument ID : T-IF6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML019WB	1	NA	12/20/1118:44	12/19/1112:55	F6L16018	F6L16016	IML019W	Method Blank
LCS1W	IML019WL	1	NA	12/20/1118:48	12/19/1112:55	F6L16019	F6L16016	IML019W	Lab Control Sample (LCS)
LCD1W	IML019WC	1	NA	12/20/1118:52	12/19/1112:55	F6L16020	F6L16016	IML019W	LCS Duplicate
MW-56D-183	L134-01T	10	NA	12/21/1119:04	12/19/1112:55	F6L18017	F6L18015	IML019W	Diluted Sample
MW-56M-183	L134-02T	10	NA	12/21/1119:08	12/19/1112:55	F6L18018	F6L18015	IML019W	Diluted Sample
MW-56S-183	L134-03T	10	NA	12/21/1119:17	12/19/1112:55	F6L18020	F6L18015	IML019W	Diluted Sample
MW-56S-183DL	L134-03J	50	NA	12/21/1119:21	12/19/1112:55	F6L18021	F6L18015	IML019W	Diluted Sample
MW-56S-183AS	L134-03A	10	NA	12/21/1119:30	12/19/1112:55	F6L18023	F6L18015	IML019W	Analytical Spike Sample

FN - Filename
% Moist - Percent Moisture

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/13/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/14/11
SDG NO.	: 11L134	Date Extracted:	12/19/11 12:55
Sample ID:	MW-56D-183	Date Analyzed:	#02/01/12 16:40 12/21/11 19:04 ## 12/21/11 19:25
Lab Samp ID:	#L134-01 L134-01T ##L134-01I	Dilution Factor:	#5 10 ## 50
Lab File ID:	#98B01055 F6L18017 ##F6L18022	Matrix	: WATER
Ext Btch ID:	IML019W	% Moisture	: NA
Calib. Ref.:	#98B01052 F6L18015 ##F6L18015	Instrument ID	: #T-I98 T-IF6 ## T-IF6

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
# Chromium	ND	5.00	1.00
Calcium	376000	1000	250
Iron	830	200	100
Magnesium	75400	1000	100
Manganese	702	100	2.00
## Sodium	4030000	25000	2500

Members of the First Associated File
Members of the Second Associated File

Revised

7003

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	12/13/11
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/14/11
SDG NO.	: 11L134	Date Extracted:	12/19/11 12:55
Sample ID:	MW-56M-183	Date Analyzed:	#02/01/12 14:02 12/21/11 19:08
Lab Samp ID:	#L134-02W L134-02T	Dilution Factor:	#1 10
Lab File ID:	#98B01026 F6L18018	Matrix :	WATER
Ext Btch ID:	IML019W	% Moisture :	NA
Calib. Ref.:	#98B01020 F6L18015	Instrument ID :	#T-I98 T-IF6

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
# Chromium	ND	1.00	0.200
Calcium	371000	1000	250
Iron	3470	200	100
Magnesium	102000	1000	100
Manganese	781	100	2.00
Sodium	2700000	5000	500

Members of the Associated File

Revised
7004

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client : CH2M HILL	Date Collected: 12/13/11
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received: 12/14/11
SDG NO. : 11L134	Date Extracted: 12/19/11 12:55
Sample ID: MW-56S-183	Date Analyzed: #02/02/12 18:06 12/21/11 19:17
Lab Samp ID: #L134-03W L134-03T	Dilution Factor: #1 10
Lab File ID: #98B02016 F6L18020	Matrix : WATER
Ext Btch ID: IML019W	% Moisture : NA
Calib. Ref.: #98B02013 F6L18015	Instrument ID : #T-I98 T-IF6

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
# Chromium	ND	1.00	0.200
Calcium	70200	1000	250
Iron	3130	200	100
Magnesium	24200	1000	100
Manganese	613	100	2.00
Sodium	1140000	5000	500

Members of the Associated File

Revised

7005

METHOD 200.8
DISSOLVED METALS BY ICP-MS

Client	: CH2M HILL	Date Collected:	NA
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Date Received:	12/19/11
SDG NO.	: 11L134	Date Extracted:	12/19/11 12:55
Sample ID:	MBLK1W	Date Analyzed:	12/20/11 18:44
Lab Samp ID:	IML019WB	Dilution Factor:	1
Lab File ID:	F6L16018	Matrix :	WATER
Ext Btch ID:	IML019W	% Moisture :	NA
Calib. Ref.:	F6L16016	Instrument ID :	T-IF6

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200
Calcium	ND	100	25.0
Iron	ND	20.0	10.0
Magnesium	ND	100	10.0
Manganese	ND	10.0	0.200
Sodium	ND	500	50.0

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11L134
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IML019WB	IML019WL	IML019WC		
LAB FILE ID:	F6L16018	F6L16019	F6L16020		
DATIME EXTRCTD:	12/19/1112:55	12/19/1112:55	12/19/1112:55	DATE COLLECTED:	NA
DATIME ANALYZD:	12/20/1118:44	12/20/1118:48	12/20/1118:52	DATE RECEIVED:	12/19/11
PREP. BATCH:	IML019W	IML019W	IML019W		
CALIB. REF:	F6L16016	F6L16016	F6L16016		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Chromium	ND	25.0	26.0	104	25.0	25.8	103	1	85-115	20
Calcium	ND	2500	2640	106	2500	2640	106	0	85-115	20
Iron	ND	2500	2620	105	2500	2600	104	1	85-115	20
Magnesium	ND	2500	2540	102	2500	2530	101	0	85-115	20
Manganese	ND	25.0	25.6	103	25.0	25.5	102	1	85-115	20
Sodium	ND	2500	2530	101	2500	2540	102	1	85-115	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	10	50		
SAMPLE ID:	MW-56S-183	MW-56S-183DL		
EMAX SAMP ID:	L134-03T	L134-03J		
LAB FILE ID:	F6L18020	F6L18021		
DATE EXTRACTED:	12/19/1112:55	12/19/1112:55	DATE COLLECTED:	12/13/11
DATE ANALYZED:	12/21/1119:17	12/21/1119:21	DATE RECEIVED:	12/14/11
PREP. BATCH:	IML019W	IML019W		
CALIB. REF:	F6L18015	F6L18015		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Chromium^	ND	ND	0	10
Calcium	70200	71200	2	10
Iron	3130	3390	9	10
Magnesium	24200	24900	3	10
Manganese	613	632	3	10
Sodium	1140000	1130000	0	10

^ L134-03J : Analyzed @ DF 5 on 02/02/12 18:12 | File ID 98B02017

Revised
7008

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11L134
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	10	10		
SAMPLE ID:	MW-56S-183			
CONTROL NO.:	L134-03T	L134-03A		
LAB FILE ID:	F6L18020	F6L18023		
DATIME EXTRCTD:	12/19/1112:55	12/19/1112:55	DATE COLLECTED:	12/13/11
DATIME ANALYZD:	12/21/1119:17	12/21/1119:30	DATE RECEIVED:	12/14/11
PREP. BATCH:	IML019W	IML019W		
CALIB. REF:	F6L18015	F6L18015		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Chromium	ND	25	24.3	97	75-125
Calcium	70200	25000	97900	111	75-125
Iron	3130	25000	29600	106	75-125
Magnesium	24200	25000	51000	107	75-125
Manganese	613	250	857	98	75-125
Sodium	1140000	25000	1160000	108	75-125

^ L134-03A : Analyzed @ DF 1 on 02/02/12 18:01 | File ID 98B02015

Revised

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD 120.1
SPECIFIC CONDUCTANCE

A total of three (3) water samples were received on 12/14/11 for Specific Conductance analysis, Method 120.1 in accordance with Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020.)

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method. All calibration requirements were within acceptance criteria.

Matrix QC Sample
No matrix QC sample was designated for this SDG. However, sample duplicate was analyzed with the samples. RPD was within project limit.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD 120.1
SPECIFIC CONDUCTANCE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : D4

SAMPLE ID	EMAX SAMPLE ID	RESULTS (umhos/cm)	DLF	MOIST	RL (umhos/cm)	MDL (umhos/cm)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MW-56D-183	L134-01	21000	1	NA	2.00	2.00	12/21/1116:10	NA	ECL00403	ECL00401	ECL004W	12/13/1115:55	12/14/11
MW-56D-183DUP	L134-01D	21100	1	NA	2.00	2.00	12/21/1116:12	NA	ECL00404	ECL00401	ECL004W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	14600	1	NA	2.00	2.00	12/21/1116:14	NA	ECL00405	ECL00401	ECL004W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	5980	1	NA	2.00	2.00	12/21/1116:15	NA	ECL00406	ECL00401	ECL004W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
METHOD: METHOD 120.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11L134 DATE RECEIVED: 12/14/11
SAMPLE ID: MW-56D-183DUP DATE EXTRACTED: NA
CONTROL NO.: L134-01D DATE ANALYZED: 12/21/11 16:12

ACCESSION:

PARAMETER	SAMPLE (umhos/cm)	DUP. SAMPLE (umhos/cm)	RPD (%)	RPD LIMIT (%)
Specific Conductivity	21000	21100	0	5

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD 218.6
HEXAVALENT CHROMIUM

A total of three (3) water samples were received on 12/14/11 for Chromium Hexavalent by IC analysis, Method 218.6 in accordance with the Methods for the Determination of Metals in Environmental Samples, Supplement 1 (EPA/600/R-94/111) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for HCL021WL/C were all within QC limits.

Matrix QC Sample
Three (3) sets of MS were analyzed with the samples. Percent recoveries of L134-01U, -02U and -03U were within QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter. All samples were reported from dilution runs due to either low or no recovery on the matrix spike.

METHOD 218.6

HEXAVALENT CHROMIUM

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : I59

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	HCL021WB	ND	1	NA	0.200	0.100	12/19/1115:15	NA	IL19003	IL19001	HCL021W	NA	NA
LCS1W	HCL021WL	2.00	1	NA	0.200	0.100	12/19/1115:25	NA	IL19004	IL19001	HCL021W	NA	NA
LCD1W	HCL021WC	1.82	1	NA	0.200	0.100	12/19/1115:35	NA	IL19005	IL19001	HCL021W	NA	NA
MW-56D-183	L134-01	ND	5	NA	1.00	0.500	12/19/1119:53	NA	IL19024	IL19022	HCL021W	12/13/1115:55	12/14/11
MW-56D-183MS	L134-01U	4.91	5	NA	1.00	0.500	12/19/1120:03	NA	IL19025	IL19022	HCL021W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	ND	5	NA	1.00	0.500	12/19/1120:14	NA	IL19026	IL19022	HCL021W	12/13/1114:18	12/14/11
MW-56M-183MS	L134-02U	4.92	5	NA	1.00	0.500	12/19/1120:24	NA	IL19027	IL19022	HCL021W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	ND	5	NA	1.00	0.500	12/19/1120:55	NA	IL19030	IL19022	HCL021W	12/13/1113:23	12/14/11
MW-56S-183MS	L134-03U	4.67	5	NA	1.00	0.500	12/19/1121:06	NA	IL19031	IL19022	HCL021W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 218.6

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HCL021WB	HCL021WL	HCL021WC		
LAB FILE ID:	IL19003	IL19004	IL19005		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/19/1115:15	12/19/1115:25	12/19/1115:35	DATE RECEIVED:	NA
PREP. BATCH:	HCL021W	HCL021W	HCL021W		
CALIB. REF:	IL19001	IL19001	IL19001		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	2.00	2.00	100	2.00	1.82	91	9	90-110	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 218.6

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 5 5
SAMPLE ID: MW-560-183
LAB SAMP ID: L134-01 L134-01U
LAB FILE ID: IL19024 IL19025
DATE EXTRACTED: NA NA DATE COLLECTED: 12/13/11 15:55
DATE ANALYZED: 12/19/1119:53 12/19/1120:03 DATE RECEIVED: 12/14/11
PREP. BATCH: HCL021W HCL021W
CALIB. REF: IL19022 IL19022

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.91	98	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 218.6

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 5 5
SAMPLE ID: MW-56M-183
LAB SAMP ID: L134-02 L134-02U
LAB FILE ID: IL19026 IL19027
DATE EXTRACTED: NA NA DATE COLLECTED: 12/13/11 14:18
DATE ANALYZED: 12/19/1120:14 12/19/1120:24 DATE RECEIVED: 12/14/11
PREP. BATCH: HCL021W HCL021W
CALIB. REF: IL19022 IL19022

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.92	98	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 218.6

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	MW-56S-183			
LAB SAMP ID:	L134-03	L134-03U		
LAB FILE ID:	IL19030	IL19031		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/13/11 13:23
DATE ANALYZED:	12/19/1120:55	12/19/1121:06	DATE RECEIVED:	12/14/11
PREP. BATCH:	HCL021W	HCL021W		
CALIB. REF:	IL19022	IL19022		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.67	93	90-110

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD 300.0
ANIONS BY IC

A total of three (3) water samples were received on 12/14/11 for Anions (Chloride, Nitrate-N and Sulfate) by IC analysis, Method 300.0 in accordance with Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100) and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary forms for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for ICL035WL/C were all within QC limits.
Percent recoveries for ICL039WL/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated for this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter. Samples L134-01 and -02 for Nitrate-N were reported from their dilutions due to interference from high chloride concentration.

METHOD 300.0
CHLORIDE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL039WB	ND	1	NA	0.500	0.100	12/15/1110:51	NA	AL15-03	AL15-01	ICL039W	NA	NA
LCS1W	ICL039WL	1.96	1	NA	0.500	0.100	12/15/1111:07	NA	AL15-04	AL15-01	ICL039W	NA	NA
LCD1W	ICL039WC	1.95	1	NA	0.500	0.100	12/15/1111:23	NA	AL15-05	AL15-01	ICL039W	NA	NA
MW-56D-183	L134-01	7740	400	NA	200	40.0	12/15/1114:05	NA	AL15-15	AL15-13	ICL039W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	4730	400	NA	200	40.0	12/15/1114:21	NA	AL15-16	AL15-13	ICL039W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	1570	100	NA	50.0	10.0	12/15/1114:37	NA	AL15-17	AL15-13	ICL039W	12/13/1113:23	12/14/11

METHOD 300.0
NITRATE-N

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL035WB	ND	1	NA	0.500	0.0500	12/14/1119:55	NA	AL13-36	AL13-34	ICL035W	NA	NA
LCS1W	ICL035WL	1.01	1	NA	0.500	0.0500	12/14/1120:11	NA	AL13-37	AL13-34	ICL035W	NA	NA
LCD1W	ICL035WC	1.01	1	NA	0.500	0.0500	12/14/1120:28	NA	AL13-38	AL13-34	ICL035W	NA	NA
MW-56S-183	L134-03	ND	1	NA	0.500	0.0500	12/15/1100:46	NA	AL13-54	AL13-46	ICL035W	12/13/1113:23	12/14/11
MBLK2W	ICL039WB	ND	1	NA	0.500	0.0500	12/15/1110:51	NA	AL15-03	AL15-01	ICL039W	NA	NA
LCS2W	ICL039WL	1.02	1	NA	0.500	0.0500	12/15/1111:07	NA	AL15-04	AL15-01	ICL039W	NA	NA
LCD2W	ICL039WC	1.02	1	NA	0.500	0.0500	12/15/1111:23	NA	AL15-05	AL15-01	ICL039W	NA	NA
MW-56D-183	L134-01	ND	5	NA	2.50	0.250	12/15/1111:39	NA	AL15-06	AL15-01	ICL039W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	ND	2	NA	1.00	0.100	12/15/1111:56	NA	AL15-07	AL15-01	ICL039W	12/13/1114:18	12/14/11

METHOD 300.0
SULFATE

Client	: CH2M HILL	Matrix	: WATER
Project	: PG&E'S TOPOCK GAS COMPRESSOR STAT	Instrument ID	: DO
Batch No.	: 11L134		

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICL039WB	ND	1	NA	0.500	0.250	12/15/1110:51	NA	AL15-03	AL15-01	ICL039W	NA	NA
LCS1W	ICL039WL	5.09	1	NA	0.500	0.250	12/15/1111:07	NA	AL15-04	AL15-01	ICL039W	NA	NA
LCD1W	ICL039WC	5.10	1	NA	0.500	0.250	12/15/1111:23	NA	AL15-05	AL15-01	ICL039W	NA	NA
MW-56D-183	L134-01	1230	400	NA	200	100	12/15/1114:05	NA	AL15-15	AL15-13	ICL039W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	1020	400	NA	200	100	12/15/1114:21	NA	AL15-16	AL15-13	ICL039W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	444	100	NA	50.0	25.0	12/15/1114:37	NA	AL15-17	AL15-13	ICL039W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 300.0

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL039WB	ICL039WL	ICL039WC		
LAB FILE ID:	AL15-03	AL15-04	AL15-05		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/15/1110:51	12/15/1111:07	12/15/1111:23	DATE RECEIVED:	NA
PREP. BATCH:	ICL039W	ICL039W	ICL039W		
CALIB. REF:	AL15-01	AL15-01	AL15-01		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride-Cl	ND	2.00	1.96	98	2.00	1.95	98	0	90-110	20

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EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 300.0

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL035WB	ICL035WL	ICL035WC		
LAB FILE ID:	AL13-36	AL13-37	AL13-38		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/14/1119:55	12/14/1120:11	12/14/1120:28	DATE RECEIVED:	NA
PREP. BATCH:	ICL035W	ICL035W	ICL035W		
CALIB. REF:	AL13-34	AL13-34	AL13-34		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE-N	ND	1.00	1.01	101	1.00	1.01	101	0	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 300.0

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	ICL039WB	ICL039WL	ICL039WC		
LAB FILE ID:	AL15-03	AL15-04	AL15-05		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/15/1110:51	12/15/1111:07	12/15/1111:23	DATE RECEIVED:	NA
PREP. BATCH:	ICL039W	ICL039W	ICL039W		
CALIB. REF:	AL15-01	AL15-01	AL15-01		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE-N	ND	1.00	1.02	102	1.00	1.02	102	0	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD 300.0

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ICL039WB	ICL039WL	ICL039WC		
LAB FILE ID:	AL15-03	AL15-04	AL15-05		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/15/1110:51	12/15/1111:07	12/15/1111:23	DATE RECEIVED:	NA
PREP. BATCH:	ICL039W	ICL039W	ICL039W		
CALIB. REF:	AL15-01	AL15-01	AL15-01		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
SULFATE	ND	5.00	5.09	102	5.00	5.10	102	0	90-110	20

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CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD SM2320B
ALKALINITY

A total of three (3) water samples were received on 12/14/11 for Bicarbonate, Carbonate and Total Alkalinity analysis, Method SM2320B in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for ALL009WL/C were all within QC limits.

Matrix QC Sample
Matrix QC sample was analyzed at the frequency prescribed by the project.
Percent recovery for L134-01M was within project QC limits.
Sample duplicate was also analyzed with the samples. RPD was within project limit.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD SM2320B
BICARBONATE ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL009WB	ND	1	NA	5.00	5.00	12/21/1113:00	NA	11E5L04004	11E5L04002	ALL009W	NA	NA
MW-56D-183	L134-01	116	1	NA	5.00	5.00	12/21/1113:22	NA	11E5L04007	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56D-183DUP	L134-01D	117	1	NA	5.00	5.00	12/21/1113:31	NA	11E5L04008	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	502	1	NA	5.00	5.00	12/21/1113:51	NA	11E5L04010	11E5L04002	ALL009W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	494	1	NA	5.00	5.00	12/21/1114:01	NA	11E5L04011	11E5L04002	ALL009W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-56D-183			
EMAX SAMP ID:	L134-01	L134-01D		
LAB FILE ID:	11E5L04007	11E5L04008		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/13/11 15:55
DATE ANALYZED:	12/21/1113:22	12/21/1113:31	DATE RECEIVED:	12/14/11
PREP. BATCH:	ALL009W	ALL009W		
CALIB. REF:	11E5L04002	11E5L04002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Bicarbonate	116	117	1	20

METHOD SM2320B
CARBONATE ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL009WB	ND	1	NA	5.00	5.00	12/21/1113:00	NA	11E5L04004	11E5L04002	ALL009W	NA	NA
MW-56D-183	L134-01	ND	1	NA	5.00	5.00	12/21/1113:22	NA	11E5L04007	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56D-183DUP	L134-01D	ND	1	NA	5.00	5.00	12/21/1113:31	NA	11E5L04008	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	ND	1	NA	5.00	5.00	12/21/1113:51	NA	11E5L04010	11E5L04002	ALL009W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	ND	1	NA	5.00	5.00	12/21/1114:01	NA	11E5L04011	11E5L04002	ALL009W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-56D-183			
EMAX SAMP ID:	L134-01	L134-01D		
LAB FILE ID:	11E5L04007	11E5L04008		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/13/11 15:55
DATE ANALYZED:	12/21/1113:22	12/21/1113:31	DATE RECEIVED:	12/14/11
PREP. BATCH:	ALL009W	ALL009W		
CALIB. REF:	11E5L04002	11E5L04002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Carbonate	ND	ND	0	20

METHOD SM2320B
TOTAL ALKALINITY

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : E5

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALL009WB	ND	1	NA	5.00	5.00	12/21/1113:00	NA	11E5L04004	11E5L04002	ALL009W	NA	NA
LCS1W	ALL009WL	207	1	NA	5.00	5.00	12/21/1113:07	NA	11E5L04005	11E5L04002	ALL009W	NA	NA
LCD1W	ALL009WC	208	1	NA	5.00	5.00	12/21/1113:14	NA	11E5L04006	11E5L04002	ALL009W	NA	NA
MW-56D-183	L134-01	116	1	NA	5.00	5.00	12/21/1113:22	NA	11E5L04007	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56D-183DUP	L134-01D	117	1	NA	5.00	5.00	12/21/1113:31	NA	11E5L04008	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56D-183MS	L134-01M	214	1	NA	5.00	5.00	12/21/1113:38	NA	11E5L04009	11E5L04002	ALL009W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	502	1	NA	5.00	5.00	12/21/1113:51	NA	11E5L04010	11E5L04002	ALL009W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	494	1	NA	5.00	5.00	12/21/1114:01	NA	11E5L04011	11E5L04002	ALL009W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD SM2320B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	ALL009WB	ALL009WL	ALL009WC		
LAB FILE ID:	11E5L04004	11E5L04005	11E5L04006		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	12/21/1113:00	12/21/1113:07	12/21/1113:14	DATE RECEIVED:	NA
PREP. BATCH:	ALL009W	ALL009W	ALL009W		
CALIB. REF:	11E5L04002	11E5L04002	11E5L04002		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Alkalinity	ND	230	207	90	230	208	91	1	85-115	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-56D-183			
LAB SAMP ID:	L134-01	L134-01M		
LAB FILE ID:	11E5L04007	11E5L04009		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/13/11 15:55
DATE ANALYZED:	12/21/1113:22	12/21/1113:38	DATE RECEIVED:	12/14/11
PREP. BATCH:	ALL009W	ALL009W		
CALIB. REF:	11E5L04002	11E5L04002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Alkalinity	116	100	214	98	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11L134
METHOD: METHOD SM2320B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-56D-183			
EMAX SAMP ID:	L134-01	L134-01D		
LAB FILE ID:	11E5L04007	11E5L04008		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	12/13/11 15:55
DATE ANALYZED:	12/21/1113:22	12/21/1113:31	DATE RECEIVED:	12/14/11
PREP. BATCH:	ALL009W	ALL009W		
CALIB. REF:	11E5L04002	11E5L04002		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Alkalinity	116	117	1	20

CASE NARRATIVE

Client : CH2M HILL

Project : PG&E'S TOPOCK GAS COMPRESSOR STAT

SDG : 11L134

METHOD SM4500NH3-C
AMMONIA (NH3-N)

A total of three (3) water samples were received on 12/14/11 for Ammonia-N by SM4500-NH3 F analysis, Method SM4500NH3-C in accordance with Standard Methods for the Examination of Water and Wastewater, 18th Edition and Project SAP.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for NHL011WL/C were all within QC limits.

Matrix QC Sample
Matrix QC sample was analyzed at the frequency prescribed by the project.
Percent recovery for L134-01M was within project QC limits.
Sample duplicate was also analyzed with the samples. RPD was within project limit.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

METHOD SM4500NH3-C
AMMONIA (NH3-N)

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11L134

Matrix : WATER
Instrument ID : 70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	NHL011WB	ND	1	NA	0.100	0.0600	12/22/1116:12	12/22/1111:30	NHL01113	NHL01109	NHL011W	NA	12/22/11
LCS1W	NHL011WL	0.846	1	NA	0.100	0.0600	12/22/1116:12	12/22/1111:30	NHL01114	NHL01109	NHL011W	NA	12/22/11
LCD1W	NHL011WC	1.02	1	NA	0.100	0.0600	12/22/1116:13	12/22/1111:30	NHL01115	NHL01109	NHL011W	NA	12/22/11
MW-56D-183	L134-01	0.10	1	NA	0.100	0.0600	12/22/1116:17	12/22/1111:30	NHL01119	NHL01109	NHL011W	12/13/1115:55	12/14/11
MW-56D-183DUP	L134-01D	0.105	1	NA	0.100	0.0600	12/22/1116:17	12/22/1111:30	NHL01120	NHL01109	NHL011W	12/13/1115:55	12/14/11
MW-56D-183MS	L134-01M	1.09	1	NA	0.100	0.0600	12/22/1116:17	12/22/1111:30	NHL01123	NHL01121	NHL011W	12/13/1115:55	12/14/11
MW-56M-183	L134-02	0.51	1	NA	0.100	0.0600	12/22/1116:19	12/22/1111:30	NHL01124	NHL01109	NHL011W	12/13/1114:18	12/14/11
MW-56S-183	L134-03	ND	1	NA	0.100	0.0600	12/22/1116:19	12/22/1111:30	NHL01125	NHL01109	NHL011W	12/13/1113:23	12/14/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
METHOD: SM4500NH3-C
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11L134
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: NHL011WL/C

DATE RECEIVED: 12/22/11
DATE EXTRACTED: 12/22/11 11:30
DATE ANALYZED: 12/22/11 16:12/16:13

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Ammonia (NH3-N)	ND	1.00	0.846	85	1.00	1.02	102	19	85-115	20

Page 43

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
METHOD: SM4500NH3-C
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11L134
SAMPLE ID: MW-56D-183MS
CONTROL NO.: L134-01M

DATE RECEIVED: 12/14/11
DATE EXTRACTED: 12/22/11 11:30
DATE ANALYZED: 12/22/11 16:17

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Ammonia (NH3-N)	0.100	1.00	1.09	99	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
METHOD: SM4500NH3-C
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11L134 DATE RECEIVED: 12/14/11
SAMPLE ID: MW-56D-183DUP DATE EXTRACTED: 12/22/11 11:30
CONTROL NO.: L134-01D DATE ANALYZED: 12/22/11 16:17

ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Ammonia (NH3-N)	0.100	0.105	5	20

8151

Dr. Yi Wang
Director of ZymaX Forensics Isotope
600 S. Andreasen Dr., Suite B
Escondido, CA 92029
Tel: 760.781.3338 ext 43
Fax: 760.781.3339
Cell: 609.721.2843
Email: yi.wang@zymaxusa.com

REPORT OF ISOTOPE ANALYSES

Project: PG&E Topock 423575.MP.02.GM.01
Report Date: December 30th, 2011

Water samples from E2 and CH2MHILL (Jay Piper and Shawn Duffy) for $\delta^{18}O$ and δD (‰ VSMOW) analysis

ZymaX ID	Sample ID	$\delta^{18}O$	δD
42468-1	MW-31-060-183	-8.8	-67.9
42468-2	MW-31-135-183	-10.0	-76.7
42468-3	MW-34-055-183	-12.3	-100.5
42468-4	MW-34-080-183	-11.1	-88.1
42468-5	MW-34-100-183	-10.1	-79.2
42468-6	MW-42-030-183	-11.5	-96.1
42468-7	MW-42-055-183	-11.8	-92.5
42468-8	MW-42-065-183	-11.6	-90.6
42468-9	MW-93-183	-10.0	-79.5
	Analytical Precision (1σ)	0.1	0.3

ZymaX ID	$\delta^{18}O$	δD
QC-01	-4.8	-36.4
QC-02	-4.7	-36.0
Mean	**-4.8**	**-36.2**
STDEV	0.1	0.3

ZYMAX FORENSICS ISOTOPE LABORATORY ANALYSES

Gas
^{13}C and D of C1 to C4; ^{13}C of CO_2; C-14 of Methane and CO_2; ^{34}S of H_2S; ^{15}N and ^{18}O of N_2O gas

Oil, Extract, Fraction and Kerogen
Compound-Specific ^{13}C and D of MTBE,Chlorinated Solvents,PAH,Gasoline,Oil; Bulk ^{13}C, D/H, ^{34}S, and ^{15}N

Water
D and ^{18}O; ^{34}S and ^{18}O of dissolved sulfate; ^{34}S of dissolved H_2S; ^{37}Cl, ^{13}C and D of chlorinated solvents
^{15}N and ^{18}O of dissolved Nitrate; ^{15}N of Ammonia; ^{13}C of dissolved CO_2 and Carbonate/Bicarbonate

Soil and Minerals:
^{13}C, ^{15}N, ^{34}S, D/H, ^{18}O; C-14 of carbonate or organics

CH2MHILL

CHAIN OF CUSTODY RECORD

12/6/2011 4:38:20 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time ~~10 Days~~ Std 30 days (4w)
Shipping Date: 12/6/2011
COC Number: 3

	Container:	250 ml Poly
	Preservatives:	4°C
	Filtered:	NA
	Holding Time:	NA

	DATE	TIME	Matrix	Oxy_Deut (CF-IRMS)		Number of Containers	COMMENTS
MW-31-060-183	12/6/2011	13:00	Water	X	42468-1	1	
MW-31-135-183	12/6/2011	12:14	Water	X	-2	1	
MW-34-055-183	12/6/2011	12:10	Water	X	-3	1	
MW-34-080-183	12/6/2011	9:53	Water	X	-4	1	
MW-34-100-183	12/6/2011	10:49	Water	X	-5	1	
MW-42-030-183	12/6/2011	13:38	Water	X	-6	1	
MW-42-055-183	12/6/2011	14:23	Water	X	-7	1	
MW-42-065-183	12/6/2011	15:08	Water	X	-8	1	
MW-93-183	12/6/2011	8:00	Water	X	-9	1	
						1	
					TOTAL NUMBER OF CONTAINERS	9	

	Signatures	Date/Time
Approved by		
Sampled by		12/6/11
Relinquished by		1700
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by		12/6/11 23:30

Received by: Ryan Winn 12/7/11 10:15

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Dr. Yi Wang
Director of ZymaX Forensics Isotope
600 S. Andreasen Dr., Suite B
Escondido, CA 92029
Tel: 760.781.3338 ext 43
Fax: 760.781.3339
Cell: 609.721.2843
Email: yi.wang@zymaxusa.com

REPORT OF ISOTOPE ANALYSES

Project: PG&E Topock 423575.MP.02.GM.0
Report Date: January 5th, 2012

Water samples from E2 and CH2MHILL (Jay Piper and Shawn Duffy) for $\delta^{18}O$ and δD (‰ VSMOW) analysis

ZymaX ID	Sample ID	$\delta^{18}O$	δD
42481-1	MW-46-175-183	-10.4	-79.5
42481-2	MW-36-090-183	-12.0	-97.8
42481-3	MW-39-100-183	-9.9	-78.2
42481-4	MW-25-183	-9.2	-68.6
42481-5	MW-39-070-183	-11.9	-94.1
42481-6	MW-39-080-183	-11.3	-89.2
42481-7	MW-92-183	-8.9	-66.7
	Analytical Precision (1σ)	0.2	0.8

ZymaX ID	$\delta^{18}O$	δD
QC-01	-4.5	-35.2
QC-02	-4.8	-36.3
Mean	-4.7	-35.8
STDEV	0.2	0.8

ZYMAX FORENSICS ISOTOPE LABORATORY ANALYSES

Gas

^{13}C and D of C1 to C4; ^{13}C of CO_2; C-14 of Methane and CO_2; ^{34}S of H_2S; ^{15}N and ^{18}O of N_2O gas

Oil, Extract, Fraction and Kerogen

Compound-Specific ^{13}C and D of MTBE,Chlorinated Solvents,PAH,Gasoline,Oil; Bulk ^{13}C, D/H, ^{34}S, and ^{15}N

Water

D and ^{18}O; ^{34}S and ^{18}O of dissolved sulfate; ^{34}S of dissolved H_2S; ^{37}Cl, ^{13}C and D of chlorinated solvents

^{15}N and ^{18}O of dissolved Nitrate; ^{15}N of Ammonia; ^{13}C of dissolved CO_2 and Carbonate/Bicarbonate

Soil and Minerals:

^{13}C, ^{15}N, ^{34}S, D/H, ^{18}O; C-14 of carbonate or organics

Zymax GMP-183Q4 12-16-11

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 12:14:11 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 13

	DATE	TIME	Matrix	Container: 250 ml Poly	Preservatives: 4°C	Filtered: NA	Holding Time: NA	Oxy_Deut (CF-IRMS)	Number of Containers	COMMENTS
MW-46-175-183	12/13/2011	16:02	Water	X				42481-1	1	
MW-36-090-183	12/14/2011	16:16	Water	X				-2	1	
MW-39-100-183	12/14/2011	10:24	Water	X				-3	1	
MW-25-183	12/15/2011	9:31	Water	X				-4	1	
MW-39-070-183	12/15/2011	10:51	Water	X				-5	1	
MW-39-080-183	12/15/2011	11:42	Water	X				-6	1	
MW-92-183	12/15/2011	9:40	Water	X				-7	1	
									1	
								TOTAL NUMBER OF CONTAINERS	7	

Received by: Ryan Woon 12/20/11 9:30am

	Signatures	Date/Time
Approved by		12-16-11
Sampled by		17:30
Relinquished by		
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Ryan Woon	12/16/11 23:30

Shipping Details
Method of Shipment: Courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Dr. Yi Wang
Director of ZymaX Forensics Isotope
600 S. Andreasen Dr., Suite B
Escondido, CA 92029
Tel: 760.781.3338 ext 43
Fax: 760.781.3339
Cell: 609.721.2843
Email: yi.wang@zymaxusa.com

REPORT OF ISOTOPE ANALYSES

Project: PG&E Topock 423575.MP.02.GM.0

Report Date: January 5th, 2012

Water samples from E2 and CH2MHILL (Jay Piper and Shawn Duffy) for $\delta^{18}O$ and δD (‰ VSMOW) analysis

ZymaX ID	Sample ID	$\delta^{18}O$	δD
42482-01	MW-36-100-183	-10.9	-84.8
42482-02	MW-20-070-183	-7.9	-61.9
42482-03	MW-35-060-183	-9.4	-72.5
42482-04	MW-35-135-183	-10.5	-80.4
42482-05	MW-49-135-183	-10.4	-79.3
42482-06	MW-49-275-183	-10.9	-82.1
42482-07	MW-49-365-183	-10.7	-81.2
42482-08	MW-20-100-183	-6.7	-55.6
42482-09	MW-30-050-183	-12.3	-98.2
42482-10	MW-44-070-183	-11.9	-97.2
42482-11	MW-44-115-183	-10.4	-80.0
42482-12	MW-44-125-183	-10.3	-79.5
42482-13	MW-47-055-083	-9.2	-71.0
42482-14	MW-47-115-183	-10.2	-79.5
42482-15	MW-96-183	-10.4	-79.0
42482-16	MW-97-183	-10.1	-79.1
42482-17	MW-20-130-183	-6.6	-57.2
42482-18	MW-26-183	-8.1	-65.2
42482-19	MW-32-035-183	-10.8	-84.2
42482-20	MW-33-090-183	-10.1	-77.1
42482-21	MW-33-150-183	-10.4	-78.9
42482-22	MW-33-210-183	-10.5	-80.8
	Analytical Precision (1σ)	0.2	0.8

ZymaX ID	$\delta^{18}O$	δD
QC-01	-4.5	-35.2
QC-02	-4.8	-36.3
Mean	**-4.7**	**-35.8**
STDEV	0.2	0.8

ZYMAX FORENSICS ISOTOPE LABORATORY ANALYSES

Gas

^{13}C and D of C1 to C4; ^{13}C of CO_2; C-14 of Methane and CO_2; ^{34}S of H_2S; ^{15}N and ^{18}O of N_2O gas

Oil, Extract, Fraction and Kerogen

Compound-Specific ^{13}C and D of MTBE,Chlorinated Solvents,PAH,Gasoline,Oil; Bulk ^{13}C, D/H, ^{34}S, and ^{15}N

Water

D and ^{18}O; ^{34}S and ^{18}O of dissolved sulfate; ^{34}S of dissolved H_2S; ^{37}Cl, ^{13}C and D of chlorinated solvents

^{15}N and ^{18}O of dissolved Nitrate; ^{15}N of Ammonia; ^{13}C of dissolved CO_2 and Carbonate/Bicarbonate

Soil and Minerals:

^{13}C, ^{15}N, ^{34}S, D/H, ^{18}O; C-14 of carbonate or organics

Zymax GMP-183

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 3:52:29 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 6

Container: 250 ml Poly
Preservatives: 4°C
Filtered: NA
Holding Time: NA

	DATE	TIME	Matrix	Oxy_Deut (CF-IRMS)		Number of Containers	COMMENTS
MW-36-100-183	12/6/2011	16:36	Water	x	42482-1	1	
MW-20-070-183	12/7/2011	13:25	Water	x	-2	1	
MW-35-060-183	12/7/2011	9:33	Water	x	-3	1	
MW-35-135-183	12/7/2011	10:15	Water	x	-4	1	
MW-49-135-183	12/7/2011	11:17	Water	x	-5	1	
MW-49-275-183	12/7/2011	12:29	Water	x	-6	1	
MW-49-365-183	12/7/2011	14:54	Water	x	-7	1	
MW-20-100-183	12/8/2011	15:10	Water	x	-8	1	
MW-30-050-183	12/8/2011	9:25	Water	x	-9	1	
MW-44-070-183	12/8/2011	10:22	Water	x	-10	1	
MW-44-115-183	12/8/2011	11:00	Water	x	-11	1	
MW-44-125-183	12/8/2011	15:22	Water	x	-12	1	
MW-47-055-183	12/8/2011	11:34	Water	x	-13	1	
MW-47-115-183	12/8/2011	12:34	Water	x	-14	1	

Received by: Ryan Woon 12/20/11 9:30

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1705
Relinquished by	[signature]	
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by	[illegible]	12/13/11 23:30

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Zymax GMP-183

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 3:52:29 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 6

	Container:	250 ml Poly
	Preservatives:	4°C
	Filtered:	NA
	Holding Time:	NA

	DATE	TIME	Matrix	Oxy_Daut (CF-JRMS)		Number of Containers	COMMENTS
MW-96-183	12/8/2011	16:05	Water	X	42482-15	1	
MW-97-183	12/8/2011	12:00	Water	X	-16	1	
MW-20-130-183	12/9/2011	11:31	Water	X	-17	1	
MW-26-183	12/9/2011	11:08	Water	X	-18	1	
MW-32-035-183	12/9/2011	11:42	Water	X	-19	1	
MW-33-090-183	12/13/2011	12:06	Water	X	-20	1	
MW-33-150-183	12/13/2011	9:05	Water	X	-21	1	
MW-33-210-183	12/13/2011	10:14	Water	X	-22	1	
					TOTAL NUMBER OF CONTAINERS	22	

Received by: Ryan Woon 12/20/11 9:30

	Signatures	Date/Time
Approved by		12-13-11
Sampled by		1705
Relinquished by		
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by	Fedex	12/13/11 23:30

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Dr. Yi Wang
Director of ZymaX Forensics Isotope
600 S. Andreasen Dr., Suite B
Escondido, CA 92029
Tel: 760.781.3338 ext 43
Fax: 760.781.3339
Cell: 609.721.2843
Email: yi.wang@zymaxusa.com

REPORT OF ISOTOPE ANALYSES

Project: PG&E Topock 417981.ER.02.DM

Report Date: January 5th, 2012

Rush water samples from E2 and CH2MHILL (Mike C. & Shawn Duffy) for $\delta^{18}O$ and δD (‰ VSMOW) analysis

ZymaX ID	Sample ID	$\delta^{18}O$	δD
42483-03	MW-101-007	-8.4	-71.8
42483-04	MW-23-080-007	-8.4	-71.8
42483-05	MW-63-065-007	-12.5	-97.6
42483-08	MW-23-060-007	-8.3	-71.0
42483-09	MW-62-065-007	-8.8	-66.6
42483-10	MW-57-185-007	-10.1	-75.6
42483-11	MW-60-125-007	-9.0	-70.2
42483-13	MW-61-110-007	-9.4	-72.2
42483-14	MW-62-110-007	-8.1	-63.8
42483-15	MW-62-190-007	-10.1	-75.8
42483-23	MW-102-007	-7.6	-60.0
42483-24	MW-57-070-007	-8.5	-62.7
42483-25	MW-59-100-007	-7.9	-59.8
	Analytical Precision (1σ)	0.2	0.8

ZymaX ID	$\delta^{18}O$	δD
QC-01	-4.5	-35.2
QC-02	-4.8	-36.3
Mean	**-4.7**	**-35.8**
STDEV	0.2	0.8

ZYMAX FORENSICS ISOTOPE LABORATORY ANALYSES

Gas

^{13}C and D of C1 to C4; ^{13}C of CO_2; C-14 of Methane and CO_2; ^{34}S of H_2S; ^{15}N and ^{18}O of N_2O gas

Oil, Extract, Fraction and Kerogen

Compound-Specific ^{13}C and D of MTBE,Chlorinated Solvents,PAH,Gasoline,Oil; Bulk ^{13}C, D/H, ^{34}S, and ^{15}N

Water

D and ^{18}O; ^{34}S and ^{18}O of dissolved sulfate; ^{34}S of dissolved H_2S; ^{37}Cl, ^{13}C and D of chlorinated solvents

^{15}N and ^{18}O of dissolved Nitrate; ^{15}N of Ammonia; ^{13}C of dissolved CO_2 and Carbonate/Bicarbonate

Soil and Minerals:

^{13}C, ^{15}N, ^{34}S, D/H, ^{18}O; C-14 of carbonate or organics

Yi Wang

From: Erlene.Contreras@CH2M.com
Sent: Thursday, March 08, 2012 5:51 PM
To: Yi Wang
Cc: Shawn.Duffy@CH2M.com
Subject: Topock 42483 revised report pages needed ASAP

Importance: High

Hi Yi,

Can you please report the following samples on two report pages using the tables below.
First page will include 13 samples:

Query2			
SDG	LabsampleID	NativeID	Method
42483	42483-03	MW-101-007	CF-IRMS
42483	42483-04	MW-23-080-007	CF-IRMS
42483	42483-05	MW-63-065-007	CF-IRMS
42483	42483-08	MW-23-060-007	CF-IRMS
42483	42483-09	MW-62-065-007	CF-IRMS
42483	42483-10	MW-57-185-007	CF-IRMS
42483	42483-11	MW-60-125-007	CF-IRMS
42483	42483-13	MW-61-110-007	CF-IRMS
42483	42483-14	MW-62-110-007	CF-IRMS
42483	42483-15	MW-62-190-007	CF-IRMS
42483	42483-23	MW-102-007	CF-IRMS
42483	42483-24	MW-57-070-007	CF-IRMS
42483	42483-25	MW-59-100-007	CF-IRMS

Second page will include 21 samples:

Query2			
SDG	LabsampleID	NativeID	Method
42483	42483-01	MW-58BR-UPR-160-007	CF-IRMS
42483	42483-02	MW-58BR-LWR-160-007	CF-IRMS
42483	42483-06	MW-64BR-UPR-150-007	CF-IRMS
42483	42483-07	MW-70-105-007	CF-IRMS
42483	42483-12	MW-60BR-245-007	CF-IRMS
42483	42483-16	MW-67-185-007	CF-IRMS
42483	42483-17	MW-67-225-007	CF-IRMS
42483	42483-18	MW-67-260-007	CF-IRMS
42483	42483-19	MW-68-240-007	CF-IRMS
42483	42483-20	MW-68BR-280-007	CF-IRMS
42483	42483-21	MW-69-195-007	CF-IRMS
42483	42483-22	MW-73-080-007	CF-IRMS
42483	42483-26	MW-64BR-LWR-150-007	CF-IRMS

Query2

SDG	LabsampleID	NativeID	Method
42483	42483-27	MW-65-160-007	CF-IRMS
42483	42483-28	MW-65-225-007	CF-IRMS
42483	42483-29	MW-66-165-007	CF-IRMS
42483	42483-30	MW-66-230-007	CF-IRMS
42483	42483-31	MW-68-180-007	CF-IRMS
42483	42483-32	MW-70BR-225-007	CF-IRMS
42483	42483-33	MW-72-080-007	CF-IRMS
42483	42483-34	MW-71-035-007	CF-IRMS

Thank you for your patience,

Erlene

Erlene Contreras
Project Assistant 6
CH2M Hill
2525 Airpark Drive
Redding, CA 96001-2443
Phone 530-229-3247
Fax 530-339-3247
erlene.contreras@ch2m.com

Yi Wang

From: Shawn.Duffy@CH2M.com
Sent: Tuesday, December 20, 2011 12:32 PM
To: Yi Wang
Cc: Jay.Piper@CH2M.com
Subject: RE: Sample Receipt Confirmation-ZymaX Forensics Isotope Projects #42481, #42482, # 42483

Hi Yi,

The MW-64BR-UPR-150-007 sample listed twice on the COCs (42483-6) was an error, the sample only needs analysis once. However, I do have a few issues to mention.

1) MW-70-105-007 (42483-7) and MW-70BR-225-007 (42483-32) are the two samples that were referred to earlier about a fast TAT. want results ASAP
2) Some of the samples in SDG 42483 have IDs that were truncated on the COC; all the samples should end in a -007 (i.e. MW-58BR-UPR-160-007, MW-58BR-LWR-160-007, MW-64BR-UPR-150-007, and MW-64BR-LWR-150-007). Can you please make the correction to those four IDs.

Shawn

From: Yi Wang [mailto:Yi.Wang@zymaxusa.com]
Sent: Tuesday, December 20, 2011 11:38 AM
To: Duffy, Shawn/RDD
Cc: Piper, Jay/LAS
Subject: Sample Receipt Confirmation-ZymaX Forensics Isotope Projects #42481, #42482, #42483

Shawn, Jay and Mike,
We received lots of water samples from your PG&E Topock Project today for their D/18O isotope analysis. They have been logged into ZymaX Project #42481, #42482, and #42483 based on different Project numbers on your COC. Please see the attached COCs for more information.
One sample #42483-6, is in a single bottle, but its name shows twice on different pages of your COC. Do you want this sample analyzed twice as duplicates? We will do so unless we hear from you with different instructions.
Thank you,

Yi Wang, Ph.D.
Director, ZymaX Forensics Isotope
600 S. Andreasen Drive, suite B
Escondido, CA 92029
Email: yi.wang@zymaxusa.com
Tel: 760-781-3338 ext 43
Fax: 760-781-3339
Cell: 609-721-2843
http://www.zymaxusa.com

Zymax ER-007 #1

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:01:19 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 2

"all ending in 11-007"

	Container:	250 ml Poly
	Preservatives:	4°C
	Filtered:	NA
	Holding Time:	NA

	DATE	TIME	Matrix	Oxy_Deut (CF-IRMS)		Number of Containers	COMMENTS
MW-58BR-UPR-160-0	12/8/2011	11:05	Water	X	42483-1	1	
MW-58BR-LWR-160-	12/9/2011	11:15	Water	X	-2	1	
MW-101-007	12/12/2011	15:15	Water	X	-3	1	
MW-23-080-007	12/12/2011	15:08	Water	X	-4	1	
MW-63-065-007	12/12/2011	13:18	Water	X	-5	1	
MW-64BR-UPR-150-0	12/12/2011	15:00	Water	X	-6	1	
MW-70-105-007	12/12/2011	11:56	Water	X	-7 please Analyze ASAP (DM) 12/20/11	1	
MW-23-060-007	12/13/2011	8:30	Water	X	-8	1	
MW-62-065-007	12/13/2011	11:33	Water	X	-9	1	
						1	
					TOTAL NUMBER OF CONTAINERS	9	

Received by: Ryan Woon 12/20/11 9:30

	Signatures	Date/Time
Approved by		12-13-11
Sampled by		1705
Relinquished by		
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by		12/13/11 23:30

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

ER-007 Zymax 12-16-11 1 of 3

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 12:12:05 PM

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 8

Container: 250 ml Poly
Preservatives: 4°C
Filtered: NA
Holding Time: NA

	DATE	TIME	Matrix	Oxy_Deut (CF-IRMS)		Number of Containers	COMMENTS
MW-64BR-UPR-150-0	12/12/2011	15:00	Water	x	(note: sample ID is already in use, refer to 42483-6)	1	
MW-57-185-007	12/13/2011	13:57	Water	x	42483-10	1	
MW-60-125-007	12/14/2011	12:01	Water	x	-11	1	
MW-60BR-245-007	12/14/2011	8:02	Water	x	-12	1	
MW-61-110-007	12/14/2011	8:54	Water	x	-13	1	
MW-62-110-007	12/14/2011	16:15	Water	x	-14	1	
MW-62-190-007	12/14/2011	16:30	Water	x	-15	1	
MW-67-185-007	12/14/2011	14:17	Water	x	-16	1	
MW-67-225-007	12/14/2011	16:46	Water	x	-17	1	
MW-67-260-007	12/14/2011	15:31	Water	x	-18	1	
MW-68-240-007	12/14/2011	16:39	Water	x	-19	1	
MW-68BR-280-007	12/14/2011	12:28	Water	x	-20	1	
MW-69-195-007	12/14/2011	15:30	Water	x	-21	1	
MW-73-080-007	12/14/2011	10:05	Water	x	-22	1	

Received by: Ryan Woon 12/20/11 9:30

Signatures	Date/Time
Approved by	
Sampled by	12-16-11 17:30
Relinquished by	
Received by	Rafael Davila 12/16/11 17:30
Relinquished by	Rafael Davila 12-16-11 23:30
Received by	Linda TLI 12/16/11 23:30

Shipping Details
Method of Shipment: Courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

ER-007 Zymax 12-16-11 2 of 3

CH2MHILL CHAIN OF CUSTODY RECORD 12/16/2011 12:12:05 PM Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 8

	DATE	TIME	Matrix	Container: 250 ml Poly; Preservatives: 4°C; Filtered: NA; Holding Time: NA; Oxy_Dsolt (OF-IRMS)		Number of Containers	COMMENTS
MW-102-007	12/15/2011	13:00	Water	X	42483-23	1	
MW-57-070-007	12/15/2011	9:10	Water	X	-24	1	
MW-59-100-007	12/15/2011	12:04	Water	X	-25	1	
MW-64BR-LWR-150-	12/15/2011	11:05	Water	X	-26	1	
MW-65-160-007	12/15/2011	8:33	Water	X	-27	1	
MW-65-225-007	12/15/2011	13:40	Water	X	-28	1	
MW-66-165-007	12/15/2011	10:43	Water	X	-29	1	
MW-66-230-007	12/15/2011	13:18	Water	X	-30	1	
MW-68-180-007	12/15/2011	14:30	Water	X	-31	1	
MW-70BR-225-007	12/15/2011	15:14	Water	X	-32 Please analyze ASAP	1	
MW-72-080-007	12/15/2011	12:30	Water	X	-33	1	
						1	
					TOTAL NUMBER OF CONTAINERS	25	

Received by: Ryan Woon 12/20/11 9:30

	Signatures	Date/Time
Approved by		
Sampled by		12-16-11 17:30
Relinquished by		
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Lucas, TLI	12/16/11 23:30

Shipping Details
Method of Shipment: Courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

ER-007 Zymax 12-16-11 3 of 3

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 12:38:30 PM

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 12

	Container:	Preservatives:	Filtered:	Holding Time:			
	250 ml Poly	4°C	NA	NA			
DATE	TIME	Matrix	Oxy_Deut (CF-IRMS)			Number of Containers	COMMENTS
MW-71-035-007	12/14/2011	9:00	Water	x	412483-34	1	
					TOTAL NUMBER OF CONTAINERS	1	

Received by: Ryan Libon 12/20/11 9:30

Signatures	Date/Time
Approved by	
Sampled by	12-16-11
Relinquished by	17:30
Received by	Rafael Davila 12/16/11 17:30
Relinquished by	Rafael Davila 12-16-11 23:30
Received by	Davila, FEDEX 12/16/11 23:30

Shipping Details
Method of Shipment: courier
On Ice: yes / no
Airbill No:
Lab Name: Zymax Envirotechnology
Lab Phone: (805) 544-4696

ATTN:
Sample Custody
and
Michael Ng

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 2, 2012

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-188, GROUNDWATER MONITORING PROJECT, TLI NO.: 998241

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-188 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 November 1, 2011, 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.

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

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

Due to the discrepancy between the Total Dissolved Chromium (447 ug/L) and Hexavalent Chromium (1060 ug/L) results for sample TW-03D-188, Mr. Shawn Duffy of CH2M Hill was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 1070 and 1080 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 945 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result. The discrepancy was most likely a result of analyst error during sample preparation for the original run.

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

Michael Ngo
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 424973.01.DM

Laboratory No.: 998241
Date: January 2, 2012
Collected: November 1, 2011
Received: November 1, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
EPA 200.8	Total Dissolved Chromium	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov
SM 3500-CrB	Hexavalent Chromium	Jenny Tankunakorn

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

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

Laboratory No.: 998241
Date Received: November 1, 2011

Project Name: PG&E Topock Project
Project No.: 424973.01.DM
P.O. No.: 424973.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998241-001	PE-01-188	E120.1	NONE	11/1/2011	11:11	EC	4960	umhos/cm	2.00
998241-001	PE-01-188	E200.8	LABFLT-digested	11/1/2011	11:11	Chromium	10.3	ug/L	1.0
998241-001	PE-01-188	E218.6	LABFLT	11/1/2011	11:11	Chromium, hexavalent	10.3	ug/L	0.20
998241-001	PE-01-188	SM2540C	NONE	11/1/2011	11:11	Total Dissolved Solids	2790	mg/L	125
998241-002	TW-03D-188	E120.1	NONE	11/1/2011	11:11	EC	8610	umhos/cm	2.00
998241-002	TW-03D-188	E200.8	LABFLT-digested	11/1/2011	11:11	Chromium	1070	ug/L	2.0
998241-002	TW-03D-188	SM2540C	NONE	11/1/2011	11:11	Total Dissolved Solids	4880	mg/L	125
998241-002	TW-03D-188	SM3500-CrB	LABFLT	11/1/2011	11:11	Chromium, hexavalent	1060	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.

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www.truesdail.com

REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 424973.01.DM
Project Number: 424973.01.DM

Laboratory No. 998241

Printed 1/2/2012

Samples Received on 11/1/2011 8:30:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-188	998241-001	11/01/2011 11:11	Water
TW-03D-188	998241-002	11/01/2011 11:11	Water

Specific Conductivity - EPA 120.1 Batch 11EC11A 11/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-001 Specific Conductivity	umhos/cm	11/02/2011	1.00	0.0950	2.00	4960
998241-002 Specific Conductivity	umhos/cm	11/02/2011	1.00	0.0950	2.00	8610

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 998241-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8610	8610	0.00	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705	706	99.8	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705	706	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	979	997	98.2	90 - 110

Chrome VI by EPA 218.6

Batch 11CrH11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-001 Chromium, Hexavalent	ug/L	11/08/2011 14:28	1.05	0.0260	0.20	10.3

Method Blank

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

Duplicate — Lab ID = 998315-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	5.38	5.44	1.06	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00	97.5	90 - 110

Matrix Spike — Lab ID = 998241-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	25.5	26.2(15.9)	95.4	90 - 110

Matrix Spike — Lab ID = 998314-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.94	8.01(5.30)	98.7	90 - 110

Matrix Spike — Lab ID = 998314-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.51	6.48(5.30)	101.	90 - 110

Matrix Spike — Lab ID = 998314-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.53	6.53(5.30)	100.	90 - 110

Matrix Spike — Lab ID = 998314-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.33	6.42(5.30)	98.3	90 - 110

Matrix Spike — Lab ID = 998314-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.54	7.62(5.30)	98.6	90 - 110

Matrix Spike — Lab ID = 998315-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.11(1.06)	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.0	10.0	100.	95 - 105

Chromium, Hexavalent by SM 3500-Cr B Batch 11CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-002 Chromium, Hexavalent	ug/L	11/08/2011 13:33	10.0	43.5	100.	1060

Method Blank

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

Duplicate — Lab ID = 998241-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	1070	1060	0.724	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 = 998241-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	2140	2060(1000)	108.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	58.9	60.0	98.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	58.9	60.0	98.2	90 - 110

Total Dissolved Solids by SM 2540 C Batch 11TDS11A 11/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-001 Total Dissolved Solids	mg/L	11/02/2011	1.00	0.400	125	2790
998241-002 Total Dissolved Solids	mg/L	11/02/2011	1.00	0.400	125	4880

Method Blank

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

Duplicate Lab ID = 998208-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	308	304	1.31	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	470.	500.	94.0	90 - 110

Metals by EPA 200.8, Dissolved

Batch 112011B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-001 Chromium	ug/L	11/21/2011 03:20	4.44	0.0977	1.0	10.3

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998222-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	4.44	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.174	0.200	87.2	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103	100.	103	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 998222-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	4.44	108.	111(111)	97.2	75 - 125

Matrix Spike Duplicate — Lab ID = 998222-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	4.44	114.	111(111)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.3	50.0	102.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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	50.1	50.0	100.	90 - 110

MRCVS - Primary

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

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.6	50.0	101.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.8	50.0	104.	80 - 120

Serial Dilution — Lab ID = 998241-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	22.22	452.	447	1.20	0 - 10

Metals by EPA 200.8, Dissolved

Batch 122711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998241-002 Chromium	ug/L	12/27/2011 18:55	10.0	0.220	2.0	1070

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998661-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.29	1.94	16.5	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.235	0.200	117.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	100.	100.	100.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.	101.	85 - 115

Matrix Spike — Lab ID = 998661-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	102.(100.)	99.6	75 - 125

Matrix Spike Duplicate — Lab ID = 998661-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	102.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.96	10.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.62	10.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.68	10.0	96.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.78	10.0	97.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.51	10.0	95.1	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.70	10.0	97.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.60	10.0	96.0	80 - 120

Serial Dilution — Lab ID = 998241-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	1040	1070	3.04	0 - 10

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ London

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 11TDS11A

Date Calculated: 11/4/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	112.3586	112.3589	112.3588	0.0001	No	0.0002	2.0	25.0	ND	1
998196	100	68.5199	68.5769	68.5766	0.0003	No	0.0567	567.0	25.0	567.0	1
998212-2	200	115.2462	115.2667	115.2667	0.0000	No	0.0205	102.5	12.5	102.5	1
998212-4	100	74.7542	74.7784	74.7784	0.0000	No	0.0242	242.0	25.0	242.0	1
998221-1	100	76.5597	76.5899	76.5896	0.0003	No	0.0299	299.0	25.0	299.0	1
998221-2	100	65.5707	65.6025	65.6021	0.0004	No	0.0314	314.0	25.0	314.0	1
998241-1	20	67.7920	67.8481	67.8478	0.0003	No	0.0558	2790.0	125.0	2790.0	1
998241-2	20	76.5523	76.6504	76.65	0.0004	No	0.0977	4885.0	125.0	4885.0	1
998242-1	20	67.7447	67.8316	67.8315	0.0001	No	0.0868	4340.0	125.0	4340.0	1
998242-2	20	72.8111	72.9005	72.9004	0.0001	No	0.0893	4465.0	125.0	4465.0	1
998208	100	73.5020	73.5324	73.5324	0.0000	No	0.0304	304.0	25.0	304.0	1
998208D	100	68.5758	68.6066	68.6066	0.0000	No	0.0308	308.0	25.0	308.0	1
LCS	100	71.1001	71.1471	71.1471	0.0000	No	0.0470	470.0	25.0	470.0	1
998268-5	100	69.2216	69.2468	69.2468	0.0000	No	0.0252	252.0	25.0	252.0	1
998273-1	100	75.9776	75.994	75.994	0.0000	No	0.0164	164.0	25.0	164.0	1
LCSD											1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 11TDS11A

Date Calculated: 11/4/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
998196	977	0.58	635.05	0.89
998212-2	209	0.49	135.85	0.75
998212-4	459	0.53	298.35	0.81
998221-1	517	0.58	336.05	0.89
998221-2	515	0.61	334.75	0.94
998241-1	4960	0.56	3224	0.87
998241-2	8610	0.57	5596.5	0.87
998242-1	7110	0.61	4621.5	0.94
998242-2	7510	0.59	4881.5	0.91
998208	546	0.56	354.9	0.86
998208D	546	0.56	354.9	0.87
LCS				
998268-5	462	0.55	300.3	0.84
998273-1	281	0.58	182.65	0.90

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CHAIN OF CUSTODY RECORD

[IM3Plant-EW-188]

998241

COC Number

TURNAROUND TIME 10 Days

DATE 11/01/11 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	424973.01.DM
SAMPLERS (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
PE-01-188	11/01/11	11:11	Ground water	X		X	X	X	4	pH = 7 / 200.7
TW-03D-188	11/01/11	11:11	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

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	[illegible]	OMI	11-1-11 1530
Signature (Received) Bonifacio Dayag	B. DAYAG	TLI	11-1-11 1530
Signature (Relinquished) B. Dayag	B. DAYAG	TLI	11-1-11 2030
Signature (Received) Linda	Shaburning	TLI	11/1/11 20:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☑ WARM ☐ 5.1 °C °F

CUSTODY SEALED YES ☐ NO ☑

SPECIAL REQUIREMENTS:

048

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
11/1/11	998221-1	9.5	N/A	N/A	N/A	QW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
11/1/11	998222-1	9.5	N/A	N/A	N/A	QW
	-1					
	-2					
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
11/1/11	998223-1	9.5	N/A	N/A	N/A	QW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
11/2/11	998241	7	5 mL	9.5	9:35 Am	QW
11/2/11	998241	7	5mL	9.5	10:30 Am	QW
	998-242-1					
	-2					
	998246	9.5	N/A	N/A	N/A	QW
11/2/11	998245-1	9.5	N/A	N/A	N/A	QW
	-2					
	-3					

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998021 (1-4)	plant	>2	10/27/11	KK	NO	Yes
998150 (3-8)	<1	<2	10/28/11	M.M	Yes	—
998151 (1-8)						—
998152 (1-2)						—
998153 (1-8)						—
998154 (1-13)						—
998181 (1-2)	<1	>2	10/28/11	KK	NO	Yes @ 10:30 AM
998107	<1	>2	10/28/11	KK	NO	Yes @ 10:45 AM
998168 (1-6)	<1	<2	10/28/11	M.M	Yes.	—
998169 (1-2, 4-8)						—
998170 (1-3)						—
998171 (1-8)						—
998172 (1-9)						—
998173 (1-6)						—
998174 (1-5)						—
998175 (1-2)						—
998189 (1-4)	>1	<2	10/28/11	KK	Yes	—
998198	<1	<2	10/31/11	M.M	Yes	—
998199 (1-3)						—
998200 (1-5)						—
998197 (1-)	>1	<2	10/28/11	KK	NO	—
998219	<1	<2	11/02/11	M.M	Yes	—
998220 (1-8)						—
998221 (1-6)						—
998222 (1,3,5-8)						—
998223 (1-7)						—
998241 (1-2)						—
998242 (1-2)						—
998245 (1-3)						—
998246						—
998247 (1-3)						—
998248 (1-5)						—
998249 (1-10)						—
998250 (1-6)						—
998251 (1-6)						—
998212 (1,2,4)	<1	>2	11/02/11	KK	NO	Yes @ 5:30 pm
998279 (1-2)	<1	<2	11/04/11	M.M	Yes	—
998280 (1-4)						—
998281 (1-4)						—
998282 (1-11)						—
998213						—
998314 (1-8)						—
998315 (1-8)						—
998274	Soil	—	11/04/11	M.M	STLC/TTLC	—
998261	>1	<2	11/08/11	M.M	Yes	—
998244						—
998300						—
998316						—
998331						—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 998241

Date Delivered: 11 / 1 / 11 **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 (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: L. Shabueny

ALERT !! Level III QC

C:\Users\Test\Desktop\Forms A - D\Discrp.FormBlank.doc

TRUESDAIL LABORATORIES, INC.

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Established 1931

14201 FRANKLIN AVENUE
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www.truesdail.com

December 17, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-182, GROUNDWATER MONITORING PROJECT, TLI NO.: 998534

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-182 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 November 14, 2011, 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

Michael Ngo
Quality Assurance/Quality Control Officer

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

Laboratory No.: 998534
Date Received: November 14, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998534-001	MW-34-100-182	E218.6	FLDFLT	11/9/2011	10:35	Chromium, hexavalent	144	ug/L	2.1
998534-001	MW-34-100-182	SW6020	FLDFLT-digested	11/9/2011	10:35	Arsenic	2.0	ug/L	2.0
998534-001	MW-34-100-182	SW6020	FLDFLT-digested	11/9/2011	10:35	Chromium	147	ug/L	1.0
998534-002	MW-46-175-182	E218.6	FLDFLT	11/9/2011	14:05	Chromium, hexavalent	110	ug/L	10.5
998534-002	MW-46-175-182	SW6020	FLDFLT-digested	11/9/2011	14:05	Chromium	106	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.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 998534

Printed 12/20/2011

Samples Received on 11/14/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-34-100-182	998534-001	11/09/2011 10:35	Water
MW-46-175-182	998534-002	11/09/2011 14:05	Water

Chrome VI by EPA 218.6 Batch 11CrH11U2

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998534-001 Chromium, Hexavalent	ug/L	11/22/2011 10:50	10.5	0.231	2.1	144.
998534-002 Chromium, Hexavalent	ug/L	11/22/2011 08:55	52.5	1.16	10.5	110.

Method Blank

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

Duplicate — Lab ID = 998535-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	227.	216	4.82	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.193	0.200	96.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.85	5.00	97.0	90 - 110

Matrix Spike — Lab ID = 998485-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.34	8.82(5.30)	110.	90 - 110

Matrix Spike — Lab ID = 998485-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.37	7.37(5.30)	100.	90 - 110

Matrix Spike — Lab ID = 998534-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	316.	303(158.)	108.	90 - 110

Matrix Spike — Lab ID = 998534-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	381.	372(262.)	103.	90 - 110

Matrix Spike — Lab ID = 998535-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	494.	478(262.)	106.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.15	5.00	103.	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

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

Metals by EPA 6020A, Dissolved

Batch 112511C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998534-001 Chromium	ug/L	11/26/2011 03:10	10.0	0.420	1.0	147.
998534-002 Chromium	ug/L	11/26/2011 03:25	10.0	0.420	1.0	106.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	10.0	7.32	7.85	7.06	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.124	0.100	124.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	10.0	110.	100.	110.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	10.0	110.	100.	110.	85 - 115

Matrix Spike — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	112.	108.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	113.	108.(100.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.5	10.0	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.80	10.0	98.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.78	10.0	97.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101	80 - 120

Serial Dilution Lab ID = 998534-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	140.	147	5.16	0 - 10

Metals by EPA 6020A, Dissolved

Batch 113011A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998534-001 Arsenic	ug/L	11/30/2011 12:05	10.0	0.570	2.0	2.0

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	10.0	115.	112	2.82	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.117	0.100	117	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	10.0	108.	100.	108.	85 - 115

Matrix Spike — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	10.0	218.	212(100.)	106.	75 - 125

Matrix Spike Duplicate — Lab ID = 998531-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	10.0	221.	212(100.)	109.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.46	10.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.87	10.0	98.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.83	10.0	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.79	10.0	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.66	10.0	96.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.51	10.0	95.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.57	10.0	95.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.58	10.0	95.8	80 - 120

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

998534

CH2MHILL **CHAIN OF CUSTODY RECORD** *11/9/2011 2:40:15 PM* Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-182
Turnaround Time 10 Days
Shipping Date: 10/28/2011
COC Number: GMP-182

	DATE	TIME	Matrix	Container:	250 ml Poly	500 ml Poly	500 ml Poly		
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field		
				Holding Time:	28	180	180		
					Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020Adis) Field Filtered Arsenic,Chromium	Dissolved Chromium (6010BCRFF) Field Filtered Chromium	Number of Containers	COMMENTS
1	MW-34-100-182	11/9/2011	10:35	Water	X	X		2	pH=2
2	MW-46-175-182	11/9/2011	14:05	Water	X		X	2	pH=2
							TOTAL NUMBER OF CONTAINERS	4	

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

	Signatures	Date/Time
Approved by		11-14-11
Sampled by		1500
Relinquished by		
Received by	Rafael Davila	11/14/11 15:04
Relinquished by	Rafael Davila	11/14/11 21:30
Received by	Linda	11/14/11 21:30

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:
Nov 1-10, 2011

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
11-11-11	998488-4	9.5	N/A	N/A	N/A	GW
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
11-12-11	998511-1	9.5	N/A	N/A	N/A	GW
↓	↓ -2	↓	↓	↓	↓	↓
11-15-11	998531	9.5	N/A	N/A	N/A	GW
11-15-11	998532-1	9.5	N/A	N/A	N/A	GW
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
11-15-11	998537-1	9.5	N/A	N/A	N/A	GW
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
11-15-11	998534-1	9.5	N/A	N/A	N/A	GW
↓	↓ -2	↓	↓	↓	↓	↓
11-15-11	998535-1	9.5	N/A	N/A	N/A	GW
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
11-16-11	998577	7	5 mL	9.5	9:50 AM	GW

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998339 (1-5)	>1	<2	11/07/11	M.M	Yes	—
998342 (1-3)	↓	↓	↓	↓	↓	—
998344 (1-4)	↓	↓	↓	↓	↓	—
998358	↓	↓	↓	↓	↓	-
998359	↓	↓	↓	↓	↓	-
998360	↓	↓	↓	↓	↓	-
998361 (1-11)	↓	↓	↓	↓	↓	-
998373 (1-11)	<1	<2	11/08/11	M.M	Yes	—
998374 (16, 12-16)	↓	↓	↓	↓	↓	—
998369 (1-4)	>1	<2	↓	↓	↓	—
998387 (1-4)	↓	↓	↓	↓	↓	—
998411	<1	<2	11/09/11	M.M	Yes	—
998413 (3-7)	↓	↓	↓	↓	↓	—
998412 (1-13)	<1	>2	↓	↓	↓	NO
998399	>1	<2	11/09/11	M.M	Yes	—
998397 (1-3)	↓	↓	↓	↓	↓	—
998422	↓	↓	↓	↓	↓	—
998440 (15)	<1	<2	11/11/11	M.M	Yes	—
998441	↓	↓	↓	↓	↓	-
998442 (1-6)	↓	↓	↓	↓	↓	-
998443 (1-7)	↓	↓	↓	↓	↓	-
998485 (1-2)	↓	↓	↓	↓	↓	-
998486 (4-6, 8)	↓	↓	↓	↓	↓	-
998488 (1-6)	↓	↓	↓	↓	↓	-
998510 (1-5)	<1	<2	11/14/11	M.M	Yes	-
998511 (1-2)	↓	↓	↓	↓	↓	-
998507 (1-4)	>1	↓	↓	↓	↓	-
998482	Solid	—	11/14/11	M.M	TTLC	—
998483	↓	—	↓	↓	↓	—
998531	<1	<2	11/15/11	MM	Yes	—
998532 (1-6)	↓	↓	↓	↓	↓	-
998533 (1-8)	↓	↓	↓	↓	↓	-
998534 (1-2)	↓	↓	↓	↓	↓	-
998535 (1-5)	↓	↓	↓	↓	↓	-
998563	>1	<2	11/16/11	M.M	Yes	-
998572	↓	↓	↓	↓	↓	-
998574	↓	↓	↓	↓	↓	-
998575	↓	↓	↓	↓	↓	-
998585	↓	↓	↓	↓	↓	-
998576 (1-10)	<1	<2	11/16/11	↓	↓	-
998577	↓	↓	↓	↓	↓	—
998578 (1-7)	↓	↓	↓	↓	↓	—
998602 (1-2)	>1	<2	11/17/11	M.M	Yes	-
998605	>1	<2	↓	↓	↓	-
998606 (1-5)	↓	↓	↓	↓	↓	-
998607 (1-4)	↓	↓	↓	↓	↓	-
998608 (1-6)	↓	↓	↓	↓	↓	-
998610 (1-3)	↓	↓	↓	↓	↓	-

ALERT Level III QC

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 998534

Date Delivered: 11/14/11 **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 °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 COC ☐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: Alex

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 23, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-RMP-182, SURFACEWATER MONITORING PROJECT, TLI NO.: 998803

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-RMP-182 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 November 29, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the early sampling time and late arrival of the samples, samples C-TAZ-D-182 and C-TAZ-S-182 for pH analysis by SM 4500-H B were analyzed past the method specified holding time. Mr. Shawn Duffy approved the analysis.

Due to the discrepancy between the Total Dissolved Chromium (1.6 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample C-MAR-D-182, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of ND<1.0 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (4.3 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample C-R22A-S-182, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of ND<1.0 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Samples C-MW-80-182, C-MW-81-182, and RMP-AB1-182, which were placed on hold by Mr. Shawn Duffy upon receipt, were analyzed for Hexavalent Chromium by EPA 218.6 at Mr. Duffy's request on January 13, 2012, past the method specified holding time.

Due to insufficient sample volume, Alkalinity by SM 2320B was unable to be analyzed on samples C-TAZ-S-182 and R63-182. Mr. Shawn Duffy was notified.

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

Michael Ngo
Quality Assurance/Quality Control Officer

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Event 2010-RMP-182 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-182	2.00	No			
C-I-3-D-182	2.00	No			
C-I-3-S-182	2.00	No			
C-MAR-D-182	2.00	No			
C-R22A-D-182	2.00	No			
C-R22A-S-182	2.00	No			
C-R27-D-182	2.00	No			
C-R27-S-182	2.00	No			
C-TAZ-D-182	2.00	No			
C-TAZ-S-182	2.00	No			
R63-182	2.00	No			
C-MW-80-182	2.00	No			
C-MW-81-182	2.00	No			
RMP-AB1-182	2.00	No			

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Event 2010-RMP-182 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-182	9.50	No			
C-I-3-D-182	9.50	No			
C-I-3-S-182	9.50	No			
C-MAR-D-182	9.50	No			
C-R22A-D-182	9.50	No			
C-R22A-S-182	9.50	No			
C-R27-D-182	9.50	No			
C-R27-S-182	9.50	No			
C-TAZ-D-182	9.50	No			
C-TAZ-S-182	9.50	No			
R63-182	9.50	No			
C-MW-80-182	9.50	No			
C-MW-81-182	9.50	No			
RMP-AB1-182	9.50	No			

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

Laboratory No.: 998803
Date Received: November 29, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.RM
P.O. No.: 423575.MP.02.RM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-001	C-BNS-D-182	E120.1	NONE	11/29/2011	13:18	EC	915	umhos/cm	2.00
998803-001	C-BNS-D-182	E218.6	FLDFLT	11/29/2011	13:18	Chromium, hexavalent	ND	ug/L	0.20
998803-001	C-BNS-D-182	E300	NONE	11/29/2011	13:18	Nitrate as N	ND	mg/L	0.500
998803-001	C-BNS-D-182	SM2320B	NONE	11/29/2011	13:18	Alkalinity	125	mg/L	5.00
998803-001	C-BNS-D-182	SM2320B	NONE	11/29/2011	13:18	Bicarbonate	125	mg/L	5.00
998803-001	C-BNS-D-182	SM2320B	NONE	11/29/2011	13:18	Carbonate	ND	mg/L	5.00
998803-001	C-BNS-D-182	SM2540D	NONE	11/29/2011	13:18	Total Suspended Solids	ND	mg/L	10.0
998803-001	C-BNS-D-182	SM4500HB	NONE	11/29/2011	13:18	PH	8.15	pH	4.00
998803-001	C-BNS-D-182	SW6010B	NONE-digested	11/29/2011	13:18	Iron	ND	ug/L	20.0
998803-001	C-BNS-D-182	SW6010B	FLDFLT-digested	11/29/2011	13:18	Iron	ND	ug/L	20.0
998803-001	C-BNS-D-182	SW6010B	FLDFLT-digested	11/29/2011	13:18	Manganese	ND	ug/L	10.0
998803-001	C-BNS-D-182	SW6020	FLDFLT-digested	11/29/2011	13:18	Arsenic	2.6	ug/L	1.0
998803-001	C-BNS-D-182	SW6020	FLDFLT-digested	11/29/2011	13:18	Chromium	ND	ug/L	1.0
998803-001	C-BNS-D-182	SW6020	FLDFLT-digested	11/29/2011	13:18	Molybdenum	ND	ug/L	10.0
998803-001	C-BNS-D-182	SW6020	FLDFLT-digested	11/29/2011	13:18	Selenium	ND	ug/L	10.0
998803-002	C-I-3-D-182	E120.1	NONE	11/29/2011	10:56	EC	921	umhos/cm	2.00
998803-002	C-I-3-D-182	E218.6	FLDFLT	11/29/2011	10:56	Chromium, hexavalent	ND	ug/L	0.20
998803-002	C-I-3-D-182	E300	NONE	11/29/2011	10:56	Nitrate as N	ND	mg/L	0.500
998803-002	C-I-3-D-182	SM2320B	NONE	11/29/2011	10:56	Alkalinity	130	mg/L	5.00
998803-002	C-I-3-D-182	SM2320B	NONE	11/29/2011	10:56	Bicarbonate	130	mg/L	5.00
998803-002	C-I-3-D-182	SM2320B	NONE	11/29/2011	10:56	Carbonate	ND	mg/L	5.00
998803-002	C-I-3-D-182	SM2540D	NONE	11/29/2011	10:56	Total Suspended Solids	ND	mg/L	10.0
998803-002	C-I-3-D-182	SM4500HB	NONE	11/29/2011	10:56	PH	8.18	pH	4.00

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-002	C-I-3-D-182	SW6010B	NONE-digested	11/29/2011	10:56	Iron	ND	ug/L	20.0
998803-002	C-I-3-D-182	SW6010B	FLDFLT-digested	11/29/2011	10:56	Iron	ND	ug/L	20.0
998803-002	C-I-3-D-182	SW6010B	FLDFLT-digested	11/29/2011	10:56	Manganese	ND	ug/L	10.0
998803-002	C-I-3-D-182	SW6020	FLDFLT-digested	11/29/2011	10:56	Arsenic	2.4	ug/L	1.0
998803-002	C-I-3-D-182	SW6020	FLDFLT-digested	11/29/2011	10:56	Chromium	ND	ug/L	1.0
998803-002	C-I-3-D-182	SW6020	FLDFLT-digested	11/29/2011	10:56	Molybdenum	ND	ug/L	10.0
998803-002	C-I-3-D-182	SW6020	FLDFLT-digested	11/29/2011	10:56	Selenium	ND	ug/L	10.0
998803-003	C-I-3-S-182	E120.1	NONE	11/29/2011	11:12	EC	922	umhos/cm	2.00
998803-003	C-I-3-S-182	E218.6	FLDFLT	11/29/2011	11:12	Chromium, hexavalent	ND	ug/L	0.20
998803-003	C-I-3-S-182	E300	NONE	11/29/2011	11:12	Nitrate as N	ND	mg/L	0.500
998803-003	C-I-3-S-182	SM2320B	NONE	11/29/2011	11:12	Alkalinity	129	mg/L	5.00
998803-003	C-I-3-S-182	SM2320B	NONE	11/29/2011	11:12	Bicarbonate	129	mg/L	5.00
998803-003	C-I-3-S-182	SM2320B	NONE	11/29/2011	11:12	Carbonate	ND	mg/L	5.00
998803-003	C-I-3-S-182	SM2540D	NONE	11/29/2011	11:12	Total Suspended Solids	ND	mg/L	10.0
998803-003	C-I-3-S-182	SM4500HB	NONE	11/29/2011	11:12	PH	8.19	pH	4.00
998803-003	C-I-3-S-182	SW6010B	NONE-digested	11/29/2011	11:12	Iron	ND	ug/L	20.0
998803-003	C-I-3-S-182	SW6010B	FLDFLT-digested	11/29/2011	11:12	Iron	ND	ug/L	20.0
998803-003	C-I-3-S-182	SW6010B	FLDFLT-digested	11/29/2011	11:12	Manganese	ND	ug/L	10.0
998803-003	C-I-3-S-182	SW6020	FLDFLT-digested	11/29/2011	11:12	Arsenic	2.0	ug/L	1.0
998803-003	C-I-3-S-182	SW6020	FLDFLT-digested	11/29/2011	11:12	Chromium	ND	ug/L	1.0
998803-003	C-I-3-S-182	SW6020	FLDFLT-digested	11/29/2011	11:12	Molybdenum	ND	ug/L	10.0
998803-003	C-I-3-S-182	SW6020	FLDFLT-digested	11/29/2011	11:12	Selenium	ND	ug/L	10.0
998803-004	C-MAR-D-182	E120.1	NONE	11/29/2011	14:48	EC	1570	umhos/cm	2.00
998803-004	C-MAR-D-182	E218.6	FLDFLT	11/29/2011	14:48	Chromium, hexavalent	ND	ug/L	0.20
998803-004	C-MAR-D-182	E300	NONE	11/29/2011	14:48	Nitrate as N	ND	mg/L	0.500
998803-004	C-MAR-D-182	SM2320B	NONE	11/29/2011	14:48	Alkalinity	201	mg/L	5.00
998803-004	C-MAR-D-182	SM2320B	NONE	11/29/2011	14:48	Bicarbonate	201	mg/L	5.00
998803-004	C-MAR-D-182	SM2320B	NONE	11/29/2011	14:48	Carbonate	ND	mg/L	5.00
998803-004	C-MAR-D-182	SM2540D	NONE	11/29/2011	14:48	Total Suspended Solids	45.2	mg/L	10.0
998803-004	C-MAR-D-182	SM4500HB	NONE	11/29/2011	14:48	PH	7.73	pH	4.00
998803-004	C-MAR-D-182	SW6010B	NONE-digested	11/29/2011	14:48	Iron	1510	ug/L	20.0
998803-004	C-MAR-D-182	SW6010B	FLDFLT-digested	11/29/2011	14:48	Iron	ND	ug/L	20.0
998803-004	C-MAR-D-182	SW6010B	FLDFLT-digested	11/29/2011	14:48	Manganese	34.2	ug/L	10.0
998803-004	C-MAR-D-182	SW6020	FLDFLT-digested	11/29/2011	14:48	Arsenic	4.1	ug/L	1.0
998803-004	C-MAR-D-182	SW6020	FLDFLT-digested	11/29/2011	14:48	Chromium	ND	ug/L	1.0
998803-004	C-MAR-D-182	SW6020	FLDFLT-digested	11/29/2011	14:48	Molybdenum	ND	ug/L	10.0
998803-004	C-MAR-D-182	SW6020	FLDFLT-digested	11/29/2011	14:48	Selenium	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-005	C-R22A-D-182	E120.1	NONE	11/29/2011	12:34	EC	924	umhos/cm	2.00
998803-005	C-R22A-D-182	E218.6	FLDFLT	11/29/2011	12:34	Chromium, hexavalent	ND	ug/L	0.20
998803-005	C-R22A-D-182	E300	NONE	11/29/2011	12:34	Nitrate as N	ND	mg/L	0.500
998803-005	C-R22A-D-182	SM2320B	NONE	11/29/2011	12:34	Alkalinity	133	mg/L	5.00
998803-005	C-R22A-D-182	SM2320B	NONE	11/29/2011	12:34	Bicarbonate	133	mg/L	5.00
998803-005	C-R22A-D-182	SM2320B	NONE	11/29/2011	12:34	Carbonate	ND	mg/L	5.00
998803-005	C-R22A-D-182	SM2540D	NONE	11/29/2011	12:34	Total Suspended Solids	ND	mg/L	10.0
998803-005	C-R22A-D-182	SM4500HB	NONE	11/29/2011	12:34	PH	8.19	pH	4.00
998803-005	C-R22A-D-182	SW6010B	NONE-digested	11/29/2011	12:34	Iron	28.3	ug/L	20.0
998803-005	C-R22A-D-182	SW6010B	FLDFLT-digested	11/29/2011	12:34	Iron	ND	ug/L	20.0
998803-005	C-R22A-D-182	SW6010B	FLDFLT-digested	11/29/2011	12:34	Manganese	ND	ug/L	10.0
998803-005	C-R22A-D-182	SW6020	FLDFLT-digested	11/29/2011	12:34	Arsenic	2.4	ug/L	1.0
998803-005	C-R22A-D-182	SW6020	FLDFLT-digested	11/29/2011	12:34	Chromium	ND	ug/L	1.0
998803-005	C-R22A-D-182	SW6020	FLDFLT-digested	11/29/2011	12:34	Molybdenum	ND	ug/L	10.0
998803-005	C-R22A-D-182	SW6020	FLDFLT-digested	11/29/2011	12:34	Selenium	ND	ug/L	10.0
998803-006	C-R22A-S-182	E120.1	NONE	11/29/2011	12:49	EC	919	umhos/cm	2.00
998803-006	C-R22A-S-182	E218.6	FLDFLT	11/29/2011	12:49	Chromium, hexavalent	ND	ug/L	0.20
998803-006	C-R22A-S-182	E300	NONE	11/29/2011	12:49	Nitrate as N	ND	mg/L	0.500
998803-006	C-R22A-S-182	SM2320B	NONE	11/29/2011	12:49	Alkalinity	125	mg/L	5.00
998803-006	C-R22A-S-182	SM2320B	NONE	11/29/2011	12:49	Bicarbonate	125	mg/L	5.00
998803-006	C-R22A-S-182	SM2320B	NONE	11/29/2011	12:49	Carbonate	ND	mg/L	5.00
998803-006	C-R22A-S-182	SM2540D	NONE	11/29/2011	12:49	Total Suspended Solids	ND	mg/L	10.0
998803-006	C-R22A-S-182	SM4500HB	NONE	11/29/2011	12:49	PH	8.2	pH	4.00
998803-006	C-R22A-S-182	SW6010B	NONE-digested	11/29/2011	12:49	Iron	31.1	ug/L	20.0
998803-006	C-R22A-S-182	SW6010B	FLDFLT-digested	11/29/2011	12:49	Iron	ND	ug/L	20.0
998803-006	C-R22A-S-182	SW6010B	FLDFLT-digested	11/29/2011	12:49	Manganese	ND	ug/L	10.0
998803-006	C-R22A-S-182	SW6020	FLDFLT-digested	11/29/2011	12:49	Arsenic	2.4	ug/L	1.0
998803-006	C-R22A-S-182	SW6020	FLDFLT-digested	11/29/2011	12:49	Chromium	ND	ug/L	1.0
998803-006	C-R22A-S-182	SW6020	FLDFLT-digested	11/29/2011	12:49	Molybdenum	ND	ug/L	10.0
998803-006	C-R22A-S-182	SW6020	FLDFLT-digested	11/29/2011	12:49	Selenium	ND	ug/L	10.0
998803-007	C-R27-D-182	E120.1	NONE	11/29/2011	14:03	EC	928	umhos/cm	2.00
998803-007	C-R27-D-182	E218.6	FLDFLT	11/29/2011	14:03	Chromium, hexavalent	ND	ug/L	0.20
998803-007	C-R27-D-182	E300	NONE	11/29/2011	14:03	Nitrate as N	ND	mg/L	0.500
998803-007	C-R27-D-182	SM2320B	NONE	11/29/2011	14:03	Alkalinity	128	mg/L	5.00
998803-007	C-R27-D-182	SM2320B	NONE	11/29/2011	14:03	Bicarbonate	128	mg/L	5.00
998803-007	C-R27-D-182	SM2320B	NONE	11/29/2011	14:03	Carbonate	ND	mg/L	5.00

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-007	C-R27-D-182	SM2540D	NONE	11/29/2011	14:03	Total Suspended Solids	ND	mg/L	10.0
998803-007	C-R27-D-182	SM4500HB	NONE	11/29/2011	14:03	PH	8.21	pH	4.00
998803-007	C-R27-D-182	SW6010B	NONE-digested	11/29/2011	14:03	Iron	22.3	ug/L	20.0
998803-007	C-R27-D-182	SW6010B	FLDFLT-digested	11/29/2011	14:03	Iron	ND	ug/L	20.0
998803-007	C-R27-D-182	SW6010B	FLDFLT-digested	11/29/2011	14:03	Manganese	ND	ug/L	10.0
998803-007	C-R27-D-182	SW6020	FLDFLT-digested	11/29/2011	14:03	Arsenic	2.3	ug/L	1.0
998803-007	C-R27-D-182	SW6020	FLDFLT-digested	11/29/2011	14:03	Chromium	ND	ug/L	1.0
998803-007	C-R27-D-182	SW6020	FLDFLT-digested	11/29/2011	14:03	Molybdenum	ND	ug/L	10.0
998803-007	C-R27-D-182	SW6020	FLDFLT-digested	11/29/2011	14:03	Selenium	ND	ug/L	10.0
998803-008	C-R27-S-182	E120.1	NONE	11/29/2011	14:17	EC	923	umhos/cm	2.00
998803-008	C-R27-S-182	E218.6	FLDFLT	11/29/2011	14:17	Chromium, hexavalent	ND	ug/L	0.20
998803-008	C-R27-S-182	E300	NONE	11/29/2011	14:17	Nitrate as N	ND	mg/L	0.500
998803-008	C-R27-S-182	SM2320B	NONE	11/29/2011	14:17	Alkalinity	125	mg/L	5.00
998803-008	C-R27-S-182	SM2320B	NONE	11/29/2011	14:17	Bicarbonate	125	mg/L	5.00
998803-008	C-R27-S-182	SM2320B	NONE	11/29/2011	14:17	Carbonate	ND	mg/L	5.00
998803-008	C-R27-S-182	SM2540D	NONE	11/29/2011	14:17	Total Suspended Solids	ND	mg/L	10.0
998803-008	C-R27-S-182	SM4500HB	NONE	11/29/2011	14:17	PH	8.16	pH	4.00
998803-008	C-R27-S-182	SW6010B	NONE-digested	11/29/2011	14:17	Iron	ND	ug/L	20.0
998803-008	C-R27-S-182	SW6010B	FLDFLT-digested	11/29/2011	14:17	Iron	ND	ug/L	20.0
998803-008	C-R27-S-182	SW6010B	FLDFLT-digested	11/29/2011	14:17	Manganese	ND	ug/L	10.0
998803-008	C-R27-S-182	SW6020	FLDFLT-digested	11/29/2011	14:17	Arsenic	3.8	ug/L	1.0
998803-008	C-R27-S-182	SW6020	FLDFLT-digested	11/29/2011	14:17	Chromium	ND	ug/L	1.0
998803-008	C-R27-S-182	SW6020	FLDFLT-digested	11/29/2011	14:17	Molybdenum	ND	ug/L	10.0
998803-008	C-R27-S-182	SW6020	FLDFLT-digested	11/29/2011	14:17	Selenium	ND	ug/L	10.0
998803-009	C-TAZ-D-182	E120.1	NONE	11/29/2011	9:52	EC	918	umhos/cm	2.00
998803-009	C-TAZ-D-182	E218.6	FLDFLT	11/29/2011	9:52	Chromium, hexavalent	ND	ug/L	0.20
998803-009	C-TAZ-D-182	E300	NONE	11/29/2011	9:52	Nitrate as N	ND	mg/L	0.500
998803-009	C-TAZ-D-182	SM2320B	NONE	11/29/2011	9:52	Alkalinity	135	mg/L	5.00
998803-009	C-TAZ-D-182	SM2320B	NONE	11/29/2011	9:52	Bicarbonate	135	mg/L	5.00
998803-009	C-TAZ-D-182	SM2320B	NONE	11/29/2011	9:52	Carbonate	ND	mg/L	5.00
998803-009	C-TAZ-D-182	SM2540D	NONE	11/29/2011	9:52	Total Suspended Solids	ND	mg/L	10.0
998803-009	C-TAZ-D-182	SM4500HB	NONE	11/29/2011	9:52	PH	8.17 J	pH	4.00

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-009	C-TAZ-D-182	SW6010B	NONE-digested	11/29/2011	9:52	Iron	ND	ug/L	20.0
998803-009	C-TAZ-D-182	SW6010B	FLDFLT-digested	11/29/2011	9:52	Iron	ND	ug/L	20.0
998803-009	C-TAZ-D-182	SW6010B	FLDFLT-digested	11/29/2011	9:52	Manganese	ND	ug/L	10.0
998803-009	C-TAZ-D-182	SW6020	FLDFLT-digested	11/29/2011	9:52	Arsenic	2.4	ug/L	1.0
998803-009	C-TAZ-D-182	SW6020	FLDFLT-digested	11/29/2011	9:52	Chromium	ND	ug/L	1.0
998803-009	C-TAZ-D-182	SW6020	FLDFLT-digested	11/29/2011	9:52	Molybdenum	ND	ug/L	10.0
998803-009	C-TAZ-D-182	SW6020	FLDFLT-digested	11/29/2011	9:52	Selenium	ND	ug/L	10.0
998803-010	C-TAZ-S-182	E120.1	NONE	11/29/2011	10:09	EC	921	umhos/cm	2.00
998803-010	C-TAZ-S-182	E218.6	FLDFLT	11/29/2011	10:09	Chromium, hexavalent	ND	ug/L	0.20
998803-010	C-TAZ-S-182	E300	NONE	11/29/2011	10:09	Nitrate as N	0.795	mg/L	0.500
998803-010	C-TAZ-S-182	SM2540D	NONE	11/29/2011	10:09	Total Suspended Solids	ND	mg/L	10.0
998803-010	C-TAZ-S-182	SM4500HB	NONE	11/29/2011	10:09	PH	8.19 J	pH	4.00
998803-010	C-TAZ-S-182	SW6010B	NONE-digested	11/29/2011	10:09	Iron	30.3	ug/L	20.0
998803-010	C-TAZ-S-182	SW6010B	FLDFLT-digested	11/29/2011	10:09	Iron	ND	ug/L	20.0
998803-010	C-TAZ-S-182	SW6010B	FLDFLT-digested	11/29/2011	10:09	Manganese	ND	ug/L	10.0
998803-010	C-TAZ-S-182	SW6020	FLDFLT-digested	11/29/2011	10:09	Arsenic	2.0	ug/L	1.0
998803-010	C-TAZ-S-182	SW6020	FLDFLT-digested	11/29/2011	10:09	Chromium	ND	ug/L	1.0
998803-010	C-TAZ-S-182	SW6020	FLDFLT-digested	11/29/2011	10:09	Molybdenum	ND	ug/L	10.0
998803-010	C-TAZ-S-182	SW6020	FLDFLT-digested	11/29/2011	10:09	Selenium	ND	ug/L	10.0
998803-011	R63-182	E120.1	NONE	11/29/2011	11:45	EC	936	umhos/cm	2.00
998803-011	R63-182	E218.6	FLDFLT	11/29/2011	11:45	Chromium, hexavalent	ND	ug/L	0.20
998803-011	R63-182	E300	NONE	11/29/2011	11:45	Nitrate as N	ND	mg/L	0.500
998803-011	R63-182	SM2540D	NONE	11/29/2011	11:45	Total Suspended Solids	ND	mg/L	10.0
998803-011	R63-182	SM4500HB	NONE	11/29/2011	11:45	PH	8.14	pH	4.00
998803-011	R63-182	SW6010B	NONE-digested	11/29/2011	11:45	Iron	82.8	ug/L	20.0
998803-011	R63-182	SW6010B	FLDFLT-digested	11/29/2011	11:45	Iron	ND	ug/L	20.0
998803-011	R63-182	SW6010B	FLDFLT-digested	11/29/2011	11:45	Manganese	ND	ug/L	10.0
998803-011	R63-182	SW6020	FLDFLT-digested	11/29/2011	11:45	Arsenic	2.1	ug/L	1.0
998803-011	R63-182	SW6020	FLDFLT-digested	11/29/2011	11:45	Chromium	ND	ug/L	1.0
998803-011	R63-182	SW6020	FLDFLT-digested	11/29/2011	11:45	Molybdenum	ND	ug/L	10.0
998803-011	R63-182	SW6020	FLDFLT-digested	11/29/2011	11:45	Selenium	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998803-012	C-MW-80-182	E218.6	FLDFLT	11/29/2011	12:20	Chromium, hexavalent	ND J	ug/L	0.20
998803-013	C-MW-81-182	E218.6	FLDFLT	11/29/2011	14:35	Chromium, hexavalent	0.20 J	ug/L	0.20
998803-014	RMP-AB1-182	E218.6	FLDFLT	11/29/2011	15:03	Chromium, hexavalent	0.28 J	ug/L	0.20

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

Results below 0.01ppm will have two (2) significant figures.

Result above or equal to 0.01ppm will have three (3) significant figures.

Quality Control data will always have three (3) significant figures.

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REPORT

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

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.RM
Project Number: 423575.MP.02.RM

Laboratory No. 998803

Printed 1/23/2012

Samples Received on 11/29/2011 8:30:00 PM

Field ID	Lab ID	Collected	Matrix
C-BNS-D-182	998803-001	11/29/2011 13:18	Water
C-I-3-D-182	998803-002	11/29/2011 10:56	Water
C-I-3-S-182	998803-003	11/29/2011 11:12	Water
C-MAR-D-182	998803-004	11/29/2011 14:48	Water
C-R22A-D-182	998803-005	11/29/2011 12:34	Water
C-R22A-S-182	998803-006	11/29/2011 12:49	Water
C-R27-D-182	998803-007	11/29/2011 14:03	Water
C-R27-S-182	998803-008	11/29/2011 14:17	Water
C-TAZ-D-182	998803-009	11/29/2011 09:52	Water
C-TAZ-S-182	998803-010	11/29/2011 10:09	Water
R63-182	998803-011	11/29/2011 11:45	Water
C-MW-80-182	998803-012	11/29/2011 12:20	Water
C-MW-81-182	998803-013	11/29/2011 14:35	Water
RMP-AB1-182	998803-014	11/29/2011 15:03	Water

Anions By I.C. - EPA 300.0 Batch 11AN11Z

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Nitrate as Nitrogen	mg/L	11/30/2011 21:46	1.00	0.0270	0.500	ND
998803-002 Nitrate as Nitrogen	mg/L	11/30/2011 22:23	1.00	0.0270	0.500	ND
998803-003 Nitrate as Nitrogen	mg/L	11/30/2011 22:35	1.00	0.0270	0.500	ND
998803-004 Nitrate as Nitrogen	mg/L	11/30/2011 22:48	1.00	0.0270	0.500	ND
998803-005 Nitrate as Nitrogen	mg/L	11/30/2011 23:00	1.00	0.0270	0.500	ND
998803-006 Nitrate as Nitrogen	mg/L	11/30/2011 23:13	1.00	0.0270	0.500	ND
998803-007 Nitrate as Nitrogen	mg/L	11/30/2011 23:50	1.00	0.0270	0.500	ND
998803-008 Nitrate as Nitrogen	mg/L	12/01/2011 00:02	1.00	0.0270	0.500	ND
998803-009 Nitrate as Nitrogen	mg/L	12/01/2011 00:15	1.00	0.0270	0.500	ND
998803-010 Nitrate as Nitrogen	mg/L	12/01/2011 00:27	1.00	0.0270	0.500	0.795
998803-011 Nitrate as Nitrogen	mg/L	12/01/2011 00:40	1.00	0.0270	0.500	ND

Method Blank

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

Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.97	4.00	99.2	90 - 110

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.22	2.00(2.00)	111.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.97	4.00	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.90	3.00	96.8	90 - 110

Alkalinity by SM 2320B Batch 11ALK11E 12/5/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	125
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-002 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	130.
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	130.
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-003 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	129
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	129
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-004 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	201
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	201
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-005 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	133
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	133
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-006 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	125
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-007 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	128
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	128
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-008 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	125
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND
998803-009 Alkalinity as CaCO3	mg/L	12/05/2011	1.00	1.68	5.00	135
Bicarbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	135
Carbonate (Calculated)	mg/L	12/05/2011	1.00	1.68	5.00	ND

Method Blank

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

Duplicate Lab ID = 998764-020

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	78.0	79.0	1.27	0 - 20

Lab Control Sample

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

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	98.0	100.	98.0	90 - 110

Matrix Spike Lab ID = 998803-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	223	235(100.)	88.0	75 - 125

Specific Conductivity - EPA 120.1 Batch 11EC11L 11/30/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	915
998803-002 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	921
998803-003 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	922
998803-004 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	1570
998803-005 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	924
998803-006 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	919
998803-007 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	928
998803-008 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	923
998803-009 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	918
998803-010 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	921
998803-011 Specific Conductivity	umhos/cm	11/30/2011	1.00	0.0950	2.00	936

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 998803-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	919	918	0.109	0 - 10

Duplicate — Lab ID = 998803-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	935	936	0.107	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705	706	99.8	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	682	706	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	950.	997	95.3	90 - 110

Metals by EPA 6010B, Total Batch 120811A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Iron	ug/L	12/08/2011 11:58	1.00	1.34	20.0	ND
998803-002 Iron	ug/L	12/08/2011 12:15	1.00	1.34	20.0	ND
998803-003 Iron	ug/L	12/08/2011 12:39	1.00	1.34	20.0	ND
998803-004 Iron	ug/L	12/08/2011 12:45	1.00	1.34	20.0	1510
998803-005 Iron	ug/L	12/08/2011 12:52	1.00	1.34	20.0	28.3
998803-006 Iron	ug/L	12/08/2011 12:57	1.00	1.34	20.0	31.1
998803-007 Iron	ug/L	12/08/2011 13:03	1.00	1.34	20.0	22.3
998803-008 Iron	ug/L	12/08/2011 13:08	1.00	1.34	20.0	ND
998803-009 Iron	ug/L	12/08/2011 13:14	1.00	1.34	20.0	ND
998803-010 Iron	ug/L	12/08/2011 13:20	1.00	1.34	20.0	30.3
998803-011 Iron	ug/L	12/08/2011 13:25	1.00	1.34	20.0	82.8

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	15.4	14.1	8.81	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	108.	100.	108.	85 - 115

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	129.	114.(100.)	115.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4880	5000	97.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4980	5000	99.6	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Chromium, Hexavalent	ug/L	12/07/2011 05:28	1.05	0.0260	0.20	ND
998803-002 Chromium, Hexavalent	ug/L	12/07/2011 05:38	1.05	0.0260	0.20	ND
998803-003 Chromium, Hexavalent	ug/L	12/07/2011 05:49	1.05	0.0260	0.20	ND
998803-004 Chromium, Hexavalent	ug/L	12/07/2011 06:10	1.05	0.0260	0.20	ND
998803-005 Chromium, Hexavalent	ug/L	12/07/2011 06:20	1.05	0.0260	0.20	ND
998803-006 Chromium, Hexavalent	ug/L	12/07/2011 06:30	1.05	0.0260	0.20	ND
998803-007 Chromium, Hexavalent	ug/L	12/07/2011 07:22	1.05	0.0260	0.20	ND
998803-008 Chromium, Hexavalent	ug/L	12/07/2011 07:33	1.05	0.0260	0.20	ND
998803-009 Chromium, Hexavalent	ug/L	12/07/2011 16:12	1.05	0.0260	0.20	ND
998803-010 Chromium, Hexavalent	ug/L	12/07/2011 07:54	1.05	0.0260	0.20	ND
998803-011 Chromium, Hexavalent	ug/L	12/07/2011 16:23	1.05	0.0260	0.20	ND

Method Blank

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

Duplicate — Lab ID = 998803-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.160	0.172	7.23	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.239	0.200	119.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.2	90 - 110

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.23(1.06)	96.3	90 - 110

Matrix Spike — Lab ID = 998803-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.23(1.06)	96.9	90 - 110

Matrix Spike — Lab ID = 998803-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.23(1.06)	96.8	90 - 110

Matrix Spike — Lab ID = 998803-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.21(1.06)	96.0	90 - 110

Matrix Spike — Lab ID = 998803-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.24(1.06)	94.7	90 - 110

Matrix Spike — Lab ID = 998803-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.24(1.06)	96.7	90 - 110

Matrix Spike — Lab ID = 998803-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.24(1.06)	97.7	90 - 110

Matrix Spike — Lab ID = 998803-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 998803-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.2	90 - 110

Matrix Spike — Lab ID = 998803-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.0	90 - 110

Matrix Spike — Lab ID = 998803-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.3	90 - 110

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.25(1.06)	94.4	90 - 110

Matrix Spike — Lab ID = 998830-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.23(1.06)	95.0	90 - 110

Matrix Spike — Lab ID = 998830-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.23(1.06)	95.4	90 - 110

Matrix Spike — Lab ID = 998830-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.2	90 - 110

Chrome VI by EPA 218.6 Batch 01CrH12F

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
998803-012 Chromium, Hexavalent	ug/L	01/13/2012 04:09	1.05	0.0260	0.20	ND	J
998803-013 Chromium, Hexavalent	ug/L	01/13/2012 04:30	1.05	0.0260	0.20	0.20	J
998803-014 Chromium, Hexavalent	ug/L	01/13/2012 04:40	1.05	0.0260	0.20	0.28	J

Method Blank

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

Duplicate — Lab ID = 998803-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.153	0.175	13.5	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.196	0.200	97.8	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00	97.5	90 - 110

Matrix Spike — Lab ID = 998803-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.24(1.06)	96.6	90 - 110

Matrix Spike — Lab ID = 998803-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.26(1.06)	96.6	90 - 110

Matrix Spike — Lab ID = 998803-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.28	1.34(1.06)	94.6	90 - 110

Matrix Spike — Lab ID = 998830-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.27	1.28(1.06)	99.2	90 - 110

Matrix Spike — Lab ID = 998830-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.29(1.06)	96.4	90 - 110

Matrix Spike — Lab ID = 998830-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.26(1.06)	94.9	90 - 110

Metals by EPA 6020A, Dissolved Batch 122711B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Arsenic	ug/L	12/28/2011 07:33	5.00	0.285	1.0	2.6
Chromium	ug/L	12/28/2011 07:33	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 07:33	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 07:33	5.00	0.340	10.0	ND
998803-002 Arsenic	ug/L	12/28/2011 08:34	5.00	0.285	1.0	2.4
Chromium	ug/L	12/28/2011 08:34	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 08:34	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 08:34	5.00	0.340	10.0	ND
998803-003 Arsenic	ug/L	12/28/2011 08:43	5.00	0.285	1.0	2.0
Chromium	ug/L	12/28/2011 08:43	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 08:43	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 08:43	5.00	0.340	10.0	ND
998803-004 Molybdenum	ug/L	12/28/2011 08:51	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 08:51	5.00	0.340	10.0	ND
998803-005 Arsenic	ug/L	12/28/2011 09:00	5.00	0.285	1.0	2.4
Chromium	ug/L	12/28/2011 09:00	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 09:00	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 09:00	5.00	0.340	10.0	ND
998803-006 Molybdenum	ug/L	12/28/2011 09:09	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 09:09	5.00	0.340	10.0	ND
998803-007 Arsenic	ug/L	12/28/2011 09:18	5.00	0.285	1.0	2.3
Chromium	ug/L	12/28/2011 09:18	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 09:18	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 09:18	5.00	0.340	10.0	ND
998803-008 Arsenic	ug/L	12/28/2011 09:26	5.00	0.285	1.0	3.8
Chromium	ug/L	12/28/2011 09:26	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 09:26	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 09:26	5.00	0.340	10.0	ND
998803-009 Arsenic	ug/L	12/28/2011 09:35	5.00	0.285	1.0	2.4
Chromium	ug/L	12/28/2011 09:35	5.00	0.110	1.0	ND
Molybdenum	ug/L	12/28/2011 09:35	5.00	0.270	10.0	ND
Selenium	ug/L	12/28/2011 09:35	5.00	0.340	10.0	ND
998803-010 Arsenic	ug/L	12/28/2011 09:44	5.00	0.285	1.0	2.0
Chromium	ug/L	12/28/2011 09:44	5.00	0.110	1.0	ND

998803-010	Molybdenum	ug/L	12/28/2011 09:44	5.00	0.270	10.0	ND
	Selenium	ug/L	12/28/2011 09:44	5.00	0.340	10.0	ND
998803-011	Chromium	ug/L	12/28/2011 10:27	5.00	0.110	1.0	ND
	Molybdenum	ug/L	12/28/2011 10:27	5.00	0.270	10.0	ND
	Selenium	ug/L	12/28/2011 10:27	5.00	0.340	10.0	ND

Method Blank

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

Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	2.22	2.64	17.4	0 - 20
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Selenium	ug/L	5.00	ND	0.00	0	0 - 20
Molybdenum	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.234	0.200	117.	70 - 130
Chromium	ug/L	1.00	0.260	0.200	130.	70 - 130
Selenium	ug/L	1.00	1.00	1.00	100.	70 - 130
Molybdenum	ug/L	1.00	0.940	1.00	94.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	100.	100.	100.	85 - 115
Chromium	ug/L	5.00	102.	100.	102.	85 - 115
Selenium	ug/L	5.00	101.	100.	101.	85 - 115
Molybdenum	ug/L	5.00	98.1	100.	98.1	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	97.4	100.	97.4	85 - 115
Chromium	ug/L	5.00	100.	100.	100.	85 - 115
Selenium	ug/L	5.00	99.1	100.	99.1	85 - 115
Molybdenum	ug/L	5.00	98.4	100.	98.4	85 - 115

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	106.	103.(100.)	104.	75 - 125
Chromium	ug/L	5.00	106.	100.(100.)	106.	75 - 125
Selenium	ug/L	5.00	102.	100.(100.)	102.	75 - 125
Molybdenum	ug/L	5.00	109.	100.(100.)	109.	75 - 125

Matrix Spike Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	106	103.(100.)	103.	75 - 125
Chromium	ug/L	5.00	104	100.(100.)	104	75 - 125
Selenium	ug/L	5.00	102.	100.(100.)	102.	75 - 125
Molybdenum	ug/L	5.00	106	100.(100.)	106	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.20	10.0	92.0	90 - 110
Chromium	ug/L	1.00	9.62	10.0	96.2	90 - 110
Selenium	ug/L	1.00	9.50	10.0	95.0	90 - 110
Molybdenum	ug/L	1.00	9.73	10.0	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.74	10.0	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.70	10.0	97.0	90 - 110
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

Metals by EPA 6020A, Dissolved Batch 010712C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-004 Arsenic	ug/L	01/08/2012 19:43	5.00	0.285	1.0	4.1
998803-006 Arsenic	ug/L	01/08/2012 15:37	5.00	0.285	1.0	2.4
998803-011 Arsenic	ug/L	01/08/2012 15:54	5.00	0.285	1.0	2.1

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.196	0.200	98.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	106.	100.	106.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	102.	100.	102.	85 - 115

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	111.	103.(100.)	108.	75 - 125

Matrix Spike Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	113.	103.(100.)	110.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.09	10.0	90.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.47	10.0	94.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.93	10.0	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.67	10.0	96.7	90 - 110

Metals by EPA 6020A, Dissolved Batch 012012A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-004 Chromium	ug/L	01/20/2012 20:35	5.00	0.110	1.0	ND
998803-006 Chromium	ug/L	01/20/2012 21:03	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999674-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	6.39	6.08	4.91	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.188	0.200	93.9	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Matrix Spike — Lab ID = 999674-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	106.(100.)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.6	10.0	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.09	10.0	90.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.25	10.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.44	10.0	94.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.76	10.0	97.6	90 - 110

Metals by EPA 6010B, Dissolved Batch 120611B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Iron	ug/L	12/06/2011 17:58	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 17:58	1.00	3.23	10.0	ND
998803-002 Iron	ug/L	12/06/2011 18:20	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 18:20	1.00	3.23	10.0	ND
998803-003 Iron	ug/L	12/06/2011 18:26	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 18:26	1.00	3.23	10.0	ND
998803-004 Iron	ug/L	12/06/2011 18:32	1.00	1.34	20.0	ND
998803-005 Manganese	ug/L	12/06/2011 18:54	1.00	3.23	10.0	ND
998803-006 Iron	ug/L	12/06/2011 19:00	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 19:00	1.00	3.23	10.0	ND
998803-007 Iron	ug/L	12/06/2011 19:06	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 19:06	1.00	3.23	10.0	ND
998803-008 Manganese	ug/L	12/06/2011 19:11	1.00	3.23	10.0	ND
998803-009 Iron	ug/L	12/06/2011 19:17	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 19:17	1.00	3.23	10.0	ND
998803-010 Iron	ug/L	12/06/2011 19:23	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 19:23	1.00	3.23	10.0	ND
998803-011 Iron	ug/L	12/06/2011 19:28	1.00	1.34	20.0	ND
Manganese	ug/L	12/06/2011 19:28	1.00	3.23	10.0	ND

Method Blank

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	112.	100.	112.	85 - 115
Manganese	ug/L	1.00	102.	100.	102.	85 - 115

Matrix Spike Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	103.	100.(100.)	103.	75 - 125
Manganese	ug/L	1.00	101.	100.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	103.	100.(100.)	103.	75 - 125
Manganese	ug/L	1.00	98.7	100.(100.)	98.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5350	5000	107.	90 - 110
Manganese	ug/L	1.00	5130	5000	103.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5360	5000	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5100	5000	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4980	5000	99.6	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4880	5000	97.7	90 - 110

MRCVS - Primary

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

Interference Check Standard A

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

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2310	2000	116.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		

Metals by EPA 6010B, Dissolved Batch 121211B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-005 Iron	ug/L	12/12/2011 17:01	1.00	1.34	20.0	ND
998803-008 Iron	ug/L	12/12/2011 17:21	1.00	1.34	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	98.8	100.(100.)	98.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4890	5000	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4560	5000	91.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4700	5000	94.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1950	2000	97.6	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1860	2000	93.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1920	2000	96.0	80 - 120

Metals by EPA 6010B, Dissolved Batch 122911A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-004 Manganese	ug/L	12/29/2011 13:15	1.00	3.23	10.0	34.2

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	107.	100.	107.	85 - 115

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	1.00	104.	100.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4830	5000	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4910	5000	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4970	5000	99.4	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	1980	2000	98.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	1960	2000	98.2	80 - 120

pH by SM 4500-H B Batch 11PH11Q

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
998803-001 pH	pH	11/30/2011 09:30	1.00	0.0593	4.00	8.15	
998803-002 pH	pH	11/30/2011 09:35	1.00	0.0593	4.00	8.18	
998803-003 pH	pH	11/30/2011 09:40	1.00	0.0593	4.00	8.19	
998803-004 pH	pH	11/30/2011 09:45	1.00	0.0593	4.00	7.73	
998803-005 pH	pH	11/30/2011 09:50	1.00	0.0593	4.00	8.19	
998803-006 pH	pH	11/30/2011 09:55	1.00	0.0593	4.00	8.20	
998803-007 pH	pH	11/30/2011 10:00	1.00	0.0593	4.00	8.21	
998803-008 pH	pH	11/30/2011 10:05	1.00	0.0593	4.00	8.16	
998803-009 pH	pH	11/30/2011 10:20	1.00	0.0593	4.00	8.17	J
998803-010 pH	pH	11/30/2011 10:25	1.00	0.0593	4.00	8.19	J
998803-011 pH	pH	11/30/2011 10:30	1.00	0.0593	4.00	8.14	

Duplicate — Lab ID = 998803-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	8.16	8.16	0.00	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.00	7.00	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.01	7.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.05	7.00	101.	90 - 110

Total Suspended Solids by SM 2540 D Batch 12TSS11A 12/1/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998803-001 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-002 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-003 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-004 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	45.2
998803-005 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-006 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-007 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-008 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-009 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-010 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND
998803-011 Total Suspended Solids	mg/L	12/01/2011	1.00	0.217	10.0	ND

Method Blank

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

Duplicate — Lab ID = 998803-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	ND	0.00	0	0 - 5

Duplicate — Lab ID = 998803-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	ND	0.00	0	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	97.0	100.	97.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	97.0	100.	97.0	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

tz Seam

TRUESDAIL LABORATORIES INC.

Total Suspended Solids by SM 2540 D

Calculations

Batch: 12TSS11A

Date Analyzed: 12/01/11

Dish Number	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
G86	BLANK	1000	1.3962	1.3962	1.3962	0.0000	No	0.0000	0.0	2.5	ND
G89	998803-1	1000	1.3896	1.3897	1.3897	0.0000	No	0.0001	0.1	2.5	ND
G90	998803-2	1000	1.3967	1.3972	1.3972	0.0000	No	0.0005	0.5	2.5	ND
G91	998803-3	1000	1.3950	1.3952	1.3952	0.0000	No	0.0002	0.2	2.5	ND
G92	998803-4	1000	1.3985	1.4437	1.4437	0.0000	No	0.0452	45.2	2.5	45.2
G93	998803-5	1000	1.4012	1.4014	1.4014	0.0000	No	0.0002	0.2	2.5	ND
G94	998803-6	1000	1.3965	1.3967	1.3967	0.0000	No	0.0002	0.2	2.5	ND
G95	998803-7	1000	1.3961	1.3963	1.3963	0.0000	No	0.0002	0.2	2.5	ND
G96	998803-8	1000	1.3952	1.3956	1.3956	0.0000	No	0.0004	0.4	2.5	ND
G97	998803-9	1000	1.3943	1.3946	1.3946	0.0000	No	0.0003	0.3	2.5	ND
G98	998803-10	900	1.4057	1.4061	1.4061	0.0000	No	0.0004	0.4	2.8	ND
G99	998803-10D	900	1.4050	1.4054	1.4054	0.0000	No	0.0004	0.4	2.8	ND
G100	998803-11	900	1.3994	1.4050	1.405	0.0000	No	0.0056	6.2	2.8	6.2
H1	998803-11D	900	1.3990	1.4042	1.4042	0.0000	No	0.0052	5.8	2.8	5.8
G87	LCS-1	100	1.3973	1.4070	1.407	0.0000	No	0.0097	97.0	25.0	97.0
G88	LCS-2	100	1.4003	1.4100	1.41	0.0000	No	0.0097	97.0	25.0	97.0

Calculation as follows: Non- Filterable residue (TSS), 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)

Laboratory Control Sample (LCS) Summary

QC Std I.D.	Measurd Value, ppm	Theoretical Value, ppm	Percent Rec	Acceptance Limit	QC Within Control?
LCS1	97	100	97.0%	90-110%	Yes
LCSD	97	100	97.0%	90-110%	Yes

LCS Recovery

$$P = \left(\frac{LC}{LT}\right) x\ 100$$

$$\%\ Difference_{(s)} = \frac{|A \text{ or } B - C|}{C} x\ 100$$

$$where \quad C = \frac{A+B}{2}$$

A = Weght of the first sample in (g).
B = Weght of the second sample in (g).
C = Average weight in (g).

Duplicate Determinations Difference Summary

Lab Number	Sample Weight, g	Sample Dup Weight, g	% RPD	Acceptance Limit	QC Within Control?
998803-1	0.0004	0.0004	0.0%	≤5%	Yes
998803-11	0.0056	0.0052	3.7%	5%	Yes

Gautam S. — Analyst Printed Name

Analyst Signature

Hope T. — Reviewer Printed Name

Reviewer Signature

TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

Date of Analysis: 12/5/11
Start of Analysis:
Date Sampled:

Analytical Batch: 12ALK11E
Matrix: Water
Date Calculated: 12/5/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	7.01	50	0.02		0.0	0.05		0.9	5	ND	ND	ND	ND	
998764-20	7.56	50	0.02		0.0	3.95		79.0	5	79.0	79.0	ND	ND	
998803-1	8.28	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
998803-2	8.29	50	0.02		0.0	6.50		130.0	5	130.0	130.0	ND	ND	
998803-3	8.27	50	0.02		0.0	6.45		129.0	5	129.0	129.0	ND	ND	
998803-4	7.68	50	0.02		0.0	10.05		201.0	5	201.0	201.0	ND	ND	
998803-5	8.29	50	0.02		0.0	6.65		133.0	5	133.0	133.0	ND	ND	
998803-6	8.30	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
998803-7	8.30	50	0.02		0.0	6.40		128.0	5	128.0	128.0	ND	ND	
998803-8	8.27	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
998803-9	8.19	50	0.02		0.0	6.75		135.0	5	135.0	135.0	ND	ND	
998843	7.16	50	0.02		0.0	7.75		155.0	5	155.0	155.0	ND	ND	
998868-1	7.46	50	0.02		0.0	3.50		70.0	5	70.0	70.0	ND	ND	
998764-20D	7.55	50	0.02		0.0	3.90		78.0	5	78.0	78.0	ND	ND	
998803-9MS	9.46	50	0.02	2.5	50.0	11.15		223.0	5	223.0	123.0	100	ND	
LCS1	10.30	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	
LCS2	10.35	50	0.02	2.2	44.0	4.90		98.0	5	98.0	10.0	88	ND	

Calculations as follows:

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

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

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

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

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

061

LUCE
Analyst Printed Name

Analyst Signature

HOPE
Reviewer Printed Name

Reviewer Signature

998803

CH2MHILL **CHAIN OF CUSTODY RECORD** 11/29/2011 3:51:27 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.RM
Task Order
Project 2011-RMP-182
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: 1

	Container:	3X250 ml Poly	250 Poly	500 ml Poly	3x500 ml Poly	3x500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter				
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C				
	Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA	NA				
	Holding Time:	28	28	180	180	180	2	2	2	2	2				
		Cr6 (E218.6 – river) Field Filtered	Field QC Cr6 (E218.6–river)	Metals (6010B) Total Fe	Metals (6020AFF) Field Filtered Chromium	Metals (SW6010B/SW6020Adis) Field Filtered As,Mn,Fe,Se,Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)				
	DATE TIME Matrix														
1 C-BNS-D-182	11/29/2011 13:18 Water	X		X	X	X	X	X	X	X	X		9		
2 C-I-3-D-182	11/29/2011 10:56 Water	X		X	X	X	X	X	X	X	X		9		
3 C-I-3-S-182	11/29/2011 11:12 Water	X		X	X	X	X	X	X	X	X		9	pH=2	
4 C-MAR-D-182	11/29/2011 14:48 Water	X		X	X	X	X	X	X	X	X		9		
12 C-MW-80-182	11/29/2011 12:20 Water		X										1	Hold	
13 C-MW-81-182	11/29/2011 14:35 Water		X										1	Hold	
5 C-R22A-D-182	11/29/2011 12:34 Water	X		X	X	X	X	X	X	X	X		9		
6 C-R22A-S-182	11/29/2011 12:49 Water	X		X	X	X	X	X	X	X	X		9		
7 C-R27-D-182	11/29/2011 14:03 Water	X		X	X	X	X	X	X	X	X		9		
8 C-R27-S-182	11/29/2011 14:17 Water	X		X	X	X	X	X	X	X	X		9	pH=2	
9 C-TAZ-D-182	11/29/2011 9:52 Water	X		X	X	X	X	X	X	X	X		9		
10 C-TAZ-S-182	11/29/2011 10:09 Water	X		X	X	X	X	X	X	X	X		9		
11 R63-182	11/29/2011 11:45 Water	X		X	X	X	X	X	X	X	X		9		
14 RMP-AB1-182	11/29/2011 15:03 Water		X										1	Hold	

+ Cr T
Where provided w/3 Cr6 bottles please analyze 1 & hold 2

pH for 6010B/6020A

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

COMMENTS

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by	Boncfacio	11-29-11 1605
Received by	B. Dayag	11-29-11 1605
Relinquished by		7000
Received by		11/29/11 20:30

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

ATTN:
Sample Custody

Special Instructions:
Nov 29 - Dec 01, 2011

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
11/29/11	998777-5	9.5	N/A	N/A	N/A	GW
	-6					
	-7					
11/29/11	998778-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
11/30/11	998802	7	5 mL	9.5	8:40 AM	GW
11/30/11	998803-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
11/30/11	998804-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998634 (1-8)	<1	<2	11/18/11	M.M	Yes	-
998635 (1-6)	↓	↓	↓	↓	↓	-
998633 (1-8)	↓	↓	↓	↓	↓	-
998597 (1,4,5,7)	>1	↓	↓	↓	↓	-
998623	↓	↓	↓	↓	↓	-
998624	↓	↓	↓	↓	↓	-
998632	↓	↓	↓	↓	↓	-
998637	↓	↓	↓	↓	↓	-
998201 (1-6)	plant	>2	11/10/11	Katia	No	yes 11/13/11
998661 (1-3)	<1	<2	11/21/11 11/13/11	ES	yes	-
998662 (1-6)	↓	↓	↓	↓	↓	-
998221-3	↓	↓	↓	↓	↓	-
998222-1	↓	↓	↓	↓	↓	-
998241-2	↓	↓	↓	↓	↓	-
998251-6	↓	↓	↓	↓	↓	-
998252-1	↓	↓	↓	↓	↓	-
998681-(1-7)	<1	<2	11/22/11	ES	yes	-
998682 (1-2)	↓	↓	↓	↓	↓	-
998733	<1	<2	11/28/11	ES	yes	-
998747 (1-8)	↓	<2	11/29/11	M.M	yes	-
998779	↓	↓	↓	↓	↓	-
998815	solid	-	11/30/11	M.M	yes	TTLC
998751	↓	-	↓	↓	↓	↓
998803 (1-13)	<1	<2	12/01/11	M.M	yes	-
998804 (1-10)	↓	↓	↓	↓	↓	-
998805 (1-13)	↓	↓	↓	↓	↓	-
998828 (1-5)	↓	↓	↓	↓	↓	-
998829 (1-8)	↓	↓	↓	↓	↓	-
998830 (1-13)	↓	↓	↓	↓	↓	-
998730 (1-5)	<1	<2	11/23/11	ES	yes	-
998888	solid	-	12/05/11	M.M.	yes	STLC/TTLC
998935 (1-3)	<1	<2	12/06/11	M.M	yes	-
998936 (1-3)	↓	↓	↓	↓	↓	-
998851 (1-5)	<1	<2	12/08/11	M.M	yes	-
998852 (1-10)	↓	↓	↓	↓	↓	-
998874	↓	↓	↓	↓	↓	-
998873 (1-4)	↓	↓	↓	↓	↓	-
998975 (1-9)	↓	↓	↓	↓	↓	-
998945 (1-2)	↓	↓	↓	↓	↓	-
998946 (1-2)	↓	↓	↓	↓	↓	-
998947 (1-20)	↓	↓	↓	↓	↓	-
998821 (1-4)	>1	<2	12/08/11	M.M	yes	-
998823	↓	↓	↓	↓	↓	-
998863	↓	↓	↓	↓	↓	-
998866	↓	↓	↓	↓	↓	-
998884	↓	↓	↓	↓	↓	-
998890	↓	↓	↓	↓	↓	-
998943	↓	↓	↓	↓	↓	-

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 998803

Date Delivered: 11 / 23 / 11 **Time:** 20:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes) 3.4 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☒Truesdail ☐Client	☒Yes	☐No	☐N/A
12.	Were samples pH checked? pH = see C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒Std	☐Yes	☐No	☐N/A

ALERT!! III QC

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

16. Comments: _____

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

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Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
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www.truesdail.com

January 23, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-RMP-182, SURFACEWATER MONITORING PROJECT, TLI NO.: 998830

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-RMP-182 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 November 30, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the early sampling time and late arrival of the samples, samples R-19-182, R-28-182, and RRB-182 for pH analysis by SM 4500-H B were analyzed past the method specified holding time. Mr. Shawn Duffy approved the analysis.

Due to the discrepancy between the Total Dissolved Chromium (1.1 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample C-NR3-S-182, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of 1.1 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (1.6 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample RRB-182, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of ND<1.0 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Samples C-MW-82-182, C-MW-83-182, and RMP-AB2-182, which were placed on hold by Mr. Shawn Duffy upon receipt, were analyzed for Hexavalent Chromium by EPA 218.6 at Mr. Duffy's request on January 13, 2012, past the method specified holding time.

Mr. Shawn Duffy requested that sample SW2-182 (bottle A) be re-analyzed for Hexavalent Chromium by EPA 218.6 along with the other two sample containers (bottles B and C) provided for that site. The sample was originally analyzed on December 8, 2011 with a result of 0.20 ug/L. The samples were re-analyzed on December 16, 2011 with results of 0.21 for all three containers. After discussing the results with Mr. Duffy, the original result was reported

Samples for Nitrate as N by EPA 300.0 were analyzed at a dilution of 5x and the results were ND<1.0. Due to analyst error, the samples was not re-analyzed straight and are therefore reported as ND<1.0.

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 Michael Ngo
Quality Assurance/Quality Control Officer

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Event 2010-RMP-182 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-CON-D-182	2.00	No			
C-CON-S-182	2.00	No			
C-NR1-D-182	2.00	No			
C-NR1-S-182	2.00	No			
C-NR3-D-182	2.00	No			
C-NR3-S-182	2.00	No			
C-NR4-D-182	2.00	No			
C-NR4-S-182	2.00	No			
R-19-182	2.00	No			
R-28-182	2.00	No			
RRB-182	2.00	No			
SW1-182	2.00	No			
SW2-182	2.00	No			
C-MW-82-182	2.00	No			
C-MW-83-182	2.00	No			
RMP-AB2-182	2.00	No			

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Event 2010-RMP-182 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-CON-D-182	9.50	No			
C-CON-S-182	9.50	No			
C-NR1-D-182	9.50	No			
C-NR1-S-182	9.50	No			
C-NR3-D-182	9.50	No			
C-NR3-S-182	9.50	No			
C-NR4-D-182	9.50	No			
C-NR4-S-182	9.50	No			
R-19-182	9.50	No			
R-28-182	9.50	No			
RRB-182	9.50	No			
SW1-182	9.50	No			
SW2-182	9.50	No			
C-MW-82-182	9.50	No			
C-MW-83-182	9.50	No			
RMP-AB2-182	9.50	No			

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

Laboratory No.: 998830
Date Received: November 30, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.RM
P.O. No.: 423575.MP.02.RM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-001	C-CON-D-182	E120.1	NONE	11/30/2011	10:21	EC	908	umhos/cm	2.00
998830-001	C-CON-D-182	E218.6	FLDFLT	11/30/2011	10:21	Chromium, hexavalent	ND	ug/L	0.20
998830-001	C-CON-D-182	E300	NONE	11/30/2011	10:21	Nitrate as N	ND	mg/L	1.00
998830-001	C-CON-D-182	SM2320B	NONE	11/30/2011	10:21	Alkalinity	126	mg/L	5.00
998830-001	C-CON-D-182	SM2320B	NONE	11/30/2011	10:21	Bicarbonate	126	mg/L	5.00
998830-001	C-CON-D-182	SM2320B	NONE	11/30/2011	10:21	Carbonate	ND	mg/L	5.00
998830-001	C-CON-D-182	SM2540D	NONE	11/30/2011	10:21	Total Suspended Solids	ND	mg/L	10.0
998830-001	C-CON-D-182	SM4500HB	NONE	11/30/2011	10:21	PH	8.22	pH	4.00
998830-001	C-CON-D-182	SW6010B	FLDFLT-digested	11/30/2011	10:21	Iron	ND	ug/L	20.0
998830-001	C-CON-D-182	SW6010B	NONE-digested	11/30/2011	10:21	Iron	ND	ug/L	20.0
998830-001	C-CON-D-182	SW6010B	FLDFLT-digested	11/30/2011	10:21	Manganese	ND	ug/L	10.0
998830-001	C-CON-D-182	SW6010B	FLDFLT-digested	11/30/2011	10:21	Selenium	ND	ug/L	10.0
998830-001	C-CON-D-182	SW6020	FLDFLT-digested	11/30/2011	10:21	Arsenic	2.4	ug/L	1.0
998830-001	C-CON-D-182	SW6020	FLDFLT-digested	11/30/2011	10:21	Chromium	ND	ug/L	1.0
998830-001	C-CON-D-182	SW6020	FLDFLT-digested	11/30/2011	10:21	Molybdenum	ND	ug/L	10.0
998830-002	C-CON-S-182	E120.1	NONE	11/30/2011	10:39	EC	923	umhos/cm	2.00
998830-002	C-CON-S-182	E218.6	FLDFLT	11/30/2011	10:39	Chromium, hexavalent	ND	ug/L	0.20
998830-002	C-CON-S-182	E300	NONE	11/30/2011	10:39	Nitrate as N	ND	mg/L	1.00
998830-002	C-CON-S-182	SM2320B	NONE	11/30/2011	10:39	Alkalinity	128	mg/L	5.00
998830-002	C-CON-S-182	SM2320B	NONE	11/30/2011	10:39	Bicarbonate	128	mg/L	5.00
998830-002	C-CON-S-182	SM2320B	NONE	11/30/2011	10:39	Carbonate	ND	mg/L	5.00
998830-002	C-CON-S-182	SM2540D	NONE	11/30/2011	10:39	Total Suspended Solids	ND	mg/L	10.0
998830-002	C-CON-S-182	SM4500HB	NONE	11/30/2011	10:39	PH	8.21	pH	4.00

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-002	C-CON-S-182	SW6010B	FLDFLT-digested	11/30/2011	10:39	Iron	ND	ug/L	20.0
998830-002	C-CON-S-182	SW6010B	NONE-digested	11/30/2011	10:39	Iron	ND	ug/L	20.0
998830-002	C-CON-S-182	SW6010B	FLDFLT-digested	11/30/2011	10:39	Manganese	ND	ug/L	10.0
998830-002	C-CON-S-182	SW6010B	FLDFLT-digested	11/30/2011	10:39	Selenium	ND	ug/L	10.0
998830-002	C-CON-S-182	SW6020	FLDFLT-digested	11/30/2011	10:39	Arsenic	2.4	ug/L	1.0
998830-002	C-CON-S-182	SW6020	FLDFLT-digested	11/30/2011	10:39	Chromium	ND	ug/L	1.0
998830-002	C-CON-S-182	SW6020	FLDFLT-digested	11/30/2011	10:39	Molybdenum	ND	ug/L	10.0
998830-003	C-NR1-D-182	E120.1	NONE	11/30/2011	11:13	EC	923	umhos/cm	2.00
998830-003	C-NR1-D-182	E218.6	FLDFLT	11/30/2011	11:13	Chromium, hexavalent	ND	ug/L	0.20
998830-003	C-NR1-D-182	E300	NONE	11/30/2011	11:13	Nitrate as N	ND	mg/L	1.00
998830-003	C-NR1-D-182	SM2320B	NONE	11/30/2011	11:13	Alkalinity	126	mg/L	5.00
998830-003	C-NR1-D-182	SM2320B	NONE	11/30/2011	11:13	Bicarbonate	126	mg/L	5.00
998830-003	C-NR1-D-182	SM2320B	NONE	11/30/2011	11:13	Carbonate	ND	mg/L	5.00
998830-003	C-NR1-D-182	SM2540D	NONE	11/30/2011	11:13	Total Suspended Solids	ND	mg/L	10.0
998830-003	C-NR1-D-182	SM4500HB	NONE	11/30/2011	11:13	PH	8.26	pH	4.00
998830-003	C-NR1-D-182	SW6010B	FLDFLT-digested	11/30/2011	11:13	Iron	ND	ug/L	20.0
998830-003	C-NR1-D-182	SW6010B	NONE-digested	11/30/2011	11:13	Iron	ND	ug/L	20.0
998830-003	C-NR1-D-182	SW6010B	FLDFLT-digested	11/30/2011	11:13	Manganese	ND	ug/L	10.0
998830-003	C-NR1-D-182	SW6010B	FLDFLT-digested	11/30/2011	11:13	Selenium	ND	ug/L	10.0
998830-003	C-NR1-D-182	SW6020	FLDFLT-digested	11/30/2011	11:13	Arsenic	2.8	ug/L	1.0
998830-003	C-NR1-D-182	SW6020	FLDFLT-digested	11/30/2011	11:13	Chromium	ND	ug/L	1.0
998830-003	C-NR1-D-182	SW6020	FLDFLT-digested	11/30/2011	11:13	Molybdenum	ND	ug/L	10.0
998830-004	C-NR1-S-182	E120.1	NONE	11/30/2011	11:29	EC	920	umhos/cm	2.00
998830-004	C-NR1-S-182	E218.6	FLDFLT	11/30/2011	11:29	Chromium, hexavalent	ND	ug/L	0.20
998830-004	C-NR1-S-182	E300	NONE	11/30/2011	11:29	Nitrate as N	ND	mg/L	1.00
998830-004	C-NR1-S-182	SM2320B	NONE	11/30/2011	11:29	Alkalinity	116	mg/L	5.00
998830-004	C-NR1-S-182	SM2320B	NONE	11/30/2011	11:29	Bicarbonate	116	mg/L	5.00
998830-004	C-NR1-S-182	SM2320B	NONE	11/30/2011	11:29	Carbonate	ND	mg/L	5.00
998830-004	C-NR1-S-182	SM2540D	NONE	11/30/2011	11:29	Total Suspended Solids	ND	mg/L	10.0
998830-004	C-NR1-S-182	SM4500HB	NONE	11/30/2011	11:29	PH	8.28	pH	4.00
998830-004	C-NR1-S-182	SW6010B	FLDFLT-digested	11/30/2011	11:29	Iron	ND	ug/L	20.0
998830-004	C-NR1-S-182	SW6010B	NONE-digested	11/30/2011	11:29	Iron	ND	ug/L	20.0
998830-004	C-NR1-S-182	SW6010B	FLDFLT-digested	11/30/2011	11:29	Manganese	ND	ug/L	10.0
998830-004	C-NR1-S-182	SW6010B	FLDFLT-digested	11/30/2011	11:29	Selenium	ND	ug/L	10.0
998830-004	C-NR1-S-182	SW6020	FLDFLT-digested	11/30/2011	11:29	Arsenic	2.3	ug/L	1.0
998830-004	C-NR1-S-182	SW6020	FLDFLT-digested	11/30/2011	11:29	Chromium	ND	ug/L	1.0
998830-004	C-NR1-S-182	SW6020	FLDFLT-digested	11/30/2011	11:29	Molybdenum	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-005	C-NR3-D-182	E120.1	NONE	11/30/2011	12:11	EC	915	umhos/cm	2.00
998830-005	C-NR3-D-182	E218.6	FLDFLT	11/30/2011	12:11	Chromium, hexavalent	ND	ug/L	0.20
998830-005	C-NR3-D-182	E300	NONE	11/30/2011	12:11	Nitrate as N	ND	mg/L	1.00
998830-005	C-NR3-D-182	SM2320B	NONE	11/30/2011	12:11	Alkalinity	117	mg/L	5.00
998830-005	C-NR3-D-182	SM2320B	NONE	11/30/2011	12:11	Bicarbonate	117	mg/L	5.00
998830-005	C-NR3-D-182	SM2320B	NONE	11/30/2011	12:11	Carbonate	ND	mg/L	5.00
998830-005	C-NR3-D-182	SM2540D	NONE	11/30/2011	12:11	Total Suspended Solids	ND	mg/L	10.0
998830-005	C-NR3-D-182	SM4500HB	NONE	11/30/2011	12:11	PH	8.28	pH	4.00
998830-005	C-NR3-D-182	SW6010B	FLDFLT-digested	11/30/2011	12:11	Iron	ND	ug/L	20.0
998830-005	C-NR3-D-182	SW6010B	NONE-digested	11/30/2011	12:11	Iron	ND	ug/L	20.0
998830-005	C-NR3-D-182	SW6010B	FLDFLT-digested	11/30/2011	12:11	Manganese	ND	ug/L	10.0
998830-005	C-NR3-D-182	SW6010B	FLDFLT-digested	11/30/2011	12:11	Selenium	ND	ug/L	10.0
998830-005	C-NR3-D-182	SW6020	FLDFLT-digested	11/30/2011	12:11	Arsenic	2.6	ug/L	1.0
998830-005	C-NR3-D-182	SW6020	FLDFLT-digested	11/30/2011	12:11	Chromium	ND	ug/L	1.0
998830-005	C-NR3-D-182	SW6020	FLDFLT-digested	11/30/2011	12:11	Molybdenum	ND	ug/L	10.0
998830-006	C-NR3-S-182	E120.1	NONE	11/30/2011	12:31	EC	905	umhos/cm	2.00
998830-006	C-NR3-S-182	E218.6	FLDFLT	11/30/2011	12:31	Chromium, hexavalent	ND	ug/L	0.20
998830-006	C-NR3-S-182	E300	NONE	11/30/2011	12:31	Nitrate as N	ND	mg/L	1.00
998830-006	C-NR3-S-182	SM2320B	NONE	11/30/2011	12:31	Alkalinity	114	mg/L	5.00
998830-006	C-NR3-S-182	SM2320B	NONE	11/30/2011	12:31	Bicarbonate	114	mg/L	5.00
998830-006	C-NR3-S-182	SM2320B	NONE	11/30/2011	12:31	Carbonate	ND	mg/L	5.00
998830-006	C-NR3-S-182	SM2540D	NONE	11/30/2011	12:31	Total Suspended Solids	ND	mg/L	10.0
998830-006	C-NR3-S-182	SM4500HB	NONE	11/30/2011	12:31	PH	8.3	pH	4.00
998830-006	C-NR3-S-182	SW6010B	FLDFLT-digested	11/30/2011	12:31	Iron	24.0	ug/L	20.0
998830-006	C-NR3-S-182	SW6010B	NONE-digested	11/30/2011	12:31	Iron	26.1	ug/L	20.0
998830-006	C-NR3-S-182	SW6010B	FLDFLT-digested	11/30/2011	12:31	Manganese	ND	ug/L	10.0
998830-006	C-NR3-S-182	SW6010B	FLDFLT-digested	11/30/2011	12:31	Selenium	ND	ug/L	10.0
998830-006	C-NR3-S-182	SW6020	FLDFLT-digested	11/30/2011	12:31	Arsenic	2.6	ug/L	1.0
998830-006	C-NR3-S-182	SW6020	FLDFLT-digested	11/30/2011	12:31	Chromium	ND	ug/L	1.0
998830-006	C-NR3-S-182	SW6020	FLDFLT-digested	11/30/2011	12:31	Molybdenum	ND	ug/L	10.0
998830-007	C-NR4-D-182	E120.1	NONE	11/30/2011	13:06	EC	909	umhos/cm	2.00
998830-007	C-NR4-D-182	E218.6	FLDFLT	11/30/2011	13:06	Chromium, hexavalent	ND	ug/L	0.20
998830-007	C-NR4-D-182	E300	NONE	11/30/2011	13:06	Nitrate as N	3.34	mg/L	1.00
998830-007	C-NR4-D-182	SM2320B	NONE	11/30/2011	13:06	Alkalinity	120	mg/L	5.00
998830-007	C-NR4-D-182	SM2320B	NONE	11/30/2011	13:06	Bicarbonate	120	mg/L	5.00
998830-007	C-NR4-D-182	SM2320B	NONE	11/30/2011	13:06	Carbonate	ND	mg/L	5.00
998830-007	C-NR4-D-182	SM2540D	NONE	11/30/2011	13:06	Total Suspended Solids	ND	mg/L	10.0
998830-007	C-NR4-D-182	SM4500HB	NONE	11/30/2011	13:06	PH	8.22	pH	4.00

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-007	C-NR4-D-182	SW6010B	FLDFLT-digested	11/30/2011	13:06	Iron	ND	ug/L	20.0
998830-007	C-NR4-D-182	SW6010B	NONE-digested	11/30/2011	13:06	Iron	ND	ug/L	20.0
998830-007	C-NR4-D-182	SW6010B	FLDFLT-digested	11/30/2011	13:06	Manganese	ND	ug/L	10.0
998830-007	C-NR4-D-182	SW6010B	FLDFLT-digested	11/30/2011	13:06	Selenium	ND	ug/L	10.0
998830-007	C-NR4-D-182	SW6020	FLDFLT-digested	11/30/2011	13:06	Arsenic	2.3	ug/L	1.0
998830-007	C-NR4-D-182	SW6020	FLDFLT-digested	11/30/2011	13:06	Chromium	ND	ug/L	1.0
998830-007	C-NR4-D-182	SW6020	FLDFLT-digested	11/30/2011	13:06	Molybdenum	ND	ug/L	10.0
998830-008	C-NR4-S-182	E120.1	NONE	11/30/2011	13:23	EC	918	umhos/cm	2.00
998830-008	C-NR4-S-182	E218.6	FLDFLT	11/30/2011	13:23	Chromium, hexavalent	ND	ug/L	0.20
998830-008	C-NR4-S-182	E300	NONE	11/30/2011	13:23	Nitrate as N	2.57	mg/L	1.00
998830-008	C-NR4-S-182	SM2320B	NONE	11/30/2011	13:23	Alkalinity	125	mg/L	5.00
998830-008	C-NR4-S-182	SM2320B	NONE	11/30/2011	13:23	Bicarbonate	125	mg/L	5.00
998830-008	C-NR4-S-182	SM2320B	NONE	11/30/2011	13:23	Carbonate	ND	mg/L	5.00
998830-008	C-NR4-S-182	SM2540D	NONE	11/30/2011	13:23	Total Suspended Solids	ND	mg/L	10.0
998830-008	C-NR4-S-182	SM4500HB	NONE	11/30/2011	13:23	PH	8.21	pH	4.00
998830-008	C-NR4-S-182	SW6010B	FLDFLT-digested	11/30/2011	13:23	Iron	25.0	ug/L	20.0
998830-008	C-NR4-S-182	SW6010B	NONE-digested	11/30/2011	13:23	Iron	26.4	ug/L	20.0
998830-008	C-NR4-S-182	SW6010B	FLDFLT-digested	11/30/2011	13:23	Manganese	ND	ug/L	10.0
998830-008	C-NR4-S-182	SW6010B	FLDFLT-digested	11/30/2011	13:23	Selenium	ND	ug/L	10.0
998830-008	C-NR4-S-182	SW6020	FLDFLT-digested	11/30/2011	13:23	Arsenic	2.1	ug/L	1.0
998830-008	C-NR4-S-182	SW6020	FLDFLT-digested	11/30/2011	13:23	Chromium	ND	ug/L	1.0
998830-008	C-NR4-S-182	SW6020	FLDFLT-digested	11/30/2011	13:23	Molybdenum	ND	ug/L	10.0
998830-009	R-19-182	E120.1	NONE	11/30/2011	9:02	EC	929	umhos/cm	2.00
998830-009	R-19-182	E218.6	FLDFLT	11/30/2011	9:02	Chromium, hexavalent	ND	ug/L	0.20
998830-009	R-19-182	E300	NONE	11/30/2011	9:02	Nitrate as N	ND	mg/L	1.00
998830-009	R-19-182	SM2320B	NONE	11/30/2011	9:02	Alkalinity	125	mg/L	5.00
998830-009	R-19-182	SM2320B	NONE	11/30/2011	9:02	Bicarbonate	125	mg/L	5.00
998830-009	R-19-182	SM2320B	NONE	11/30/2011	9:02	Carbonate	ND	mg/L	5.00
998830-009	R-19-182	SM2540D	NONE	11/30/2011	9:02	Total Suspended Solids	ND	mg/L	10.0
998830-009	R-19-182	SM4500HB	NONE	11/30/2011	9:02	PH	8.27 J	pH	4.00
998830-009	R-19-182	SW6010B	FLDFLT-digested	11/30/2011	9:02	Iron	ND	ug/L	20.0
998830-009	R-19-182	SW6010B	NONE-digested	11/30/2011	9:02	Iron	ND	ug/L	20.0
998830-009	R-19-182	SW6010B	FLDFLT-digested	11/30/2011	9:02	Manganese	ND	ug/L	10.0
998830-009	R-19-182	SW6010B	FLDFLT-digested	11/30/2011	9:02	Selenium	ND	ug/L	10.0
998830-009	R-19-182	SW6020	FLDFLT-digested	11/30/2011	9:02	Arsenic	2.5	ug/L	1.0
998830-009	R-19-182	SW6020	FLDFLT-digested	11/30/2011	9:02	Chromium	ND	ug/L	1.0
998830-009	R-19-182	SW6020	FLDFLT-digested	11/30/2011	9:02	Molybdenum	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-010	R-28-182	E120.1	NONE	11/30/2011	8:36	EC	922	umhos/cm	2.00
998830-010	R-28-182	E218.6	FLDFLT	11/30/2011	8:36	Chromium, hexavalent	ND	ug/L	0.20
998830-010	R-28-182	E300	NONE	11/30/2011	8:36	Nitrate as N	ND	mg/L	1.00
998830-010	R-28-182	SM2320B	NONE	11/30/2011	8:36	Alkalinity	119	mg/L	5.00
998830-010	R-28-182	SM2320B	NONE	11/30/2011	8:36	Bicarbonate	119	mg/L	5.00
998830-010	R-28-182	SM2320B	NONE	11/30/2011	8:36	Carbonate	ND	mg/L	5.00
998830-010	R-28-182	SM2540D	NONE	11/30/2011	8:36	Total Suspended Solids	ND	mg/L	10.0
998830-010	R-28-182	SM4500HB	NONE	11/30/2011	8:36	PH	8.30 J	pH	4.00
998830-010	R-28-182	SW6010B	FLDFLT-digested	11/30/2011	8:36	Iron	ND	ug/L	20.0
998830-010	R-28-182	SW6010B	NONE-digested	11/30/2011	8:36	Iron	ND	ug/L	20.0
998830-010	R-28-182	SW6010B	FLDFLT-digested	11/30/2011	8:36	Manganese	ND	ug/L	10.0
998830-010	R-28-182	SW6010B	FLDFLT-digested	11/30/2011	8:36	Selenium	ND	ug/L	10.0
998830-010	R-28-182	SW6020	FLDFLT-digested	11/30/2011	8:36	Arsenic	2.4	ug/L	1.0
998830-010	R-28-182	SW6020	FLDFLT-digested	11/30/2011	8:36	Chromium	ND	ug/L	1.0
998830-010	R-28-182	SW6020	FLDFLT-digested	11/30/2011	8:36	Molybdenum	ND	ug/L	10.0
998830-011	RRB-182	E120.1	NONE	11/30/2011	9:39	EC	1410	umhos/cm	2.00
998830-011	RRB-182	E218.6	FLDFLT	11/30/2011	9:39	Chromium, hexavalent	ND	ug/L	0.20
998830-011	RRB-182	E300	NONE	11/30/2011	9:39	Nitrate as N	ND	mg/L	1.00
998830-011	RRB-182	SM2320B	NONE	11/30/2011	9:39	Alkalinity	136	mg/L	5.00
998830-011	RRB-182	SM2320B	NONE	11/30/2011	9:39	Bicarbonate	136	mg/L	5.00
998830-011	RRB-182	SM2320B	NONE	11/30/2011	9:39	Carbonate	ND	mg/L	5.00
998830-011	RRB-182	SM2540D	NONE	11/30/2011	9:39	Total Suspended Solids	33.4	mg/L	10.0
998830-011	RRB-182	SM4500HB	NONE	11/30/2011	9:39	PH	7.72 J	pH	4.00
998830-011	RRB-182	SW6010B	FLDFLT-digested	11/30/2011	9:39	Iron	21.5	ug/L	20.0
998830-011	RRB-182	SW6010B	NONE-digested	11/30/2011	9:39	Iron	58.0	ug/L	20.0
998830-011	RRB-182	SW6010B	FLDFLT-digested	11/30/2011	9:39	Manganese	69.1	ug/L	10.0
998830-011	RRB-182	SW6010B	FLDFLT-digested	11/30/2011	9:39	Selenium	ND	ug/L	10.0
998830-011	RRB-182	SW6020	FLDFLT-digested	11/30/2011	9:39	Arsenic	2.6	ug/L	1.0
998830-011	RRB-182	SW6020	FLDFLT-digested	11/30/2011	9:39	Chromium	ND	ug/L	1.0
998830-011	RRB-182	SW6020	FLDFLT-digested	11/30/2011	9:39	Molybdenum	ND	ug/L	10.0
998830-012	SW1-182	E120.1	NONE	11/30/2011	14:40	EC	993	umhos/cm	2.00
998830-012	SW1-182	E218.6	FLDFLT	11/30/2011	14:40	Chromium, hexavalent	ND	ug/L	0.20
998830-012	SW1-182	SM4500HB	NONE	11/30/2011	14:40	PH	7.72	pH	4.00
998830-012	SW1-182	SW6020	FLDFLT-digested	11/30/2011	14:40	Chromium	ND	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998830-013	SW2-182	E120.1	NONE	11/30/2011	15:05	EC	986	umhos/cm	2.00
998830-013	SW2-182	E218.6	FLDFLT	11/30/2011	15:05	Chromium, hexavalent	0.20	ug/L	0.20
998830-013	SW2-182	SM4500HB	NONE	11/30/2011	15:05	PH	7.42	pH	4.00
998830-013	SW2-182	SW6020	FLDFLT-digested	11/30/2011	15:05	Chromium	ND	ug/L	1.0
998830-014	C-MW-82-182	E218.6	FLDFLT	11/30/2011	12:00	Chromium, hexavalent	0.23 J	ug/L	0.20
998830-015	C-MW-83-182	E218.6	FLDFLT	11/30/2011	12:53	Chromium, hexavalent	0.20 J	ug/L	0.20
998830-016	RMP-AB2-182	E218.6	FLDFLT	11/30/2011	13:35	Chromium, hexavalent	0.27 J	ug/L	0.20

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

Results below 0.01ppm will have two (2) significant figures.

Result above or equal to 0.01ppm will have three (3) significant figures.

Quality Control data will always have three (3) significant figures.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.RM
Project Number: 423575.MP.02.RM

Laboratory No. 998830

Printed 1/23/2012

Samples Received on 11/30/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
C-CON-D-182	998830-001	11/30/2011 10:21	Water
C-CON-S-182	998830-002	11/30/2011 10:39	Water
C-NR1-D-182	998830-003	11/30/2011 11:13	Water
C-NR1-S-182	998830-004	11/30/2011 11:29	Water
C-NR3-D-182	998830-005	11/30/2011 12:11	Water
C-NR3-S-182	998830-006	11/30/2011 12:31	Water
C-NR4-D-182	998830-007	11/30/2011 13:06	Water
C-NR4-S-182	998830-008	11/30/2011 13:23	Water
R-19-182	998830-009	11/30/2011 09:02	Water
R-28-182	998830-010	11/30/2011 08:36	Water
RRB-182	998830-011	11/30/2011 09:39	Water
SW1-182	998830-012	11/30/2011 14:40	Water
SW2-182	998830-013	11/30/2011 15:05	Water
C-MW-82-182	998830-014	11/30/2011 12:00	Water
C-MW-83-182	998830-015	11/30/2011 12:53	Water
RMP-AB2-182	998830-016	11/30/2011 13:35	Water

Anions By I.C. - EPA 300.0 Batch 12AN11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-003 Nitrate as Nitrogen	mg/L	12/01/2011 19:17	5.00	0.135	1.00	ND
998830-004 Nitrate as Nitrogen	mg/L	12/01/2011 20:07	5.00	0.135	1.00	ND
998830-005 Nitrate as Nitrogen	mg/L	12/01/2011 22:11	5.00	0.135	1.00	ND
998830-006 Nitrate as Nitrogen	mg/L	12/01/2011 20:31	5.00	0.135	1.00	ND
998830-007 Nitrate as Nitrogen	mg/L	12/01/2011 20:44	5.00	0.135	1.00	3.34
998830-008 Nitrate as Nitrogen	mg/L	12/01/2011 19:17	5.00	0.135	1.00	2.57

Method Blank

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

Duplicate — Lab ID = 998830-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	ND	0.00	0	0 - 20

Duplicate — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	4.02	4.00	100.	90 - 110

Matrix Spike — Lab ID = 998830-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	10.6	10.0(10.0)	106.	85 - 115

Matrix Spike — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	10.8	10.0(10.0)	108.	85 - 115

Matrix Spike Duplicate — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	10.8	10.0(10.0)	108.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	4.01	4.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.98	3.00	99.3	90 - 110

MRCVS - Primary

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

Anions By I.C. - EPA 300.0

Batch 12AN11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Nitrate as Nitrogen	mg/L	12/01/2011 17:03	5.00	0.135	1.00	ND
998830-002 Nitrate as Nitrogen	mg/L	12/01/2011 17:20	5.00	0.135	1.00	ND
998830-009 Nitrate as Nitrogen	mg/L	12/01/2011 15:33	5.00	0.135	1.00	ND
998830-010 Nitrate as Nitrogen	mg/L	12/01/2011 15:45	5.00	0.135	1.00	ND
998830-011 Nitrate as Nitrogen	mg/L	12/01/2011 16:23	5.00	0.135	1.00	ND

Method Blank

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

Duplicate — Lab ID = 998830-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	ND	0.00	0	0 - 20

Duplicate — Lab ID = 998830-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.90	4.00	97.4	90 - 110

Matrix Spike — Lab ID = 998830-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	5.00	10.6	10.0(10.0)	106.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.88	4.00	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.82	3.00	94.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.92	3.00	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.0	90 - 110

Alkalinity by SM 2320B Batch 12ALK11A 12/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	126
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	126
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-002 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	128
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	128
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-003 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	126
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	126
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-004 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	116
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	116
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-005 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	117
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	117
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-006 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	114
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	114
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-007 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	120.
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	120.
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-008 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	125
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-009 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	125
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-010 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	119
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	119
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND
998830-011 Alkalinity as CaCO3	mg/L	12/07/2011	1.00	1.68	5.00	136
Bicarbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	136
Carbonate (Calculated)	mg/L	12/07/2011	1.00	1.68	5.00	ND

Method Blank

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

Duplicate — Lab ID = 998919-020

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	84.0	85.0	1.18	0 - 20

Lab Control Sample

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

Lab Control Sample Duplicate

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

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	210.	226(100.)	84.0	75 - 125

Specific Conductivity - EPA 120.1 Batch 12EC11A 12/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	908
998830-002 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	923
998830-003 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	923
998830-004 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	920.
998830-005 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	915
998830-006 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	905
998830-007 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	909
998830-008 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	918
998830-009 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	929
998830-010 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	922
998830-011 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	1410
998830-012 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	993
998830-013 Specific Conductivity	umhos/cm	12/02/2011	1.00	0.0950	2.00	986

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 998830-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	917	918	0.109	0 - 10

Duplicate — Lab ID = 998830-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	985	986	0.101	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	715	706	101.	90 - 110

MRCCS - Secondary

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

Metals by EPA 6010B, Total

Batch 121311A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Iron	ug/L	12/13/2011 13:56	1.00	1.34	20.0	ND
998830-002 Iron	ug/L	12/13/2011 14:13	1.00	1.34	20.0	ND
998830-003 Iron	ug/L	12/13/2011 14:19	1.00	1.34	20.0	ND
998830-004 Iron	ug/L	12/13/2011 14:25	1.00	1.34	20.0	ND
998830-005 Iron	ug/L	12/13/2011 14:31	1.00	1.34	20.0	ND
998830-006 Iron	ug/L	12/13/2011 15:05	1.00	1.34	20.0	26.1
998830-007 Iron	ug/L	12/13/2011 15:11	1.00	1.34	20.0	ND
998830-008 Iron	ug/L	12/13/2011 15:22	1.00	1.34	20.0	26.4
998830-009 Iron	ug/L	12/13/2011 15:28	1.00	1.34	20.0	ND
998830-010 Iron	ug/L	12/13/2011 15:34	1.00	1.34	20.0	ND
998830-011 Iron	ug/L	12/13/2011 15:40	1.00	1.34	20.0	58.0

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	14.4	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	99.1	100.	99.1	85 - 115

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	112.	114.(100.)	97.9	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4910	5000	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4870	5000	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4960	5000	99.2	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Chromium, Hexavalent	ug/L	12/07/2011 08:14	1.05	0.0260	0.20	ND
998830-002 Chromium, Hexavalent	ug/L	12/07/2011 16:33	1.05	0.0260	0.20	ND
998830-003 Chromium, Hexavalent	ug/L	12/07/2011 16:43	1.05	0.0260	0.20	ND
998830-004 Chromium, Hexavalent	ug/L	12/07/2011 11:54	1.05	0.0260	0.20	ND

Method Blank

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

Duplicate — Lab ID = 998803-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.160	0.172	7.23	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.239	0.200	119.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.2	90 - 110

Matrix Spike — Lab ID = 998803-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.23(1.06)	96.3	90 - 110

Matrix Spike — Lab ID = 998803-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.23(1.06)	96.9	90 - 110

Matrix Spike — Lab ID = 998803-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.23(1.06)	96.8	90 - 110

Matrix Spike — Lab ID = 998803-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.21(1.06)	96.0	90 - 110

Matrix Spike — Lab ID = 998803-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.24(1.06)	94.7	90 - 110

Matrix Spike — Lab ID = 998803-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.24(1.06)	96.7	90 - 110

Matrix Spike — Lab ID = 998803-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.24(1.06)	97.7	90 - 110

Matrix Spike — Lab ID = 998803-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 998803-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.2	90 - 110

Matrix Spike — Lab ID = 998803-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.0	90 - 110

Matrix Spike — Lab ID = 998803-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.24(1.06)	93.3	90 - 110

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.25(1.06)	94.4	90 - 110

Matrix Spike — Lab ID = 998830-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.23(1.06)	95.0	90 - 110

Matrix Spike — Lab ID = 998830-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.23(1.06)	95.4	90 - 110

Matrix Spike — Lab ID = 998830-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.2	90 - 110

Matrix Spike — Lab ID = 998935-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.22(1.06)	93.5	90 - 110

Matrix Spike — Lab ID = 998935-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.89	8.10(5.30)	96.0	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-005 Chromium, Hexavalent	ug/L	12/08/2011 00:49	1.05	0.0260	0.20	ND
998830-006 Chromium, Hexavalent	ug/L	12/08/2011 01:10	1.05	0.0260	0.20	ND
998830-007 Chromium, Hexavalent	ug/L	12/08/2011 01:20	1.05	0.0260	0.20	ND
998830-008 Chromium, Hexavalent	ug/L	12/08/2011 01:30	1.05	0.0260	0.20	ND
998830-009 Chromium, Hexavalent	ug/L	12/08/2011 01:41	1.05	0.0260	0.20	ND
998830-010 Chromium, Hexavalent	ug/L	12/08/2011 10:21	1.05	0.0260	0.20	ND
998830-011 Chromium, Hexavalent	ug/L	12/08/2011 13:20	1.05	0.0260	0.20	ND
998830-012 Chromium, Hexavalent	ug/L	12/08/2011 13:35	1.05	0.0260	0.20	ND
998830-013 Chromium, Hexavalent	ug/L	12/08/2011 13:45	1.05	0.0260	0.20	0.20

Method Blank

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

Duplicate — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.159	0.170	6.50	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.235	0.200	118.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.89	5.00	97.9	90 - 110

Matrix Spike — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.23(1.06)	99.6	90 - 110

Matrix Spike — Lab ID = 998830-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.24(1.06)	98.4	90 - 110

Matrix Spike — Lab ID = 998830-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.24(1.06)	97.9	90 - 110

Matrix Spike — Lab ID = 998830-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.25(1.06)	99.0	90 - 110

Matrix Spike — Lab ID = 998830-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.25(1.06)	91.7	90 - 110

Matrix Spike — Lab ID = 998830-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.25(1.06)	99.7	90 - 110

Matrix Spike — Lab ID = 998830-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.25(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 998830-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.25(1.06)	100.	90 - 110

Matrix Spike — Lab ID = 998830-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.23	1.26(1.06)	97.4	90 - 110

Matrix Spike — Lab ID = 998901-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.14	9.24(5.30)	98.1	90 - 110

Matrix Spike — Lab ID = 998901-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.27	8.38(5.30)	97.9	90 - 110

Matrix Spike — Lab ID = 998901-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.22(1.06)	95.5	90 - 110

Matrix Spike — Lab ID = 998936-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.00	7.04(5.30)	99.2	90 - 110

Matrix Spike — Lab ID = 998936-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.93	7.97(5.30)	99.3	90 - 110

Matrix Spike — Lab ID = 998936-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	2.00	2.01(1.06)	99.3	90 - 110

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	27.0	26.8(15.9)	101.	90 - 110

Chrome VI by EPA 218.6 Batch 01CrH12F

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
998830-014 Chromium, Hexavalent	ug/L	01/13/2012 05:01	1.05	0.0260	0.20	0.23	J
998830-015 Chromium, Hexavalent	ug/L	01/13/2012 05:11	1.05	0.0260	0.20	0.20	J
998830-016 Chromium, Hexavalent	ug/L	01/13/2012 05:22	1.05	0.0260	0.20	0.27	J

Method Blank

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

Duplicate — Lab ID = 998803-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.153	0.175	13.5	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.196	0.200	97.8	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00	97.5	90 - 110

Matrix Spike — Lab ID = 998803-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.24(1.06)	96.6	90 - 110

Matrix Spike — Lab ID = 998803-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.26(1.06)	96.6	90 - 110

Matrix Spike — Lab ID = 998803-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.28	1.34(1.06)	94.6	90 - 110

Matrix Spike — Lab ID = 998830-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.27	1.28(1.06)	99.2	90 - 110

Matrix Spike — Lab ID = 998830-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.29(1.06)	96.4	90 - 110

Matrix Spike — Lab ID = 998830-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.26(1.06)	94.9	90 - 110

Matrix Spike — Lab ID = 998830-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.28	1.33(1.06)	95.2	90 - 110

Matrix Spike — Lab ID = 999554-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.14(1.06)	97.4	90 - 110

Matrix Spike — Lab ID = 999554-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.13(1.06)	98.1	90 - 110

Matrix Spike — Lab ID = 999554-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.12(1.06)	97.2	90 - 110

Matrix Spike — Lab ID = 999554-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.13(1.06)	96.9	90 - 110

Matrix Spike — Lab ID = 999554-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.08	1.11(1.06)	97.7	90 - 110

Matrix Spike — Lab ID = 999554-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.08	1.12(1.06)	95.7	90 - 110

Matrix Spike — Lab ID = 999554-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.14(1.06)	96.9	90 - 110

Matrix Spike — Lab ID = 999554-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.13(1.06)	99.6	90 - 110

Matrix Spike — Lab ID = 999554-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.14(1.06)	97.5	90 - 110

Matrix Spike — Lab ID = 999554-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.14(1.06)	97.6	90 - 110

Matrix Spike — Lab ID = 999554-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.14(1.06)	98.5	90 - 110

Metals by EPA 6020A, Dissolved Batch 123011C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-011 Arsenic	ug/L	12/31/2011 21:49	5.00	0.285	1.0	2.6
Molybdenum	ug/L	12/31/2011 21:49	5.00	0.270	10.0	ND
998830-012 Chromium	ug/L	12/31/2011 21:58	5.00	0.110	1.0	ND

Method Blank

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

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.195	0.200	97.6	70 - 130
Chromium	ug/L	1.00	0.208	0.200	104.	70 - 130
Selenium	ug/L	1.00	0.171	0.200	85.6	70 - 130
Molybdenum	ug/L	1.00	0.196	0.200	97.9	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	100.	100.	100.	85 - 115
Chromium	ug/L	5.00	105.	100.	105.	85 - 115
Selenium	ug/L	5.00	95.2	100.	95.2	85 - 115
Molybdenum	ug/L	5.00	93.8	100.	93.8	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	101.	100.	101.	85 - 115
Chromium	ug/L	5.00	104.	100.	104.	85 - 115
Selenium	ug/L	5.00	96.2	100.	96.2	85 - 115
Molybdenum	ug/L	5.00	98.0	100.	98.0	85 - 115

Matrix Spike Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	102.	102.(100.)	99.5	75 - 125
Chromium	ug/L	5.00	101	100.(100.)	101	75 - 125
Selenium	ug/L	5.00	93.3	100.(100.)	93.3	75 - 125
Molybdenum	ug/L	5.00	99.1	100.(100.)	99.1	75 - 125

Matrix Spike Duplicate Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	104.	102.(100.)	102.	75 - 125
Chromium	ug/L	5.00	104.	100.(100.)	104.	75 - 125
Selenium	ug/L	5.00	98.4	100.(100.)	98.4	75 - 125
Molybdenum	ug/L	5.00	104	100.(100.)	104	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.65	10.0	96.5	90 - 90
Chromium	ug/L	1.00	10.5	10.0	105.	90 - 90
Selenium	ug/L	1.00	9.29	10.0	92.9	90 - 90
Molybdenum	ug/L	1.00	10.5	10.0	105	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.74	10.0	97.4	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.73	10.0	97.3	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.94	10.0	99.4	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.66	10.0	96.6	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.95	10.0	99.5	90 - 90
Chromium	ug/L	1.00	9.88	10.0	98.8	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.91	10.0	99.1	90 - 90

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.94	10.0	99.4	90 - 90

Metals by EPA 6020A, Dissolved Batch 123011D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Chromium	ug/L	01/01/2012 07:24	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 07:24	5.00	0.270	10.0	ND
998830-002 Chromium	ug/L	01/01/2012 08:33	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 08:33	5.00	0.270	10.0	ND
998830-003 Chromium	ug/L	01/01/2012 08:42	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 08:42	5.00	0.270	10.0	ND
998830-004 Chromium	ug/L	01/01/2012 08:51	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 08:51	5.00	0.270	10.0	ND
998830-005 Chromium	ug/L	01/01/2012 09:08	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 09:08	5.00	0.270	10.0	ND
998830-006 Molybdenum	ug/L	01/01/2012 09:17	5.00	0.270	10.0	ND
998830-007 Chromium	ug/L	01/01/2012 09:26	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 09:26	5.00	0.270	10.0	ND
998830-008 Chromium	ug/L	01/01/2012 09:34	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 09:34	5.00	0.270	10.0	ND
998830-009 Chromium	ug/L	01/01/2012 09:43	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 09:43	5.00	0.270	10.0	ND
998830-010 Chromium	ug/L	01/01/2012 09:52	5.00	0.110	1.0	ND
Molybdenum	ug/L	01/01/2012 09:52	5.00	0.270	10.0	ND

Method Blank

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

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.209	0.200	104.	70 - 130
Molybdenum	ug/L	1.00	0.208	0.200	104.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104	100.	104	85 - 115
Molybdenum	ug/L	5.00	95.8	100.	95.8	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115
Molybdenum	ug/L	5.00	97.0	100.	97.0	85 - 115

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	98.8	100.(100.)	98.8	75 - 125
Molybdenum	ug/L	5.00	98.4	100.(100.)	98.4	75 - 125

Matrix Spike Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125
Molybdenum	ug/L	5.00	104.	100.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110
Molybdenum	ug/L	1.00	10.7	10.0	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.70	10.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.65	10.0	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	9.11	10.0	91.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	9.36	10.0	93.6	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010512A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-006 Chromium	ug/L	01/05/2012 18:20	5.00	0.110	1.0	ND
998830-011 Chromium	ug/L	01/05/2012 18:46	5.00	0.110	1.0	ND
998830-013 Chromium	ug/L	01/05/2012 20:07	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999360-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	12.2	12.3	0.898	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.197	0.200	98.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	108.	100.	108.	85 - 115

Matrix Spike — Lab ID = 999360-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	114.	112.(100.)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.18	10.0	91.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.66	10.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.77	10.0	97.7	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010712B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Arsenic	ug/L	01/07/2012 23:13	5.00	0.285	1.0	2.4
998830-002 Arsenic	ug/L	01/08/2012 00:14	5.00	0.285	1.0	2.4
998830-005 Arsenic	ug/L	01/08/2012 00:49	5.00	0.285	1.0	2.6
998830-007 Arsenic	ug/L	01/08/2012 01:07	5.00	0.285	1.0	2.3
998830-009 Arsenic	ug/L	01/08/2012 01:25	5.00	0.285	1.0	2.5

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.190	0.200	95.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	103.	100.	103	85 - 115

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	104.	102.(100.)	102.	75 - 125

Matrix Spike Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	110.	102.(100.)	107.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.47	10.0	94.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.70	10.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.79	10.0	97.9	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010712C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-003 Arsenic	ug/L	01/08/2012 18:06	5.00	0.285	1.0	2.8
998830-004 Arsenic	ug/L	01/08/2012 18:42	5.00	0.285	1.0	2.3
998830-008 Arsenic	ug/L	01/08/2012 20:55	5.00	0.285	1.0	2.1
998830-010 Arsenic	ug/L	01/08/2012 21:12	5.00	0.285	1.0	2.4

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.196	0.200	98.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	101.	100.	101.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	106.	102.(100.)	103.	75 - 125

Matrix Spike Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	107	102.(100.)	105.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.09	10.0	90.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.47	10.0	94.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.93	10.0	99.3	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010912A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-006 Arsenic	ug/L	01/09/2012 21:33	5.00	0.285	1.0	2.6

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	2.58	2.46	4.68	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	0.151	0.200	75.3	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	96.8	100.	96.8	85 - 115

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	104.	102.(100.)	101.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.49	10.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.52	10.0	95.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	9.39	10.0	93.9	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0.00		

Metals by EPA 6010B, Dissolved Batch 120811B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Iron	ug/L	12/08/2011 15:44	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 15:44	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 15:44	1.00	3.22	10.0	ND
998830-002 Iron	ug/L	12/08/2011 16:26	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 16:26	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:26	1.00	3.22	10.0	ND
998830-003 Iron	ug/L	12/08/2011 16:32	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 16:32	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:32	1.00	3.22	10.0	ND
998830-004 Iron	ug/L	12/08/2011 16:37	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 16:37	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:37	1.00	3.22	10.0	ND
998830-005 Iron	ug/L	12/08/2011 16:43	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 16:43	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:43	1.00	3.22	10.0	ND
998830-006 Iron	ug/L	12/08/2011 16:49	1.00	1.34	20.0	24.0
Manganese	ug/L	12/08/2011 16:49	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:49	1.00	3.22	10.0	ND
998830-007 Iron	ug/L	12/08/2011 16:55	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 16:55	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 16:55	1.00	3.22	10.0	ND
998830-008 Iron	ug/L	12/08/2011 17:00	1.00	1.34	20.0	25.0
Manganese	ug/L	12/08/2011 17:00	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 17:00	1.00	3.22	10.0	ND
998830-009 Iron	ug/L	12/08/2011 17:06	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 17:06	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 17:06	1.00	3.22	10.0	ND
998830-010 Iron	ug/L	12/08/2011 17:12	1.00	1.34	20.0	ND
Manganese	ug/L	12/08/2011 17:12	1.00	3.23	10.0	ND
Selenium	ug/L	12/08/2011 17:12	1.00	3.22	10.0	ND
998830-011 Iron	ug/L	12/08/2011 17:18	1.00	1.34	20.0	21.5
Manganese	ug/L	12/08/2011 17:18	1.00	3.23	10.0	69.1
Selenium	ug/L	12/08/2011 17:18	1.00	3.22	10.0	ND

Method Blank

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

Duplicate — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	
Selenium	ug/L	1.00	ND	0.00	0	
Manganese	ug/L	1.00	ND	0.00	0	

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	111.	100.	111.	
Selenium	ug/L	1.00	96.3	100.	96.3	
Manganese	ug/L	1.00	100.	100.	100.	

Matrix Spike — Lab ID = 998830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	100.	100.(100.)	100.	
Selenium	ug/L	1.00	97.2	100.(100.)	97.2	
Manganese	ug/L	1.00	99.2	100.(100.)	99.2	

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4810	5000	96.2	
Selenium	ug/L	1.00	5040	5000	101.	
Manganese	ug/L	1.00	4720	5000	94.5	

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4820	5000	96.4	

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4880	5000	97.6	
Selenium	ug/L	1.00	4880	5000	97.6	

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	4750	5000	95.0	
Manganese	ug/L	1.00	4810	5000	96.2	

pH by SM 4500-H B Batch 12PH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
998830-001 pH	pH	12/01/2011 10:20	1.00	0.0590	4.00	8.22	
998830-002 pH	pH	12/01/2011 10:22	1.00	0.0590	4.00	8.21	
998830-003 pH	pH	12/01/2011 10:25	1.00	0.0590	4.00	8.26	
998830-004 pH	pH	12/01/2011 10:30	1.00	0.0590	4.00	8.28	
998830-005 pH	pH	12/01/2011 10:35	1.00	0.0590	4.00	8.28	
998830-006 pH	pH	12/01/2011 10:40	1.00	0.0590	4.00	8.30	
998830-007 pH	pH	12/01/2011 10:45	1.00	0.0590	4.00	8.22	
998830-008 pH	pH	12/01/2011 10:50	1.00	0.0590	4.00	8.21	
998830-009 pH	pH	12/01/2011 10:52	1.00	0.0590	4.00	8.27	J
998830-010 pH	pH	12/01/2011 11:05	1.00	0.0590	4.00	8.30	J
998830-011 pH	pH	12/01/2011 11:10	1.00	0.0590	4.00	7.72	J
998830-012 pH	pH	12/01/2011 11:12	1.00	0.0590	4.00	7.72	
998830-013 pH	pH	12/01/2011 11:15	1.00	0.0590	4.00	7.42	

Duplicate — Lab ID = 998830-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	8.28	8.27	0.121	0 - 20

Duplicate — Lab ID = 998830-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.41	7.42	0.135	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.02	7.00	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.02	7.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.05	7.00	101.	90 - 110

Total Suspended Solids by SM 2540 D Batch 12TSS11B 12/5/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998830-001 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-002 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-003 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-004 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-005 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-006 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-007 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-008 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-009 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-010 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	ND
998830-011 Total Suspended Solids	mg/L	12/05/2011	1.00	0.217	10.0	33.4

Method Blank

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

Duplicate — Lab ID = 998830-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	ND	0.00	0	0 - 5

Duplicate — Lab ID = 998830-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	33.2	33.4	0.601	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	98.0	100.	98.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	101	100.	101	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Sean Carroll for Mona Nassimi
Manager, Analytical Services

E2 Sean

TRUESDAIL LABORATORIES INC.

Total Suspended Solids by SM 2540 D

Calculations

Batch: 12TSS11B

Date Analyzed: 12/05/11

Dish Number	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
H2	BLANK	1000	1.4084	1.4084	1.4084	0.0000	No	0.0000	0.0	2.5	ND
H5	998812	300	1.4005	1.4323	1.4323	0.0000	No	0.0318	106.0	8.3	106.0
H6	998827	1000	1.3998	1.4045	1.4045	0.0000	No	0.0047	4.7	2.5	4.7
H7	998830-1	1000	1.3986	1.3988	1.3988	0.0000	No	0.0002	0.2	2.5	ND
H8	998830-2	1000	1.3992	1.3994	1.3994	0.0000	No	0.0002	0.2	2.5	ND
H9	998830-3	1000	1.3953	1.3956	1.3956	0.0000	No	0.0003	0.3	2.5	ND
H10	998830-4	1000	1.3974	1.3978	1.3978	0.0000	No	0.0004	0.4	2.5	ND
H11	998830-5	1000	1.4068	1.4070	1.407	0.0000	No	0.0002	0.2	2.5	ND
H12	998830-6	1000	1.4036	1.4038	1.4038	0.0000	No	0.0002	0.2	2.5	ND
H13	998830-7	1000	1.3953	1.3956	1.3956	0.0000	No	0.0003	0.3	2.5	ND
H14	998830-8	1000	1.3952	1.3954	1.3954	0.0000	No	0.0002	0.2	2.5	ND
H15	998830-9	1000	1.3975	1.3977	1.3977	0.0000	No	0.0002	0.2	2.5	ND
H16	998830-10	900	1.4020	1.4024	1.4024	0.0000	No	0.0004	0.4	2.8	ND
H17	998830-10D	900	1.4002	1.4006	1.4006	0.0000	No	0.0004	0.4	2.8	ND
H18	998830-11	900	1.3992	1.4293	1.4293	0.0000	No	0.0301	33.4	2.8	33.4
H19	998830-11D	900	1.4050	1.4349	1.4349	0.0000	No	0.0299	33.2	2.8	33.2
H20	998843	1000	1.4040	1.4060	1.406	0.0000	No	0.0020	2.0	2.5	ND
H21	998844	1000	1.4026	1.4026	1.4026	0.0000	No	0.0000	0.0	2.5	ND
H22	998849-1	1000	1.4013	1.4013	1.4013	0.0000	No	0.0000	0.0	2.5	ND
H23	998849-2	1000	1.4036	1.4036	1.4036	0.0000	No	0.0000	0.0	2.5	ND
H24	998850	1000	1.4044	1.4047	1.4047	0.0000	No	0.0003	0.3	2.5	ND
H3	LCS-1	100	1.4016	1.4114	1.4114	0.0000	No	0.0098	98.0	25.0	98.0
H4	LCS-2	100	1.3996	1.4097	1.4097	0.0000	No	0.0101	101.0	25.0	101.0

Calculation as follows: Non- Filterable residue (TSS), mg/L = $\left(\frac{A-B}{C}\right) x\ 1\ 0^{6}$

Where: A = weight of dish + residue in grams.
B = weight of dish in grams.
C = mL of sample filtered.

RL= reporting limit.
ND = not detected (below the reporting limit)

Laboratory Control Sample (LCS) Summary

QC Std I.D.	Measurd Value, ppm	Theoretical Value, ppm	Percent Rec	Acceptance Limit	QC Within Control?
LCS1	98	100	98.0%	90-110%	Yes
LCSD	101	100	101.0%	90-110%	Yes

Duplicate Determinations Difference Summary

Lab Number	Sample Weight, g	Sample Dup Weight, g	% RPD	Acceptance Limit	QC Within Control?
998830-1	0.0004	0.0004	0.0%	≤5%	Yes
998830-11	0.0301	0.0299	0.3%	5%	Yes

LCS Recovery

$$P = \left(\frac{LC}{LT}\right) x\ 100$$

$$\%\ Difference = \frac{|A \text{ or } B - C|}{C}\ x\ 100$$

$$where \quad C = \frac{A+B}{2}$$

A = Weght of the first sample in (g).
B = Weght of the second sample in (g).
C = Average weight in (g).

Gautam S.
Analyst Printed Name

Analyst Signature

Hope T.
Reviewer Printed Name

Reviewer Signature

TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

Date of Analysis: 12/7/11
Start of Analysis:
Date Sampled:

Analytical Batch: 12ALK11A
Matrix: Water
Date Calculated: 12/72011

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	7.00	50	0.02		0.0	0.05		0.9	5	ND	ND	ND	ND	
998906-1	7.51	50	0.02		0.0	8.60		172.0	5	172.0	172.0	ND	ND	
998906-2	7.56	50	0.02		0.0	11.80		236.0	5	236.0	236.0	ND	ND	
998919-20	8.21	50	0.02		0.0	4.25		85.0	5	85.0	85.0	ND	ND	
998830-1	8.35	50	0.02		0.0	6.30		126.0	5	126.0	126.0	0	ND	
998830-2	8.32	50	0.02		0.0	6.40		128.0	5	128.0	128.0	0	ND	
998830-3	8.30	50	0.02		0.0	6.30		126.0	5	126.0	126.0	ND	ND	
998830-4	8.31	50	0.02		0.0	5.80		116.0	5	116.0	116.0	0	ND	
998830-5	8.29	50	0.02		0.0	5.85		117.0	5	117.0	117.0	ND	ND	
998830-6	8.28	50	0.02		0.0	5.70		114.0	5	114.0	114.0	ND	ND	
998830-7	8.28	50	0.02		0.0	6.00		120.0	5	120.0	120.0	ND	ND	
998830-8	8.26	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
998830-9	8.32	50	0.02		0.0	6.25		125.0	5	125.0	125.0	0	ND	
998830-10	8.36	50	0.02		0.0	5.95		119.0	5	119.0	119.0	0	ND	
998830-11	8.25	50	0.02		0.0	6.80		136.0	5	136.0	136.0	ND	ND	
998946-2	7.53	50	0.02		0.0	6.75		135.0	5	135.0	135.0	ND	ND	
998919-20D	8.20	50	0.02		0.0	4.20		84.0	5	84.0	84.0	ND	ND	
998830-1MS	9.50	50	0.02	2.3	45.0	10.50		210.0	5	210.0	120.0	90	ND	
LCS1	10.25	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	
LCS2	10.30	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	

Calculations as follows:

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

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

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

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

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

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

061

Alk_10c1/5/12, by HT

Rec'd 11/30/11
sIIa 998830

998830

CH2MHILL **CHAIN OF CUSTODY RECORD** 11/30/2011 3:37:12 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.RM
Task Order
Project 2011-RMP-182
Turnaround Time 10 Days
Shipping Date: 11/30/2011
COC Number: 2

ALERT !!
Level III QC

For Sample Conditions See Form Attached

	Container:	3X250 ml Poly	250 Poly	500 ml Poly	3x500 ml Poly	3x500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter		
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C		
	Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA	NA		
	Holding Time:	28	28	180	180	180	2	2	2	2	2		
		Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6-river)	Metals (6010B) Total Fe	Metals (6020AFF) Field Filtered Chromium	Metals (SW6010B/SW6020Adis) Field Filtered As,Mn,Fe,Se,Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)	Number of Containers	COMMENTS

	Sample	DATE	TIME	Matrix	Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6-river)	Metals (6010B) Total Fe	Metals (6020AFF) Field Filtered Chromium	Metals (SW6010B/SW6020Adis) Field Filtered As,Mn,Fe,Se,Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)	Number of Containers	COMMENTS pHfc-6010B/6020A
-1	C-CON-D-182	11/30/2011	10:21	Water	X		X	X	X	X	X	X	X	X	9	
-2	C-CON-S-182	11/30/2011	10:39	Water	X		X	X	X	X	X	X	X	X	9	pH=2
-14	C-MW-82-182	11/30/2011	12:00	Water		X									1	
-15	C-MW-83-182	11/30/2011	12:53	Water		X									1	
-3	C-NR1-D-182	11/30/2011	11:13	Water	X		X	X	X	X	X	X	X	X	9	
-4	C-NR1-S-182	11/30/2011	11:29	Water	X		X	X	X	X	X	X	X	X	9	
-5	C-NR3-D-182	11/30/2011	12:11	Water	X		X	X	X	X	X	X	X	X	9	
-6	C-NR3-S-182	11/30/2011	12:31	Water	X		X	X	X	X	X	X	X	X	9	
-7	C-NR4-D-182	11/30/2011	13:06	Water	X		X	X	X	X	X	X	X	X	9	pH=2
-8	C-NR4-S-182	11/30/2011	13:23	Water	X		X	X	X	X	X	X	X	X	9	
-9	R-19-182	11/30/2011	9:02	Water	X		X	X	X	X	X	X	X	X	9	
-10	R-28-182	11/30/2011	8:36	Water	X		X	X	X	X	X	X	X	X	9	
-16	RMP-AB2-182	11/30/2011	13:35	Water		X									1	
-11	RRB-182	11/30/2011	9:39	Water	X		X	X	X	X	X	X	X	X	9	pH=2

	Signatures	Date/Time
Approved by		11-30-11
Sampled by		1605
Relinquished by		
Received by	Rafael Davila	11/30/11 16:05
Relinquished by	Rafael Davila	11/30/11 21:30
Received by	Linda Shabunina	11/30/11 21:30

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

ATTN: Sample Custody

Special Instructions:
Nov 29 - Dec 01, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

998830

CH2MHILL **CHAIN OF CUSTODY RECORD** *11/30/2011 3:37:13 PM* Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423675.MP.02.RM
Task Order
Project 2011-RMP-182
Turnaround Time 10 Days
Shipping Date: 11/30/2011
COC Number: 2

	DATE	TIME	Matrix	Container:	Preservatives:	Filtered:	Holding Time:	Cr6 (E218.6 – river) Field Filtered	Field QC Cr6 (E218.6–river)	Metals (6010B) Total Fe	Metals (6020AFF) Field Filtered Chromium	Metals (SW6010B/SW6020Adis) Field Filtered As,Mn,Fe,Se,Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)	Number of Containers	COMMENTS
				3X250 ml Poly	(NH4)2SO4/NH4OH, 4°C	Field	28												
				250 Poly	(NH4)2SO4/NH4OH, 4°C	NA	28												
				500 ml Poly	HNO3, 4°C	NA	180												
				3x500 ml Poly	HNO3, 4°C	Field	180												
				3x500 ml Poly	HNO3, 4°C	Field	180												
				2x1 Liter	4°C	NA	2												
				2x1 Liter	4°C	NA	2												
				2x1 Liter	4°C	NA	2												
				2x1 Liter	4°C	NA	2												
				2x1 Liter	4°C	NA	2												
12	SW1-182	11/30/2011	14:40	Water				X			X		X		X			6	
13	SW2-182	11/30/2011	15:05	Water				X			X		X		X			6	pH=2
																	TOTAL NUMBER OF CONTAINERS	114	

ALERT !!
Level III QC

pH for 6010B/6020A

Signatures	Date/Time
Approved by	
Sampled by	
Relinquished by	11-30-11 1605
Received by	Rafael Davila 11/30/11 16:05
Relinquished by	Rafael Davila 11/30/11 21:30
Received by	Linda Strabuccone 11/30/11 21:30

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

ATTN: Sample Custody

Special Instructions:
Nov 29 - Dec 01, 2011

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
12/1/11	998830-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
12/2/11	998851-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
12/2/11	998852-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
12/2/11	998874	9.5	N/A	N/A	N/A	N/A

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998634 (1-8)	<1	<2	11/18/11	M.M	Yes	—
998635 (1-6)	↓	↓	↓	↓	↓	—
998633 (1-8)	↓	↓	↓	↓	↓	—
998597 (1,4,5,7)	>1	↓	↓	↓	↓	—
998623	↓	↓	↓	↓	↓	—
998624	↓	↓	↓	↓	↓	—
998632	↓	↓	↓	↓	↓	—
998637	↓	↓	↓	↓	↓	—
998201 (1-6)	plant	>2	11/10/11	Kana	NO	yes 11/13/11
998661 (1-3)	<1	<2	11/21/11 11/13/11	ES	yes	—
998662 (1-6)	↓	↓	↓	↓	↓	—
998221-3	↓	↓	↓	↓	↓	—
998222-1	↓	↓	↓	↓	↓	—
998241-2	↓	↓	↓	↓	↓	—
998251-6	↓	↓	↓	↓	↓	—
998252-1	↓	↓	↓	↓	↓	—
998681 (1-7)	<1	<2	11/22/11	ES	yes	—
998682 (1-2)	↓	↓	↓	↓	↓	—
998733	<1	<2	11/28/11	ES	yes	—
998747 (1-8)	↓	<2	11/29/11	M.M	yes	—
998779	↓	↓	↓	↓	↓	—
998815	solid	—	11/30/11	M.M	yes	TTLC
998751	↓	—	↓	↓	↓	↓
998803 (1-13)	<1	<2	12/01/11	M.M	yes	—
998804 (1-10)	↓	↓	↓	↓	↓	—
998805 (1-13)	↓	↓	↓	↓	↓	—
998828 (1-5)	↓	↓	↓	↓	↓	—
998829 (1-8)	↓	↓	↓	↓	↓	—
998830 (1-13)	↓	↓	↓	↓	↓	—
998730 (1-5)	<1	<2	11/23/11	ES	YES	—
998878	solid	—	12/05/11	M.M	yes	STLC/TTLC
998935 (1-3)	<1	<2	12/06/11	M.M	yes	—
998936 (1-3)	↓	↓	↓	↓	↓	—
998851 (1-5)	<1	<2	12/08/11	M.M	yes	—
998852 (1-10)	↓	↓	↓	↓	↓	—
998874	↓	↓	↓	↓	↓	—
998873 (1-4)	↓	↓	↓	↓	↓	—
998975 (1-9)	↓	↓	↓	↓	↓	—
998945 (1-2)	↓	↓	↓	↓	↓	—
998946 (1-2)	↓	↓	↓	↓	↓	—
998947 (1-20)	↓	↓	↓	↓	↓	—
998821 (1-4)	>1	<2	12/08/11	M.M	yes	—
998823	↓	↓	↓	↓	↓	—
998863	↓	↓	↓	↓	↓	—
998866	↓	↓	↓	↓	↓	—
998884	↓	↓	↓	↓	↓	—
998890	↓	↓	↓	↓	↓	—
998943	↓	↓	↓	↓	↓	—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 92880

Date Delivered: 11 / 30 / 11 **Time:** 2:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 3.5°C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☑N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑**Truesdail** ☐Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C.	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑Std	☑Yes	☐No	☐N/A

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

16. Comments: _____

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 6, 2012

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-188, GROUNDWATER MONITORING PROJECT, TLI NO.: 998945

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-189 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 December 6, 2011, 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.

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

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

Due to the discrepancy between the Total Dissolved Chromium (13.4 ug/L) and Hexavalent Chromium (10.9 ug/L) results for sample PE-01-189, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were 10.8 and 12.0 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 11.5 ug/L. The result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

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 Michael Ngo
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 424973.01.DM

Laboratory No.: 998945
Date: January 6, 2012
Collected: December 6, 2011
Received: December 6, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
EPA 200.8	Total Dissolved Chromium	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov
SM 3500-CrB	Hexavalent Chromium	Jenny Tankunakorn

TRUESDAIL LABORATORIES, INC.
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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.: 998945
Date Received: December 6, 2011

Project Name: PG&E Topock Project
Project No.: 424973.01.DM
P.O. No.: 424973.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998945-001	PE-01-189	E120.1	NONE	12/6/2011	14:00	EC	4900	umhos/cm	2.00
998945-001	PE-01-189	E200.8	LABFLT-digested	12/6/2011	14:00	Chromium	10.8	ug/L	1.0
998945-001	PE-01-189	E218.6	LABFLT	12/6/2011	14:00	Chromium, hexavalent	10.9	ug/L	0.20
998945-001	PE-01-189	SM2540C	NONE	12/6/2011	14:00	Total Dissolved Solids	2930	mg/L	125
998945-002	TW-03D-189	E120.1	NONE	12/6/2011	14:00	EC	8430	umhos/cm	2.00
998945-002	TW-03D-189	E200.8	LABFLT-digested	12/6/2011	14:00	Chromium	1150	ug/L	1.0
998945-002	TW-03D-189	SM2540C	NONE	12/6/2011	14:00	Total Dissolved Solids	4650	mg/L	250
998945-002	TW-03D-189	SM3500-CrB	LABFLT	12/6/2011	14:00	Chromium, hexavalent	1080	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.

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REPORT

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

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 424973.01.DM
Project Number: 424973.01.DM

Laboratory No. 998945

Printed 1/6/2012

Samples Received on 12/6/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-189	998945-001	12/06/2011 14:00	Water
TW-03D-189	998945-002	12/06/2011 14:00	Water

Specific Conductivity - EPA 120.1 Batch 12EC11C 12/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-001 Specific Conductivity	umhos/cm	12/08/2011	1.00	0.0950	2.00	4900
998945-002 Specific Conductivity	umhos/cm	12/08/2011	1.00	0.0950	2.00	8430

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 998945-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8420	8430	0.119	0 - 10

Duplicate — Lab ID = 998946-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7730	7750	0.258	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	695	706	98.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	694	706	98.3	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	697	706	98.7	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-001 Chromium, Hexavalent	ug/L	12/08/2011 06:01	1.05	0.0260	0.20	10.9

Method Blank

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

Duplicate — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.159	0.170	6.50	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.235	0.200	118.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.89	5.00	97.9	90 - 110

Matrix Spike — Lab ID = 998830-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.23(1.06)	99.6	90 - 110

Matrix Spike — Lab ID = 998830-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.24(1.06)	98.4	90 - 110

Matrix Spike — Lab ID = 998830-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.24(1.06)	97.9	90 - 110

Matrix Spike — Lab ID = 998830-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.25(1.06)	99.0	90 - 110

Matrix Spike — Lab ID = 998830-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.25(1.06)	91.7	90 - 110

Matrix Spike — Lab ID = 998830-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.25(1.06)	99.7	90 - 110

Matrix Spike — Lab ID = 998830-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.25(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 998830-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.25(1.06)	100.	90 - 110

Matrix Spike — Lab ID = 998830-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.23	1.26(1.06)	97.4	90 - 110

Matrix Spike — Lab ID = 998901-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.14	9.24(5.30)	98.1	90 - 110

Matrix Spike — Lab ID = 998901-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.27	8.38(5.30)	97.9	90 - 110

Matrix Spike — Lab ID = 998901-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.22(1.06)	95.5	90 - 110

Matrix Spike — Lab ID = 998936-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.00	7.04(5.30)	99.2	90 - 110

Matrix Spike — Lab ID = 998936-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.93	7.97(5.30)	99.3	90 - 110

Matrix Spike — Lab ID = 998936-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	2.00	2.01(1.06)	99.3	90 - 110

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	27.0	26.8(15.9)	101.	90 - 110

Matrix Spike — Lab ID = 998946-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.28	5.46(5.25)	96.4	90 - 110

Matrix Spike — Lab ID = 998946-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.18(1.06)	98.4	90 - 110

Chromium, Hexavalent by SM 3500-Cr B

Batch 12CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-002 Chromium, Hexavalent	ug/L	12/12/2011 16:18	10.0	15.0	100.	1080

Method Blank

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

Duplicate — Lab ID = 998945-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	1100	1080	2.33	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 = 998945-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	2140	2080(1000)	106.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Total Dissolved Solids by SM 2540 C

Batch 12TDS11A 12/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-001 Total Dissolved Solids	mg/L	12/07/2011	1.00	0.400	125	2930
998945-002 Total Dissolved Solids	mg/L	12/07/2011	1.00	0.400	250.	4650

Method Blank

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

Duplicate — Lab ID = 998901-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1100	1090	1.09	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494	500.	98.8	90 - 110

Metals by EPA 200.8, Dissolved

Batch 123011C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-002 Chromium	ug/L	12/31/2011 19:38	5.00	0.110	1.0	1150

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998731-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.20	2.20	0.228	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.232	0.200	116.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	109.	100.	109.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	100.	106.	85 - 115

Matrix Spike — Lab ID = 998731-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	102.(100.)	102.	75 - 125

Matrix Spike Duplicate — Lab ID = 998731-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	102.(100.)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.5	10.0	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.88	10.0	98.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.94	10.0	99.4	90 - 110

Metals by EPA 200.8, Dissolved

Batch 010512A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998945-001 Chromium	ug/L	01/05/2012 21:52	5.00	0.110	1.0	10.8

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.9	10.8	0.554	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.197	0.200	98.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	114.	111.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	117.	111.(100.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.18	10.0	91.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.66	10.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.77	10.0	97.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.91	10.0	99.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.84	10.0	98.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.36	10.0	93.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.81	10.0	98.1	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.67	10.0	96.7	80 - 120

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

E2 Scan

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 12TDS11A

Date Calculated: 12/9/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	92.0966	92.0970	92.0969	0.0001	No	0.0003	3.0	25.0	ND	1
998868-8	100	67.2146	67.2383	67.2379	0.0004	No	0.0233	233.0	25.0	233.0	1
998869	10	50.3832	50.4314	50.431	0.0004	No	0.0478	4780.0	250.0	4780.0	1
998895-2	100	71.0973	71.1093	71.1093	0.0000	No	0.0120	120.0	25.0	120.0	1
998895-4	100	70.8685	70.9232	70.923	0.0002	No	0.0245	245.0	25.0	245.0	1
998901-1	50	50.4300	50.4596	50.4595	0.0001	No	0.0295	590.0	50.0	590.0	1
998901-2	50	51.0004	51.0295	51.0291	0.0004	No	0.0287	574.0	50.0	574.0	1
998901-3	50	50.1293	50.228	50.228	0.0000	No	0.0987	1974.0	50.0	1974.0	1
998901-4	100	74.7529	74.8008	74.801	-0.0002	No	0.0481	481.0	25.0	481.0	1
998901-5	20	75.3080	75.3798	75.3798	0.0000	No	0.0718	3590.0	125.0	3590.0	1
998901-6	50	51.2523	51.3132	51.313	0.0002	No	0.0607	1214.0	50.0	1214.0	1
998901-8D	50	69.2150	69.2704	69.2701	0.0003	No	0.0551	1102.0	50.0	1102.0	1
LCS	100	68.1683	68.2179	68.2177	0.0002	No	0.0494	494.0	25.0	494.0	1
998901-7	50	72.8250	72.9265	72.9265	0.0000	No	0.1015	2030.0	50.0	2030.0	1
998901-8	50	68.1412	68.1959	68.1957	0.0002	No	0.0545	1090.0	50.0	1090.0	1
998918-10	100	74.6864	74.7434	74.7433	0.0001	No	0.0569	569.0	25.0	569.0	1
998919-16	50	47.9092	47.9394	47.939	0.0004	No	0.0298	596.0	50.0	596.0	1
998929-1	50	69.7508	69.8017	69.8017	0.0000	No	0.0509	1018.0	50.0	1018.0	1
998929-2	100	65.6277	65.6823	65.6822	0.0001	No	0.0545	545.0	25.0	545.0	1
998929-3	100	68.8840	68.9411	68.9409	0.0002	No	0.0569	569.0	25.0	569.0	1
998929-4	100	66.8110	66.8627	66.8623	0.0004	No	0.0513	513.0	25.0	513.0	1
998945-1	20	49.8316	49.8904	49.8902	0.0002	No	0.0586	2930.0	125.0	2930.0	1
998945-2	10	48.1842	48.2308	48.2307	0.0001	No	0.0465	4650.0	250.0	4650.0	1
LCSD											1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

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

WetChem TDS_0810.xls

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 12TDS11A

Date Calculated: 12/9/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
998868-8	420	0.55	273	0.85
998869	7960	0.60	5174	0.92
998895-2	217	0.55	141.05	0.85
998895-4	446	0.55	289.9	0.85
998901-1	1032	0.57	670.8	0.88
998901-2	1032	0.56	670.8	0.86
998901-3	3050	0.65	1982.5	1.00
998901-4	763	0.63	495.95	0.97
998901-5	4840	0.74	3146	1.14
998901-6	1790	0.68	1163.5	1.04
998901-8D	1640	0.67	1066	1.03
LCS				
998901-7	2910	0.70	1891.5	1.07
998901-8	1640	0.66	1066	1.02
998918-10	919	0.62	597.35	0.95
998919-16	1069	0.56	694.85	0.86
998929-1	1808	0.56	1175.2	0.87
998929-2	947	0.58	615.55	0.89
998929-3	933	0.61	606.45	0.94
998929-4	830	0.62	539.5	0.95
998945-1	4920	0.60	3198	0.92
998945-2	8500	0.55	5525	0.84

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-EW-187]

998945

COC Number
TURNAROUND TIME 10 Days
DATE 10/04/11 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 424973.01.DM
SAMPLERS (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-~~187~~ 189	~~10/04/11~~ 12-6-11	1400	Ground water	X		X	X	X	4	pH=7
-2	TW-03D-~~187~~ 189	~~10/04/11~~ 12-6-11	1400	Ground water	X	X	X	X		4	(200.7)
										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)	Printed Name RON PHELPS	Company/Agency OMI	Date/Time 12-6-11 15:00
Signature (Received) Rafael Davila	Printed Name Rafael	Company/Agency T.L.I	Date/Time 12-6-11 15:00
Signature (Relinquished) Rafael Davila	Printed Name Rafael	Company/Agency T.L.I	Date/Time 12-6-11 23:30
Signature (Received) Linda	Printed Name Shabunne	Company/Agency TLI	Date/Time 12/6/11 23:30
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
Signature (Received)	Printed Name	Company/Agency	Date/Time

SAMPLE CONDITIONS
RECEIVED COOL ☑ WARM ☐ 3.5° C
CUSTODY SEALED YES ☐ NO ☑

SPECIAL REQUIREMENTS:

047

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/2/11	998873-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
12/6/2011	998900	7	5 mL	9.5	9:30 Am	GW
12/6/2011	998901-7	9.5	N/A	N/A	N/A	GW
	-8					
	-9					
12/7/2011	998935-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
12/7/2011	998937	9.5	N/A	N/A	N/A	GW
12/7/2011	998926-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
12/7/2011	998945	7	5 mL	9.5	10:15 Am	GW
12/7/2011	998946-1	7	5 mL	9.5	10:30 Am	GW
	-2				10:35 Am	GW
12/7/2011	998947-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998634(1-8)	<1	<2	11/18/11	M.M	Yes	–
998635(1-6)	↓	↓	↓	↓	↓	–
998633(1-8)	↓	↓	↓	↓	↓	–
998598(1,4,5,7)	>1	↓	↓	↓	↓	–
998623	↓	↓	↓	↓	↓	–
998624	↓	↓	↓	↓	↓	–
998632	↓	↓	↓	↓	↓	–
998637	↓	↓	↓	↓	↓	–
998201 (1-6)	plant	≥2	11/10/11	Katya	NO	yes 11/13/11
998661(1-3)	<1	<2	11/21/11 11/13/11	ES	yes	–
998662(1-6)	↓	↓	↓	↓	↓	–
998221-3	↓	↓	↓	↓	↓	–
998222-1	↓	↓	↓	↓	↓	–
998241-2	↓	↓	↓	↓	↓	–
998251-6	↓	↓	↓	↓	↓	–
998252-1	↓	↓	↓	↓	↓	–
998681-(1-7)	<1	<2	11/22/11	ES	yes	–
998682(1-2)	↓	↓	↓	↓	↓	–
998733	<1	≥2	11/26/11	ES	yes	–
998747(1-8)	↓	<2	11/29/11	M.M	yes	–
998779	↓	↓	↓	↓	↓	–
908815	solid	–	11/30/11	M.M	yes	TTLC
998751	↓	–	↓	↓	↓	↓
998803(1-13	<1	<2	12/01/11	M.M	yes	–
998804(1-10	↓	↓	↓	↓	↓	–
998805(1-13	↓	↓	↓	↓	↓	–
998828(1-5)	↓	↓	↓	↓	↓	–
998829(1-8)	↓	↓	↓	↓	↓	–
998830(1-13)	↓	↓	↓	↓	↓	–
998730(1-5)	<1	<2	11/23/11	ES	YES	–
998878	solid	–	12/05/11	M.M	yes	STLC/TTLC
998935(1-3)	<1	<2	12/06/11	M.M	yes	–
998936(1-3	↓	↓	↓	↓	↓	–
998851(1-5)	<1	<2	12/08/11	M.M	yes	–
998852(1-10	↓	↓	↓	↓	↓	–
998874	↓	↓	↓	↓	↓	–
998873(1-4)	↓	↓	↓	↓	↓	–
998975(1-9	↓	↓	↓	↓	↓	–
998945(1-2	↓	>2 11/11/12	↓	↓	↓	↑ Yes
998946(1-2	↓	↑>2	↓	↓	↓	↑ ↓
998947(1-20)	↓	↓	↓	↓	↓	–
998921(1-4)	>1	<2	12/08/11	M.M	yes	–
998823	↓	↓	↓	↓	↓	–
998863	↓	↓	↓	↓	↓	–
998866	↓	↓	↓	↓	↓	–
998884	↓	↓	↓	↓	↓	–
998890	↓	↓	↓	↓	↓	–
998943	↓	↓	↓	↓	↓	–

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Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 998945

Date Delivered: 12 / 6 / 11 **Time:** 23:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 3.5 °C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☑N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☑N/A
12.	Were samples pH checked? pH = see C.O.C.	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☑Std	☑Yes	☐No	☐N/A

ALERT Level III

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

16. Comments: _____

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

C:\Users\Test\Desktop\Forms A - D\Discrp.FormBlank.doc

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March 13, 2012

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK 2011-GMP-183-Q4, GROUNDWATER MONITORING PROJECT, TLI NO.: 998947

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-183-Q4 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 6, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Sample Containers for Hexavalent Chromium and Total Dissolved Chromium were received for sample MW-42-030-183, but only Hexavalent Chromium analysis was requested on the chain-of-custody. Mr. Shawn Duffy of CH2M Hill was notified. It was confirmed that both Hexavalent Chromium and Total Dissolved Chromium were required and were reported.

The straight run on sample MW-34-080-183 for Hexavalent Chromium by EPA 218.6 was outside the retention time window at the time of analysis. Therefore, the analyst ran a 5x dilution with an associated matrix spike, which was within acceptable limits. At the end of the run, the straight run came within the retention time window but due to analyst error, no associated matrix spike was analyzed. Therefore, the result from the 5x dilution was reported at ND<1.0 ug/L.

Due to the discrepancy between the Total Dissolved Chromium (4.5 ug/L) and Hexavalent Chromium (3.4 ug/L) results for sample MW-41D-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 4.2 and 5.6 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 4.7 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (3.4 ug/L) and Hexavalent Chromium (2.1 ug/L) results for sample MW-21-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 2.7 and 2.2 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 3.1 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

On March 13, 2012, Mr. Duffy requested that the sampling date for sample OW-03D-183 be revised from 12/5/2011 to 12/6/2011 and provided a revised chain-of-custody.

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

Michael Ngo
Quality Assurance/Quality Control Officer

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

Laboratory No.: 998947
Date Received: December 6, 2011
Revision 2; March 13, 2012

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998947-001	MW-27-020-183	E218.6	FLDFLT	12/5/2011	13:28	Chromium, hexavalent	ND	ug/L	0.20
998947-001	MW-27-020-183	SW6020	FLDFLT-digested	12/5/2011	13:28	Chromium	ND	ug/L	1.0
998947-002	MW-27-060-183	E218.6	FLDFLT	12/5/2011	15:33	Chromium, hexavalent	ND	ug/L	0.20
998947-002	MW-27-060-183	SW6020	FLDFLT-digested	12/5/2011	15:33	Chromium	ND	ug/L	1.0
998947-003	MW-27-085-183	E218.6	FLDFLT	12/5/2011	14:34	Chromium, hexavalent	ND	ug/L	1.0
998947-003	MW-27-085-183	SW6020	FLDFLT-digested	12/5/2011	14:34	Chromium	ND	ug/L	1.0
998947-004	MW-41D-183	E218.6	FLDFLT	12/5/2011	14:56	Chromium, hexavalent	3.4	ug/L	1.0
998947-004	MW-41D-183	SW6020	FLDFLT-digested	12/5/2011	14:56	Chromium	4.5	ug/L	1.0
998947-005	MW-41M-183	E218.6	FLDFLT	12/5/2011	16:16	Chromium, hexavalent	10.6	ug/L	1.0
998947-005	MW-41M-183	SW6020	FLDFLT-digested	12/5/2011	16:16	Chromium	12.2	ug/L	1.0
998947-006	MW-70-183	E218.6	FLDFLT	12/5/2011	16:10	Chromium, hexavalent	ND	ug/L	0.20
998947-007	MW-71-183	E218.6	FLDFLT	12/5/2011	16:30	Chromium, hexavalent	ND	ug/L	0.20
998947-008	MW-72-183	E218.6	FLDFLT	12/5/2011	16:45	Chromium, hexavalent	ND	ug/L	0.20
998947-009	OW-03D-183	E218.6	FLDFLT	12/6/2011	8:28	Chromium, hexavalent	9.5	ug/L	1.0
998947-009	OW-03D-183	SW6020	FLDFLT-digested	12/6/2011	8:28	Chromium	11.0	ug/L	1.0
998947-010	OW-03M-183	E218.6	FLDFLT	12/5/2011	15:50	Chromium, hexavalent	17.8	ug/L	0.20
998947-010	OW-03M-183	SW6020	FLDFLT-digested	12/5/2011	15:50	Chromium	18.7	ug/L	1.0
998947-011	OW-03S-183	E218.6	FLDFLT	12/5/2011	15:03	Chromium, hexavalent	27.9	ug/L	1.0
998947-011	OW-03S-183	SW6020	FLDFLT-digested	12/5/2011	15:03	Chromium	29.1	ug/L	1.0
998947-012	MW-13-183	E218.6	FLDFLT	12/6/2011	14:48	Chromium, hexavalent	21.2	ug/L	0.20
998947-012	MW-13-183	SW6020	FLDFLT-digested	12/6/2011	14:48	Chromium	22.6	ug/L	1.0
998947-013	MW-21-183	E218.6	FLDFLT	12/6/2011	15:06	Chromium, hexavalent	2.1	ug/L	1.0
998947-013	MW-21-183	SW6020	FLDFLT-digested	12/6/2011	15:06	Chromium	2.7	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
998947-014	MW-31-060-183	SM3500-CrB	FLDFLT	12/6/2011	13:00	Chromium, hexavalent	489	ug/L	100
998947-014	MW-31-060-183	SW6020	FLDFLT-digested	12/6/2011	13:00	Chromium	500	ug/L	1.0
998947-015	MW-31-135-183	E218.6	FLDFLT	12/6/2011	12:14	Chromium, hexavalent	14.4	ug/L	1.0
998947-015	MW-31-135-183	SW6020	FLDFLT-digested	12/6/2011	12:14	Chromium	15.1	ug/L	1.0
998947-016	MW-34-055-183	E218.6	FLDFLT	12/6/2011	12:10	Chromium, hexavalent	ND	ug/L	0.20
998947-016	MW-34-055-183	SW6020	FLDFLT-digested	12/6/2011	12:10	Chromium	ND	ug/L	1.0
998947-017	MW-34-080-183	E218.6	FLDFLT	12/6/2011	9:53	Chromium, hexavalent	ND	ug/L	1.0
998947-017	MW-34-080-183	SW6020	FLDFLT-digested	12/6/2011	9:53	Chromium	ND	ug/L	1.0
998947-018	MW-34-100-183	E218.6	FLDFLT	12/6/2011	10:49	Chromium, hexavalent	210	ug/L	2.1
998947-018	MW-34-100-183	SW6020	FLDFLT-digested	12/6/2011	10:49	Chromium	209	ug/L	2.0
998947-019	MW-42-030-183	E218.6	FLDFLT	12/6/2011	13:38	Chromium, hexavalent	0.20	ug/L	0.20
998947-019	MW-42-030-183	SW6020	FLDFLT-digested	12/6/2011	13:38	Chromium	1.3	ug/L	1.0
998947-020	MW-42-055-183	E218.6	FLDFLT	12/6/2011	14:23	Chromium, hexavalent	ND	ug/L	0.20
998947-020	MW-42-055-183	SW6020	FLDFLT-digested	12/6/2011	14:23	Chromium	ND	ug/L	1.0
998947-021	MW-42-065-183	E218.6	FLDFLT	12/6/2011	15:08	Chromium, hexavalent	ND	ug/L	1.0
998947-021	MW-42-065-183	SW6020	FLDFLT-digested	12/6/2011	15:08	Chromium	ND	ug/L	1.0
998947-022	MW-50-095-183	E218.6	FLDFLT	12/6/2011	11:13	Chromium, hexavalent	14.1	ug/L	0.20
998947-022	MW-50-095-183	SW6020	FLDFLT-digested	12/6/2011	11:13	Chromium	15.6	ug/L	1.0
998947-023	MW-93-183	E218.6	FLDFLT	12/6/2011	8:00	Chromium, hexavalent	202	ug/L	2.1
998947-023	MW-93-183	SW6020	FLDFLT-digested	12/6/2011	8:00	Chromium	210	ug/L	2.0
998947-024	TW-05-183	E218.6	FLDFLT	12/6/2011	10:16	Chromium, hexavalent	14.0	ug/L	1.0
998947-024	TW-05-183	SW6020	FLDFLT-digested	12/6/2011	10:16	Chromium	14.6	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.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project Number: 423575.MP.02.GM
P.O. Number: 423575.MP.02.GM
Release Number:

Laboratory No. 998947

Printed 3/13/2012
Revised

Samples Received on 12/6/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-27-020-183	998947-001	12/05/2011 13:28	Water
MW-27-060-183	998947-002	12/05/2011 15:33	Water
MW-27-085-183	998947-003	12/05/2011 14:34	Water
MW-41D-183	998947-004	12/05/2011 14:56	Water
MW-41M-183	998947-005	12/05/2011 16:16	Water
MW-70-183	998947-006	12/05/2011 16:10	Water
MW-71-183	998947-007	12/05/2011 16:30	Water
MW-72-183	998947-008	12/05/2011 16:45	Water
OW-03D-183	998947-009	12/06/2011 08:28	Water
OW-03M-183	998947-010	12/05/2011 15:50	Water
OW-03S-183	998947-011	12/05/2011 15:03	Water
MW-13-183	998947-012	12/06/2011 14:48	Water
MW-21-183	998947-013	12/06/2011 15:06	Water
MW-31-060-183	998947-014	12/06/2011 13:00	Water
MW-31-135-183	998947-015	12/06/2011 12:14	Water
MW-34-055-183	998947-016	12/06/2011 12:10	Water
MW-34-080-183	998947-017	12/06/2011 09:53	Water
MW-34-100-183	998947-018	12/06/2011 10:49	Water
MW-42-030-183	998947-019	12/06/2011 13:38	Water
MW-42-055-183	998947-020	12/06/2011 14:23	Water
MW-42-065-183	998947-021	12/06/2011 15:08	Water
MW-50-095-183	998947-022	12/06/2011 11:13	Water
MW-93-183	998947-023	12/06/2011 08:00	Water
TW-05-183	998947-024	12/06/2011 10:16	Water

Chrome VI by EPA 218.6 Batch 12CrH11J

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-001 Chromium, Hexavalent	ug/L	12/11/2011 09:13	1.05	0.0260	0.20	ND
998947-002 Chromium, Hexavalent	ug/L	12/11/2011 09:24	1.05	0.0260	0.20	ND
998947-003 Chromium, Hexavalent	ug/L	12/11/2011 19:20	5.25	0.136	1.0	ND

998947-004 Chromium, Hexavalent	ug/L	12/11/2011 19:51	5.25	0.136	1.0	3.4
998947-005 Chromium, Hexavalent	ug/L	12/11/2011 20:02	5.25	0.136	1.0	10.6
998947-006 Chromium, Hexavalent	ug/L	12/11/2011 10:05	1.05	0.0260	0.20	ND
998947-007 Chromium, Hexavalent	ug/L	12/11/2011 10:16	1.05	0.0260	0.20	ND
998947-008 Chromium, Hexavalent	ug/L	12/11/2011 10:26	1.05	0.0260	0.20	ND
998947-009 Chromium, Hexavalent	ug/L	12/11/2011 20:22	5.25	0.136	1.0	9.5
998947-010 Chromium, Hexavalent	ug/L	12/11/2011 10:47	1.05	0.0260	0.20	17.8
998947-011 Chromium, Hexavalent	ug/L	12/11/2011 20:33	5.25	0.136	1.0	27.9
998947-012 Chromium, Hexavalent	ug/L	12/11/2011 11:29	1.05	0.0260	0.20	21.2
998947-013 Chromium, Hexavalent	ug/L	12/11/2011 20:43	5.25	0.136	1.0	2.1

Method Blank

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

Duplicate — Lab ID = 999016-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	3.89	3.90	0.223	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.91	5.00	98.2	90 - 110

Matrix Spike — Lab ID = 998947-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.15(1.06)	98.2	90 - 110

Matrix Spike — Lab ID = 998947-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.21(1.06)	95.7	90 - 110

Matrix Spike — Lab ID = 998947-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.14	5.25(5.25)	97.9	90 - 110

Matrix Spike — Lab ID = 998947-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.818	1.06(1.06)	77.2	90 - 110

Matrix Spike — Lab ID = 998947-004

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 = 998947-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	8.46	8.70(5.25)	95.4	90 - 110

Matrix Spike — Lab ID = 998947-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	36.7	36.8(26.2)	99.7	90 - 110

Matrix Spike — Lab ID = 998947-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.24(1.06)	93.6	90 - 110

Matrix Spike — Lab ID = 998947-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.22(1.06)	94.4	90 - 110

Matrix Spike — Lab ID = 998947-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.25	5.51(5.25)	95.1	90 - 110

Matrix Spike — Lab ID = 998947-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.22(1.06)	94.9	90 - 110

Matrix Spike — Lab ID = 998947-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	35.5	35.7(26.2)	99.2	90 - 110

Matrix Spike — Lab ID = 998947-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	38.2	39.0(21.2)	96.0	90 - 110

Matrix Spike — Lab ID = 998947-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	78.9	80.4(52.5)	97.2	90 - 110

Matrix Spike — Lab ID = 998947-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	45.9	47.7(26.5)	93.1	90 - 110

Matrix Spike — Lab ID = 998947-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.32	7.36(5.25)	99.2	90 - 110

Matrix Spike — Lab ID = 999016-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.99	9.20(5.30)	96.0	90 - 110

Chrome VI by EPA 218.6 Batch 12CrH11K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-015 Chromium, Hexavalent	ug/L	12/14/2011 20:10	5.25	0.136	1.0	14.4
998947-016 Chromium, Hexavalent	ug/L	12/14/2011 18:12	1.05	0.0260	0.20	ND
998947-017 Chromium, Hexavalent	ug/L	12/14/2011 20:21	5.25	0.136	1.0	ND
998947-018 Chromium, Hexavalent	ug/L	12/14/2011 21:13	10.5	0.273	2.1	210.
998947-019 Chromium, Hexavalent	ug/L	12/14/2011 19:45	1.05	0.0260	0.20	0.20

Method Blank

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

Duplicate — Lab ID = 999084-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	2.07	2.08	0.265	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.3	90 - 110

Matrix Spike — Lab ID = 998947-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	40.0	40.6(26.2)	97.9	90 - 110

Matrix Spike — Lab ID = 998947-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.20(1.06)	98.7	90 - 110

Matrix Spike — Lab ID = 998947-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.37	5.38(5.25)	99.8	90 - 110

Matrix Spike — Lab ID = 998947-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	471.	472(262.)	99.8	90 - 110

Matrix Spike — Lab ID = 998947-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.26(1.06)	99.6	90 - 110

Matrix Spike — Lab ID = 999038-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.53	9.53(5.30)	100.0	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11L

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-020 Chromium, Hexavalent	ug/L	12/15/2011 03:12	1.05	0.0260	0.20	ND
998947-022 Chromium, Hexavalent	ug/L	12/15/2011 03:43	1.05	0.0260	0.20	14.1
998947-023 Chromium, Hexavalent	ug/L	12/15/2011 08:45	10.5	0.273	2.1	202.
998947-024 Chromium, Hexavalent	ug/L	12/15/2011 08:34	5.25	0.136	1.0	14.0

Method Blank

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

Duplicate — Lab ID = 998947-020

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.0916	0.0902	1.54	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.215	0.200	108.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.88	5.00	97.6	90 - 110

Matrix Spike — Lab ID = 998947-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.17	1.15(1.06)	102.	90 - 110

Matrix Spike — Lab ID = 998947-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.03	1.06(1.06)	96.9	90 - 110

Matrix Spike — Lab ID = 998947-022

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	34.2	35.3(21.2)	94.6	90 - 110

Matrix Spike — Lab ID = 998947-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	413.	412(210.)	100.	90 - 110

Matrix Spike — Lab ID = 998947-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	91.7	92.8(78.8)	98.6	90 - 110

Chrome VI by EPA 218.6

Batch 12CrH11N

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-021 Chromium, Hexavalent	ug/L	12/16/2011 12:41	5.25	0.136	1.0	ND

Method Blank

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

Duplicate — Lab ID = 999121-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	1.52	1.54	1.42	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.218	0.200	109.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.82	5.00	96.5	90 - 110

Matrix Spike — Lab ID = 998947-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.26	5.47(5.25)	95.9	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.48	5.60(5.25)	97.8	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.22(1.06)	99.8	90 - 110

Matrix Spike — Lab ID = 999089-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.6	34.4(26.2)	96.7	90 - 110

Matrix Spike — Lab ID = 999089-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.5	34.9(26.2)	94.6	90 - 110

Matrix Spike — Lab ID = 999089-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.18	6.41(5.25)	95.6	90 - 110

Metals by EPA 6020A, Dissolved

Batch 123011C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-001 Chromium	ug/L	12/31/2011 12:31	5.00	0.110	1.0	ND
998947-002 Chromium	ug/L	12/31/2011 13:50	5.00	0.110	1.0	ND
998947-003 Chromium	ug/L	12/31/2011 13:59	5.00	0.110	1.0	ND
998947-004 Chromium	ug/L	12/31/2011 14:07	5.00	0.110	1.0	4.5
998947-005 Chromium	ug/L	12/31/2011 14:16	5.00	0.110	1.0	12.2
998947-009 Chromium	ug/L	12/31/2011 14:33	5.00	0.110	1.0	11.0
998947-010 Chromium	ug/L	12/31/2011 14:42	5.00	0.110	1.0	18.7
998947-011 Chromium	ug/L	12/31/2011 14:51	5.00	0.110	1.0	29.1
998947-012 Chromium	ug/L	12/31/2011 15:08	5.00	0.110	1.0	22.6
998947-014 Chromium	ug/L	12/31/2011 16:27	5.00	0.110	1.0	500.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998947-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.232	0.200	116.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	100.	100.	100.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	100.	106.	85 - 115

Matrix Spike — Lab ID = 998947-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 998947-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.5	10.0	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.88	10.0	98.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.94	10.0	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.91	10.0	99.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.72	10.0	97.2	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	80 - 120

Serial Dilution — Lab ID = 998947-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	30.9	29.1	5.94	0 - 10

Metals by EPA 6020A, Dissolved Batch 123011D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-015 Chromium	ug/L	01/01/2012 02:36	5.00	0.110	1.0	15.1
998947-016 Chromium	ug/L	01/01/2012 03:55	5.00	0.110	1.0	ND
998947-017 Chromium	ug/L	01/01/2012 04:03	5.00	0.110	1.0	ND
998947-018 Chromium	ug/L	01/01/2012 04:12	10.0	0.220	2.0	209.
998947-019 Chromium	ug/L	01/01/2012 04:38	5.00	0.110	1.0	1.3
998947-020 Chromium	ug/L	01/01/2012 04:56	5.00	0.110	1.0	ND
998947-021 Chromium	ug/L	01/01/2012 05:04	5.00	0.110	1.0	ND
998947-022 Chromium	ug/L	01/01/2012 05:13	5.00	0.110	1.0	15.6
998947-023 Chromium	ug/L	01/01/2012 06:31	10.0	0.220	2.0	210.
998947-024 Chromium	ug/L	01/01/2012 06:49	5.00	0.110	1.0	14.6

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998947-015

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	15.0	15.1	0.332	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.204	0.200	102.	70 - 130

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.209	0.200	104.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 998947-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	122.	115.(100.)	107.	75 - 125

Matrix Spike Duplicate — Lab ID = 998947-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	120.	115.(100.)	105.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.70	10.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.65	10.0	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.75	10.0	97.5	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.71	10.0	97.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.65	10.0	96.5	80 - 120

Serial Dilution Lab ID = 998947-018

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	213.	209	2.04	0 - 10

Metals by EPA 6020A, Dissolved Batch 010512A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-013 Chromium	ug/L	01/06/2012 00:03	5.00	0.110	1.0	2.7

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.9	10.8	0.554	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.197	0.200	98.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	114.	111.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	117.	111.(100.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.81	10.0	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.18	10.0	91.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.66	10.0	96.6	90 - 110

Chromium, Hexavalent by SM 3500-Cr B Batch 12CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
998947-014 Chromium, Hexavalent	ug/L	12/12/2011 16:19	10.0	15.0	100.	489.

Method Blank

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

Duplicate — Lab ID = 998945-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	1100	1080	2.33	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 = 998945-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	2140	2080(1000)	106.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

12/07/2011 12:59 #314 P.004/011

998947

CH2MHILL — **CHAIN OF CUSTODY RECORD** — 12/6/2011 4:35:08 PM — Page 1 OF 3

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

				Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly			
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020A/FF) Field Filtered Chromium		Number of Containers	COMMENTS
	DATE	TIME	Matrix								
MW-21-183-EB	12/5/2011	12:10	Water		X			X		2	
MW-27-020-183	12/5/2011	13:28	Water				X	X		3	
MW-27-020-183-EB	12/5/2011	12:50	Water		X			X		2	
MW-27-060-183	12/5/2011	15:33	Water				X	X		3	
MW-27-060-183-EB	12/5/2011	15:05	Water		X			X		2	
MW-27-085-183	12/5/2011	14:34	Water				X	X		3	
MW-27-085-183-EB	12/5/2011	13:50	Water		X			X		2	
MW-41D-183	12/5/2011	14:56	Water		X			X		2	
MW-41M-183	12/5/2011	16:16	Water		X			X		2	
MW-70-183	12/5/2011	16:10	Water		X					1	
MW-71-183	12/5/2011	16:30	Water		X					1	
MW-72-183	12/5/2011	16:45	Water		X					1	
OW-03D-183	~~12/5/2011~~	8:28	Water		X			X	12/6/2011 Please revise the sampling date to match the purge forms.	2	
OW-03M-183 SPD	12/5/2011	15:50	Water		X			X	John P. Duffy 3/13/2012	2	

For Sample Conditions See Form Attached

ALERT !! Level III QC

Signatures	Date/Time
Approved by	
Sampled by	12/6/11 1750
Relinquished by	
Received by	Rafael Davila 12/6/11 17:00
Relinquished by	Rafael Davila 12/6/11 23:30
Received by	Linda 12/6/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Truesdail Laboratories 12260

998947

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/6/2011 4:35:08 PM* Page 2 OF 3

12/07/2011 13:00 #314 P.005/011

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

				Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly			
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
	DATE	TIME	Matrix		Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium		Number of Containers	COMMENTS
OW-03S-183	12/5/2011	15:03	Water		X			X		2	
MW-13-183	12/6/2011	14:48	Water		X			X		2	
MW-21-183	12/6/2011	15:06	Water				X	X		3	
MW-31-060-183	12/6/2011	13:00	Water			X		X		2	
MW-31-135-183	12/6/2011	12:14	Water		X			X		2	
MW-34-055-183	12/6/2011	12:10	Water				X	X		3	
MW-34-080-183	12/6/2011	9:53	Water				X	X		3	
MW-34-080-183-EB	12/6/2011	8:05	Water		X			X		2	
MW-34-100-183	12/6/2011	10:49	Water		X			X		2	
MW-42-030-183	12/6/2011	13:38	Water		X					1	
MW-42-030-183-EB	12/6/2011	13:15	Water		X			X		2	
MW-42-055-183	12/6/2011	14:23	Water				X	X		3	
MW-42-055-183-EB	12/6/2011	14:02	Water		X			X		2	
MW-42-065-183	12/6/2011	15:08	Water				X	X		3	

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12/6/11 1700
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by		12/6/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

TRUESDAIL LABORATORIES 7260

998947

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/6/2011 4:35:08 PM* Page 3 OF 3

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly				
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C				
	Filtered:	Field	Field	Field	Field				
	Holding Time:	28	28	28	180				
		Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium			Number of Containers	COMMENTS
MW-42-065-183-EB	12/6/2011	14:45	Water	X			X		2	
MW-50-095-183	12/6/2011	11:13	Water	X			X		2	
MW-93-183	12/6/2011	8:00	Water	X			X		2	
TW-05-183	12/6/2011	10:16	Water	X			X		2	
								TOTAL NUMBER OF CONTAINERS	68	

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12/6/11 1700
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by	Linda	12/6/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

TRUESDAIL LABORATORIES TD260

998997

CH2MHILL CHAIN OF CUSTODY RECORD 12/6/2011 4:35:08 PM Page 1 OF 3

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.GA) Field Filtered	Metals (6020AFF) Field Filtered Chromium			
MW-21-183-EB	12/5/2011	12:10	Water		X			X		2	
-1 MW-27-020-183	12/5/2011	13:28	Water				X	X		3	pH=2
MW-27-020-183-EB	12/5/2011	12:50	Water		X			X		2	
-2 MW-27-060-183	12/5/2011	15:33	Water				X	X		3	pH=2
MW-27-060-183-EB	12/5/2011	15:05	Water		X			X		2	
-3 MW-27-085-183	12/5/2011	14:34	Water				X	X		3	pH=2
MW-27-085-183-EB	12/5/2011	13:50	Water		X			X		2	
-4 MW-41D-183	12/5/2011	14:56	Water		X			X		2	
-5 MW-41M-183	12/5/2011	16:16	Water		X			X		2	pH=2
-6 MW-70-183	12/5/2011	16:10	Water		X					1	
-7 MW-71-183	12/5/2011	16:30	Water		X					1	
-8 MW-72-183	12/5/2011	16:45	Water		X					1	
-9 OW-03D-183	12/5/2011	8:28	Water		X			X		2	
-10 OW-03M-183	12/5/2011	15:50	Water		X			X		2	pH=2

For Sample Conditions See Form Attached

ALERT !! Level III QC

pH for 6020A

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12/6/11 1700
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by		12/6/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

99894 7

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/6/2011 4:35:08 PM Page 2 OF 3

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium			
1	OW-03S-183	12/5/2011	15:03	Water	X			X		2	
12	MW-13-183	12/6/2011	14:48	Water	X			X		2	
13	MW-21-183	12/6/2011	15:06	Water			X	X		3	
7	MW-31-060-183	12/6/2011	13:00	Water		X		X		2	
8	MW-31-135-183	12/6/2011	12:14	Water	X			X		2	pm=2
11	MW-34-055-183	12/6/2011	12:10	Water			X	X		3	
15	MW-34-080-183	12/6/2011	9:53	Water			X	X		3	
	MW-34-080-183-EB	12/6/2011	8:05	Water	X			X		2	
18	MW-34-100-183	12/6/2011	10:49	Water	X			X		2	pm=2
20	MW-42-030-183	12/6/2011	13:38	Water	X					1	
	MW-42-030-183-EB	12/6/2011	13:15	Water	X			X		2	
20	MW-42-055-183	12/6/2011	14:23	Water			X	X		3	pm=2
	MW-42-055-183-EB	12/6/2011	14:02	Water	X			X		2	
21	MW-42-065-183	12/5/2011	15:08	Water			X	X		3	pm=2

ALERT !!
Level III QC

pH for 6020A

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12/6/11 1700
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by		12/6/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

99 8947

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/6/2011 4:35:08 PM Page 3 OF 3

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 1

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium			
MW-42-065-183-EB	12/6/2011	14:45	Water	X			X			2	
MW-50-095-183	12/6/2011	11:13	Water	X			X			2	
MW-53-183	12/6/2011	8:00	Water	X			X			2	
TW-05-183	12/6/2011	10:16	Water	X			X			2	
									TOTAL NUMBER OF CONTAINERS	68	

ALERT !!
Level III QC

pH for 6020A

MW-2

	Signatures	Date/Time
Approved by		
Sampled by		12/6/11 1700
Relinquished by		
Received by	Rafael Davila	12/6/11 17:00
Relinquished by	Rafael Davila	12/6/11 23:30
Received by	Linda	12/6/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Subject: FW: Topock SDG 998947 MW-42-030-183
From: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>
Date: Wed, 18 Jan 2012 14:24:46 -0500
To: Sean Condon <seanc@truesdail.com>
CC: "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>

Hi Sean,

Both Cr and Cr6 were to be analyzed. Good catch!

Thanks,
Erlene

Erlene Contreras
Project Assistant 6
CH2M Hill
2525 Airpark Drive
Redding, CA 96001-2443
Phone 530-229-3247
Fax 530-339-3247
erlene.contreras@ch2m.com

-----Original Message-----
From: Kumar, Priya/BAO
Sent: Wednesday, January 18, 2012 10:48 AM
To: Contreras, Erlene/RDD
Cc: Tuesdai Powers; Duffy, Shawn/RDD
Subject: RE: Topock SDG 998947 MW-42-030-183

As per the PST we were supposed to do both, cr6 and crtd.

Priya Kumar/BAO
510-375-4170(cell)
510-222-5559(home)
510-587-7610(office)

-----Original Message-----
From: Contreras, Erlene/RDD
Sent: Wednesday, January 18, 2012 10:15 AM
To: Kumar, Priya/BAO
Cc: Tuesdai Powers; Duffy, Shawn/RDD
Subject: FW: Topock SDG 998947 MW-42-030-183
Importance: High

Hi Priya,

Can you check on Sean's question below.

Thanks,
Erlene

Erlene Contreras
Project Assistant 6
CH2M Hill
2525 Airpark Drive
Redding, CA 96001-2443
Phone 530-229-3247
Fax 530-339-3247
erlene.contreras@ch2m.com

-----Original Message-----
From: Sean Condon [mailto:seanc@truesdail.com]
Sent: Saturday, January 14, 2012 2:44 PM
To: Duffy, Shawn/RDD
Cc: Contreras, Erlene/RDD
Subject: Topock SDG 998947 MW-42-030-183

Shawn,

Should Topock sample MW-42-030-183 from SDG 998947 have Cr6 and Dissolved Cr or just Cr6. The COC only has Cr6 checked but we received containers for both and we ran both.

Thank you,

Sean Condon
Project Manager
Truesdail Laboratories, Inc.
Phone: (714) 730-6239
Fax: (714) 730-6462

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Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/2/11	998873-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
12/6/2011	998900	7	5 mL	9.5	9:30 AM	GW
12/6/2011	998901-7	9.5	N/A	N/A	N/A	GW
	-8					
	-9					
12/7/2011	998935-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
12/7/2011	998937	9.5	N/A	N/A	N/A	GW
12/7/2011	998936-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
12/7/2011	998945	7	5 mL	9.5	10:15 AM	GW
12/7/2011	998946-1	7	5 mL	9.5	10:30 AM	GW
	-2				10:35 AM	GW
12/7/2011	998947-1	9.5	N/A	N/A	N/A	GW
	-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
12/7/2011	998947-7	9.5	N/A	N/A	N/A	
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-22					
	-23					
	-24					
12/8/2011	998975-1	9.5	N/A	N/A	N/A	
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
12/8/2011	998974	9.5	N/A	N/A	N/A	
12/9/2011	998996-1	9.5	N/A	N/A	N/A	
	-2					
	-3					
12/9/2011	998995	9.5	N/A	N/A	N/A	

Metals Samples Logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (1-8)	<1	<2	12/09	M.M	Yes	–
998945 (1-2)	↓	↓	↓	↓	↓	–
998946 (1-2)						–
998947 (1-5)						–
998996 (1-6)						–
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	–
999052	>1	<2	12/14/11	M.M	Yes	–
999056	↓	↓	↓	–	–	–
999059 (1-7)				–	–	–
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	–
999039 (12-5)	↓	↓	14:00	↓	↓	–
999084 (1-6)			↓			–
999086 (1-6)						–
999087 (1-2)						–
999088						–
999089 (1-5)	↓	↓	↓	↓	↓	–
999091 (1-24)	<1	<2	12/15	M.M	Yes	–
999090 (1-8)	↓	↓	↓	↓	↓	–
999092 (1-16)						–
999117 (1-2)						–
999118						–
999121 (1-4)	↓	↓	↓	↓	↓	–
999154 (1-9)	<1	<2	12/16/11	M.M	Yes	–
999155 (1-2)	↓	↓	↓	↓	↓	–
999156						–
999047-1	>1	<2	12/16/11	M.M	Yes	–
999067 (1-2)	↓	↓	↓	↓	↓	–
999124						–
999125 (1-4)						–
999148						–
999149						–
999151						–
995167	↓	↓	↓	↓	↓	–
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	–
999179 (1-8)	↓	↓	↓	↓	↓	–
999180 (1-26)						–
996028 (1-2)	Solid	–	12/19/11	M.M	Yes	TTLC
999175 (1-2)	↓	↓	↓	↓	↓	↓
999191						–
998731 (12,45)	<1	<2	11/23/11	M.M	Yes	
999227	<1	<2	12/21/11	M.M	Yes	
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	–
998802	<1	<2	11/30/11	M.M	Yes	–
999241	>1	>2	12/21/11	M.M	Yes	–
998777 (1-7)	<1	<2	11/30/11	M.M	Yes	–
998778 (1-9)	<1	<2	↓	↓	↓	–
999308	<1	<2	01/01/12	M.M	Yes	–
999360 (1,2)	↓	↓	↓	↓	↓	–
999362 (1,3)	↓	↓	↓	↓	↓	–

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 99894 7

Date Delivered: 12 / 6 / 11 **Time:** 23:30 **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)? 3.5° 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. Stabenow

ALERT !! Level III QC

C:\Users\Test\Desktop\Forms A - D\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

January 14, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-EASTRAVINE-GWINV-007, GROUNDWATER MONITORING PROJECT, TLI NO.: 999089

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-EASTRAVINE-GWINV-007 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 13, 2011, 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.

fo – Mona Nassimi
Manager, Analytical Services

Michael Ngo
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.: 999089
Date Received: December 13, 2011

Project Name: PG&E Topock Project
Project No.: 417981.ER.02.DM
P.O. No.: 417981.ER.02.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999089-001	MW-101-007	E218.6	FLDFLT	12/12/2011	15:15	Chromium, hexavalent	8.2	ug/L	1.0
999089-001	MW-101-007	SW6020	FLDFLT-digested	12/12/2011	15:15	Chromium	8.6	ug/L	1.0
999089-002	MW-23-080-007	E218.6	FLDFLT	12/12/2011	15:08	Chromium, hexavalent	8.7	ug/L	1.0
999089-002	MW-23-080-007	SW6020	FLDFLT-digested	12/12/2011	15:08	Chromium	8.8	ug/L	1.0
999089-003	MW-63-065-007	E218.6	FLDFLT	12/12/2011	13:18	Chromium, hexavalent	1.2	ug/L	1.0
999089-003	MW-63-065-007	SW6020	FLDFLT-digested	12/12/2011	13:18	Chromium	2.1	ug/L	1.0
999089-004	MW-23-060-007	E218.6	FLDFLT	12/13/2011	8:30	Chromium, hexavalent	29.9	ug/L	1.0
999089-004	MW-23-060-007	SW6020	FLDFLT-digested	12/13/2011	8:30	Chromium	30.6	ug/L	1.0
999089-005	MW-62-065-007	E218.6	FLDFLT	12/13/2011	11:33	Chromium, hexavalent	532	ug/L	5.2
999089-005	MW-62-065-007	SW6020	FLDFLT-digested	12/13/2011	11:33	Chromium	500	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

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: 417981.ER.02.DM
Project Number: 417981.ER.02.DM

Laboratory No. 999089

Printed 1/14/2012

Samples Received on 12/13/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-101-007	999089-001	12/12/2011 15:15	Water
MW-23-080-007	999089-002	12/12/2011 15:08	Water
MW-63-065-007	999089-003	12/12/2011 13:18	Water
MW-23-060-007	999089-004	12/13/2011 08:30	Water
MW-62-065-007	999089-005	12/13/2011 11:33	Water

Chrome VI by EPA 218.6 Batch 12CrH11N

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999089-001 Chromium, Hexavalent	ug/L	12/16/2011 11:06	5.25	0.136	1.0	8.2
999089-002 Chromium, Hexavalent	ug/L	12/16/2011 11:49	5.25	0.136	1.0	8.7
999089-003 Chromium, Hexavalent	ug/L	12/16/2011 12:09	5.25	0.136	1.0	1.2
999089-004 Chromium, Hexavalent	ug/L	12/16/2011 12:20	5.25	0.136	1.0	29.9
999089-005 Chromium, Hexavalent	ug/L	12/16/2011 06:09	26.2	0.681	5.2	532.

Method Blank

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

Duplicate — Lab ID = 999121-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	1.52	1.54	1.42	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.218	0.200	109.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.82	5.00	96.5	90 - 110

Matrix Spike — Lab ID = 998947-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.26	5.47(5.25)	95.9	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.48	5.60(5.25)	97.8	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.22(1.06)	99.8	90 - 110

Matrix Spike — Lab ID = 999089-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.6	34.4(26.2)	96.7	90 - 110

Matrix Spike — Lab ID = 999089-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.5	34.9(26.2)	94.6	90 - 110

Matrix Spike — Lab ID = 999089-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.18	6.41(5.25)	95.6	90 - 110

Matrix Spike — Lab ID = 999089-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	79.2	82.4(52.5)	93.9	90 - 110

Matrix Spike — Lab ID = 999089-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	1160	1190(656.)	96.2	90 - 110

Matrix Spike — Lab ID = 999091-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.44	5.62(5.25)	96.6	90 - 110

Matrix Spike — Lab ID = 999091-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.0975	1.06(1.06)	9.20	90 - 110

Matrix Spike — Lab ID = 999091-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.11	48.3	49.2(27.8)	96.7	90 - 110

Matrix Spike — Lab ID = 999091-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.16(1.06)	94.3	90 - 110

Metals by EPA 6020A, Dissolved

Batch 122311B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999089-001 Chromium	ug/L	12/24/2011 08:03	5.00	0.110	1.0	8.6
999089-002 Chromium	ug/L	12/24/2011 08:21	5.00	0.110	1.0	8.8
999089-003 Chromium	ug/L	12/24/2011 08:29	5.00	0.110	1.0	2.1

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	16.8	16.8	0.0595	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.186	0.200	93.2	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	95.9	100.	95.9	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	99.3	100.	99.3	85 - 115

Matrix Spike — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	113.	117.(100.)	96.4	75 - 125

Matrix Spike Duplicate — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	117.	117.(100.)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.00	10.0	100.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.51	10.0	95.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.54	10.0	95.4	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010412A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999089-004 Chromium	ug/L	01/04/2012 22:44	5.00	0.110	1.0	30.6
999089-005 Chromium	ug/L	01/04/2012 23:36	5.00	0.110	1.0	500.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	17.0	17.2	0.993	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.233	0.200	116.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.	101.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Matrix Spike — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	118.	117.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 999087-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	118.	117.(100.)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.43	10.0	94.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.40	10.0	94.0	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

TLI ER-007 XX 999089

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/13/2011 4:04:58 PM* Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 1

	Container:	250 ml Poly	500 ml Poly				
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C				
	Filtered:	Field	Field				
	Holding Time:	28	180				
		Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020Adis) Field Filtered Chromium			Number of Containers	COMMENTS
		DATE	TIME	Matrix			
1	MW-101-007	12/12/2011	15:15	Water	X	X	2	
2	MW-23-060-007	12/12/2011	15:08	Water	X	X	2	
3	MW-63-065-007	12/12/2011	13:18	Water	X	X	2	pH=2
4	MW-23-060-007	12/13/2011	8:30	Water	X	X	2	6020A
5	MW-62-065-007	12/13/2011	11:33	Water	X	X	2	
						TOTAL NUMBER OF CONTAINERS	10	

For Sample Conditions
See Form Attached

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		12-13-11 1705
Sampled by		
Relinquished by	Rafael Davila	12/13/11 17:10
Received by		
Relinquished by	Rafael Davila	12/13/11 23:30
Received by	Linda	12/13/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
December, 2011

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
12/14/11	999089-1	9.5	N/A	N/A	N/A	ah
	-2					
	-3					
	-4					
	-5					
12/14/11	999090-1	9.5	N/A	N/A	N/A	ah
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
999091						

ah 12/14/11

ah

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

Metals Samples Logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 [7-8]	<1	<2	12/09	M.M	Yes	–
998945 (1-2)	↓	↓	↓	↓	↓	–
998946 (1-2)						–
998947 (1-5)						–
998996 (1-6)						–
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	–
999052	>1	<2	12/14/11	M.M	Yes	–
999056	↓	↓	↓	–	–	–
999059 (1-3)	↓	↓	↓	–	–	–
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	–
999039 (12-5)	↓	↓	14:00	↓	↓	–
999084 (1-6)			↓			–
999086 (1-6)						–
999087 (1-2)						–
999088						–
999089 (1-5)	↓	↓	↓	↓	↓	–
999091 (1-24)	<1	<2	12/15	M.M	Yes	–
999090 (1-19)	↓	↓	↓	↓	↓	–
999092 (1-16)						–
999117 (1-2)						–
999118						–
999121 (1-4)	↓	↓	↓	↓	↓	–
999154 (1-9)	<1	<2	12/16/11	M.M	Yes	–
999155 (1-2)	↓	↓	↓	↓	↓	–
999156	↓	↓	↓	↓	↓	–
999047-1	>1	<2	12/16/11	M.M	Yes	–
999067 (4-21)	↓	↓	↓	↓	↓	–
999124						–
999125 (1-4)						–
999148						–
999149						–
999151						–
995167	↓	↓	↓	↓	↓	–
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	–
999179 (1-8)	↓	↓	↓	↓	↓	–
999180 (1-26)	↓	↓	↓	↓	↓	–
999028 (1-2)	Solid	–	12/19/11	M.M	Yes	TTC
999175 (1-2)	↓		↓	↓	↓	↓
999191	↓		↓	↓	↓	–
998731 (12,15)	<1	<2	11/23/11	M.M	Yes	
999227	<1	<2	12/21/11	M.M	Yes	
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	–
998802	<1	<2	11/30/11	M.M	Yes	–
999241	>1	>2	12/21/11	M.M	Yes	–
998777 (1-7)	<1	<2	11/30/11	M.M	Yes	–
998778 (1-9)	<1	<2	↓	↓	↓	–
999308	<1	<2	01/01/12	M.M	Yes	–
999360 (1-2)	↓	↓	↓	↓	↓	–
999362 (1-3)	↓	↓	↓	↓	↓	–

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 999089

Date Delivered: 12/13/11 **Time:** 23:30 **By:** ☐Mail ☑Field Service ☐Client

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

ALERT Level II QC

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

16. Comments: _____

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 27, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-183-Q4, GROUNDWATER MONITORING PROJECT, TLI NO.: 999090

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-183-Q4 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 13, 2011, 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 closing ICS A was inadvertently left out of the run for Total Dissolved Chromium by SW 6020A. All other QA/QC were within acceptable limits. Mr. Shawn Duffy was notified and accepted the results.

Due to the discrepancy between the Total Dissolved Chromium (18.1 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample MW-49-135-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 30.8 and 18.4 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 18.0 ug/L. Solids were observed in both the Hexavalent Chromium and Total Dissolved Chromium sample containers. Sample was taken from the Hexavalent Chromium sample container, filtered, digested, and analyzed for Total Dissolved Chromium. The result was ND<1.0 ug/L, which was reported after discussing the results with Mr. Duffy.

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

Michael Ngo
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.
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(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

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

Laboratory No.: 999090
Date Received: December 13, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999090-001	MW-36-100-183	E218.6	FLDFLT	12/6/2011	16:36	Chromium, hexavalent	73.3	ug/L	1.0
999090-001	MW-36-100-183	SW6020	FLDFLT-digested	12/6/2011	16:36	Chromium	76.4	ug/L	1.0
999090-002	MW-15-183	E218.6	FLDFLT	12/7/2011	11:31	Chromium, hexavalent	11.5	ug/L	0.20
999090-002	MW-15-183	SW6020	FLDFLT-digested	12/7/2011	11:31	Chromium	12.6	ug/L	1.0
999090-003	MW-16-183	E218.6	FLDFLT	12/7/2011	12:38	Chromium, hexavalent	11.8	ug/L	0.20
999090-003	MW-16-183	SW6020	FLDFLT-digested	12/7/2011	12:38	Chromium	11.3	ug/L	1.0
999090-004	MW-17-183	E218.6	FLDFLT	12/7/2011	13:42	Chromium, hexavalent	15.8	ug/L	0.20
999090-004	MW-17-183	SW6020	FLDFLT-digested	12/7/2011	13:42	Chromium	14.5	ug/L	1.0
999090-005	MW-20-070-183	SM3500-CrB	FLDFLT	12/7/2011	13:25	Chromium, hexavalent	3570	ug/L	100
999090-005	MW-20-070-183	SW6020	FLDFLT-digested	12/7/2011	13:25	Chromium	3560	ug/L	20.0
999090-006	MW-29-183	E218.6	FLDFLT	12/7/2011	9:35	Chromium, hexavalent	ND	ug/L	0.20
999090-006	MW-29-183	SW6020	FLDFLT-digested	12/7/2011	9:35	Chromium	ND	ug/L	1.0
999090-007	MW-30-030-183	E218.6	FLDFLT	12/7/2011	15:47	Chromium, hexavalent	ND	ug/L	2.1
999090-007	MW-30-030-183	SW6020	FLDFLT-digested	12/7/2011	15:47	Chromium	ND	ug/L	1.0
999090-008	MW-35-060-183	E218.6	FLDFLT	12/7/2011	9:33	Chromium, hexavalent	26.2	ug/L	1.0
999090-008	MW-35-060-183	SW6020	FLDFLT-digested	12/7/2011	9:33	Chromium	25.9	ug/L	1.0
999090-009	MW-35-135-183	E218.6	FLDFLT	12/7/2011	10:15	Chromium, hexavalent	35.3	ug/L	1.0
999090-009	MW-35-135-183	SW6020	FLDFLT-digested	12/7/2011	10:15	Chromium	36.9	ug/L	1.0
999090-010	MW-37S-183	E218.6	FLDFLT	12/7/2011	9:46	Chromium, hexavalent	10.1	ug/L	0.20
999090-010	MW-37S-183	SW6020	FLDFLT-digested	12/7/2011	9:46	Chromium	9.9	ug/L	1.0
999090-011	MW-40D-183	E218.6	FLDFLT	12/7/2011	12:03	Chromium, hexavalent	169	ug/L	2.1
999090-011	MW-40D-183	SW6020	FLDFLT-digested	12/7/2011	12:03	Chromium	172	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999090-012	MW-40S-183	E218.6	FLDFLT	12/7/2011	11:12	Chromium, hexavalent	7.6	ug/L	0.20
999090-012	MW-40S-183	SW6020	FLDFLT-digested	12/7/2011	11:12	Chromium	7.8	ug/L	1.0
999090-013	MW-41S-183	E218.6	FLDFLT	12/7/2011	16:18	Chromium, hexavalent	19.0	ug/L	0.20
999090-013	MW-41S-183	SW6020	FLDFLT-digested	12/7/2011	16:18	Chromium	19.1	ug/L	1.0
999090-014	MW-48-183	E218.6	FLDFLT	12/7/2011	7:45	Chromium, hexavalent	ND	ug/L	1.0
999090-014	MW-48-183	SW6020	FLDFLT-digested	12/7/2011	7:45	Chromium	1.0	ug/L	1.0
999090-015	MW-49-135-183	E218.6	FLDFLT	12/7/2011	11:17	Chromium, hexavalent	ND	ug/L	1.0
999090-015	MW-49-135-183	SW6020	LABFLT-digested	12/7/2011	11:17	Chromium	ND	ug/L	1.0
999090-016	MW-49-275-183	E218.6	FLDFLT	12/7/2011	12:29	Chromium, hexavalent	ND	ug/L	1.0
999090-016	MW-49-275-183	SW6020	FLDFLT-digested	12/7/2011	12:29	Chromium	1.8	ug/L	1.0
999090-017	MW-49-365-183	E218.6	FLDFLT	12/7/2011	14:54	Chromium, hexavalent	ND	ug/L	2.1
999090-017	MW-49-365-183	SW6020	FLDFLT-digested	12/7/2011	14:54	Chromium	ND	ug/L	1.0
999090-018	MW-51-183	SM3500-CrB	FLDFLT	12/7/2011	14:37	Chromium, hexavalent	4810	ug/L	250
999090-018	MW-51-183	SW6020	FLDFLT-digested	12/7/2011	14:37	Chromium	4710	ug/L	20.0
999090-019	MW-95-183	E218.6	FLDFLT	12/7/2011	16:18	Chromium, hexavalent	19.0	ug/L	0.20
999090-019	MW-95-183	SW6020	FLDFLT-digested	12/7/2011	16:18	Chromium	18.5	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.

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: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 999090

Printed 1/27/2012

Samples Received on 12/13/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-36-100-183	999090-001	12/06/2011 16:36	Water
MW-15-183	999090-002	12/07/2011 11:31	Water
MW-16-183	999090-003	12/07/2011 12:38	Water
MW-17-183	999090-004	12/07/2011 13:42	Water
MW-20-070-183	999090-005	12/07/2011 13:25	Water
MW-29-183	999090-006	12/07/2011 09:35	Water
MW-30-030-183	999090-007	12/07/2011 15:47	Water
MW-35-060-183	999090-008	12/07/2011 09:33	Water
MW-35-135-183	999090-009	12/07/2011 10:15	Water
MW-37S-183	999090-010	12/07/2011 09:46	Water
MW-40D-183	999090-011	12/07/2011 12:03	Water
MW-40S-183	999090-012	12/07/2011 11:12	Water
MW-41S-183	999090-013	12/07/2011 16:18	Water
MW-48-183	999090-014	12/07/2011 07:45	Water
MW-49-135-183	999090-015	12/07/2011 11:17	Water
MW-49-275-183	999090-016	12/07/2011 12:29	Water
MW-49-365-183	999090-017	12/07/2011 14:54	Water
MW-51-183	999090-018	12/07/2011 14:37	Water
MW-95-183	999090-019	12/07/2011 16:18	Water

Chrome VI by EPA 218.6 Batch 12CrH11R

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999090-001 Chromium, Hexavalent	ug/L	12/24/2011 09:30	5.25	0.136	1.0	73.3
999090-002 Chromium, Hexavalent	ug/L	12/24/2011 09:41	1.05	0.0260	0.20	11.5
999090-003 Chromium, Hexavalent	ug/L	12/24/2011 09:51	1.05	0.0260	0.20	11.8
999090-004 Chromium, Hexavalent	ug/L	12/24/2011 10:02	1.05	0.0260	0.20	15.8
999090-006 Chromium, Hexavalent	ug/L	12/24/2011 10:12	1.05	0.0260	0.20	ND
999090-008 Chromium, Hexavalent	ug/L	12/24/2011 10:33	5.25	0.136	1.0	26.2
999090-009 Chromium, Hexavalent	ug/L	12/24/2011 10:43	5.25	0.136	1.0	35.3

999090-010 Chromium, Hexavalent	ug/L	12/24/2011 11:35	1.05	0.0260	0.20	10.1
999090-011 Chromium, Hexavalent	ug/L	12/24/2011 11:46	10.5	0.273	2.1	169.
999090-012 Chromium, Hexavalent	ug/L	12/24/2011 13:28	1.05	0.0260	0.20	7.6
999090-013 Chromium, Hexavalent	ug/L	12/24/2011 13:38	1.05	0.0260	0.20	19.0
999090-014 Chromium, Hexavalent	ug/L	12/24/2011 19:24	5.25	0.136	1.0	ND
999090-015 Chromium, Hexavalent	ug/L	12/24/2011 19:34	5.25	0.136	1.0	ND
999090-016 Chromium, Hexavalent	ug/L	12/24/2011 20:51	5.25	0.136	1.0	ND
999090-019 Chromium, Hexavalent	ug/L	12/24/2011 14:30	1.05	0.0260	0.20	19.0

Method Blank

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

Duplicate — Lab ID = 999090-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	11.7	11.5	1.57	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.232	0.200	116.	70 - 130

Lab Control Sample

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

Matrix Spike — Lab ID = 999090-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	159.	152.(78.8)	108.	90 - 110

Matrix Spike — Lab ID = 999090-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	28.6	27.9(16.4)	104.	90 - 110

Matrix Spike — Lab ID = 999090-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	28.8	28.2(16.4)	103.	90 - 110

Matrix Spike — Lab ID = 999090-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	38.3	37.4(21.6)	104.	90 - 110

Matrix Spike — Lab ID = 999090-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.27	1.21(1.06)	106.	90 - 110

Matrix Spike — Lab ID = 999090-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999090-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.89	5.25(5.25)	93.1	90 - 110

Matrix Spike — Lab ID = 999090-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	82.3	78.7(52.5)	107.	90 - 110

Matrix Spike — Lab ID = 999090-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	90.9	87.8(52.5)	106.	90 - 110

Matrix Spike — Lab ID = 999090-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	27.1	26.5(16.4)	104.	90 - 110

Matrix Spike — Lab ID = 999090-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	399.	379(210.)	110.	90 - 110

Matrix Spike — Lab ID = 999090-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	18.5	18.2(10.6)	103.	90 - 110

Matrix Spike — Lab ID = 999090-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	41.4	40.6(21.6)	104.	90 - 110

Matrix Spike — Lab ID = 999090-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.42	5.25(5.25)	103.	90 - 110

Matrix Spike — Lab ID = 999090-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999090-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.62	5.25(5.25)	107.	90 - 110

Matrix Spike — Lab ID = 999090-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.956	1.06(1.06)	90.2	90 - 110

Matrix Spike — Lab ID = 999090-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.44(1.06)	-35.8	90 - 110

Matrix Spike — Lab ID = 999090-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.55	5.63(5.25)	98.4	90 - 110

Matrix Spike — Lab ID = 999090-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999090-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.07	5.25(5.25)	77.6	90 - 110

Matrix Spike — Lab ID = 999090-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	41.9	40.6(21.6)	106.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.94	5.00	98.8	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

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	10.4	10.0	104.	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

Chrome VI by EPA 218.6

Batch 12CrH11S

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999090-007 Chromium, Hexavalent	ug/L	12/28/2011 08:15	10.5	0.273	2.1	ND
999090-017 Chromium, Hexavalent	ug/L	12/28/2011 08:26	10.5	0.273	2.1	ND

Method Blank

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

Duplicate — Lab ID = 999092-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	6.58	6.62	0.661	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.186	0.200	92.8	70 - 130

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 = 999090-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.3	10.5(10.5)	98.3	90 - 110

Matrix Spike — Lab ID = 999090-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.1	10.5(10.5)	96.2	90 - 110

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.06	5.25(5.25)	96.4	90 - 110

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999092-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.5	90 - 110

Matrix Spike — Lab ID = 999092-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.23	5.25(5.25)	99.5	90 - 110

Metals by EPA 6020A, Dissolved

Batch 123011B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999090-001 Chromium	ug/L	12/31/2011 02:31	5.00	0.110	1.0	76.4
999090-002 Chromium	ug/L	12/31/2011 03:40	5.00	0.110	1.0	12.6
999090-003 Chromium	ug/L	12/31/2011 03:49	5.00	0.110	1.0	11.3
999090-004 Chromium	ug/L	12/31/2011 03:58	5.00	0.110	1.0	14.5
999090-005 Chromium	ug/L	12/31/2011 04:15	100	2.20	20.0	3560
999090-006 Chromium	ug/L	12/31/2011 04:33	5.00	0.110	1.0	ND
999090-007 Chromium	ug/L	12/31/2011 04:41	5.00	0.110	1.0	ND
999090-008 Chromium	ug/L	12/31/2011 04:59	5.00	0.110	1.0	25.9
999090-009 Chromium	ug/L	12/31/2011 05:42	5.00	0.110	1.0	36.9
999090-010 Chromium	ug/L	12/31/2011 05:51	5.00	0.110	1.0	9.9
999090-011 Chromium	ug/L	12/31/2011 06:00	5.00	0.110	1.0	172
999090-012 Chromium	ug/L	12/31/2011 06:08	5.00	0.110	1.0	7.8
999090-013 Chromium	ug/L	12/31/2011 06:17	5.00	0.110	1.0	19.1
999090-014 Chromium	ug/L	12/31/2011 06:26	5.00	0.110	1.0	1.0
999090-016 Chromium	ug/L	12/31/2011 06:52	5.00	0.110	1.0	1.8
999090-017 Chromium	ug/L	12/31/2011 07:00	5.00	0.110	1.0	ND
999090-018 Chromium	ug/L	12/31/2011 07:44	100	2.20	20.0	4710
999090-019 Chromium	ug/L	12/31/2011 08:01	5.00	0.110	1.0	18.5

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999090-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	74.7	76.4	2.22	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.208	0.200	104.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.	101.	85 - 115

Matrix Spike — Lab ID = 999090-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	176.	176.(100.)	99.2	75 - 125

Matrix Spike Duplicate — Lab ID = 999090-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	181.	176.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.97	10.0	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.49	10.0	94.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.70	10.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.60	10.0	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.70	10.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.68	10.0	96.8	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.68	10.0	96.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.76	10.0	97.6	80 - 120

Serial Dilution — Lab ID = 999090-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	3710	3560	4.07	0 - 10

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 423575.MP.02.GM

Serial Dilution

Lab ID = 999090-018

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	5130	4710	8.46	0 - 10

Metals by EPA 6020A, Dissolved

Batch 012712A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999090-015 Chromium	ug/L	01/27/2012 14:55	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.215	0.200	108.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	97.9	100.	97.9	85 - 115

Matrix Spike — Lab ID = 999809-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	102.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 999809-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	102.(100.)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.3	10.0	103.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.82	10.0	98.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.75	10.0	97.5	80 - 120

Chromium, Hexavalent by SM 3500-Cr B

Batch 12CrH11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999090-005 Chromium, Hexavalent	ug/L	12/19/2011 13:23	10.0	15.0	100.	3570
999090-018 Chromium, Hexavalent	ug/L	12/19/2011 13:24	25.0	37.5	250.	4810

Method Blank

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

Duplicate — Lab ID = 999090-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	3580	3570	0.436	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 = 999090-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	4620	4570(1000)	105.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.5	60.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

TLI GMP-183 # 2 999090

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 3:42:57 PM Page 1 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

ALERT !!
Level III QC

For Sample Conditions See Form Attached

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field	NA	Field		
				Holding Time:	28	28	28	180	180		
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500E) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (E200.7T) Total Chromium	Metals (6020AFF) Field Filtered Chromium		
1 MW-35-100-183	12/6/2011	16:36	Water		X				X	2	DH=2
MW-73-183	12/6/2011	16:46	Water		X					1	Hold
MW-74-183	12/6/2011	17:00	Water		X					1	Hold
2 MW-15-183	12/7/2011	11:31	Water		X				X	2	
3 MW-16-183	12/7/2011	12:38	Water		X				X	2	
4 MW-17-183	12/7/2011	13:42	Water		X				X	2	
5 MW-20-070-183	12/7/2011	13:25	Water			X			X	2	pH=2
6 MW-29-183	12/7/2011	9:35	Water				X		X	3	
MW-29-183-EB	12/7/2011	8:30	Water		X				X	2	
7 MW-30-030-183	12/7/2011	15:47	Water		X				X	2	
8 MW-35-060-183	12/7/2011	9:33	Water		X				X	2	
9 MW-35-135-183	12/7/2011	10:15	Water		X				X	2	pH=2
10 MW-37S-183	12/7/2011	9:46	Water		X				X	2	
11 MW-40D-183	12/7/2011	12:03	Water		X				X	2	

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1705
Relinquished by		
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by	dada	12/13/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL CHAIN OF CUSTODY RECORD 999090 12/13/2011 3:42:58 PM Page 2 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423675.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C
	Filtered:	Field	Field	Field	NA	Field
	Holding Time:	28	28	28	180	180
		Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (E200.7T) Total Chromium	Metals (6020AFF) Field Filtered Chromium
	DATE TIME Matrix					
15 MW-40S-183	12/7/2011 11:12 Water			X		X
13 MW-41S-183	12/7/2011 16:18 Water	X				X
14 MW-48-183	12/7/2011 7:45 Water	X				X
15 MW-49-135-183	12/7/2011 11:17 Water			X		X
16 MW-49-275-183	12/7/2011 12:29 Water			X		X
MW-49-275-183-EB	12/7/2011 10:00 Water	X				X
17 MW-49-365-183	12/7/2011 14:54 Water			X		X
MW-49-365-183-EB	12/7/2011 13:15 Water	X				X
18 MW-51-183	12/7/2011 14:37 Water		X			X
MW-75-183	12/7/2011 15:50 Water	X				
MW-76-183	12/7/2011 16:35 Water	X				
MW-77-183	12/7/2011 16:10 Water	X				
MW-78-183	12/7/2011 10:22 Water	X				
19 MW-95-183	12/7/2011 16:18 Water	X				X

ALERT !!
Level III QC

For Sample Conditions See Form Attached

Number of Containers	COMMENTS
3	pH for 6020A
2	
2	pm=2
3	
3	
2	
3	pm=2
2	
2	pm=2
1	Hold
1	Hold
1	Hold
1	Hold
2	pm=2

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1705
Relinquished by		
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by		12/13/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

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
12/14/11	999089-1	9.5	N/A	N/A	N/A	ah
	-2					
	-3					
	-4					
	-5					
12/14/11	999090-1	9.5	N/A	N/A	N/A	ah
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
999091						

ah 12/14/11

Metals Samples logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (7-8	<1	<2	12/09	M.M	Yes	—
998945 (1-2)						—
998946 (1-2)						—
998947 (1-5 9-24)						—
998996 (1-6)						—
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	—
999052	>1	<2	12/14/11	M.M	Yes	—
999056				—	—	—
999059 (1-7)				—	—	—
999038 (1-21)	<1	<2	12/14/11	M.M	Yes	—
999039 (12-5)			14:00			—
999084 (1-6)						—
999086 (1-6)						—
999087 (1-2)						—
999088						—
999089 (1-5)						—
999091 (1-24)	<1	<2	12/15	M.M	Yes	—
999090 (1-19)						—
999092 (1-16)						—
999117 (1-21)						—
999118						—
999121 (1-4)						—
999154 (1-9)	<1	<2	12/16/11	M.M	yes	—
999155 (1-2)						—
999156						—
999047-1	>1	<2	12/16/11	M.M	Yes	—
999067 (4-21)						—
999124						—
999125 (1-4)						—
999148						—
999149						—
999151						—
999167						—
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	—
999179 (1-8)						—
999180 (1-26)						—
999028 (1-21)	Solid	—	12/19/11	M.M	Yes	TTLC
999175 (1-21)						
999191						
998731 (12,15)	<1	<2	11/23/11	M.M	Yes	—
999227	<1	<2	12/21/11	M.M	Yes	—
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	—
998802	<1	<2	11/30/11	M.M	yes	—
999241	>1	>1	12/21/11	M.M	Yes	—
998777 (1-7)	<1	<2	11/30/11	M.M	Yes	—
998778 (1-9)	<1	<2				—
999308	<1	<2	01/01/12	M.M	Yes	—
999360 (1-2)						—
999362 (1-31)						—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 999090

Date Delivered: 12/13/11 **Time:** 23:30 **By:** ☐Mail ☒Field Service ☐Client

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

ALERT!! Lewitt QC

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

16. Comments: _____

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

TRUESDAIL LABORATORIES, INC.

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

January 17, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-183-Q4, GROUNDWATER MONITORING PROJECT, TLI NO.: 999091

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-183-Q4 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 13, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the discrepancy between the Total Dissolved Chromium (6.1 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample MW-30-050-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (2.4 ug/L) and Hexavalent Chromium (ND<2.1 ug/L) results for sample MW-32-020-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of ND<1.0 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (26.8 ug/L) and Hexavalent Chromium (21.5 ug/L) results for sample MW-44-125-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 25.5 and 24.3 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 26.6 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (27.2 ug/L) and Hexavalent Chromium (20.6 ug/L) results for sample MW-97-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 26.3 and 25.1 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 26.0 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (2.1 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample PGE-08-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 4.9 and 3.0 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 2.8 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (25.9 ug/L) and Hexavalent Chromium (20.1 ug/L) results for sample MW-14-183, Mr. Shawn Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 22.8 and 19.1 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 22.1 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

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

Michael Ngo
Quality Assurance/Quality Control Officer

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

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

Laboratory No.: 999091
Date Received: December 13, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999091-001	PGE-07BR-183	E218.6	FLDFLT	12/7/2011	14:51	Chromium, hexavalent	ND	ug/L	1.0
999091-001	PGE-07BR-183	SW6020	FLDFLT-digested	12/7/2011	14:51	Chromium	ND	ug/L	1.0
999091-002	MW-18-183	E218.6	FLDFLT	12/8/2011	14:39	Chromium, hexavalent	21.4	ug/L	0.20
999091-002	MW-18-183	SW6020	FLDFLT-digested	12/8/2011	14:39	Chromium	21.6	ug/L	1.0
999091-003	MW-20-100-183	SM3500-CrB	FLDFLT	12/8/2011	15:10	Chromium, hexavalent	3770	ug/L	100
999091-003	MW-20-100-183	SW6020	FLDFLT-digested	12/8/2011	15:10	Chromium	3930	ug/L	20.0
999091-004	MW-30-050-183	E218.6	FLDFLT	12/8/2011	9:25	Chromium, hexavalent	ND	ug/L	0.20
999091-004	MW-30-050-183	SW6020	FLDFLT-digested	12/8/2011	9:25	Chromium	ND	ug/L	1.0
999091-005	MW-32-020-183	E218.6	FLDFLT	12/8/2011	16:10	Chromium, hexavalent	ND	ug/L	2.1
999091-005	MW-32-020-183	SW6020	FLDFLT-digested	12/8/2011	16:10	Chromium	ND	ug/L	2.0
999091-006	MW-37D-183	SM3500-CrB	FLDFLT	12/8/2011	16:04	Chromium, hexavalent	62.5	ug/L	20.0
999091-006	MW-37D-183	SW6020	FLDFLT-digested	12/8/2011	16:04	Chromium	70.8	ug/L	1.0
999091-007	MW-44-070-183	E218.6	FLDFLT	12/8/2011	10:22	Chromium, hexavalent	ND	ug/L	0.20
999091-007	MW-44-070-183	SW6020	FLDFLT-digested	12/8/2011	10:22	Chromium	ND	ug/L	1.0
999091-008	MW-44-115-183	E218.6	FLDFLT	12/8/2011	11:00	Chromium, hexavalent	129	ug/L	2.1
999091-008	MW-44-115-183	SW6020	FLDFLT-digested	12/8/2011	11:00	Chromium	132	ug/L	1.0
999091-009	MW-44-125-183	E218.6	FLDFLT	12/8/2011	15:22	Chromium, hexavalent	21.5	ug/L	1.0
999091-009	MW-44-125-183	SW6020	FLDFLT-digested	12/8/2011	15:22	Chromium	26.8	ug/L	1.0
999091-010	MW-47-055-183	E218.6	FLDFLT	12/8/2011	11:34	Chromium, hexavalent	24.8	ug/L	1.0
999091-010	MW-47-055-183	SW6020	FLDFLT-digested	12/8/2011	11:34	Chromium	23.8	ug/L	1.0
999091-011	MW-47-115-183	E218.6	FLDFLT	12/8/2011	12:34	Chromium, hexavalent	16.9	ug/L	1.0
999091-011	MW-47-115-183	SW6020	FLDFLT-digested	12/8/2011	12:34	Chromium	18.0	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999091-012	MW-50-200-183	SM3500-CrB	FLDFLT	12/8/2011	15:59	Chromium, hexavalent	8740	ug/L	500
999091-012	MW-50-200-183	SW6020	FLDFLT-digested	12/8/2011	15:59	Chromium	8730	ug/L	10.0
999091-013	MW-96-183	E218.6	FLDFLT	12/8/2011	16:05	Chromium, hexavalent	128	ug/L	2.1
999091-013	MW-96-183	SW6020	FLDFLT-digested	12/8/2011	16:05	Chromium	130	ug/L	1.0
999091-014	MW-97-183	E218.6	FLDFLT	12/8/2011	12:00	Chromium, hexavalent	20.6	ug/L	1.0
999091-014	MW-97-183	SW6020	FLDFLT-digested	12/8/2011	12:00	Chromium	27.2	ug/L	1.0
999091-015	PGE-08-183	E218.6	FLDFLT	12/8/2011	12:25	Chromium, hexavalent	ND	ug/L	1.0
999091-015	PGE-08-183	SW6020	FLDFLT-digested	12/8/2011	12:25	Chromium	2.1	ug/L	1.0
999091-016	TW-04-183	E218.6	FLDFLT	12/8/2011	10:45	Chromium, hexavalent	9.0	ug/L	1.0
999091-016	TW-04-183	SW6020	FLDFLT-digested	12/8/2011	10:45	Chromium	9.9	ug/L	1.0
999091-017	MW-09-183	SM3500-CrB	FLDFLT	12/9/2011	8:32	Chromium, hexavalent	299	ug/L	20.0
999091-017	MW-09-183	SW6020	FLDFLT-digested	12/9/2011	8:32	Chromium	290	ug/L	1.0
999091-018	MW-10-183	SM3500-CrB	FLDFLT	12/9/2011	9:38	Chromium, hexavalent	621	ug/L	20.0
999091-018	MW-10-183	SW6020	FLDFLT-digested	12/9/2011	9:38	Chromium	622	ug/L	1.0
999091-019	MW-12-183	SM3500-CrB	FLDFLT	12/9/2011	12:10	Chromium, hexavalent	2240	ug/L	100
999091-019	MW-12-183	SW6020	FLDFLT-digested	12/9/2011	12:10	Chromium	2830	ug/L	20.0
999091-020	MW-14-183	E218.6	FLDFLT	12/9/2011	10:32	Chromium, hexavalent	20.1	ug/L	0.20
999091-020	MW-14-183	SW6020	FLDFLT-digested	12/9/2011	10:32	Chromium	22.8	ug/L	1.0
999091-021	MW-19-183	SM3500-CrB	FLDFLT	12/9/2011	9:35	Chromium, hexavalent	289	ug/L	20.0
999091-021	MW-19-183	SW6020	FLDFLT-digested	12/9/2011	9:35	Chromium	295	ug/L	1.0
999091-022	MW-20-130-183	SM3500-CrB	FLDFLT	12/9/2011	11:31	Chromium, hexavalent	11100	ug/L	500
999091-022	MW-20-130-183	SW6020	FLDFLT-digested	12/9/2011	11:31	Chromium	11500	ug/L	20.0
999091-023	MW-24BR-183	E218.6	FLDFLT	12/9/2011	8:12	Chromium, hexavalent	ND	ug/L	1.0
999091-023	MW-24BR-183	SW6020	FLDFLT-digested	12/9/2011	8:12	Chromium	ND	ug/L	1.0
999091-024	MW-26-183	SM3500-CrB	FLDFLT	12/9/2011	11:08	Chromium, hexavalent	1840	ug/L	50.0
999091-024	MW-26-183	SW6020	FLDFLT-digested	12/9/2011	11:08	Chromium	1750	ug/L	20.0

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.

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REPORT

Client: **E2 Consulting Engineers, Inc.**
155 Grand Avenue, Suite 800
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Projec
P.O. Number: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 999091

Printed 1/17/2012

Samples Received on 12/13/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
PGE-07BR-183	999091-001	12/07/2011 14:51	Water
MW-18-183	999091-002	12/08/2011 14:39	Water
MW-20-100-183	999091-003	12/08/2011 15:10	Water
MW-30-050-183	999091-004	12/08/2011 09:25	Water
MW-32-020-183	999091-005	12/08/2011 16:10	Water
MW-37D-183	999091-006	12/08/2011 16:04	Water
MW-44-070-183	999091-007	12/08/2011 10:22	Water
MW-44-115-183	999091-008	12/08/2011 11:00	Water
MW-44-125-183	999091-009	12/08/2011 15:22	Water
MW-47-055-183	999091-010	12/08/2011 11:34	Water
MW-47-115-183	999091-011	12/08/2011 12:34	Water
MW-50-200-183	999091-012	12/08/2011 15:59	Water
MW-96-183	999091-013	12/08/2011 16:05	Water
MW-97-183	999091-014	12/08/2011 12:00	Water
PGE-08-183	999091-015	12/08/2011 12:25	Water
TW-04-183	999091-016	12/08/2011 10:45	Water
MW-09-183	999091-017	12/09/2011 08:32	Water
MW-10-183	999091-018	12/09/2011 09:38	Water
MW-12-183	999091-019	12/09/2011 12:10	Water
MW-14-183	999091-020	12/09/2011 10:32	Water
MW-19-183	999091-021	12/09/2011 09:35	Water
MW-20-130-183	999091-022	12/09/2011 11:31	Water
MW-24BR-183	999091-023	12/09/2011 08:12	Water
MW-26-183	999091-024	12/09/2011 11:08	Water

Chrome VI by EPA 218.6 Batch 12CrH11N

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-001 Chromium, Hexavalent	ug/L	12/16/2011 15:31	5.25	0.136	1.0	ND
999091-002 Chromium, Hexavalent	ug/L	12/16/2011 07:12	1.05	0.0260	0.20	21.4
999091-004 Chromium, Hexavalent	ug/L	12/16/2011 07:22	1.05	0.0260	0.20	ND

999091-005 Chromium, Hexavalent	ug/L	12/16/2011 16:45	10.5	0.273	2.1	ND
999091-007 Chromium, Hexavalent	ug/L	12/16/2011 07:58	1.05	0.0260	0.20	ND
999091-008 Chromium, Hexavalent	ug/L	12/16/2011 08:08	10.5	0.273	2.1	129.

Method Blank

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

Duplicate — Lab ID = 999121-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	1.52	1.54	1.42	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.218	0.200	109.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.82	5.00	96.5	90 - 110

Matrix Spike — Lab ID = 998947-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.26	5.47(5.25)	95.9	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.48	5.60(5.25)	97.8	90 - 110

Matrix Spike — Lab ID = 999088-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.22(1.06)	99.8	90 - 110

Matrix Spike — Lab ID = 999089-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.6	34.4(26.2)	96.7	90 - 110

Matrix Spike — Lab ID = 999089-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	33.5	34.9(26.2)	94.6	90 - 110

Matrix Spike — Lab ID = 999089-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.18	6.41(5.25)	95.6	90 - 110

Matrix Spike — Lab ID = 999089-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	79.2	82.4(52.5)	93.9	90 - 110

Matrix Spike — Lab ID = 999089-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	1160	1190(656.)	96.2	90 - 110

Matrix Spike — Lab ID = 999091-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.44	5.62(5.25)	96.6	90 - 110

Matrix Spike — Lab ID = 999091-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.0975	1.06(1.06)	9.20	90 - 110

Matrix Spike — Lab ID = 999091-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.11	48.3	49.2(27.8)	96.7	90 - 110

Matrix Spike — Lab ID = 999091-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.16(1.06)	94.3	90 - 110

Matrix Spike — Lab ID = 999091-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	2.31	5.25(5.25)	44.0	90 - 110

Matrix Spike — Lab ID = 999091-005

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 = 999091-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	9.94	10.5(10.5)	94.7	90 - 110

Matrix Spike — Lab ID = 999091-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.12(1.06)	94.2	90 - 110

Matrix Spike — Lab ID = 999091-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	283.	287(158.)	97.3	90 - 110

Matrix Spike — Lab ID = 999119-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.1	90 - 110

Matrix Spike — Lab ID = 999121-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.30	6.70	6.84(5.30)	97.4	90 - 110

Chrome VI by EPA 218.6 Batch 12CrH11O

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-009 Chromium, Hexavalent	ug/L	12/17/2011 19:25	5.25	0.136	1.0	21.5
999091-010 Chromium, Hexavalent	ug/L	12/17/2011 19:35	5.25	0.136	1.0	24.8
999091-011 Chromium, Hexavalent	ug/L	12/17/2011 19:46	5.25	0.136	1.0	16.9
999091-013 Chromium, Hexavalent	ug/L	12/17/2011 23:08	10.5	0.273	2.1	128.
999091-014 Chromium, Hexavalent	ug/L	12/17/2011 20:19	5.25	0.136	1.0	20.6
999091-015 Chromium, Hexavalent	ug/L	12/17/2011 21:26	5.25	0.136	1.0	ND
999091-016 Chromium, Hexavalent	ug/L	12/17/2011 21:36	5.25	0.136	1.0	9.0
999091-020 Chromium, Hexavalent	ug/L	12/17/2011 11:23	1.05	0.0260	0.20	20.1
999091-023 Chromium, Hexavalent	ug/L	12/17/2011 21:47	5.25	0.136	1.0	ND

Method Blank

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

Duplicate — Lab ID = 999154-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.150	0.168	11.4	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.238	0.200	119.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.2	90 - 110

Matrix Spike — Lab ID = 999091-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	46.0	47.7(26.2)	93.5	90 - 110

Matrix Spike — Lab ID = 999091-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	48.7	51.0(26.2)	91.1	90 - 110

Matrix Spike — Lab ID = 999091-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	42.2	43.1(26.2)	96.7	90 - 110

Matrix Spike — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	280.	286(158.)	96.2	90 - 110

Matrix Spike — Lab ID = 999091-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	47.1	46.8(26.2)	101.	90 - 110

Matrix Spike — Lab ID = 999091-015

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 = 999091-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.03	5.25(5.25)	95.9	90 - 110

Matrix Spike — Lab ID = 999091-016

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 = 999091-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	34.9	35.2(26.2)	98.7	90 - 110

Matrix Spike — Lab ID = 999091-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.11	47.6	47.9(27.8)	98.9	90 - 110

Matrix Spike — Lab ID = 999091-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.0598	1.06(1.06)	5.64	90 - 110

Matrix Spike — Lab ID = 999091-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.28	5.25(5.25)	100.	90 - 110

Matrix Spike — Lab ID = 999154-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.24(1.06)	95.0	90 - 110

Matrix Spike — Lab ID = 999154-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.15(1.06)	94.8	90 - 110

Matrix Spike — Lab ID = 999154-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.23	6.31(5.30)	98.6	90 - 110

Matrix Spike — Lab ID = 999154-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.64	1.68(1.06)	95.8	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010512A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-004 Chromium	ug/L	01/06/2012 00:29	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.9	10.8	0.554	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.197	0.200	98.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	114.	111.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	117.	111.(100.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.81	10.0	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.18	10.0	91.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.66	10.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.77	10.0	97.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.91	10.0	99.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.84	10.0	98.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.36	10.0	93.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.63	10.0	96.3	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.67	10.0	96.7	80 - 120

Serial Dilution — Lab ID = 999091-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	24.3	25.5	4.90	

Metals by EPA 6020A, Dissolved

Batch 122911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-001 Chromium	ug/L	12/30/2011 01:15	5.00	0.110	1.0	ND
999091-002 Chromium	ug/L	12/30/2011 01:24	5.00	0.110	1.0	21.6
999091-006 Chromium	ug/L	12/30/2011 01:59	5.00	0.110	1.0	70.8
999091-007 Chromium	ug/L	12/30/2011 02:07	5.00	0.110	1.0	ND
999091-008 Chromium	ug/L	12/30/2011 02:16	5.00	0.110	1.0	132.
999091-009 Chromium	ug/L	12/30/2011 03:17	5.00	0.110	1.0	26.8
999091-010 Chromium	ug/L	12/30/2011 03:26	5.00	0.110	1.0	23.8
999091-011 Chromium	ug/L	12/30/2011 03:34	5.00	0.110	1.0	18.0
999091-012 Chromium	ug/L	12/30/2011 03:52	50.0	1.10	10.0	8730

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	6.55	6.62	1.11	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.234	0.200	117.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Matrix Spike — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	113.	107.(100.)	106.	75 - 125

Matrix Spike Duplicate — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	110.	107.(100.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.74	10.0	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.90	10.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.59	10.0	95.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.84	10.0	98.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.69	10.0	96.9	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.80	10.0	98.0	80 - 120

Serial Dilution — Lab ID = 999091-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	129.	132	2.38	0 - 10

Metals by EPA 6020A, Dissolved

Batch 123011A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-013 Chromium	ug/L	12/30/2011 14:37	5.00	0.110	1.0	130.
999091-014 Chromium	ug/L	12/30/2011 15:38	5.00	0.110	1.0	27.2
999091-015 Chromium	ug/L	12/30/2011 15:46	5.00	0.110	1.0	2.1
999091-016 Chromium	ug/L	12/30/2011 15:55	5.00	0.110	1.0	9.9
999091-017 Chromium	ug/L	12/30/2011 16:12	5.00	0.110	1.0	290.
999091-018 Chromium	ug/L	12/30/2011 16:23	5.00	0.110	1.0	622.
999091-021 Chromium	ug/L	12/30/2011 16:50	5.00	0.110	1.0	295.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	131.	130.	0.613	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.211	0.200	105.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	100.	100.	100.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	240.	230.(100.)	110.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.21	10.0	92.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.86	10.0	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.78	10.0	97.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.60	10.0	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.60	10.0	96.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.74	10.0	97.4	80 - 120

Serial Dilution Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	128	130.	1.55	0 - 10

Metals by EPA 6020A, Dissolved

Batch 010412A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-019 Chromium	ug/L	01/04/2012 19:41	100	2.20	20.0	2830
999091-022 Chromium	ug/L	01/04/2012 19:58	100	2.20	20.0	11500
999091-023 Chromium	ug/L	01/04/2012 20:16	5.00	0.110	1.0	ND
999091-024 Chromium	ug/L	01/04/2012 20:24	100	2.20	20.0	1750

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	128.	134	4.50	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.233	0.200	116.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.	101.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.	101.	85 - 115

Matrix Spike — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	233.	234(100.)	98.9	75 - 125

Matrix Spike Duplicate — Lab ID = 999091-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	236.	234(100.)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.43	10.0	94.3	90 - 110

Serial Dilution Lab ID = 999091-019

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	2930	2830	3.44	0 - 10

Serial Dilution Lab ID = 999091-022

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	11300	11500	1.66	0 - 10

Metals by EPA 6020A, Dissolved

Batch 010712B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-020 Chromium	ug/L	01/08/2012 05:57	5.00	0.110	1.0	22.8

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.9	10.5	4.10	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.150	0.200	75.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	115.	110.(100.)	105.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.44	10.0	94.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.54	10.0	95.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.59	10.0	95.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.52	10.0	95.2	90 - 110

Metals by EPA 6020A, Dissolved

Batch 010812A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-005 Chromium	ug/L	01/09/2012 13:07	10.0	0.220	2.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	11.3	10.8	4.70	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.183	0.200	91.4	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 998945-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	114.	111.(100.)	103	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.55	10.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.55	10.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.32	10.0	93.2	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Metals by EPA 6020A, Dissolved

Batch 011312B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-003 Chromium	ug/L	01/14/2012 06:29	100	2.20	20.0	3930

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	6.70	6.84	2.13	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.195	0.200	97.5	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	107.(100.)	99.3	75 - 125

Matrix Spike Duplicate — Lab ID = 999117-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	107.(100.)	99.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.90	10.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.86	10.0	98.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.66	10.0	96.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.54	10.0	95.4	80 - 120

Serial Dilution Lab ID = 999091-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	3890	3930	0.997	0 - 10

Chromium, Hexavalent by SM 3500-Cr B Batch 12CrH11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999091-003 Chromium, Hexavalent	ug/L	12/19/2011 13:25	10.0	15.0	100.	3770
999091-006 Chromium, Hexavalent	ug/L	12/19/2011 13:26	2.00	3.00	20.0	62.5
999091-012 Chromium, Hexavalent	ug/L	12/19/2011 13:27	50.0	75.0	500.	8740
999091-017 Chromium, Hexavalent	ug/L	12/19/2011 13:28	2.00	3.00	20.0	299.
999091-018 Chromium, Hexavalent	ug/L	12/19/2011 13:29	2.00	3.00	20.0	621.
999091-019 Chromium, Hexavalent	ug/L	12/19/2011 13:34	10.0	15.0	100.	2240
999091-021 Chromium, Hexavalent	ug/L	12/19/2011 13:35	2.00	3.00	20.0	289.
999091-022 Chromium, Hexavalent	ug/L	12/19/2011 13:36	50.0	75.0	500.	11100
999091-024 Chromium, Hexavalent	ug/L	12/19/2011 13:37	5.00	7.50	50.0	1840

Method Blank

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

Duplicate — Lab ID = 999090-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	3580	3570	0.436	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 = 999090-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	4620	4570(1000)	105.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.5	60.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

999091

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 3:42:58 PM Page 3 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423675.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

ALERT !!
Level III QC

For Sample Conditions See Form Attached

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field	NA	Field		
				Holding Time:	28	28	28	180	180		
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (E200.7T) Total Chromium	Metals (6020AFF) Field Filtered Chromium		
1	PGE-07BR-183	12/7/2011	14:51	Water	X				X	2	
2	MW-18-183	12/8/2011	14:39	Water	X				X	2	
3	MW-20-100-183	12/8/2011	15:10	Water		X			X	2	
4	MW-30-050-183	12/8/2011	9:25	Water	X				X	2	pH=2
5	MW-32-026-183	12/8/2011	16:10	Water			X		X	3	
6	MW-37D-183	12/8/2011	16:04	Water		X			X	2	
7	MW-44-070-183	12/8/2011	10:22	Water			X		X	3	
	MW-44-070-183-EB	12/8/2011	9:45	Water	X				X	2	
8	MW-44-115-183	12/8/2011	11:00	Water	X				X	2	
9	MW-44-125-183	12/8/2011	15:22	Water	X				X	2	
10	MW-47-055-183	12/8/2011	11:34	Water	X				X	2	pH=2
11	MW-47-115-183	12/8/2011	12:34	Water	X				X	2	
12	MW-50-200-183	12/8/2011	15:59	Water		X			X	2	
	MW-79-183	12/8/2011	16:57	Water	X					1	Hold

pH for 6010A

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12-13-11 1705
Received by	Rafael Davila	12/13/11 17:0
Relinquished by	Rafael Davila	12/13/11 23:30
Received by		12/13/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

999091

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 3:42:58 PM Page 4 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

ALERT !!
Level III QC

For Sample Conditions See Form Attached

	DATE	TIME	Matrix	Container: 250 ml Poly; Preservatives: (NH4)2SO4/NH4OH, 4°C; Filtered: Field; Holding Time: 28 — Cr6 (E218.6) Field Filtered	Container: 250 ml Poly; Preservatives: (NH4)2SO4/NH4OH, 4°C; Filtered: Field; Holding Time: 28 — Cr6 (SM3500B) Field Filtered	Container: 2x250 ml Poly; Preservatives: (NH4)2SO4/NH4OH, 4°C; Filtered: Field; Holding Time: 28 — Cr6 (E218.6R) Field Filtered	Container: 500 ml Poly; Preservatives: HNO3, 4°C; Filtered: NA; Holding Time: 180 — Metals (E200.7T) Total Chromium	Container: 500 ml Poly; Preservatives: HNO3, 4°C; Filtered: Field; Holding Time: 180 — Metals (6020AFF) Field Filtered Chromium	Number of Containers	COMMENTS
MW-80-183	12/8/2011	16:17	Water	X					1	Hold
MW-81-183	12/8/2011	16:39	Water	X					1	Hold
-13 MW-96-183	12/8/2011	16:05	Water	X				X	2	
-14 MW-97-183	12/8/2011	12:00	Water	X				X	2	
-15 PGE-08-183	12/8/2011	12:25	Water	X				X	2	
-16 TW-04-183	12/8/2011	10:45	Water	X				X	2	
-17 MW-09-183	12/9/2011	8:32	Water		X			X	2	PM-2 6020A
-18 MW-10-183	12/9/2011	9:38	Water		X			X	2	
-19 MW-12-183	12/9/2011	12:10	Water		X			X	2	
-20 MW-14-183	12/9/2011	10:32	Water	X				X	2	
-21 MW-19-183	12/9/2011	9:35	Water		X			X	2	
-22 MW-20-130-183	12/9/2011	11:31	Water		X			X	2	
-23 MW-24BR-183	12/9/2011	8:12	Water	X				X	2	
-24 MW-26-183	12/9/2011	11:08	Water		X			X	2	

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1705
Relinquished by	Rafael Davila	12/13/11 17:10
Received by	Rafael Davila	12/13/11 23:30
Relinquished by	Lucy	12/13/11 23:30
Received by		

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

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

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
12/14/11	999091-1	9.5	N/A	N/A	N/A	ab
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-22					
	-23					
	-24					

ab 12/14/11

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

ab

Metals Samples logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (1-8)	<1	<2	12/09/	M.M	Yes	—
998945 (1-2)						—
998946 (1-2)						—
998947 (1-5)						—
998996 (1-6)						—
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	—
999052	>1	<2	12/14/11	M.M	Yes	—
999056				—	—	—
999059 (1-5)				—	—	—
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	—
999039 (2-5)			14:00			—
999084 (1-6)						—
999086 (1-6)						—
999087 (1-2)						—
999088						—
999089 (1-5)						—
999091 (1-24)	<1	<2	12/15/	M.M	Yes	—
999090 (1-19)						—
999092 (1-16)						—
999117 (1-2)						—
999118						—
999121 (1-4)						—
999154 (1-9)	<1	<2	12/16/11	M.M	Yes	—
999155 (1-2)						—
999156						—
999047-1	>1	<2	12/16/11	M.M	Yes	—
999067 (1-24)						—
999124						—
999125 (1-4)						—
999148						—
999149						—
999151						—
999167						—
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	—
999179 (1-8)						—
999180 (1-26)						—
999028 (1-21)	Solid	—	12/19/11	M.M	Yes	TTC
999175 (1-21)						
999191						
998731 (1,2,5)	<1	<2	11/23/11	M.M	Yes	—
999227	<1	<2	12/21/11	M.M	Yes	
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	—
998802	<1	<2	11/30/11	M.M	Yes	—
999241	>1	>1	12/21/11	M.M	Yes	—
998777 (1-7)	<1	<2	11/30/11	M.M	Yes	—
998778 (1-9)	<1	<2				—
999308	<1	<2	01/01/12	M.M	Yes	—
999360 (1,2)						—
999362 (1,3)						—

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 999091

Date Delivered: 12/13/11 **Time:** 23:30 **By:** ☐Mail ☒Field Service ☐Client

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

ALERT: Level III COC

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: Linda

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 30, 2012

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK 2011-GMP-183-Q4, GROUNDWATER MONITORING PROJECT, TLI NO.: 999092

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-183-Q4 groundwater-monitoring project for Hexavalent, Total, and Total Dissolved Chromium. 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 December 13, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the discrepancy between the Total Dissolved Chromium (680 ug/L) and Hexavalent Chromium (511 ug/L) results for sample MW-100-183, Mr. Duffy was notified. Mr. Duffy requested that sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers be digested and analyzed for Total Dissolved Chromium. The results were 663 and 640 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 664 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (2.6 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample MW-33-040-183, Mr. Duffy was notified. Mr. Duffy approved reporting of the results without a re-analysis.

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

Michael Ngo
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.: 999092
Date Received: December 13, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999092-001	MW-32-035-183	E218.6	FLDFLT	12/9/2011	11:42	Chromium, hexavalent	ND	ug/L	1.0
999092-001	MW-32-035-183	SW6020	FLDFLT-digested	12/9/2011	11:42	Chromium	ND	ug/L	1.0
999092-002	MW-43-025-183	E218.6	FLDFLT	12/9/2011	8:35	Chromium, hexavalent	ND	ug/L	0.20
999092-002	MW-43-025-183	SW6020	FLDFLT-digested	12/9/2011	8:35	Chromium	ND	ug/L	1.0
999092-003	MW-43-075-183	E218.6	FLDFLT	12/9/2011	9:28	Chromium, hexavalent	ND	ug/L	1.0
999092-003	MW-43-075-183	SW6020	FLDFLT-digested	12/9/2011	9:28	Chromium	ND	ug/L	1.0
999092-004	MW-43-090-183	E218.6	FLDFLT	12/9/2011	10:27	Chromium, hexavalent	ND	ug/L	1.0
999092-004	MW-43-090-183	SW6020	FLDFLT-digested	12/9/2011	10:27	Chromium	ND	ug/L	1.0
999092-005	MW-91-183	E218.6	FLDFLT	12/9/2011	8:12	Chromium, hexavalent	ND	ug/L	1.0
999092-005	MW-91-183	SW6020	FLDFLT-digested	12/9/2011	8:12	Chromium	ND	ug/L	1.0
999092-006	MW-100-183	SM3500-CrB	FLDFLT	12/12/2011	14:53	Chromium, hexavalent	511	ug/L	20.0
999092-006	MW-100-183	SW6020	FLDFLT-digested	12/12/2011	14:53	Chromium	680	ug/L	1.0
999092-007	MW-28-025-183	E218.6	FLDFLT	12/12/2011	13:14	Chromium, hexavalent	ND	ug/L	0.20
999092-007	MW-28-025-183	SW6020	FLDFLT-digested	12/12/2011	13:14	Chromium	ND	ug/L	1.0
999092-008	MW-28-090-183	E218.6	FLDFLT	12/12/2011	14:22	Chromium, hexavalent	ND	ug/L	1.0
999092-008	MW-28-090-183	SW6020	FLDFLT-digested	12/12/2011	14:22	Chromium	ND	ug/L	1.0
999092-009	MW-33-040-183	E218.6	FLDFLT	12/12/2011	15:38	Chromium, hexavalent	ND	ug/L	1.0
999092-009	MW-33-040-183	SW6020	FLDFLT-digested	12/12/2011	15:38	Chromium	2.6	ug/L	1.0
999092-010	PM-03-183	E200.8	NONE-digested	12/12/2011	13:19	Chromium	7.0	ug/L	1.0
999092-010	PM-03-183	E218.6	FLDFLT	12/12/2011	13:19	Chromium, hexavalent	6.6	ug/L	0.20

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999092-011	PM-04-183	E200.8	NONE-digested	12/12/2011	13:57	Chromium	18.2	ug/L	1.0
999092-011	PM-04-183	E218.6	FLDFLT	12/12/2011	13:57	Chromium, hexavalent	18.9	ug/L	1.0
999092-012	TW-02D-183	SM3500-CrB	FLDFLT	12/12/2011	15:26	Chromium, hexavalent	339	ug/L	20.0
999092-012	TW-02D-183	SW6020	FLDFLT-digested	12/12/2011	15:26	Chromium	362	ug/L	1.0
999092-013	TW-02S-183	SM3500-CrB	FLDFLT	12/12/2011	14:53	Chromium, hexavalent	619	ug/L	20.0
999092-013	TW-02S-183	SW6020	FLDFLT-digested	12/12/2011	14:53	Chromium	662	ug/L	1.0
999092-014	MW-33-090-183	E218.6	FLDFLT	12/13/2011	12:06	Chromium, hexavalent	21.9	ug/L	1.0
999092-014	MW-33-090-183	SW6020	FLDFLT-digested	12/13/2011	12:06	Chromium	19.8	ug/L	1.0
999092-015	MW-33-150-183	E218.6	FLDFLT	12/13/2011	9:05	Chromium, hexavalent	12.7	ug/L	1.0
999092-015	MW-33-150-183	SW6020	FLDFLT-digested	12/13/2011	9:05	Chromium	12.4	ug/L	1.0
999092-016	MW-33-210-183	E218.6	FLDFLT	12/13/2011	10:14	Chromium, hexavalent	14.5	ug/L	1.0
999092-016	MW-33-210-183	SW6020	FLDFLT-digested	12/13/2011	10:14	Chromium	14.5	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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
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REPORT

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

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 999092

Printed 1/5/2012

Samples Received on 12/13/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-32-035-183	999092-001	12/09/2011 11:42	Water
MW-43-025-183	999092-002	12/09/2011 08:35	Water
MW-43-075-183	999092-003	12/09/2011 09:28	Water
MW-43-090-183	999092-004	12/09/2011 10:27	Water
MW-91-183	999092-005	12/09/2011 08:12	Water
MW-100-183	999092-006	12/12/2011 14:53	Water
MW-28-025-183	999092-007	12/12/2011 13:14	Water
MW-28-090-183	999092-008	12/12/2011 14:22	Water
MW-33-040-183	999092-009	12/12/2011 15:38	Water
PM-03-183	999092-010	12/12/2011 13:19	Water
PM-04-183	999092-011	12/12/2011 13:57	Water
TW-02D-183	999092-012	12/12/2011 15:26	Water
TW-02S-183	999092-013	12/12/2011 14:53	Water
MW-33-090-183	999092-014	12/13/2011 12:06	Water
MW-33-150-183	999092-015	12/13/2011 09:05	Water
MW-33-210-183	999092-016	12/13/2011 10:14	Water

Chrome VI by EPA 218.6 Batch 12CrH11S

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-001 Chromium, Hexavalent	ug/L	12/28/2011 09:49	5.25	0.136	1.0	ND
999092-002 Chromium, Hexavalent	ug/L	12/28/2011 05:29	1.05	0.0260	0.20	ND
999092-003 Chromium, Hexavalent	ug/L	12/28/2011 10:41	5.25	0.136	1.0	ND
999092-004 Chromium, Hexavalent	ug/L	12/28/2011 10:51	5.25	0.136	1.0	ND
999092-007 Chromium, Hexavalent	ug/L	12/28/2011 06:10	1.05	0.0260	0.20	ND
999092-008 Chromium, Hexavalent	ug/L	12/28/2011 11:54	5.25	0.136	1.0	ND
999092-009 Chromium, Hexavalent	ug/L	12/28/2011 11:02	5.25	0.136	1.0	ND
999092-010 Chromium, Hexavalent	ug/L	12/28/2011 07:23	1.05	0.0260	0.20	6.6
999092-011 Chromium, Hexavalent	ug/L	12/28/2011 07:34	5.25	0.136	1.0	18.9
999092-014 Chromium, Hexavalent	ug/L	12/28/2011 07:44	5.25	0.136	1.0	21.9

999092-015 Chromium, Hexavalent	ug/L	12/28/2011 12:04	5.25	0.136	1.0	12.7
999092-016 Chromium, Hexavalent	ug/L	12/28/2011 12:14	5.25	0.136	1.0	14.5

Method Blank

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

Duplicate — Lab ID = 999092-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	6.58	6.62	0.661	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.186	0.200	92.8	70 - 130

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 = 999090-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.3	10.5(10.5)	98.3	90 - 110

Matrix Spike — Lab ID = 999090-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.1	10.5(10.5)	96.2	90 - 110

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.06	5.25(5.25)	96.4	90 - 110

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999092-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.5	90 - 110

Matrix Spike — Lab ID = 999092-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.23	5.25(5.25)	99.5	90 - 110

Matrix Spike — Lab ID = 999092-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.578	1.06(1.06)	54.6	90 - 110

Matrix Spike — Lab ID = 999092-004

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 = 999092-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999092-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.2	10.5(10.5)	97.2	90 - 110

Matrix Spike — Lab ID = 999092-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.07	1.11(1.06)	96.0	90 - 110

Matrix Spike — Lab ID = 999092-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.24	5.25(5.25)	99.7	90 - 110

Matrix Spike — Lab ID = 999092-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.878	1.06(1.06)	82.9	90 - 110

Matrix Spike — Lab ID = 999092-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.67	5.25(5.25)	108.	90 - 110

Matrix Spike — Lab ID = 999092-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	17.3	17.2(10.6)	101.	90 - 110

Matrix Spike — Lab ID = 999092-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	46.0	45.1(26.2)	104.	90 - 110

Matrix Spike — Lab ID = 999092-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	49.5	48.1(26.2)	105.	90 - 110

Matrix Spike — Lab ID = 999092-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	39.3	38.9(26.2)	101.	90 - 110

Matrix Spike — Lab ID = 999092-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	41.1	40.7(26.2)	102.	90 - 110

Chrome VI by EPA 218.6

Batch 01CrH12A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-005 Chromium, Hexavalent	ug/L	01/04/2012 09:00	5.25	0.136	1.0	ND

Method Blank

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

Duplicate — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.0621	0.0695	11.2	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.208	0.200	104.	70 - 120

Lab Control Sample

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

Matrix Spike — Lab ID = 999092-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.46	5.60(5.25)	97.3	90 - 110

Matrix Spike — Lab ID = 999092-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.06(1.06)	103.	90 - 110

Matrix Spike — Lab ID = 999180-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.32	5.25(5.25)	101.	90 - 110

Matrix Spike — Lab ID = 999180-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.925	1.06(1.06)	87.2	90 - 110

Matrix Spike — Lab ID = 999180-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Metals by EPA 6020A, Dissolved

Batch 122711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-001 Chromium	ug/L	12/27/2011 21:23	5.00	0.110	1.0	ND
999092-002 Chromium	ug/L	12/27/2011 22:32	5.00	0.110	1.0	ND
999092-003 Chromium	ug/L	12/27/2011 22:41	5.00	0.110	1.0	ND
999092-004 Chromium	ug/L	12/27/2011 22:50	5.00	0.110	1.0	ND
999092-005 Chromium	ug/L	12/27/2011 22:58	5.00	0.110	1.0	ND
999092-007 Chromium	ug/L	12/27/2011 23:24	5.00	0.110	1.0	ND
999092-008 Chromium	ug/L	12/27/2011 23:33	5.00	0.110	1.0	ND
999092-009 Chromium	ug/L	12/28/2011 00:34	5.00	0.110	1.0	2.6
999092-014 Chromium	ug/L	12/28/2011 01:26	5.00	0.110	1.0	19.8
999092-015 Chromium	ug/L	12/28/2011 02:19	5.00	0.110	1.0	12.4
999092-016 Chromium	ug/L	12/28/2011 02:27	5.00	0.110	1.0	14.5

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.218	0.200	109.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	96.8	100.	96.8	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	98.8	100.	98.8	85 - 115

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125

Metals by EPA 6020A, Dissolved

Batch 122711B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-006 Chromium	ug/L	12/28/2011 12:21	5.00	0.110	1.0	680.
999092-012 Chromium	ug/L	12/28/2011 12:39	5.00	0.110	1.0	362.
999092-013 Chromium	ug/L	12/28/2011 12:47	5.00	0.110	1.0	662.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.260	0.200	130.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	107.	100.(100.)	107.	75 - 125

Matrix Spike Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	106.	100.(100.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.62	10.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.86	10.0	98.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	80 - 120

Serial Dilution — Lab ID = 999092-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	686.	680.	0.893	0 - 10

Metals by EPA 200.8, Total Batch 122711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-010 Chromium	ug/L	12/28/2011 00:43	5.00	0.110	1.0	7.0
999092-011 Chromium	ug/L	12/28/2011 00:52	5.00	0.110	1.0	18.2

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.218	0.200	109.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	96.8	100.	96.8	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	98.8	100.	98.8	85 - 115

Matrix Spike — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 999092-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.96	10.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.62	10.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.43	10.0	94.3	90 - 110

Chromium, Hexavalent by SM 3500-Cr B Batch 12CrH11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999092-006 Chromium, Hexavalent	ug/L	12/19/2011 13:38	2.00	3.00	20.0	511.
999092-012 Chromium, Hexavalent	ug/L	12/19/2011 13:39	2.00	3.00	20.0	339.
999092-013 Chromium, Hexavalent	ug/L	12/19/2011 13:40	2.00	3.00	20.0	619.

Method Blank

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

Duplicate — Lab ID = 999090-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	3580	3570	0.436	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 = 999090-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	4620	4570(1000)	105.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.5	60.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

999092

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 3:42:59 PM Page 5 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

Rec'd 12/13/11
s 999092

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field	NA	Field		
				Holding Time:	28	28	28	180	180		
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (E200.7T) Total Chromium	Metals (6020AFF) Field Filtered Chromium		
1	MW-32-035-183	12/9/2011	11:42	Water			X		X	3	pH for 6020A
	MW-32-035-183-EB	12/9/2011	10:55	Water	X				X	2	
2	MW-43-025-183	12/9/2011	8:35	Water			X		X	3	pH=2
	MW-43-025-183-EB	12/9/2011	7:50	Water	X				X	2	
3	MW-43-075-183	12/9/2011	9:28	Water			X		X	3	pH=2
4	MW-43-090-183	12/9/2011	10:27	Water			X		X	3	
	MW-43-090-183-EB	12/9/2011	9:45	Water	X				X	2	
	MW-82-183	12/9/2011	11:42	Water	X					1	Hold
	MW-83-183	12/9/2011	12:15	Water	X					1	Hold
	MW-84-183	12/9/2011	12:35	Water	X					1	Hold
5	MW-91-183	12/9/2011	8:12	Water	X				X	2	
6	MW-100-183	12/12/2011	14:53	Water		X			X	2	pH=2
7	MW-28-025-183	12/12/2011	13:14	Water			X		X	3	
	MW-28-025-183-EB	12/12/2011	11:45	Water	X				X	2	

	Signatures	Date/Time
Approved by		
Sampled by		12-13-11 1705
Relinquished by		
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:30
Received by		12/13/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

999092

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 3:42:59 PM Page 6 OF 6

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

ALERT !!
Level III QC

For Sample Conditions See Form Attached

pH for 6020A

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C		
				Filtered:	Field	Field	Field	NA	Field		
				Holding Time:	28	28	28	180	180		
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (E200.7T) Total Chromium	Metals (6020AFF) Field Filtered Chromium		
-8 MW-28-090-183	12/12/2011	14:22	Water				X		X	3	pH=2
MW-28-090-183-EB	12/12/2011	13:36	Water		X				X	2	
-9 MW-33-040-183	12/12/2011	15:38	Water				X		X	3	pH=2
MW-33-040-183-EB	12/12/2011	14:50	Water		X				X	2	
MW-36-183	12/12/2011	16:13	Water		X					1	Hold
-10 PM-03-183	12/12/2011	13:19	Water		X			X		2	
-11 PM-04-183	12/12/2011	13:57	Water		X			X		2	
-12 TW-02D-183	12/12/2011	15:26	Water			X			X	2	
13 TW-02S-183	12/12/2011	14:53	Water			X			X	2	pH=2
-14 MW-33-090-183	12/13/2011	12:06	Water		X				X	2	
-15 MW-33-150-183	12/13/2011	9:05	Water		X				X	2	
-16 MW-33-210-183	12/13/2011	10:14	Water		X				X	2	
									TOTAL NUMBER OF CONTAINERS	165	

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12-13-11 1705
Received by	Rafael Davila	12/13/11 17:10
Relinquished by	Rafael Davila	12/13/11 23:38
Received by	Linda	12/13/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

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
12/14/11	999092-1	9.5	N/A	N/A	N/A	ak
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
12/15/11	999117-1	9.5	N/A	N/A	N/A	[illegible]
	-2					
	999118					
	999119					
	999121-1					
	-2					
	-3					
	-4					
12/16/11	999155-1	9.5	N/A	N/A	N/A	[illegible]
	-2					
12/16/11	999154-1	9.5	N/A	N/A	N/A	[illegible]
	-2					
	-3					
	-4					
	-5					

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

ak

Metals Samples logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (7-8)	<1	<2	12/09	M.M	Yes	–
998945 (1-2)	↓	↓	↓	↓	↓	–
998946 (1-2)						–
998947 (1-59)						–
998996 (1-6)						–
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	–
999052	>1	<2	12/14/11	M.M	Yes	–
999056	↓	↓	↓	–	–	–
999059 (1-7)				–	–	–
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	–
999039 (12-5)	↓	↓	14:00	↓	↓	–
999084 (1-6)			↓			–
999086 (1-6)						–
999087 (1-2)						–
999088						–
999089 (1-5)	↓	↓	↓	↓	↓	–
999091 (1-24)	<1	<2	12/15	M.M	Yes	–
999090 (1-19)	↓	↓	↓	↓	↓	–
999092 (1-16)						–
999117 (1-2)						–
999118						–
999121 (1-4)	↓	↓	↓	↓	↓	–
999154 (1-9)	<1	<2	12/16/11	MM	Yes	–
999155 (1-2)	↓	↓	↓	↓	↓	–
999156						–
999047-1	>1	<2	12/16/11	M.M	Yes	–
999067 (1-21)	↓	↓	↓	↓	↓	–
999124						–
999125 (1-4)						–
999148						–
999149						–
999151						–
995167	↓	↓	↓	↓	↓	–

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 999092

Date Delivered: 12 / 13 / 11 **Time:** 23:30 **By:** ☐Mail ☒Field Service ☐Client

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

ALERT!! Level III QC

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

16. Comments: _____

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

January 14, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-EASTRAVINE-GWINV-007, GROUNDWATER MONITORING PROJECT, TLI NO.: 999179

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-EASTRAVINE-GWINV-007 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 16, 2011, 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.

Sean Condon
for Mona Nassimi
Manager, Analytical Services

Michael Ngo
Quality Assurance/Quality Control Officer

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

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

Laboratory No.: 999179
Date Received: December 16, 2011

Project Name: PG&E Topock Project
Project No.: 417981.ER.02.DM
P.O. No.: 417981.ER.02.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999179-001	MW-57-185-007	E218.6	FLDFLT	12/13/2011	13:57	Chromium, hexavalent	7.4	ug/L	1.0
999179-001	MW-57-185-007	SW6020	FLDFLT-digested	12/13/2011	13:57	Chromium	7.3	ug/L	1.0
999179-002	MW-60-125-007	E218.6	FLDFLT	12/14/2011	12:01	Chromium, hexavalent	901	ug/L	10.5
999179-002	MW-60-125-007	SW6020	FLDFLT-digested	12/14/2011	12:01	Chromium	915	ug/L	2.0
999179-003	MW-61-110-007	E218.6	FLDFLT	12/14/2011	8:54	Chromium, hexavalent	682	ug/L	10.5
999179-003	MW-61-110-007	SW6020	FLDFLT-digested	12/14/2011	8:54	Chromium	722	ug/L	1.0
999179-004	MW-62-110-007	E218.6	FLDFLT	12/14/2011	16:15	Chromium, hexavalent	1140	ug/L	10.5
999179-004	MW-62-110-007	SW6020	FLDFLT-digested	12/14/2011	16:15	Chromium	1060	ug/L	2.0
999179-005	MW-62-190-007	E218.6	FLDFLT	12/14/2011	16:30	Chromium, hexavalent	ND	ug/L	1.0
999179-005	MW-62-190-007	SW6020	FLDFLT-digested	12/14/2011	16:30	Chromium	ND	ug/L	1.0
999179-006	MW-102-007	E218.6	FLDFLT	12/15/2011	13:00	Chromium, hexavalent	4990	ug/L	52.4
999179-006	MW-102-007	SW6020	FLDFLT-digested	12/15/2011	13:00	Chromium	4890	ug/L	10.0
999179-007	MW-57-070-007	E218.6	FLDFLT	12/15/2011	9:10	Chromium, hexavalent	291	ug/L	5.2
999179-007	MW-57-070-007	SW6020	FLDFLT-digested	12/15/2011	9:10	Chromium	296	ug/L	1.0
999179-008	MW-59-100-007	E218.6	FLDFLT	12/15/2011	12:04	Chromium, hexavalent	4600	ug/L	105
999179-008	MW-59-100-007	SW6020	FLDFLT-digested	12/15/2011	12:04	Chromium	4950	ug/L	25.0

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.

TRUESDAIL LABORATORIES, INC.

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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: 417981.ER.02.DM
Project Number: 417981.ER.02.DM

Laboratory No. 999179

Printed 1/14/2012

Samples Received on 12/16/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-57-185-007	999179-001	12/13/2011 13:57	Water
MW-60-125-007	999179-002	12/14/2011 12:01	Water
MW-61-110-007	999179-003	12/14/2011 08:54	Water
MW-62-110-007	999179-004	12/14/2011 16:15	Water
MW-62-190-007	999179-005	12/14/2011 16:30	Water
MW-102-007	999179-006	12/15/2011 13:00	Water
MW-57-070-007	999179-007	12/15/2011 09:10	Water
MW-59-100-007	999179-008	12/15/2011 12:04	Water

Chrome VI by EPA 218.6 Batch 12CrH11T

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999179-001 Chromium, Hexavalent	ug/L	12/29/2011 09:27	5.25	0.136	1.0	7.4
999179-002 Chromium, Hexavalent	ug/L	12/29/2011 04:10	52.5	1.36	10.5	901.
999179-003 Chromium, Hexavalent	ug/L	12/29/2011 04:21	52.5	1.36	10.5	682.
999179-004 Chromium, Hexavalent	ug/L	12/29/2011 04:31	52.5	1.36	10.5	1140
999179-005 Chromium, Hexavalent	ug/L	12/29/2011 10:29	5.25	0.136	1.0	ND
999179-006 Chromium, Hexavalent	ug/L	12/29/2011 15:21	262	6.81	52.4	4990
999179-007 Chromium, Hexavalent	ug/L	12/29/2011 05:02	26.2	0.681	5.2	291.
999179-008 Chromium, Hexavalent	ug/L	12/29/2011 05:13	525	13.6	105	4600

Method Blank

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

Duplicate — Lab ID = 999179-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	286.	291	1.78	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.179	0.200	89.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.1	90 - 110

Matrix Spike — Lab ID = 999179-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	34.1	33.6(26.2)	102.	90 - 110

Matrix Spike — Lab ID = 999179-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2050	1950(1050)	109.	90 - 110

Matrix Spike — Lab ID = 999179-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1540	1470(788.)	109.	90 - 110

Matrix Spike — Lab ID = 999179-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2580	2450(1310)	110.	90 - 110

Matrix Spike — Lab ID = 999179-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.93	5.25(5.25)	94.0	90 - 110

Matrix Spike — Lab ID = 999179-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999179-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	10400	10200(5250)	103.	90 - 110

Matrix Spike — Lab ID = 999179-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	709.	685(394.)	106.	90 - 110

Matrix Spike — Lab ID = 999179-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	525	9610	9850(5250)	95.4	90 - 110

Matrix Spike — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	263.	252(131.)	108.	90 - 110

Metals by EPA 6020A, Dissolved

Batch 011012B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999179-001 Chromium	ug/L	01/11/2012 06:39	5.00	0.110	1.0	7.3
999179-002 Chromium	ug/L	01/11/2012 06:48	10.0	0.220	2.0	915
999179-003 Chromium	ug/L	01/11/2012 07:05	5.00	0.110	1.0	722.
999179-004 Chromium	ug/L	01/11/2012 07:23	10.0	0.220	2.0	1060
999179-005 Chromium	ug/L	01/11/2012 07:40	5.00	0.110	1.0	ND
999179-006 Chromium	ug/L	01/11/2012 07:49	50.0	1.10	10.0	4890
999179-007 Chromium	ug/L	01/11/2012 08:41	5.00	0.110	1.0	296.
999179-008 Chromium	ug/L	01/11/2012 09:07	125	2.75	25.0	4950

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	132.	129	2.00	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.247	0.200	124.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Matrix Spike — Lab ID = 999178-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	107.	100.(100.)	107.	75 - 125

Matrix Spike — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	243.	229(100.)	114.	75 - 125

Matrix Spike Duplicate — Lab ID = 999178-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.(100.)	103.	75 - 125

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 7 of 7
Project Number: 417981.ER.02.DM Printed 1/14/2012

Serial Dilution Lab ID = 999179-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	855.	915	6.73	0 - 10

Serial Dilution Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	125	129	3.15	0 - 10

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

ER-007 TLI 12-16-11 1 of 2 999179

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 12:12:37 PM Page 1 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 7

				Container:	250 ml Poly	500 ml Poly		
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
				Filtered:	Field	Field		
				Holding Time:	28	180		
					Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Number of Containers	COMMENTS
		DATE	TIME	Matrix				
	MW-81-007	12/12/2011	16:30	Water	X		1	Hold
-1	MW-57-185-007	12/13/2011	13:57	Water	X	X	2	pm=2
	MW-86-007	12/13/2011	15:50	Water	X		1	Hold
	MW-88-007	12/13/2011	16:45	Water	X		1	Hold
2	MW-60-125-007	12/14/2011	12:01	Water	X	X	2	pm=2
3	MW-61-110-007	12/14/2011	8:54	Water	X	X	2	
4	MW-62-110-007	12/14/2011	16:15	Water	X	X	2	
5	MW-62-190-007	12/14/2011	16:30	Water	X	X	2	
	MW-82-007	12/14/2011	9:56	Water	X		1	Hold
	MW-83-007	12/14/2011	13:38	Water	X		1	Hold
	MW-89-007	12/14/2011	17:05	Water	X		1	Hold
-6	MW-102-007	12/15/2011	13:00	Water	X	X	2	pm=2
7	MW-57-070-007	12/15/2011	9:10	Water	X	X	2	
8	MW-59-100-007	12/15/2011	12:04	Water	X	X	2	

Rec'd 12/16/11 999179

For Sample Conditions See Form Attached

ALERT !! Level III QC

	Signatures	Date/Time
Approved by	[signature]	12-16-11 17:30
Sampled by		
Relinquished by		
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Linda Shabunina	12/16/11 23:30

Shipping Details

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

ATTN: Sample Custody

Special Instructions: December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

ER-007 TLI 12-16-11 2 of 2 999179

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/16/2011 12:12:37 PM* Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 7

	Container:	250 ml Poly	500 ml Poly				
	Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C				
	Filtered:	Field	Field				
	Holding Time:	28	180				
DATE	TIME	Matrix	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020Adis) Field Filtered Chromium		Number of Containers	COMMENTS
12/15/2011	17:30	Water	X			1	Hold
12/15/2011	14:55	Water	X			1	Hold
					TOTAL NUMBER OF CONTAINERS	24	

ALERT !!
Level III QC

	Signatures	Date/Time
Approved by		
Sampled by		12-16-11 17:30
Relinquished by		
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Linda Frankenmuir	12/16/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
December, 2011

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
12/16/11	999154-6	9.5	N/A	N/A	N/A	GW
	-7					
	-8					
	-9					
12/16/11	999156	9.5	N/A	N/A	N/A	GW
12/19/11	999178-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
12/19/11	999179-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
12/19/11	999180-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-9					
	-10					
	-12					

Metals Samples logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (7-8	<1	<2	12/09	M.M	Yes	–
998945 (1-2)	↓	↓	↓	↓	↓	–
998946 (1-2)						–
998947 (1-5?)						–
998996 (1-6)						–
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	–
999052	>1	<2	12/14/11	M.M	Yes	–
999056	↓	↓	↓	–	–	–
999059 (1-2)				–	–	–
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	–
999039 (2-5)	↓	↓	14:00	↓	↓	–
999084 (1-6)			↓			–
999086 (1-6)						–
999087 (1-2)						–
999088						–
999089 (1-5)	↓	↓	↓	↓	↓	–
999091 (1-2)	<1	<2	12/15	M.M	Yes	–
999090 (1-8)	↓	↓	↓	↓	↓	–
999092 (1-6)						–
999117 (1-2)						–
999118						–
999121 (1-4)	↓	↓	↓	↓	↓	–
999154 (1-9)	<1	<2	12/16/11	M.M	Yes	–
999155 (1-2)	↓	↓	↓	↓	↓	–
999156						–
999047-1	>1	<2	12/16/11	M.M	Yes	–
999067 (1-2)	↓	↓	↓	↓	↓	–
999124						–
999125 (1-4)						–
999148						–
999149						–
999151						–
999167	↓	↓	↓	↓	↓	–
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	–
999179 (1-8)	↓	↓	↓	↓	↓	–
999180 (1-6)						–
999028 (1-2)	Solid	–	12/19/11	M.M	Yes	TTC
999175 (1-2)	↓		↓	↓	↓	↓
999191						–
998731 (2,5)	<1	<2	11/23/11	M.M	Yes	
999227	<1	<2	12/21/11	M.M	Yes	
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	–
998802	<1	<2	11/30/11	M.M	Yes	–
999241	>1	>2	12/21/11	M.M	Yes	–
998777 (1-7)	<1	<2	11/30/11	M.M	Yes	–
998778 (1-9)	<1	<2	↓	↓	↓	–
999308	<1	<2	01/01/12	M.M	Yes	–
999360 (2)	↓	↓	↓	↓	↓	–
999362 (1-3)						–

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 99912

Date Delivered: 12/16/11 **Time:** 23:30 **By:** ☐Mail ☒Field Service ☐Client

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

ALERT !! Level III QC

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

16. Comments: _____

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

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14201 FRANKLIN AVENUE
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www.truesdail.com

January 27, 2012

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-183-Q4, GROUNDWATER MONITORING PROJECT, TLI NO.: 999180

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-183-Q4 groundwater-monitoring project for Hexavalent and Total Dissolved Chromium. 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 December 16, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to the discrepancy between the Total Dissolved Chromium (6.5 ug/L) and Hexavalent Chromium (4.4 ug/L) results for sample MW-46-205-183, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were 6.3 and 6.1 ug/L, respectively. The original digestate was re-analyzed for confirmation and yielded a result of 6.4 ug/L. After discussing the results with Mr. Duffy, the original result was reported.

Due to the discrepancy between the Total Dissolved Chromium (6.2 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample MW-39-080-183, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of 6.1 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (1.3 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample MW-52M-183, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of 1.3 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

Due to the discrepancy between the Total Dissolved Chromium (259 ug/L) and Hexavalent Chromium (34.8 ug/L) results for sample MW-92-183, the Hexavalent Chromium by SM 3500-Cr B was re-analyzed, past the method specified holding time. The result was 269 ug/L. The result from the re-analysis was reported as it more closely matched the Total Dissolved Chromium result and historical data

Due to the discrepancy between the Total Dissolved Chromium (1.9 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample MW-94-183, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of 1.2 ug/L. After discussing the results with Mr. Duffy, the result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

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

Michael Ngo
Quality Assurance/Quality Control Officer

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

Laboratory No.: 999180
Date Received: December 16, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999180-001	MW-46-175-183	E218.6	FLDFLT	12/13/2011	16:02	Chromium, hexavalent	121	ug/L	1.0
999180-001	MW-46-175-183	SW6020	FLDFLT-digested	12/13/2011	16:02	Chromium	129	ug/L	1.0
999180-002	MW-46-205-183	E218.6	FLDFLT	12/13/2011	14:16	Chromium, hexavalent	4.4	ug/L	1.0
999180-002	MW-46-205-183	SW6020	FLDFLT-digested	12/13/2011	14:16	Chromium	6.5	ug/L	1.0
999180-003	MW-36-020-183	E218.6	FLDFLT	12/14/2011	12:20	Chromium, hexavalent	ND	ug/L	1.0
999180-003	MW-36-020-183	SW6020	FLDFLT-digested	12/14/2011	12:20	Chromium	1.1	ug/L	1.0
999180-004	MW-36-040-183	E218.6	FLDFLT	12/14/2011	13:06	Chromium, hexavalent	ND	ug/L	0.20
999180-004	MW-36-040-183	SW6020	FLDFLT-digested	12/14/2011	13:06	Chromium	ND	ug/L	1.0
999180-005	MW-36-050-183	E218.6	FLDFLT	12/14/2011	14:08	Chromium, hexavalent	ND	ug/L	0.20
999180-005	MW-36-050-183	SW6020	FLDFLT-digested	12/14/2011	14:08	Chromium	ND	ug/L	1.0
999180-006	MW-36-070-183	E218.6	FLDFLT	12/14/2011	15:15	Chromium, hexavalent	ND	ug/L	0.20
999180-006	MW-36-070-183	SW6020	FLDFLT-digested	12/14/2011	15:15	Chromium	ND	ug/L	1.0
999180-007	MW-36-090-183	E218.6	FLDFLT	12/14/2011	16:16	Chromium, hexavalent	ND	ug/L	0.20
999180-007	MW-36-090-183	SW6020	FLDFLT-digested	12/14/2011	16:16	Chromium	ND	ug/L	1.0
999180-008	MW-39-100-183	SM3500-CrB	FLDFLT	12/14/2011	10:24	Chromium, hexavalent	130	ug/L	20.0
999180-008	MW-39-100-183	SW6020	FLDFLT-digested	12/14/2011	10:24	Chromium	138	ug/L	1.0
999180-009	MW-45-095a-183	E218.6	FLDFLT	12/14/2011	9:06	Chromium, hexavalent	29.6	ug/L	2.1
999180-009	MW-45-095a-183	SW6020	FLDFLT-digested	12/14/2011	9:06	Chromium	30.0	ug/L	1.0
999180-010	MW-98-183	E218.6	FLDFLT	12/14/2011	16:03	Chromium, hexavalent	29.8	ug/L	1.0
999180-010	MW-98-183	SW6020	FLDFLT-digested	12/14/2011	16:03	Chromium	30.2	ug/L	1.0
999180-011	MW-25-183	SM3500-CrB	FLDFLT	12/15/2011	9:31	Chromium, hexavalent	249	ug/L	20.0
999180-011	MW-25-183	SW6020	FLDFLT-digested	12/15/2011	9:31	Chromium	265	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
999180-012	MW-39-040-183	E218.6	FLDFLT	12/15/2011	8:28	Chromium, hexavalent	ND	ug/L	0.20
999180-012	MW-39-040-183	SW6020	FLDFLT-digested	12/15/2011	8:28	Chromium	ND	ug/L	1.0
999180-013	MW-39-050-183	E218.6	FLDFLT	12/15/2011	9:12	Chromium, hexavalent	ND	ug/L	0.20
999180-013	MW-39-050-183	SW6020	FLDFLT-digested	12/15/2011	9:12	Chromium	ND	ug/L	1.0
999180-014	MW-39-060-183	E218.6	FLDFLT	12/15/2011	9:58	Chromium, hexavalent	ND	ug/L	0.20
999180-014	MW-39-060-183	SW6020	FLDFLT-digested	12/15/2011	9:58	Chromium	ND	ug/L	1.0
999180-015	MW-39-070-183	E218.6	FLDFLT	12/15/2011	10:51	Chromium, hexavalent	ND	ug/L	0.20
999180-015	MW-39-070-183	SW6020	FLDFLT-digested	12/15/2011	10:51	Chromium	ND	ug/L	1.0
999180-016	MW-39-080-183	E218.6	FLDFLT	12/15/2011	11:42	Chromium, hexavalent	ND	ug/L	1.0
999180-016	MW-39-080-183	SW6020	FLDFLT-digested	12/15/2011	11:42	Chromium	ND	ug/L	1.0
999180-017	MW-52D-183	E218.6	FLDFLT	12/15/2011	15:47	Chromium, hexavalent	ND	ug/L	1.0
999180-017	MW-52D-183	SW6020	FLDFLT-digested	12/15/2011	15:47	Chromium	ND	ug/L	1.0
999180-018	MW-52M-183	E218.6	FLDFLT	12/15/2011	14:16	Chromium, hexavalent	ND	ug/L	1.0
999180-018	MW-52M-183	SW6020	FLDFLT-digested	12/15/2011	14:16	Chromium	ND	ug/L	1.0
999180-019	MW-52S-183	E218.6	FLDFLT	12/15/2011	13:52	Chromium, hexavalent	ND	ug/L	1.0
999180-019	MW-52S-183	SW6020	FLDFLT-digested	12/15/2011	13:52	Chromium	ND	ug/L	1.0
999180-020	MW-92-183	SM3500-CrB	FLDFLT	12/15/2011	9:40	Chromium, hexavalent	269 J	ug/L	20.0
999180-020	MW-92-183	SW6020	FLDFLT-digested	12/15/2011	9:40	Chromium	259	ug/L	1.0
999180-021	MW-94-183	E218.6	FLDFLT	12/15/2011	12:09	Chromium, hexavalent	ND	ug/L	0.20
999180-021	MW-94-183	SW6020	FLDFLT-digested	12/15/2011	12:09	Chromium	ND	ug/L	1.0
999180-022	TW-01-183	SM3500-CrB	FLDFLT	12/15/2011	11:14	Chromium, hexavalent	3610	ug/L	250
999180-022	TW-01-183	SW6020	FLDFLT-digested	12/15/2011	11:14	Chromium	3510	ug/L	20.0
999180-023	MW-22-183	E218.6	FLDFLT	12/16/2011	12:21	Chromium, hexavalent	ND	ug/L	2.1
999180-023	MW-22-183	SW6020	FLDFLT-digested	12/16/2011	12:21	Chromium	1.0	ug/L	1.0
999180-024	MW-53D-183	E218.6	FLDFLT	12/16/2011	10:21	Chromium, hexavalent	ND	ug/L	2.1
999180-024	MW-53D-183	SW6020	FLDFLT-digested	12/16/2011	10:21	Chromium	ND	ug/L	1.0
999180-025	MW-53M-183	E218.6	FLDFLT	12/16/2011	10:23	Chromium, hexavalent	ND	ug/L	1.0
999180-025	MW-53M-183	SW6020	FLDFLT-digested	12/16/2011	10:23	Chromium	ND	ug/L	1.0
999180-026	MW-99-183	E218.6	FLDFLT	12/16/2011	7:05	Chromium, hexavalent	ND	ug/L	2.1
999180-026	MW-99-183	SW6020	FLDFLT-digested	12/16/2011	7:05	Chromium	1.0	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.

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REPORT

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

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 999180

Printed 1/27/2012

Samples Received on 12/16/2011 11:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-46-175-183	999180-001	12/13/2011 16:02	Water
MW-46-205-183	999180-002	12/13/2011 14:16	Water
MW-36-020-183	999180-003	12/14/2011 12:20	Water
MW-36-040-183	999180-004	12/14/2011 13:06	Water
MW-36-050-183	999180-005	12/14/2011 14:08	Water
MW-36-070-183	999180-006	12/14/2011 15:15	Water
MW-36-090-183	999180-007	12/14/2011 16:16	Water
MW-39-100-183	999180-008	12/14/2011 10:24	Water
MW-45-095a-183	999180-009	12/14/2011 09:06	Water
MW-98-183	999180-010	12/14/2011 16:03	Water
MW-25-183	999180-011	12/15/2011 09:31	Water
MW-39-040-183	999180-012	12/15/2011 08:28	Water
MW-39-050-183	999180-013	12/15/2011 09:12	Water
MW-39-060-183	999180-014	12/15/2011 09:58	Water
MW-39-070-183	999180-015	12/15/2011 10:51	Water
MW-39-080-183	999180-016	12/15/2011 11:42	Water
MW-52D-183	999180-017	12/15/2011 15:47	Water
MW-52M-183	999180-018	12/15/2011 14:16	Water
MW-52S-183	999180-019	12/15/2011 13:52	Water
MW-92-183	999180-020	12/15/2011 09:40	Water
MW-94-183	999180-021	12/15/2011 12:09	Water
TW-01-183	999180-022	12/15/2011 11:14	Water
MW-22-183	999180-023	12/16/2011 12:21	Water
MW-53D-183	999180-024	12/16/2011 10:21	Water
MW-53M-183	999180-025	12/16/2011 10:23	Water
MW-99-183	999180-026	12/16/2011 07:05	Water

Chrome VI by EPA 218.6 Batch 12CrH11T

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-001 Chromium, Hexavalent	ug/L	12/29/2011 06:05	5.25	0.136	1.0	121.
999180-002 Chromium, Hexavalent	ug/L	12/29/2011 13:26	5.25	0.136	1.0	4.4

999180-003 Chromium, Hexavalent	ug/L	12/29/2011 13:36	5.25	0.136	1.0	ND
999180-004 Chromium, Hexavalent	ug/L	12/29/2011 06:36	1.05	0.0260	0.20	ND
999180-005 Chromium, Hexavalent	ug/L	12/29/2011 06:46	1.05	0.0260	0.20	ND
999180-006 Chromium, Hexavalent	ug/L	12/29/2011 06:57	1.05	0.0260	0.20	ND
999180-007 Chromium, Hexavalent	ug/L	12/29/2011 07:07	1.05	0.0260	0.20	ND
999180-009 Chromium, Hexavalent	ug/L	12/29/2011 07:18	10.5	0.273	2.1	29.6
999180-010 Chromium, Hexavalent	ug/L	12/29/2011 02:49	5.25	0.136	1.0	29.8
999180-012 Chromium, Hexavalent	ug/L	12/29/2011 07:38	1.05	0.0260	0.20	ND
999180-013 Chromium, Hexavalent	ug/L	12/29/2011 08:56	1.05	0.0260	0.20	ND
999180-014 Chromium, Hexavalent	ug/L	12/29/2011 09:06	1.05	0.0260	0.20	ND

Method Blank

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

Duplicate — Lab ID = 999179-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	286.	291	1.78	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.179	0.200	89.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.86	5.00	97.1	90 - 110

Matrix Spike — Lab ID = 999179-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	34.1	33.6(26.2)	102.	90 - 110

Matrix Spike — Lab ID = 999179-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2050	1950(1050)	109.	90 - 110

Matrix Spike — Lab ID = 999179-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1540	1470(788.)	109.	90 - 110

Matrix Spike — Lab ID = 999179-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	2580	2450(1310)	110.	90 - 110

Matrix Spike — Lab ID = 999179-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.93	5.25(5.25)	94.0	90 - 110

Matrix Spike — Lab ID = 999179-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999179-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	10400	10200(5250)	103.	90 - 110

Matrix Spike — Lab ID = 999179-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	709.	685(394.)	106.	90 - 110

Matrix Spike — Lab ID = 999179-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	525	9610	9850(5250)	95.4	90 - 110

Matrix Spike — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	263.	252(131.)	108.	90 - 110

Matrix Spike — Lab ID = 999180-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	10.1	9.67(5.25)	109.	90 - 110

Matrix Spike — Lab ID = 999180-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.879	1.06(1.06)	82.9	90 - 110

Matrix Spike — Lab ID = 999180-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.24	5.25(5.25)	99.8	90 - 110

Matrix Spike — Lab ID = 999180-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.28	1.23(1.06)	105.	90 - 110

Matrix Spike — Lab ID = 999180-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.12(1.06)	100.	90 - 110

Matrix Spike — Lab ID = 999180-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.07	1.11(1.06)	96.2	90 - 110

Matrix Spike — Lab ID = 999180-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.16(1.06)	95.8	90 - 110

Matrix Spike — Lab ID = 999180-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	84.5	82.1(52.5)	104.	90 - 110

Matrix Spike — Lab ID = 999180-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	83.5	82.3(52.5)	102.	90 - 110

Matrix Spike — Lab ID = 999180-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.12(1.06)	99.6	90 - 110

Matrix Spike — Lab ID = 999180-013

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 = 999180-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.07	1.06(1.06)	101.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00	97.5	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	10.2	10.0	102.	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	10.1	10.0	101.	95 - 105

Chrome VI by EPA 218.6 Batch 01CrH12A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-015 Chromium, Hexavalent	ug/L	01/04/2012 05:32	1.05	0.0260	0.20	ND
999180-016 Chromium, Hexavalent	ug/L	01/04/2012 11:05	5.25	0.136	1.0	ND
999180-017 Chromium, Hexavalent	ug/L	01/04/2012 11:16	5.25	0.136	1.0	ND
999180-018 Chromium, Hexavalent	ug/L	01/04/2012 11:26	5.25	0.136	1.0	ND
999180-019 Chromium, Hexavalent	ug/L	01/04/2012 12:39	5.25	0.136	1.0	ND
999180-021 Chromium, Hexavalent	ug/L	01/04/2012 06:24	1.05	0.0260	0.20	ND
999180-023 Chromium, Hexavalent	ug/L	01/04/2012 15:35	10.5	0.273	2.1	ND
999180-024 Chromium, Hexavalent	ug/L	01/04/2012 15:46	10.5	0.273	2.1	ND
999180-025 Chromium, Hexavalent	ug/L	01/04/2012 14:31	5.25	0.136	1.0	ND
999180-026 Chromium, Hexavalent	ug/L	01/04/2012 15:56	10.5	0.273	2.1	ND

Method Blank

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

Duplicate — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.0621	0.0695	11.2	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.208	0.200	104.	70 - 120

Lab Control Sample

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

Matrix Spike — Lab ID = 999092-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.46	5.60(5.25)	97.3	90 - 110

Matrix Spike — Lab ID = 999092-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.06(1.06)	103.	90 - 110

Matrix Spike — Lab ID = 999180-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.32	5.25(5.25)	101.	90 - 110

Matrix Spike — Lab ID = 999180-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.925	1.06(1.06)	87.2	90 - 110

Matrix Spike — Lab ID = 999180-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.02	5.25(5.25)	95.7	90 - 110

Matrix Spike — Lab ID = 999180-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.14	5.25(5.25)	97.8	90 - 110

Matrix Spike — Lab ID = 999180-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.24	5.25(5.25)	99.9	90 - 110

Matrix Spike — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.13(1.06)	96.3	90 - 110

Matrix Spike — Lab ID = 999180-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.67	5.25(5.25)	88.9	90 - 110

Matrix Spike — Lab ID = 999180-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.5	10.5(10.5)	99.9	90 - 110

Matrix Spike — Lab ID = 999180-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.6	10.5(10.5)	101.	90 - 110

Matrix Spike — Lab ID = 999180-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.03	5.25(5.25)	95.8	90 - 110

Matrix Spike — Lab ID = 999180-025

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-025

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.17	5.25(5.25)	98.4	90 - 110

Matrix Spike — Lab ID = 999180-026

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.9	10.5(10.5)	104.	90 - 110

Matrix Spike — Lab ID = 999180-026

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.00	1.06(1.06)	0.00	90 - 110

Matrix Spike — Lab ID = 999180-026

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.03	5.25(5.25)	95.8	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.91	5.00	98.2	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

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

Metals by EPA 6020A, Dissolved Batch 011012B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-001 Chromium	ug/L	01/11/2012 10:34	5.00	0.110	1.0	129.
999180-002 Chromium	ug/L	01/11/2012 11:08	5.00	0.110	1.0	6.5
999180-003 Chromium	ug/L	01/11/2012 11:17	5.00	0.110	1.0	1.1
999180-004 Chromium	ug/L	01/11/2012 11:26	5.00	0.110	1.0	ND
999180-005 Chromium	ug/L	01/11/2012 11:34	5.00	0.110	1.0	ND
999180-006 Chromium	ug/L	01/11/2012 11:43	5.00	0.110	1.0	ND
999180-007 Chromium	ug/L	01/11/2012 11:52	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	132.	129	2.00	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.247	0.200	124.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 115

Matrix Spike — Lab ID = 999178-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	107.	100.(100.)	107.	75 - 125

Matrix Spike — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	243.	229(100.)	114.	75 - 125

Matrix Spike Duplicate — Lab ID = 999178-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.(100.)	103.	75 - 125

Serial Dilution — Lab ID = 999179-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	855.	915	6.73	0 - 10

Serial Dilution — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	125	129	3.15	0 - 10

Metals by EPA 6020A, Dissolved

Batch 011312A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-018 Chromium	ug/L	01/13/2012 20:10	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	6.60	6.33	4.25	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.160	0.200	80.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	99.0	100.	99.0	85 - 115

Matrix Spike — Lab ID = 999180-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	115.	106.(100.)	109.	75 - 125

Matrix Spike Duplicate — Lab ID = 999180-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	113.	106.(100.)	107.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.83	10.0	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.69	10.0	96.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.71	10.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.93	10.0	99.3	90 - 110

Metals by EPA 6020A, Dissolved

Batch 011112B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-008 Chromium	ug/L	01/12/2012 04:40	5.00	0.110	1.0	138.
999180-009 Chromium	ug/L	01/12/2012 04:47	5.00	0.110	1.0	30.0
999180-010 Chromium	ug/L	01/12/2012 05:01	5.00	0.110	1.0	30.2
999180-011 Chromium	ug/L	01/12/2012 05:15	5.00	0.110	1.0	265.
999180-012 Chromium	ug/L	01/12/2012 08:29	5.00	0.110	1.0	ND
999180-013 Chromium	ug/L	01/12/2012 05:29	5.00	0.110	1.0	ND
999180-014 Chromium	ug/L	01/12/2012 05:36	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	131.	130.	0.690	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.203	0.200	102.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115

Matrix Spike — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	239.	230.(100.)	109.	75 - 125

Matrix Spike Duplicate — Lab ID = 999180-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	238.	230.(100.)	108.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.8	10.0	108.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.94	10.0	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.64	10.0	96.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.71	10.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.77	10.0	97.7	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.81	10.0	98.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.74	10.0	97.4	80 - 120

Serial Dilution — Lab ID = 999180-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	29.8	30.0	0.635	0 - 10

Metals by EPA 6020A, Dissolved Batch 011612B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-015 Chromium	ug/L	01/17/2012 03:22	5.00	0.110	1.0	ND
999180-017 Chromium	ug/L	01/17/2012 04:19	5.00	0.110	1.0	ND
999180-019 Chromium	ug/L	01/17/2012 04:34	5.00	0.110	1.0	ND
999180-020 Chromium	ug/L	01/17/2012 04:41	5.00	0.110	1.0	259.
999180-022 Chromium	ug/L	01/17/2012 04:55	100	2.20	20.0	3510
999180-023 Chromium	ug/L	01/17/2012 05:09	5.00	0.110	1.0	1.0
999180-024 Chromium	ug/L	01/17/2012 05:16	5.00	0.110	1.0	ND
999180-025 Chromium	ug/L	01/17/2012 06:13	5.00	0.110	1.0	ND
999180-026 Chromium	ug/L	01/17/2012 06:20	5.00	0.110	1.0	1.0

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-015

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.206	0.200	103.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	100.	100.	100.	85 - 115

Matrix Spike — Lab ID = 999180-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	104.	100.(100.)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 999180-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	95.7	100.(100.)	95.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.99	10.0	99.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.93	10.0	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.82	10.0	98.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.48	10.0	94.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.27	10.0	92.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.39	10.0	93.9	80 - 120

Serial Dilution Lab ID = 999180-022

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	3550	3510	1.22	0 - 10

Metals by EPA 6020A, Dissolved Batch 011912A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-016 Chromium	ug/L	01/19/2012 17:07	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999623-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	4.24	4.12	2.99	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.180	0.200	90.0	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115

Matrix Spike — Lab ID = 999623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	109	104.(100.)	105.	75 - 125

Matrix Spike Duplicate — Lab ID = 999623-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	107.	104.(100.)	103.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.2	10.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.24	10.0	92.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.48	10.0	94.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.40	10.0	94.0	90 - 110

Metals by EPA 6020A, Dissolved

Batch 012712A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-021 Chromium	ug/L	01/27/2012 15:17	5.00	0.110	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.215	0.200	108.	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	5.00	103.	100.	103.	85 - 115

Matrix Spike — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	101.	100.(100.)	101.	75 - 125

Matrix Spike Duplicate — Lab ID = 999180-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	100.	100.(100.)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.0	10.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.75	10.0	97.5	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Chromium, Hexavalent by SM 3500-Cr B

Batch 12CrH11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
999180-008 Chromium, Hexavalent	ug/L	12/19/2011 13:41	2.00	3.00	20.0	130.
999180-011 Chromium, Hexavalent	ug/L	12/19/2011 13:42	2.00	3.00	20.0	249.
999180-022 Chromium, Hexavalent	ug/L	12/19/2011 13:46	25.0	37.5	250.	3610

Method Blank

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

Duplicate — Lab ID = 999090-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	3580	3570	0.436	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 = 999090-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	4620	4570(1000)	105.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.5	60.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.0	60.0	107.	90 - 110

Chromium, Hexavalent by SM 3500-Cr B Batch 01CrH12B

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
999180-020 Chromium, Hexavalent	ug/L	01/25/2012 15:23	2.00	3.00	20.0	269.	J

Method Blank

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

Duplicate — Lab ID = 999180-020

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	2.00	272.	269	0.925	0 - 20

Lab Control Sample

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

Matrix Spike — Lab ID = 999180-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	2.00	473.	469(200.)	102.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	60.2	60.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	62.7	60.0	104.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

GMP-183 Q4 TLI 12-16-11 1 of 3

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 12:14:33 PM Page 1 OF 2

999180

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 12

	DATE	TIME	Matrix	Container:	250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		Number of Containers	COMMENTS
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
				Filtered:	Field	Field	Field	Field			
				Holding Time:	28	28	28	180			
					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium			
1	MW-46-175-183	12/13/2011	16:02	Water	X			X		2	pH for 6020A
2	MW-46-205-183	12/13/2011	14:16	Water	X			X		2	pH=2
	MW-85-183	12/13/2011	16:50	Water	X					1	Hold
3	MW-36-020-183	12/14/2011	12:20	Water	X			X		2	
4	MW-36-040-183	12/14/2011	13:06	Water	X			X		2	
5	MW-36-050-183	12/14/2011	14:08	Water	X			X		2	
6	MW-36-070-183	12/14/2011	15:15	Water			X	X		3	pH=2
7	MW-36-090-183	12/14/2011	16:16	Water	X			X		2	
8	MW-39-100-183	12/14/2011	10:24	Water		X		X		2	
9	MW-45-095a-183	12/14/2011	9:06	Water	X			X		2	
	MW-87-183	12/14/2011	17:00	Water	X					1	Hold
10	MW-98-183	12/14/2011	16:03	Water	X			X		2	~~Hold~~
11	MW-25-183	12/15/2011	9:31	Water		X		X		2	
12	MW-39-040-183	12/15/2011	8:28	Water			X	X		3	pH=2

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

	Signatures	Date/Time
Approved by		
Sampled by		12-16-11 17:30
Relinquished by		
Received by	Rafael Davila	12/16/11 17:38
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Leuda	12/16/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

GMP-183 Q4 TLI 12-16-11 2 of 3 999180

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/16/2011 12:14:34 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 12

ALERT !! Level III QC

		DATE	TIME	Matrix	Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium	Number of Containers	COMMENTS
Container:					250 ml Poly	250 ml Poly	2x250 ml Poly	500 ml Poly		
Preservatives:					(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
Filtered:					Field	Field	Field	Field		
Holding Time:					28	28	28	180		pH for 6020A
13	MW-39-050-183	12/15/2011	9:12	Water	X			X	2	
14	MW-39-060-183	12/15/2011	9:58	Water	X			X	2	
15	MW-39-070-183	12/15/2011	10:51	Water	X			X	2	
16	MW-39-080-183	12/15/2011	11:42	Water	X			X	2	
17	MW-52D-183	12/15/2011	15:47	Water			X	X	3	pH=2
18	MW-52M-183	12/15/2011	14:16	Water			X	X	3	
19	MW-52S-183	12/15/2011	13:52	Water			X	X	3	
20	MW-92-183	12/15/2011	9:40	Water		X		X	2	
21	MW-94-183	12/15/2011	12:09	Water			X	X	3	
22	TW-01-183	12/15/2011	11:14	Water		X		X	2	
								TOTAL NUMBER OF CONTAINERS	52	

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by	[signature]	12-16-11 17:30
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Leida	12/16/11 23:30

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

ATTN: Sample Custody

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

GMP-183 Q4 TLI 12-16-11 3 of 3

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/16/2011 1:07:41 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 14

999180

ALERT !!
Level III QC

	DATE	TIME	Matrix	Container: 250 ml Poly	2x250 ml Poly	500 ml Poly	Number of Containers	COMMENTS
				Preservatives: (NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C		
				Filtered: Field	Field	Field		
				Holding Time: 28	28	180		
				Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (6020AFF) Field Filtered Chromium		
22	MW-22-183	12/16/2011	12:21	Water	X		X	2
23	MW-53D-183	12/16/2011	10:21	Water		X	X	3
23	MW-53M-183	12/16/2011	10:23	Water		X	X	3
24	MW-99-183	12/16/2011	7:35	Water		X	X	3
						TOTAL NUMBER OF CONTAINERS		11

MW-2 60204

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by		12-16-11 17:30
Received by	Rafael Davila	12/16/11 17:30
Relinquished by	Rafael Davila	12-16-11 23:30
Received by	Linda	12/16/11 23:30

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

ATTN:
Sample Custody

Special Instructions:
Dec 5-16, 2011

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
12/16/11	999154-6	9.5	N/A	N/A	N/A	GW
	-7					
	-8					
	-9					
12/16/11	999156	9.5	N/A	N/A	N/A	GW
12/19/11	999178-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
12/19/11	999179-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
12/19/11	999180-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-9					
	-10					
	-12					

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
12/19/11	999180-18	9.5	N/A	N/A	N/A	GW
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-23					
	-24					
	-25					
	-26					
	-26					
12/21/11	999226	7	5 ml	9.5	10 Am	GW
12/21/11	999227	7	5 ml	9.5	10:15 Am	GW
12/22/11	999247	9.5	N/A	N/A	N/A	GW
12/22/11	999248-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
12/22/11	999249-1	9.5	N/A	N/A	N/A	GW
	-2					
12/22/11	999250-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					

ah

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

Metals Samples Logbook

~~Turbidity/pH Check~~

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
998901 (1-8)	<1	<2	12/09	M.M	Yes	–
998945 (1-2)	↓	↓	↓	↓	↓	–
998946 (1-2)						–
998947 (1-59)						–
998996 (1-6)						–
999016 (1-6)	<1	<2	12/12/11	M.M	Yes	–
999052	>1	<2	12/14/11	M.M	Yes	–
999056	↓	↓	↓	–	–	–
999059 (1-2)				–	–	–
999038 (1-2)	<1	<2	12/14/11	M.M	Yes	–
999039 (12-5)	↓	↓	14:00	↓	↓	–
999084 (1-6)			↓			–
999086 (1-6)						–
999087 (1-2)						–
999088						–
999089 (1-5)						–
999091 (1-24)	<1	<2	12/15	M.M	Yes	–
999090 (1-89)	↓	↓	↓	↓	↓	–
999092 (1-16)						–
999117 (1-2)						–
999118						–
999121 (1-4)						–
999154 (1-9)	<1	<2	12/16/11	M.M	yes	–
999155 (1-2)	↓	↓	↓	↓	↓	–
999156						–
999047-1	>1	<2	12/16/11	M.M	Yes	–
999067 (1-21)	↓	↓	↓	↓	↓	–
999124						–
999125 (1-4)						–
999148						–
999149						–
999151						–
999167						–
999178 (1-8)	<1	<2	12/19/11	M.M	Yes	–
999179 (1-8)	↓	↓	↓	↓	↓	–
999180 (1-26)						–
999028 (1-2)	solid	–	12/19/11	M.M	Yes	TTLC
999175 (1-2)	↓		↓	↓	↓	↓
999191						–
998731 (12,15)	<1	<2	11/23/11	M.M	Yes	
999227	<1	<2	12/21/11	M.M	Yes	
998732 (1-13)	<1	<2	11/30/11	M.M	Yes	–
998802	<1	<2	11/30/11	M.M	yes	–
999241	>1	>2	12/21/11	M.M	Yes	–
998777 (1-7)	<1	<2	11/30/11	M.M	yes	–
998778 (1-9)	<1	<2	↓	↓	↓	–
999308	<1	<2	01/01/12	M.M	Yes	–
999360 (1,2)	↓	↓	↓	↓	↓	–
999362 (1,3)						–

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 999180

Date Delivered: 12 / 16 / 11 **Time:** 23:30 **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)? 7 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by ☒Truesdail ☐Client	☒Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

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

16. Comments: _____

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

LATE

C:\Users\Test\Desktop\Forms A - D\Discrp.FormBlank.doc

December 27, 2011

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.: N006965

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 06, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

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 were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *27-Dec-11*

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006965
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006965-001A	MW-27-020-183	Water	12/5/2011 1:28:00 PM	12/6/2011	
N006965-001B	MW-27-020-183	Water	12/5/2011 1:28:00 PM	12/6/2011	
N006965-001C	MW-27-020-183	Water	12/5/2011 1:28:00 PM	12/6/2011	
N006965-001D	MW-27-020-183	Water	12/5/2011 1:28:00 PM	12/6/2011	
N006965-001E	MW-27-020-183	Water	12/5/2011 1:28:00 PM	12/6/2011	
N006965-002A	MW-27-060-183	Water	12/5/2011 3:33:00 PM	12/6/2011	
N006965-002B	MW-27-060-183	Water	12/5/2011 3:33:00 PM	12/6/2011	
N006965-002C	MW-27-060-183	Water	12/5/2011 3:33:00 PM	12/6/2011	
N006965-002D	MW-27-060-183	Water	12/5/2011 3:33:00 PM	12/6/2011	
N006965-002E	MW-27-060-183	Water	12/5/2011 3:33:00 PM	12/6/2011	
N006965-003A	MW-27-085-183	Water	12/5/2011 2:34:00 PM	12/6/2011	
N006965-003B	MW-27-085-183	Water	12/5/2011 2:34:00 PM	12/6/2011	
N006965-003C	MW-27-085-183	Water	12/5/2011 2:34:00 PM	12/6/2011	
N006965-003D	MW-27-085-183	Water	12/5/2011 2:34:00 PM	12/6/2011	
N006965-003E	MW-27-085-183	Water	12/5/2011 2:34:00 PM	12/6/2011	
N006965-004A	MW-41D-183	Water	12/5/2011 2:56:00 PM	12/6/2011	
N006965-004B	MW-41D-183	Water	12/5/2011 2:56:00 PM	12/6/2011	
N006965-004C	MW-41D-183	Water	12/5/2011 2:56:00 PM	12/6/2011	
N006965-004D	MW-41D-183	Water	12/5/2011 2:56:00 PM	12/6/2011	
N006965-005A	MW-41M-183	Water	12/5/2011 4:16:00 PM	12/6/2011	
N006965-005B	MW-41M-183	Water	12/5/2011 4:16:00 PM	12/6/2011	
N006965-005C	MW-41M-183	Water	12/5/2011 4:16:00 PM	12/6/2011	
N006965-005D	MW-41M-183	Water	12/5/2011 4:16:00 PM	12/6/2011	
N006965-006A	OW-03M-183	Water	12/5/2011 3:50:00 PM	12/6/2011	
N006965-006B	OW-03M-183	Water	12/5/2011 3:50:00 PM	12/6/2011	
N006965-006C	OW-03M-183	Water	12/5/2011 3:50:00 PM	12/6/2011	
N006965-006D	OW-03M-183	Water	12/5/2011 3:50:00 PM	12/6/2011	
N006965-007A	OW-03S-183	Water	12/5/2011 3:06:00 PM	12/6/2011	
N006965-007B	OW-03S-183	Water	12/5/2011 3:06:00 PM	12/6/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006965
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006965-007C	OW-03S-183	Water	12/5/2011 3:06:00 PM	12/6/2011	
N006965-007D	OW-03S-183	Water	12/5/2011 3:06:00 PM	12/6/2011	
N006965-008A	MW-13-183	Water	12/6/2011 2:48:00 PM	12/6/2011	
N006965-008B	MW-13-183	Water	12/6/2011 2:48:00 PM	12/6/2011	
N006965-008C	MW-13-183	Water	12/6/2011 2:48:00 PM	12/6/2011	
N006965-008D	MW-13-183	Water	12/6/2011 2:48:00 PM	12/6/2011	
N006965-009A	MW-21-183	Water	12/6/2011 3:06:00 PM	12/6/2011	
N006965-009B	MW-21-183	Water	12/6/2011 3:06:00 PM	12/6/2011	
N006965-009C	MW-21-183	Water	12/6/2011 3:06:00 PM	12/6/2011	
N006965-009D	MW-21-183	Water	12/6/2011 3:06:00 PM	12/6/2011	
N006965-010A	MW-31-060-183	Water	12/6/2011 1:08:00 PM	12/6/2011	
N006965-010B	MW-31-060-183	Water	12/6/2011 1:08:00 PM	12/6/2011	
N006965-010C	MW-31-060-183	Water	12/6/2011 1:08:00 PM	12/6/2011	
N006965-010D	MW-31-060-183	Water	12/6/2011 1:08:00 PM	12/6/2011	
N006965-010E	MW-31-060-183	Water	12/6/2011 1:08:00 PM	12/6/2011	
N006965-011A	MW-31-135-183	Water	12/6/2011 12:14:00 PM	12/6/2011	
N006965-011B	MW-31-135-183	Water	12/6/2011 12:14:00 PM	12/6/2011	
N006965-011C	MW-31-135-183	Water	12/6/2011 12:14:00 PM	12/6/2011	
N006965-011D	MW-31-135-183	Water	12/6/2011 12:14:00 PM	12/6/2011	
N006965-011E	MW-31-135-183	Water	12/6/2011 12:14:00 PM	12/6/2011	
N006965-012A	MW-34-055-183	Water	12/6/2011 12:10:00 PM	12/6/2011	
N006965-012B	MW-34-055-183	Water	12/6/2011 12:10:00 PM	12/6/2011	
N006965-012C	MW-34-055-183	Water	12/6/2011 12:10:00 PM	12/6/2011	
N006965-012D	MW-34-055-183	Water	12/6/2011 12:10:00 PM	12/6/2011	
N006965-012E	MW-34-055-183	Water	12/6/2011 12:10:00 PM	12/6/2011	
N006965-013A	MW-34-080-183	Water	12/6/2011 9:53:00 AM	12/6/2011	
N006965-013B	MW-34-080-183	Water	12/6/2011 9:53:00 AM	12/6/2011	
N006965-013C	MW-34-080-183	Water	12/6/2011 9:53:00 AM	12/6/2011	
N006965-013D	MW-34-080-183	Water	12/6/2011 9:53:00 AM	12/6/2011	
N006965-013E	MW-34-080-183	Water	12/6/2011 9:53:00 AM	12/6/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006965
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006965-014A	MW-34-100-183	Water	12/6/2011 10:49:00 AM	12/6/2011	
N006965-014B	MW-34-100-183	Water	12/6/2011 10:49:00 AM	12/6/2011	
N006965-014C	MW-34-100-183	Water	12/6/2011 10:49:00 AM	12/6/2011	
N006965-014D	MW-34-100-183	Water	12/6/2011 10:49:00 AM	12/6/2011	
N006965-014E	MW-34-100-183	Water	12/6/2011 10:49:00 AM	12/6/2011	
N006965-015A	MW-36-100-183	Water	12/6/2011 4:36:00 PM	12/6/2011	
N006965-015B	MW-36-100-183	Water	12/6/2011 4:36:00 PM	12/6/2011	
N006965-015C	MW-36-100-183	Water	12/6/2011 4:36:00 PM	12/6/2011	
N006965-015D	MW-36-100-183	Water	12/6/2011 4:36:00 PM	12/6/2011	
N006965-015E	MW-36-100-183	Water	12/6/2011 4:36:00 PM	12/6/2011	
N006965-016A	MW-42-030-183	Water	12/6/2011 1:38:00 PM	12/6/2011	
N006965-016B	MW-42-030-183	Water	12/6/2011 1:38:00 PM	12/6/2011	
N006965-017A	MW-42-055-183	Water	12/6/2011 2:23:00 PM	12/6/2011	
N006965-017B	MW-42-055-183	Water	12/6/2011 2:23:00 PM	12/6/2011	
N006965-017C	MW-42-055-183	Water	12/6/2011 2:23:00 PM	12/6/2011	
N006965-017D	MW-42-055-183	Water	12/6/2011 2:23:00 PM	12/6/2011	
N006965-017E	MW-42-055-183	Water	12/6/2011 2:23:00 PM	12/6/2011	
N006965-018A	MW-42-065-183	Water	12/6/2011 3:08:00 PM	12/6/2011	
N006965-018B	MW-42-065-183	Water	12/6/2011 3:08:00 PM	12/6/2011	
N006965-018C	MW-42-065-183	Water	12/6/2011 3:08:00 PM	12/6/2011	
N006965-018D	MW-42-065-183	Water	12/6/2011 3:08:00 PM	12/6/2011	
N006965-018E	MW-42-065-183	Water	12/6/2011 3:08:00 PM	12/6/2011	
N006965-019A	MW-50-095-183	Water	12/6/2011 11:13:00 AM	12/6/2011	
N006965-019B	MW-50-095-183	Water	12/6/2011 11:13:00 AM	12/6/2011	
N006965-019C	MW-50-095-183	Water	12/6/2011 11:13:00 AM	12/6/2011	
N006965-019D	MW-50-095-183	Water	12/6/2011 11:13:00 AM	12/6/2011	
N006965-019E	MW-50-095-183	Water	12/6/2011 11:13:00 AM	12/6/2011	
N006965-020A	MW-93-183	Water	12/6/2011 8:00:00 AM	12/6/2011	
N006965-020B	MW-93-183	Water	12/6/2011 8:00:00 AM	12/6/2011	
N006965-020C	MW-93-183	Water	12/6/2011 8:00:00 AM	12/6/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006965
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006965-020D	MW-93-183	Water	12/6/2011 8:00:00 AM	12/6/2011	
N006965-020E	MW-93-183	Water	12/6/2011 8:00:00 AM	12/6/2011	
N006965-021A	OW-03D-183	Water	12/6/2011 8:28:00 AM	12/6/2011	
N006965-021B	OW-03D-183	Water	12/6/2011 8:28:00 AM	12/6/2011	
N006965-021C	OW-03D-183	Water	12/6/2011 8:28:00 AM	12/6/2011	
N006965-021D	OW-03D-183	Water	12/6/2011 8:28:00 AM	12/6/2011	
N006965-022A	TW-05-183	Water	12/6/2011 10:16:00 AM	12/6/2011	
N006965-022B	TW-05-183	Water	12/6/2011 10:16:00 AM	12/6/2011	
N006965-022C	TW-05-183	Water	12/6/2011 10:16:00 AM	12/6/2011	
N006965-022D	TW-05-183	Water	12/6/2011 10:16:00 AM	12/6/2011	

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-020-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 1:28:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	1000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-060-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:33:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-085-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41D-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:56:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:50:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	5600	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03S-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-13-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:48:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	1900	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-21-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-060-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207A**	QC Batch: **R82493**			PrepDate:			Analyst: **CEI**
Specific Conductance	3200	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-135-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:14:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	990	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-080-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 9:53:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	12/7/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:49:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 4:36:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	10000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:23:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	5700	0.10	0.10		umhos/cm	1	12/7/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-065-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	9800	0.10	0.10		umhos/cm	1	12/7/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-095-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 11:13:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	5100	0.10	0.10		umhos/cm	1	12/7/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03D-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207B**	QC Batch: **R82494**			PrepDate:			Analyst: **CEI**
Specific Conductance	8900	0.10	0.10		umhos/cm	1	12/7/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-05-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:16:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111207C**	QC Batch: **R82495**			PrepDate:			Analyst: **CEI**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	12/7/2011

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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82493**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82493**			
Client ID: **LCSW**	Batch ID: **R82493**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**			SeqNo: **1336755**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1416.000	0.10	1411	0	100	85	115				

Sample ID: **N006965-010CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82493**			
Client ID: **ZZZZZZ**	Batch ID: **R82493**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**			SeqNo: **1336766**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3150.000	0.10						3180	0.948	10	

Sample ID: **N006965-010CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82493**			
Client ID: **ZZZZZZ**	Batch ID: **R82493**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**			SeqNo: **1336767**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4660.000	0.20	1411	3180	105	75	125				

Sample ID: **N006965-010CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82493**			
Client ID: **ZZZZZZ**	Batch ID: **R82493**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**			SeqNo: **1336768**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4680.000	0.20	1411	3180	106	75	125	4660	0.428	10	

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82494** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82494**
Client ID: **LCSW** Batch ID: **R82494** TestNo: **EPA 120.1** Analysis Date: **12/7/2011** SeqNo: **1336769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	10080.000	0.10	9986	0	101	85	115				

Sample ID: **N006965-021CDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82494**
Client ID: **ZZZZZZ** Batch ID: **R82494** TestNo: **EPA 120.1** Analysis Date: **12/7/2011** SeqNo: **1336780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	8920.000	0.10						8910	0.112	10	

Sample ID: **N006965-021CMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82494**
Client ID: **ZZZZZZ** Batch ID: **R82494** TestNo: **EPA 120.1** Analysis Date: **12/7/2011** SeqNo: **1336781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18880.000	0.20	9986	8910	99.8	75	125				

Sample ID: **N006965-021CMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82494**
Client ID: **ZZZZZZ** Batch ID: **R82494** TestNo: **EPA 120.1** Analysis Date: **12/7/2011** SeqNo: **1336782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18900.000	0.20	9986	8910	100	75	125	18880	0.106	10	

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N006965-022CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82495**		
Client ID: **ZZZZZZ**	Batch ID: **R82495**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**				SeqNo: **1336784**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	15000.000	0.10						15200	1.32	10	

Sample ID: **N006965-022CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82495**		
Client ID: **ZZZZZZ**	Batch ID: **R82495**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**				SeqNo: **1336785**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	25560.000	0.20	9986	15200	104	75	125				

Sample ID: **N006965-022CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82495**		
Client ID: **ZZZZZZ**	Batch ID: **R82495**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**				SeqNo: **1336786**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	25520.000	0.20	9986	15200	103	75	125	25560	0.157	10	

Sample ID: **LCS-R82495**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82495**		
Client ID: **LCSW**	Batch ID: **R82495**	TestNo: **EPA 120.1**		Analysis Date: **12/7/2011**				SeqNo: **1336787**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	10090.000	0.10	9986	0	101	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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-060-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111208C**	QC Batch: **38535**			PrepDate:	**12/7/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	1800	20	20		mg/L	1	12/8/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111208C**	QC Batch: **38535**			PrepDate:	**12/7/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	630	10	10		mg/L	1	12/8/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-080-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 9:53:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111208C**	QC Batch: **38535**			PrepDate:	**12/7/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	3900	50	50		mg/L	1	12/8/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:49:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111208C**	QC Batch: **38535**			PrepDate:	**12/7/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	10000	100	100		mg/L	1	12/8/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111208C**	QC Batch: **38535**			PrepDate:	**12/7/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	9400	100	100		mg/L	1	12/8/2011

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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38535**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/7/2011**	RunNo: **82541**
Client ID: **PBW**	Batch ID: **38535**	TestNo: **SM2540C**		Analysis Date: **12/8/2011**	SeqNo: **1337585**

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-38535**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/7/2011**	RunNo: **82541**
Client ID: **LCSW**	Batch ID: **38535**	TestNo: **SM2540C**		Analysis Date: **12/8/2011**	SeqNo: **1337586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	993.000	10	1000	0	99.3	80	120				

Sample ID: **N006956-001A-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/7/2011**	RunNo: **82541**
Client ID: **ZZZZZZ**	Batch ID: **38535**	TestNo: **SM2540C**		Analysis Date: **12/8/2011**	SeqNo: **1337593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	571.000	10						574.0	0.524	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.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-020-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 1:28:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	150	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	150	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-060-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:33:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	230	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	230	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-085-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41D-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:56:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	79	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	79	1.2	5.0		mg/L	1	12/9/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	36	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	36	1.2	5.0		mg/L	1	12/9/2011

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	**Client Sample ID:**	OW-03M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:50:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	51	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	51	1.2	5.0		mg/L	1	12/9/2011

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	**Client Sample ID:**	OW-03S-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	70	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	70	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-13-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:48:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	73	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	73	1.2	5.0		mg/L	1	12/9/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-21-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	510	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	510	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-060-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	76	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	76	1.2	5.0		mg/L	1	12/9/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-135-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:14:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	35	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	35	1.2	5.0		mg/L	1	12/9/2011

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	**Client Sample ID:**	MW-34-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: *27-Dec-11*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-080-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 9:53:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	230	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	230	1.2	5.0		mg/L	1	12/9/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:49:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	120	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 4:36:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	240	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	240	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:23:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	370	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	370	1.2	5.0		mg/L	1	12/9/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-065-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	260	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	260	1.2	5.0		mg/L	1	12/9/2011

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	**Client Sample ID:**	MW-50-095-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 11:13:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	56	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	56	1.2	5.0		mg/L	1	12/9/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111209F**	QC Batch: **R82539**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	120	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/9/2011
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03D-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	39	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	39	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-05-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:16:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	36	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	36	1.2	5.0		mg/L	1	12/10/2011

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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82539** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **LCSW** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	102.642	5.0	100.0	0	103	85	115				
Alkalinity, Total (As CaCO3)	102.642	5.0	100.0	0	103	85	115				

Sample ID: **LCSD-R82539** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **LCSS02** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	102.642	5.0	100.0	0	103	85	115				
Alkalinity, Total (As CaCO3)	102.642	5.0	100.0	0	103	85	115				

Sample ID: **MB-R82539** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **PBW** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N006965-020C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **ZZZZZZ** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	121.951	5.0						123.0	0.830	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	121.951	5.0						123.0	0.830	30	

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: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N006965-020C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **ZZZZZZ** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337557**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	219.512	5.0	100.0	123.0	96.5	75	125				
Alkalinity, Total (As CaCO3)	219.512	5.0	100.0	123.0	96.5	75	125				

Sample ID: **N006965-020C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82539**
Client ID: **ZZZZZZ** Batch ID: **R82539** TestNo: **SM 2320 B** Analysis Date: **12/9/2011** SeqNo: **1337558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	219.512	5.0	100.0	123.0	96.5	75	125	219.5	0	20	
Alkalinity, Total (As CaCO3)	219.512	5.0	100.0	123.0	96.5	75	125	219.5	0	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82540** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **LCSW** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	102.249	5.0	100.0	0	102	85	115				
Alkalinity, Total (As CaCO3)	102.249	5.0	100.0	0	102	85	115				

Sample ID: **LCSD-R82540** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **LCSS02** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.227	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	101.227	5.0	100.0	0	101	85	115				

Sample ID: **MB-R82540** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **PBW** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N006987-019C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	113.497	5.0						118.6	4.41	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	113.497	5.0						118.6	4.41	30	

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N006987-019C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	212.679	5.0	100.0	118.6	94.1	75	125				
Alkalinity, Total (As CaCO3)	212.679	5.0	100.0	118.6	94.1	75	125				

Sample ID: **N006987-019C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	211.656	5.0	100.0	118.6	93.0	75	125	212.7	0.482	20	
Alkalinity, Total (As CaCO3)	211.656	5.0	100.0	118.6	93.0	75	125	212.7	0.482	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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-001

Client Sample ID: MW-27-020-183
Collection Date: 12/5/2011 1:28:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	83	0.28	10		mg/L	20	12/7/2011 03:20 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	220	0.62	20		mg/L	20	12/7/2011 03:20 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/7/2011 09:46 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-002

Client Sample ID: MW-27-060-183
Collection Date: 12/5/2011 3:33:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	88	0.28	10		mg/L	20	12/7/2011 03:43 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Fluoride	1.2	0.0040	0.50		mg/L	1	12/7/2011 09:58 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	170	0.62	20		mg/L	20	12/7/2011 03:43 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/7/2011 09:58 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-003

Client Sample ID: MW-27-085-183
Collection Date: 12/5/2011 2:34:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	3700	14	500		mg/L	1000	12/7/2011 04:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Fluoride	4.1	0.020	2.5		mg/L	5	12/7/2011 10:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	1200	3.1	100		mg/L	100	12/7/2011 04:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 10:09 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41D-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:56:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Chloride	7300	14	500		mg/L	1000	12/7/2011 05:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Sulfate	760	3.1	100		mg/L	100	12/7/2011 05:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 10:21 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Chloride	5000	14	500		mg/L	1000	12/7/2011 05:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Sulfate	530	3.1	100		mg/L	100	12/7/2011 05:39 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 10:33 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-006

Client Sample ID: OW-03M-183
Collection Date: 12/5/2011 3:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	1500	7.0	250		mg/L	500	12/7/2011 05:51 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	290	1.6	50		mg/L	50	12/7/2011 06:03 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	1.0	0.024	1.0		mg/L	2	12/7/2011 10:49 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-007

Client Sample ID: OW-03S-183
Collection Date: 12/5/2011 3:06:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	340	1.4	50		mg/L	100	12/7/2011 06:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	73	0.31	10		mg/L	10	12/7/2011 06:49 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.5	0.012	0.50		mg/L	1	12/7/2011 11:00 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-008

Client Sample ID: MW-13-183
Collection Date: 12/6/2011 2:48:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	480	1.4	50		mg/L	100	12/7/2011 07:01 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	150	0.62	20		mg/L	20	12/7/2011 07:13 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.4	0.024	1.0		mg/L	2	12/7/2011 11:12 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

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CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-009

Client Sample ID: MW-21-183
Collection Date: 12/6/2011 3:06:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	2400	7.0	250		mg/L	500	12/7/2011 07:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	2400	16	500		mg/L	500	12/7/2011 07:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	2.7	0.060	2.5		mg/L	5	12/7/2011 12:22 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
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-010

Client Sample ID: MW-31-060-183
Collection Date: 12/6/2011 1:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/7/2011 12:33 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	790	2.8	100		mg/L	200	12/7/2011 07:48 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	200	0.62	20		mg/L	20	12/7/2011 07:59 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.4	0.024	1.0		mg/L	2	12/7/2011 12:33 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-011

Client Sample ID: MW-31-135-183
Collection Date: 12/6/2011 12:14:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	3700	14	500		mg/L	1000	12/7/2011 08:11 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	490	1.6	50		mg/L	50	12/7/2011 08:23 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 12:45 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		

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CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-012

Client Sample ID: MW-34-055-183
Collection Date: 12/6/2011 12:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.0070	0.50		mg/L	1	12/7/2011 01:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	83	0.28	10		mg/L	20	12/7/2011 08:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	220	0.62	20		mg/L	20	12/7/2011 08:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/7/2011 01:00 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
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-013

Client Sample ID: MW-34-080-183
Collection Date: 12/6/2011 9:53:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/7/2011 01:12 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Chloride	1900	7.0	250		mg/L	500	12/8/2011 09:00 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Sulfate	640	3.1	100		mg/L	100	12/8/2011 09:12 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/7/2011 01:12 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
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-014

Client Sample ID: MW-34-100-183
Collection Date: 12/6/2011 10:49:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/7/2011 01:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	5700	14	500		mg/L	1000	12/7/2011 09:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	1300	3.1	100		mg/L	100	12/7/2011 09:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 01:23 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-015

Client Sample ID: MW-36-100-183
Collection Date: 12/6/2011 4:36:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Chloride	2900	7.0	250		mg/L	500	12/8/2011 04:55 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Sulfate	900	3.1	100		mg/L	100	12/8/2011 05:07 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/8/2011 05:19 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-030-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/7/2011 01:35 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-017

Client Sample ID: MW-42-055-183
Collection Date: 12/6/2011 2:23:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	1300	7.0	250		mg/L	500	12/7/2011 10:07 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	440	3.1	100		mg/L	100	12/7/2011 10:19 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/7/2011 02:21 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-018

Client Sample ID: MW-42-065-183
Collection Date: 12/6/2011 3:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Chloride	2800	14	500		mg/L	1000	12/8/2011 02:00 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Sulfate	880	3.1	100		mg/L	100	12/8/2011 02:35 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207B** QC Batch: **R82598**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/8/2011 03:10 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-019

Client Sample ID: MW-50-095-183
Collection Date: 12/6/2011 11:13:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	1400	7.0	250		mg/L	500	12/7/2011 10:31 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	270	0.62	20		mg/L	20	12/7/2011 10:42 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	1.5	0.024	1.0		mg/L	2	12/7/2011 02:33 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/7/2011 02:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207B**	QC Batch: **R82598**			PrepDate:			Analyst: **QBM**
Chloride	5600	14	500		mg/L	1000	12/8/2011 09:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207B**	QC Batch: **R82598**			PrepDate:			Analyst: **QBM**
Sulfate	1200	6.2	200		mg/L	200	12/8/2011 09:35 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 02:45 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-021

Client Sample ID: OW-03D-183
Collection Date: 12/6/2011 8:28:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Chloride	2600	7.0	250		mg/L	500	12/7/2011 11:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Sulfate	400	1.6	50		mg/L	50	12/7/2011 11:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111207A**	QC Batch: **R82597**			PrepDate:			Analyst: **QBM**
Nitrate as N	0.67	0.012	0.50		mg/L	1	12/7/2011 02:56 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-022

Client Sample ID: TW-05-183
Collection Date: 12/6/2011 10:16:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Chloride	5200	14	500		mg/L	1000	12/8/2011 12:04 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Sulfate	540	3.1	100		mg/L	100	12/8/2011 12:16 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111207A** QC Batch: **R82597**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/7/2011 03:08 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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82597_BR** SampType: **MBLK** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **PBW** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82597_BR** SampType: **LCS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **LCSW** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.458	0.50	2.500	0	98.3	90	110				

Sample ID: **N006965-001BDUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.104	0.50						0.1060	0	20	

Sample ID: **N006965-002BMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.915	0.50	2.500	0.1420	111	80	120				

Sample ID: **N006965-002BMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.988	0.50	2.500	0.1420	114	80	120	2.915	2.47	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

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **N006965-012BMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.734	0.50	2.500	0.08700	106	80	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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82597_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **PBW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82597_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **LCSW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.402	0.50	2.500	0	96.1	90	110				

Sample ID: **N006965-001BDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	81.500	10						82.60	1.34	20	

Sample ID: **N006965-002BMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	141.120	10	50.00	88.50	105	80	120				

Sample ID: **N006965-002BMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	140.860	10	50.00	88.50	105	80	120	141.1	0.184	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

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Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N006965-012BMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	135.440	10	50.00	83.22	104	80	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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **LCS-R82598_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82598**
Client ID: **LCSW** Batch ID: **R82598** TestNo: **EPA 300.0** Analysis Date: **12/8/2011** SeqNo: **1339015**

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: **MB-R82598_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82598**
Client ID: **PBW** Batch ID: **R82598** TestNo: **EPA 300.0** Analysis Date: **12/8/2011** SeqNo: **1339016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **N006971-001BDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82598**
Client ID: **ZZZZZZ** Batch ID: **R82598** TestNo: **EPA 300.0** Analysis Date: **12/8/2011** SeqNo: **1339018**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	68.220	10						68.78	0.818	20	

Sample ID: **N006965-018BMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82598**
Client ID: **ZZZZZZ** Batch ID: **R82598** TestNo: **EPA 300.0** Analysis Date: **12/8/2011** SeqNo: **1339022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5190.000	500	2500	2758	97.3	80	120				

Sample ID: **N006965-018BMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82598**
Client ID: **ZZZZZZ** Batch ID: **R82598** TestNo: **EPA 300.0** Analysis Date: **12/8/2011** SeqNo: **1339023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5153.000	500	2500	2758	95.8	80	120	5190	0.715	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

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Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82597_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **PBW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82597_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **LCSW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.437	0.50	2.500	0	97.5	90	110				

Sample ID: **N006965-001BDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.537	0.50						0.5310	1.12	20	

Sample ID: **N006965-002BMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.808	0.50	2.500	1.231	103	80	120				

Sample ID: **N006965-002BMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.799	0.50	2.500	1.231	103	80	120	3.808	0.237	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

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Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N006965-012BMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.980	0.50	2.500	0.6450	93.4	80	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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82597_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82597**		
Client ID: **PBW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**				SeqNo: **1338950**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82597_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82597**		
Client ID: **LCSW**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**				SeqNo: **1338951**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.813	1.0	5.000	0	96.3	90	110				

Sample ID: **N006965-001BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82597**		
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**				SeqNo: **1338957**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210.820	20						224.4	6.23	20	

Sample ID: **N006965-002BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82597**		
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**				SeqNo: **1338959**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	278.020	20	100.0	168.1	110	80	120				

Sample ID: **N006965-002BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82597**		
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**				SeqNo: **1338962**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	276.780	20	100.0	168.1	109	80	120	278.0	0.447	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N006965-012BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82597**
Client ID: **ZZZZZZ**	Batch ID: **R82597**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2011**	SeqNo: **1338977**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	324.740	20	100.0	218.3	106	80	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		

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Work Order: N006965
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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R82598_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **LCSW**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339061**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.105	1.0	5.000	0	102	90	110				

Sample ID: **MB-R82598_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **PBW**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **N006971-001BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	197.600	20						197.0	0.324	20	

Sample ID: **N006965-018BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1392.600	100	500.0	882.7	102	80	120				

Sample ID: **N006965-018BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1379.700	100	500.0	882.7	99.4	80	120	1393	0.931	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82597_NO3** SampType: **MBLK** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **PBW** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82597_NO3** SampType: **LCS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **LCSW** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.421	0.50	2.500	0	96.8	90	110				

Sample ID: **N006965-001BDUP** SampType: **DUP** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Sample ID: **N006965-002BMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.502	0.50	2.500	0	100	80	120				

Sample ID: **N006965-002BMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.560	0.50	2.500	0	102	80	120	2.502	2.29	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N006965-012BMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82597**
Client ID: **ZZZZZZ** Batch ID: **R82597** TestNo: **EPA 300.0** Analysis Date: **12/7/2011** SeqNo: **1338932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.439	0.50	2.500	0	97.6	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **LCS-R82598_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **LCSW**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.465	0.50	2.500	0	98.6	90	110				

Sample ID: **MB-R82598_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **PBW**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **N006971-001BDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.585	0.50						0.5900	0.851	20	

Sample ID: **N006965-018BMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.070	2.5	12.50	0	96.6	80	120				

Sample ID: **N006965-018BMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82598**
Client ID: **ZZZZZZ**	Batch ID: **R82598**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2011**	SeqNo: **1339047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.030	2.5	12.50	0	96.2	80	120	12.07	0.332	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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-020-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 1:28:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.10	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-060-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:33:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.12	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-085-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.26	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-060-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-135-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:14:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-080-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 9:53:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:49:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 4:36:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:23:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.82	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-065-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.73	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-095-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 11:13:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.17	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38536**			PrepDate:	**12/13/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38536**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82582**
Client ID: **LCSW**	Batch ID: **38536**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.955	0.10	1.000	0	95.5	85	115				

Sample ID: **MB-38536**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82582**
Client ID: **PBW**	Batch ID: **38536**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N006965-001D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38536**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.036	0.10	2.000	0.1030	96.6	75	125				

Sample ID: **N006965-001D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38536**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.037	0.10	2.000	0.1030	96.7	75	125	2.036	0.0491	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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-020-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 1:28:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	670	14	20		ug/L	1	12/19/2011 11:24 AM
Manganese	120	1.7	10		ug/L	1	12/19/2011 11:24 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	83	0.12	0.50		mg/L	1	12/19/2011 11:24 AM
Magnesium	25	0.0063	0.10		mg/L	1	12/19/2011 11:24 AM
Sodium	83	0.60	2.5		mg/L	5	12/20/2011 10:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-060-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:33:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	49	14	20		ug/L	1	12/19/2011 11:29 AM
Manganese	38	1.7	10		ug/L	1	12/19/2011 11:29 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	15	0.12	0.50		mg/L	1	12/19/2011 11:29 AM
Magnesium	2.8	0.0063	0.10		mg/L	1	12/19/2011 11:29 AM
Sodium	230	0.60	2.5		mg/L	5	12/20/2011 08:36 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-085-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	180	14	20		ug/L	1	12/19/2011 11:35 AM
Manganese	130	1.7	10		ug/L	1	12/19/2011 11:35 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	330	0.12	0.50		mg/L	1	12/19/2011 11:35 AM
Magnesium	61	0.0063	0.10		mg/L	1	12/19/2011 11:35 AM
Sodium	2500	12	50		mg/L	100	12/20/2011 10:59 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-004

Client Sample ID: MW-41D-183
Collection Date: 12/5/2011 2:56:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	45	29	40		ug/L	2	12/19/2011 07:34 PM
Manganese	72	3.3	20		ug/L	2	12/19/2011 07:34 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	450	0.23	1.0		mg/L	2	12/19/2011 07:34 PM
Magnesium	30	0.013	0.20		mg/L	2	12/19/2011 07:34 PM
Sodium	4400	12	50		mg/L	100	12/20/2011 11:02 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 11:50 AM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 11:50 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	430	0.12	0.50		mg/L	1	12/19/2011 11:50 AM
Magnesium	31	0.0063	0.10		mg/L	1	12/19/2011 11:50 AM
Sodium	2800	12	50		mg/L	100	12/20/2011 11:06 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:50:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 12:11 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 12:11 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	89	0.12	0.50		mg/L	1	12/19/2011 12:11 PM
Magnesium	7.3	0.0063	0.10		mg/L	1	12/19/2011 12:11 PM
Sodium	1100	3.0	12		mg/L	25	12/20/2011 08:48 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03S-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 12:17 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 12:17 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	78	0.12	0.50		mg/L	1	12/19/2011 12:17 PM
Magnesium	11	0.0063	0.10		mg/L	1	12/19/2011 12:17 PM
Sodium	180	0.60	2.5		mg/L	5	12/20/2011 08:56 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-13-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:48:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_111219A**	QC Batch: **38583**				PrepDate: **12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 12:22 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 12:22 PM
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_111219A**	QC Batch: **38583**				PrepDate: **12/13/2011**		Analyst: **KAB**
Calcium	100	0.12	0.50		mg/L	1	12/19/2011 12:22 PM
Magnesium	14	0.0063	0.10		mg/L	1	12/19/2011 12:22 PM
Sodium	280	1.2	5.0		mg/L	10	12/20/2011 11:14 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-21-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	60	14	20		ug/L	1	12/19/2011 12:27 PM
Manganese	220	1.7	10		ug/L	1	12/19/2011 12:27 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	260	0.12	0.50		mg/L	1	12/19/2011 12:27 PM
Magnesium	72	0.0063	0.10		mg/L	1	12/19/2011 12:27 PM
Sodium	2500	6.0	25		mg/L	50	12/20/2011 09:03 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-010

Client Sample ID: MW-31-060-183
Collection Date: 12/6/2011 1:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Boron	540	13	100		ug/L	1	12/19/2011 12:33 PM
Iron	ND	14	20		ug/L	1	12/19/2011 12:33 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 12:33 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	150	0.12	0.50		mg/L	1	12/19/2011 12:33 PM
Magnesium	24	0.0063	0.10		mg/L	1	12/19/2011 12:33 PM
Potassium	7.6	0.31	2.5		mg/L	5	12/20/2011 09:06 PM
Sodium	450	1.2	5.0		mg/L	10	12/20/2011 09:09 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-135-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:14:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 12:38 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 12:38 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	340	0.12	0.50		mg/L	1	12/19/2011 12:38 PM
Magnesium	20	0.0063	0.10		mg/L	1	12/19/2011 12:38 PM
Sodium	2200	6.0	25		mg/L	50	12/20/2011 11:17 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		

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CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-012

Client Sample ID: MW-34-055-183
Collection Date: 12/6/2011 12:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Boron	190	13	100		ug/L	1	12/19/2011 12:43 PM
Iron	69	14	20		ug/L	1	12/19/2011 12:43 PM
Manganese	72	1.7	10		ug/L	1	12/19/2011 12:43 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	81	0.12	0.50		mg/L	1	12/19/2011 12:43 PM
Magnesium	19	0.0063	0.10		mg/L	1	12/19/2011 12:43 PM
Potassium	4.6	0.062	0.50		mg/L	1	12/20/2011 09:15 PM
Sodium	100	0.60	2.5		mg/L	5	12/20/2011 11:24 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-013

Client Sample ID: MW-34-080-183
Collection Date: 12/6/2011 9:53:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Boron	1100	13	100		ug/L	1	12/19/2011 12:49 PM
Iron	56	14	20		ug/L	1	12/19/2011 12:49 PM
Manganese	36	1.7	10		ug/L	1	12/19/2011 12:49 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	220	0.12	0.50		mg/L	1	12/19/2011 12:49 PM
Magnesium	43	0.0063	0.10		mg/L	1	12/19/2011 12:49 PM
Potassium	16	0.62	5.0		mg/L	10	12/20/2011 09:21 PM
Sodium	1300	6.0	25		mg/L	50	12/20/2011 11:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-014

Client Sample ID: MW-34-100-183
Collection Date: 12/6/2011 10:49:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Boron	2700	13	100		ug/L	1	12/19/2011 12:54 PM
Iron	ND	14	20		ug/L	1	12/19/2011 12:54 PM
Manganese	16	1.7	10		ug/L	1	12/19/2011 12:54 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	170	0.12	0.50		mg/L	1	12/19/2011 12:54 PM
Magnesium	7.6	0.0063	0.10		mg/L	1	12/19/2011 12:54 PM
Potassium	43	1.5	12		mg/L	25	12/20/2011 09:34 PM
Sodium	4000	12	50		mg/L	100	12/20/2011 11:30 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 4:36:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	30	14	20		ug/L	1	12/19/2011 01:32 PM
Manganese	84	1.7	10		ug/L	1	12/19/2011 01:32 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	290	0.12	0.50		mg/L	1	12/19/2011 01:32 PM
Magnesium	35	0.0063	0.10		mg/L	1	12/19/2011 01:32 PM
Sodium	1900	6.0	25		mg/L	50	12/20/2011 11:34 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:23:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	560	14	20		ug/L	1	12/19/2011 01:37 PM
Manganese	330	1.7	10		ug/L	1	12/19/2011 01:37 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	100	0.12	0.50		mg/L	1	12/19/2011 01:37 PM
Magnesium	29	0.0063	0.10		mg/L	1	12/19/2011 01:37 PM
Sodium	1100	3.0	12		mg/L	25	12/20/2011 09:43 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-065-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	110	14	20		ug/L	1	12/19/2011 01:43 PM
Manganese	1600	1.7	10		ug/L	1	12/19/2011 01:43 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	250	0.12	0.50		mg/L	1	12/19/2011 01:43 PM
Magnesium	60	0.0063	0.10		mg/L	1	12/19/2011 01:43 PM
Sodium	2000	6.0	25		mg/L	50	12/20/2011 09:46 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-095-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 11:13:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 01:48 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 01:48 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	120	0.12	0.50		mg/L	1	12/19/2011 01:48 PM
Magnesium	11	0.0063	0.10		mg/L	1	12/19/2011 01:48 PM
Sodium	930	3.0	12		mg/L	25	12/20/2011 11:40 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT: CH2M HILL
Lab Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006965-020

Client Sample ID: MW-93-183
Collection Date: 12/6/2011 8:00:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Boron	2700	13	100		ug/L	1	12/19/2011 01:53 PM
Iron	ND	14	20		ug/L	1	12/19/2011 01:53 PM
Manganese	16	1.7	10		ug/L	1	12/19/2011 01:53 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	160	0.12	0.50		mg/L	1	12/19/2011 01:53 PM
Magnesium	7.4	0.0063	0.10		mg/L	1	12/19/2011 01:53 PM
Potassium	43	1.5	12		mg/L	25	12/20/2011 11:44 PM
Sodium	3900	12	50		mg/L	100	12/21/2011 10:46 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03D-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 01:59 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 01:59 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219A**	QC Batch: **38583**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	170	0.12	0.50		mg/L	1	12/19/2011 01:59 PM
Magnesium	13	0.0063	0.10		mg/L	1	12/19/2011 01:59 PM
Sodium	1600	6.0	25		mg/L	50	12/21/2011 12:04 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		

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ANALYTICAL RESULTS

Print Date: *27-Dec-11*

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-05-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:16:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 02:57 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 02:57 PM
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	420	0.12	0.50		mg/L	1	12/19/2011 02:57 PM
Magnesium	24	0.0063	0.10		mg/L	1	12/19/2011 02:57 PM
Sodium	2900	12	50		mg/L	100	12/21/2011 10:59 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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38583** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82599**
Client ID: **PBW** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	100									
Iron	ND	20									
Manganese	ND	10									

Sample ID: **LCS-38583** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82599**
Client ID: **LCSW** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	972.176	100	1000	0	97.2	85	115				
Iron	48.109	20	50.00	0	96.2	85	115				
Manganese	45.970	10	50.00	0	91.9	85	115				

Sample ID: **N006965-020A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82599**
Client ID: **ZZZZZZ** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4796.830	100	1000	2703	209	75	125				S
Iron	93.905	20	100.0	0	93.9	75	125				
Manganese	104.891	10	100.0	15.71	89.2	75	125				

Sample ID: **N006965-020A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82599**
Client ID: **ZZZZZZ** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4874.213	100	1000	2703	217	75	125	4797	1.60	20	S
Iron	96.585	20	100.0	0	96.6	75	125	93.90	2.81	20	
Manganese	107.383	10	100.0	15.71	91.7	75	125	104.9	2.35	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

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	28.020	100									
Iron	ND	20									
Manganese	ND	10									

Sample ID: **LCS-38584** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **LCSW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	996.229	100	1000	0	99.6	85	115				
Iron	45.524	20	50.00	0	91.0	85	115				
Manganese	45.787	10	50.00	0	91.6	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1362.728	100	1000	337.2	103	75	125				
Iron	62.021	20	50.00	33.26	57.5	75	125				S
Manganese	42.921	10	50.00	0	85.8	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1361.674	100	1000	337.2	102	75	125	1363	0.0774	20	
Iron	59.173	20	50.00	33.26	51.8	75	125	62.02	4.70	20	S
Manganese	42.417	10	50.00	0	84.8	75	125	42.92	1.18	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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38583**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **PBW**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	0.030	0.10									

Sample ID: **LCS-38583**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **LCSW**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.984	0.50	1.000	0	98.4	85	115				
Magnesium	1.038	0.10	1.000	0	104	85	115				

Sample ID: **N006965-020A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	166.148	0.50	1.000	164.7	140	75	125				S
Magnesium	9.047	0.10	1.000	7.408	164	75	125				S

Sample ID: **N006965-020A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	170.266	0.50	1.000	164.7	552	75	125	166.1	2.45	20	S
Magnesium	9.234	0.10	1.000	7.408	183	75	125	9.047	2.04	20	S

Sample ID: **MB-38583**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **PBW**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.064	0.50									

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38583**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **PBW**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.313	0.50									

Sample ID: **LCS2-38583**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **LCSW**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.491	0.50	2.500	0	99.6	85	115				
Sodium	2.341	0.50	2.500	0	93.6	85	115				

Sample ID: **N006965-020A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	61.285	12	15.00	42.90	123	75	125				

Sample ID: **N006965-020A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	62.056	12	15.00	42.90	128	75	125	61.28	1.25	20	S

Sample ID: **N006965-020A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/21/2011**	SeqNo: **1339874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3944.104	50	15.00	3908	238	75	125				S

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N006965-020A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82599**
Client ID: **ZZZZZZ** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/21/2011** SeqNo: **1339875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3956.724	50	15.00	3908	322	75	125	3944	0.319	20	S

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		

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	0.029	0.10									

Sample ID: **LCS-38584** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **LCSW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.979	0.50	1.000	0	97.9	85	115				
Magnesium	1.025	0.10	1.000	0	102	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	28.203	0.50	1.000	28.25	-4.29	75	125				S
Magnesium	5.892	0.10	1.000	4.931	96.1	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	28.141	0.50	1.000	28.25	-10.5	75	125	28.20	0.221	20	S
Magnesium	5.862	0.10	1.000	4.931	93.1	75	125	5.892	0.509	20	

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/20/2011** SeqNo: **1339978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.064	0.50									

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

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CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38584**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82601**
Client ID: **PBW**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.366	0.50									

Sample ID: **LCS2-38584**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:	RunNo: **82601**
Client ID: **LCSW**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.515	0.50	2.500	0	101	85	115				
Sodium	2.430	0.50	2.500	0	97.2	85	115				

Sample ID: **N006987-002A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18.553	2.5	15.00	4.161	95.9	75	125				
Sodium	217.086	2.5	15.00	198.0	128	75	125				S

Sample ID: **N006987-002A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18.747	2.5	15.00	4.161	97.2	75	125	18.55	1.04	20	
Sodium	213.193	2.5	15.00	198.0	102	75	125	217.1	1.81	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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-020-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 1:28:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.4	0.0025	0.10		µg/L	1	12/14/2011 12:28 PM
Molybdenum	6.9	0.047	0.50		µg/L	1	12/14/2011 12:28 PM
Selenium	ND	0.29	0.50		µg/L	1	12/14/2011 12:28 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-060-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 3:33:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	10	0.0025	0.10		µg/L	1	12/14/2011 01:28 PM
Molybdenum	4.4	0.047	0.50		µg/L	1	12/14/2011 01:28 PM
Selenium	ND	0.29	0.50		µg/L	1	12/14/2011 01:28 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-27-085-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	1.7	0.0025	0.10		µg/L	1	12/14/2011 01:40 PM
Molybdenum	23	0.24	2.5		µg/L	5	12/14/2011 02:25 PM
Selenium	ND	1.4	2.5		µg/L	5	12/14/2011 02:25 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41D-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 2:56:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.8	0.012	0.50		µg/L	5	12/14/2011 02:51 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		

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ANALYTICAL RESULTS

Print Date: *27-Dec-11*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41M-183
Lab Order:	N006965	**Collection Date:**	12/5/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.2	0.0025	0.10		µg/L	1	12/14/2011 03:21 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

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-13-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:48:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.0	0.0025	0.10		µg/L	1	12/14/2011 03:39 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-060-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	1.3	0.0025	0.10		µg/L	1	12/14/2011 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-31-135-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:14:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	4.0	0.0025	0.10		µg/L	1	12/14/2011 04:21 PM
Molybdenum	31	0.24	2.5		µg/L	5	12/14/2011 04:45 PM
Selenium	0.50	0.29	0.50		µg/L	1	12/14/2011 04:21 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.7	0.0025	0.10		µg/L	1	12/14/2011 04:51 PM
Molybdenum	5.4	0.047	0.50		µg/L	1	12/14/2011 04:51 PM
Selenium	ND	0.29	0.50		µg/L	1	12/14/2011 04:51 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-080-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 9:53:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	1.6	0.0025	0.10		µg/L	1	12/14/2011 05:09 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-34-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 10:49:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	1.6	0.0025	0.10		µg/L	1	12/14/2011 05:27 PM
Molybdenum	57	0.24	2.5		µg/L	5	12/14/2011 05:40 PM
Selenium	ND	1.4	2.5		µg/L	5	12/14/2011 05:40 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-100-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 4:36:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	6.6	0.0025	0.10		µg/L	1	12/14/2011 05:58 PM
Molybdenum	35	0.047	0.50		µg/L	1	12/14/2011 05:58 PM
Selenium	ND	0.29	0.50		µg/L	1	12/14/2011 05:58 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		

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ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-030-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 1:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.2	0.0025	0.10		µg/L	1	12/14/2011 06:16 PM
Molybdenum	23	0.047	0.50		µg/L	1	12/14/2011 06:16 PM
Selenium	ND	0.29	0.50		µg/L	1	12/14/2011 06:16 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-055-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 2:23:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	14	0.0025	0.10		µg/L	1	12/14/2011 06:34 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-42-065-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 3:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.4	0.0025	0.10		µg/L	1	12/14/2011 07:10 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-93-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	1.6	0.0025	0.10		µg/L	1	12/14/2011 07:28 PM
Molybdenum	56	0.24	2.5		µg/L	5	12/14/2011 07:34 PM
Selenium	ND	1.4	2.5		µg/L	5	12/14/2011 07:34 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***27-Dec-11***

CLIENT:	CH2M HILL	**Client Sample ID:**	OW-03D-183
Lab Order:	N006965	**Collection Date:**	12/6/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006965-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111214A**	QC Batch: **38524**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Arsenic	2.8	0.0025	0.10		µg/L	1	12/14/2011 07:49 PM
Molybdenum	30	0.24	2.5		µg/L	5	12/14/2011 07:43 PM
Selenium	0.58	0.29	0.50		µg/L	1	12/14/2011 07:49 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38524**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/12/2011**	RunNo: **82615**
Client ID: **PBW**	Batch ID: **38524**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/14/2011**	SeqNo: **1339669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.009	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-38524**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/12/2011**	RunNo: **82615**
Client ID: **LCSW**	Batch ID: **38524**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/14/2011**	SeqNo: **1339670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.894	0.10	10.00	0	98.9	85	115				
Molybdenum	10.233	0.50	10.00	0	102	85	115				
Selenium	9.478	0.50	10.00	0	94.8	85	115				

Sample ID: **N006965-001A-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/12/2011**	RunNo: **82615**
Client ID: **ZZZZZZ**	Batch ID: **38524**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/14/2011**	SeqNo: **1339718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.011	0.10	10.00	2.433	106	75	125				
Molybdenum	18.147	0.50	10.00	6.861	113	75	125				
Selenium	9.403	0.50	10.00	0	94.0	75	125				

Sample ID: **N006965-001A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/12/2011**	RunNo: **82615**
Client ID: **ZZZZZZ**	Batch ID: **38524**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/14/2011**	SeqNo: **1339719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	13.215	0.10	10.00	2.433	108	75	125	13.01	1.56	20	
Molybdenum	18.339	0.50	10.00	6.861	115	75	125	18.15	1.06	20	
Selenium	9.323	0.50	10.00	0	93.2	75	125	9.403	0.861	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

CH2MHILL

CHAIN OF CUSTODY RECORD

12/6/2011 5:35:40 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 2

				Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
				Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
				Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
				Holding Time:	30	180	180	180	180	2	2	2	2	2	2	2	28			
					Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
	DATE	TIME	Matrix																	
MW-27-020-183	12/5/2011	13:28	Water		X	X		X	X	X		X				X	X	N0006965-1	6	
MW-27-060-183	12/5/2011	15:33	Water		X	X		X	X	X			X			X	X	2	6	
MW-27-085-183	12/5/2011	14:34	Water		X	X		X	X	X			X			X	X	3	6	
MW-41D-183	12/5/2011	14:56	Water		X	X		X		X		X				X		4	4	
MW-41M-183	12/5/2011	16:16	Water		X	X		X		X		X				X		5	4	
OW-03M-183	12/5/2011	15:50	Water		X			X		X		X				X		6	4	
OW-03S-183	12/5/2011	15:06	Water		X			X		X		X				X		7	4	
MW-13-183	12/6/2011	14:48	Water		X	X		X		X		X				X		8	4	
MW-21-183	12/6/2011	15:06	Water		X			X		X		X				X		9	4	
MW-31-060-183	12/6/2011	13:08	Water		X	X	X			X	X				X	X	X	10	6	
MW-31-135-183	12/6/2011	12:14	Water		X	X		X	X	X		X				X	X	11	6	
MW-34-055-183	12/6/2011	12:10	Water		X	X	X		X	X	X				X	X	X	12	7	
MW-34-080-183	12/6/2011	9:53	Water		X	X	X			X	X				X	X	X	13	6	
MW-34-100-183	12/6/2011	10:49	Water		X	X	X		X	X	X				X	X	X	14	7	

Signatures	Date/Time
Approved by	12-6-11 1740
Sampled by	
Relinquished by	
Received by	D/6/11 - 1740
Relinquished by	12/6/11 2007
Received by	

Shipping Details

Method of Shipment: courier
On Ice: ~~yes~~ / no 2.8°C/3.6°C/3.0°C/1.8°C
Airbill No: 3-68/3-88 1P#1
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marion

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

12/6/2011 5:35:41 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 2

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	2	2	2	2	2	2	2	28			
		Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-36-100-183	12/6/2011 16:36 Water	X	X		X	X	X		X				X	X	N0069G5-15	6	
MW-42-030-183	12/6/2011 13:38 Water		X			X					X				16	2	
MW-42-055-183	12/6/2011 14:23 Water	X	X		X		X		X				X	X	17	5	
MW-42-065-183	12/6/2011 15:08 Water	X	X		X		X		X				X	X	18	5	
MW-50-095-183	12/6/2011 11:13 Water	X			X		X		X				X	X	19	5	
MW-93-183	12/6/2011 8:00 Water	X	X	X		X	X	X				X	X	X	20	7	
OW-03D-183	12/6/2011 8:28 Water	X	X		X	X	X		X				X		21	5	
TW-05-183	12/6/2011 10:16 Water	X			X		X		X				X		22	4	
														TOTAL NUMBER OF CONTAINERS		113	

	Signatures	Date/Time
Approved by		
Sampled by		12-6-11 1740
Relinquished by	DM Galang	12/6/11 - 1740
Received by		
Relinquished by	DM Galang	12/6/11 - 2007
Received by		

Shipping Details

Method of Shipment: courier
On Ice: ~~yes~~ / no 2.8°C/3.6°C/3.0°C/1.8°C 2.6°C/2.8°C 1Ext 1
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:

Sample Custody and Marlon

Special Instructions:

Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/6/2011 5:35:40 PM* Page 1 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 2

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	2	2	2	2	2	2	2	28			
DATE	TIME	Matrix	Extra (+)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-27-020-183	12/5/2011	13:28	Water	X	X		X	X	X		X			X	X		6	
MW-27-060-183	12/5/2011	15:33	Water	X	X		X	X	X			X		X	X		6	
MW-27-085-183	12/5/2011	14:34	Water	X	X		X	X	X			X		X	X		6	
MW-41D-183	12/5/2011	14:56	Water	X	X		X		X		X			X			4	
MW-41M-183	12/5/2011	16:16	Water	X	X		X		X		X			X			4	
OW-03M-183	12/5/2011	15:50	Water	X			X		X		X			X			4	
OW-03S-183	12/5/2011	15:06	Water	X			X		X		X			X			4	
MW-13-183	12/6/2011	14:48	Water	X	X		X		X		X			X			4	
MW-21-183	12/6/2011	15:06	Water	X			X		X		X			X			4	
MW-31-060-183	12/6/2011	13:08	Water	X	X	X			X	X				X	X	X	6	
MW-31-135-183	12/6/2011	12:14	Water	X	X		X	X	X		X			X	X		6	
MW-34-055-183	12/6/2011	12:10	Water	X	X	X		X	X	X				X	X	X	7	
MW-34-080-183	12/6/2011	9:53	Water	X	X	X			X	X				X	X	X	6	
MW-34-100-183	12/6/2011	10:49	Water	X	X	X		X	X	X				X	X	X	7	

	Signatures	Date/Time
Approved by		12-6-11 1740
Sampled by		
Relinquished by		
Received by	DMEwald	12/6/11 - 1740
Relinquished by	DMGallegos	12/6/11 2007
Received by		12/6/11 @ 2007

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ / no 2.8°C/5.6°C/3.0°C/1.8°C 3.6°C/2.8°C
Airbill No: 1 PH 1
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

62

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/6/2011 5:35:41 PM* Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/6/2011
COC Number: 2

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	2	2	2	2	2	2	2	28			
		Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-36-100-183	12/6/2011 16:36 Water	X	X		X	X	X		X				X	X		6	
MW-42-030-183	12/6/2011 13:38 Water		X			X					X					2	
MW-42-055-183	12/6/2011 14:23 Water	X	X		X		X		X				X	X		5	
MW-42-065-183	12/6/2011 15:08 Water	X	X		X		X		X				X	X		5	
MW-50-095-183	12/6/2011 11:13 Water	X			X		X		X				X	X		5	
MW-93-183	12/6/2011 8:00 Water	X	X	X		X	X	X				X	X	X		7	
OW-03D-183	12/6/2011 8:28 Water	X	X		X	X	X		X				X			5	
TW-05-183	12/6/2011 10:16 Water	X			X		X		X				X			4	
														TOTAL NUMBER OF CONTAINERS		113	

	Signatures	Date/Time
Approved by		12-6-11
Sampled by		1740
Relinquished by	DM Gadway	12/6/11 - 1740
Received by	DM Gadway	12/6/11 - 2007
Relinquished by		
Received by		12/6/11 @ 2007

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ / no 2.5°C/3.6°C/3.0°C/1.8°C 2.6°C/2.5°C IR#1
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO 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.

Cooler Received/Opened On:	12/6/2011	Workorder:	N006965
Rep sample Temp (Deg C):	2.8,3.6,3.0,1.8,2.6,2.8	IR Gun ID:	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		

Sample Receipt Checklist

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 NS 12/7/11

Reviewed By: 12/8/11

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 **N006965-010C,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(56.2588-56.1664)*1000000}{50}$$

$$= 1848\text{mg/L}$$

Reporting result in two significant figures,

TDS = 1800 mg/L

Sample ID: **N006965-001C @ pH 7.84**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.3mL)

= **0.02033 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (7.20) (0.02033N) (1) * 1000

= **146.38 mg/L**

Reporting results in two significant figures,

= **150 mg/L** as CaCO

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02033N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (7.20mL) (0.02033) (1) * 1000

= **146.38 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	OH Alkalinity as $CaCO_3$	CO_3 Alkalinity as $CaCO_3$	HCO_3 Alkalinity as $CaCO_3$
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **146.38 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **150 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 **N006965-001B**, concentration in mg/L are calculated as follows:

Chloride, mg/L = 4.130 * 20

= 82.6 mg/L

Reporting **N006965-001B**, results in two significant figures,

Chloride, mg/L = 83 mg/L

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N006965-001D,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 0.103 *1

= 0.103 mg/L

Reporting result in two significant figures,

Ammonia as N = 0.10 mg/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 mg/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N006965-001A, concentration in ug/L are calculated as follows:

$$Fe, ug/L = \frac{0.67246\ mg/L * 0.025\ L * 1 * 1000}{0.025\ L}$$

Ba = 672.46 ug/L

Reporting result in two significant figures,

Fe = 670 ug/L

12/22/2011

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/19/2011	**Units:**	ug/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006965-020A
Batch # : 38583

Analyte	A	B	Difference	% D
Boron	2703	3004.347	-301.34700	-11.1

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration of the original sample
B= ug/L, ICP calculated concentration @5x dilution

NSf 12/27/11

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/19/2011	**Units:**	mg/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006965-020A
Batch # : 38583

Analyte	A	B	Difference	% D
Calcium	164.7	158.761	5.93900	3.6
Magnesium	7.408	8.895	-1.48700	-20.1

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original sample
B= mg/L, ICP calculated concentration @5x dilution

NS for 12/23/11

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/21/2011	**Units:**	ug/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006965-020A
Batch # : 38583

Analyte	A	B	Difference	% D
Sodium	3908	3698.142	209.85800	5.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @ 100x
B= ug/L, ICP calculated concentration @500x dilution

NS for 12/27/11

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006965-020ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/13/2011**	RunNo: **82599**
Client ID: **ZZZZZZ**	Batch ID: **38583**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	3004.347	500						2703	10.5	10	R

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: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006965-020ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/13/2011	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/19/2011	SeqNo: 1339220

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	158.761	2.5						164.7	3.70	10	
Magnesium	8.895	0.50						7.408	18.2	10	R

Sample ID: N006965-020ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/13/2011	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/21/2011	SeqNo: 1339872

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3698.142	250						3908	5.53	10	

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

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**12/19/2011**	**Units:**	**mg/L**
Digestion Date:	**12/13/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N006987-002A**
Batch # : **38584**

Analyte	A	B	Difference	% D
Calcium	28.25	27.855	0.39500	1.4
Magnesium	4.931	5.253	-0.32200	-6.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original sample
B= mg/L, ICP calculated concentration @5x dilution

NS for 12/7/11

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**12/20/2011**	**Units:**	**mg/L**
Digestion Date:	**12/13/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N006987-002A**
Batch # : **38584**

Analyte	A	B	Difference	% D
Sodium	198	185.447	12.55300	6.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @5x dilution
B= mg/L, ICP calculated concentration @25x dilution

NS 12/27/11

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006987-002ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/19/2011	SeqNo: 1339343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	27.855	2.5						28.25	1.39	10	
Magnesium	5.253	0.50						4.931	6.33	10	

Sample ID: N006987-002ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/13/2011	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/20/2011	SeqNo: 1339984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	185.447	12						198.0	6.53	10	

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: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006965-020A-PS 2** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82599**
Client ID: **ZZZZZZ** Batch ID: **38583** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	8023.646	200	5000	2703	106	75	125				
Iron	9265.340	40	10000	0	92.7	75	125				
Manganese	970.488	20	1000	15.71	95.5	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		

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006965-020A-PS 2	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/19/2011	SeqNo: 1339231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	164.074	1.0	10.00	164.7	-6.76	75	125				S
Magnesium	16.473	0.20	10.00	7.408	90.6	75	125				

Sample ID: N006965-020A-PS 5	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/20/2011	SeqNo: 1339838

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	184.974	25	125.0	50.32	108	75	125				

Sample ID: N006965-020A-PS 2	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/21/2011	SeqNo: 1339862

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	123.646	12	62.50	42.90	129	75	125				S

Sample ID: N006965-020A-PS 1	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82599
Client ID: ZZZZZZ	Batch ID: 38583	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/21/2011	SeqNo: 1339876

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	6544.877	50	2500	3908	105	75	125				

DT of Ca @ 5x in within acceptance criteria NS for 12/21/11

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: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:				RunNo: **82601**			
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**				SeqNo: **1339292**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5482.549	200	5000	337.2	103	75	125				
Iron	10062.576	40	10000	33.26	100	75	125				
Manganese	971.556	20	1000	0	97.2	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: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006987-002A-PS 2	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/19/2011	SeqNo: 1339351

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	37.928	1.0	10.00	28.25	96.8	75	125				
Magnesium	14.708	0.20	10.00	4.931	97.8	75	125				

Sample ID: N006987-002A-PS 5	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/20/2011	SeqNo: 1339988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	17.521	2.5	12.50	4.161	107	75	125				
Sodium	324.684	2.5	125.0	198.0	101	75	125				

Sample ID: N006987-002A-PS 2	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/20/2011	SeqNo: 1339989

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	64.417	12	62.50	4.161	96.4	75	125				
Sodium	786.334	12	625.0	198.0	94.1	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 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 **N006965-001A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 2.433 * 1 * (25/25)

= 2.433 ug/L

12/22/11

Reporting results in two significant figures,

Arsenic, ug/L = 2.4

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006965
Test Method: EPA 6020
Analysis Date: 12/14/11

Matrix: Water
Batch No.: 38524

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to As, Se & Mo. The calc. Values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006965-001A-DT 5X	Arsenic	µg/L	3.06627138	NA	2.433092582	-26.02%	10
N006965-001A-DT 5X	Molybdenum	µg/L	8.10794518	NA	6.860817124	-18.18%	10
N006965-001A-DT 5X	Selenium	µg/L	0	NA	0		10

CLIENT: CH2M HILL
Work Order: N006965
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006965-001A-PS 2** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **82615**
Client ID: **ZZZZZZ** Batch ID: **38524** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/14/2011** SeqNo: **1339676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.020	0.20	20.00	2.433	97.9	75	125				
Molybdenum	28.351	1.0	20.00	6.861	107	75	125				
Selenium	17.039	1.0	20.00	0	85.2	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

January 09, 2012

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.: N006987

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 08, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock.423575.MP.02.GM.0
Lab Order: N006987

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 were analyzed within method holding time except for sample N006987-011 for Nitrate by EPA 300. The sample was included in the 12/9/2011 pick-up and reached the lab @ 1724.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Molybdenum possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *09-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-001A	MW-15-183	Water	12/7/2011 11:31:00 AM	12/8/2011	
N006987-001B	MW-15-183	Water	12/7/2011 11:31:00 AM	12/8/2011	
N006987-001C	MW-15-183	Water	12/7/2011 11:31:00 AM	12/8/2011	
N006987-001D	MW-15-183	Water	12/7/2011 11:31:00 AM	12/8/2011	
N006987-002A	MW-16-183	Water	12/7/2011 12:38:00 PM	12/8/2011	
N006987-002B	MW-16-183	Water	12/7/2011 12:38:00 PM	12/8/2011	
N006987-002C	MW-16-183	Water	12/7/2011 12:38:00 PM	12/8/2011	
N006987-002D	MW-16-183	Water	12/7/2011 12:38:00 PM	12/8/2011	
N006987-003A	MW-17-183	Water	12/7/2011 1:42:00 PM	12/8/2011	
N006987-003B	MW-17-183	Water	12/7/2011 1:42:00 PM	12/8/2011	
N006987-003C	MW-17-183	Water	12/7/2011 1:42:00 PM	12/8/2011	
N006987-003D	MW-17-183	Water	12/7/2011 1:42:00 PM	12/8/2011	
N006987-004A	MW-20-070-183	Water	12/7/2011 1:25:00 PM	12/8/2011	
N006987-004B	MW-20-070-183	Water	12/7/2011 1:25:00 PM	12/8/2011	
N006987-004C	MW-20-070-183	Water	12/7/2011 1:25:00 PM	12/8/2011	
N006987-004D	MW-20-070-183	Water	12/7/2011 1:25:00 PM	12/8/2011	
N006987-005A	MW-29-183	Water	12/7/2011 9:35:00 AM	12/8/2011	
N006987-005B	MW-29-183	Water	12/7/2011 9:35:00 AM	12/8/2011	
N006987-005C	MW-29-183	Water	12/7/2011 9:35:00 AM	12/8/2011	
N006987-005D	MW-29-183	Water	12/7/2011 9:35:00 AM	12/8/2011	
N006987-005E	MW-29-183	Water	12/7/2011 9:35:00 AM	12/8/2011	
N006987-006A	MW-30-030-183	Water	12/7/2011 3:47:00 PM	12/8/2011	
N006987-006B	MW-30-030-183	Water	12/7/2011 3:47:00 PM	12/8/2011	
N006987-006C	MW-30-030-183	Water	12/7/2011 3:47:00 PM	12/8/2011	
N006987-006D	MW-30-030-183	Water	12/7/2011 3:47:00 PM	12/8/2011	
N006987-007A	MW-35-060-183	Water	12/7/2011 9:33:00 AM	12/8/2011	
N006987-007B	MW-35-060-183	Water	12/7/2011 9:33:00 AM	12/8/2011	
N006987-007C	MW-35-060-183	Water	12/7/2011 9:33:00 AM	12/8/2011	
N006987-007D	MW-35-060-183	Water	12/7/2011 9:33:00 AM	12/8/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-007E	MW-35-060-183	Water	12/7/2011 9:33:00 AM	12/8/2011	
N006987-008A	MW-35-135-183	Water	12/7/2011 10:15:00 AM	12/8/2011	
N006987-008B	MW-35-135-183	Water	12/7/2011 10:15:00 AM	12/8/2011	
N006987-008C	MW-35-135-183	Water	12/7/2011 10:15:00 AM	12/8/2011	
N006987-008D	MW-35-135-183	Water	12/7/2011 10:15:00 AM	12/8/2011	
N006987-008E	MW-35-135-183	Water	12/7/2011 10:15:00 AM	12/8/2011	
N006987-009A	MW-37S-183	Water	12/7/2011 9:46:00 AM	12/8/2011	
N006987-009B	MW-37S-183	Water	12/7/2011 9:46:00 AM	12/8/2011	
N006987-009C	MW-37S-183	Water	12/7/2011 9:46:00 AM	12/8/2011	
N006987-009D	MW-37S-183	Water	12/7/2011 9:46:00 AM	12/8/2011	
N006987-010A	MW-40D-183	Water	12/7/2011 12:03:00 PM	12/8/2011	
N006987-010B	MW-40D-183	Water	12/7/2011 12:03:00 PM	12/8/2011	
N006987-010C	MW-40D-183	Water	12/7/2011 12:03:00 PM	12/8/2011	
N006987-010D	MW-40D-183	Water	12/7/2011 12:03:00 PM	12/8/2011	
N006987-011A	MW-40S-183	Water	12/7/2011 11:12:00 AM	12/8/2011	
N006987-011B	MW-40S-183	Water	12/7/2011 11:12:00 AM	12/8/2011	
N006987-011C	MW-40S-183	Water	12/7/2011 11:12:00 AM	12/8/2011	
N006987-011D	MW-40S-183	Water	12/7/2011 11:12:00 AM	12/8/2011	
N006987-012A	MW-41S-183	Water	12/7/2011 4:18:00 PM	12/8/2011	
N006987-012B	MW-41S-183	Water	12/7/2011 4:18:00 PM	12/8/2011	
N006987-012C	MW-41S-183	Water	12/7/2011 4:18:00 PM	12/8/2011	
N006987-012D	MW-41S-183	Water	12/7/2011 4:18:00 PM	12/8/2011	
N006987-013A	MW-49-135-183	Water	12/7/2011 11:18:00 AM	12/8/2011	
N006987-013B	MW-49-135-183	Water	12/7/2011 11:18:00 AM	12/8/2011	
N006987-013C	MW-49-135-183	Water	12/7/2011 11:18:00 AM	12/8/2011	
N006987-013D	MW-49-135-183	Water	12/7/2011 11:18:00 AM	12/8/2011	
N006987-013E	MW-49-135-183	Water	12/7/2011 11:18:00 AM	12/8/2011	
N006987-014A	MW-49-275-183	Water	12/7/2011 12:29:00 PM	12/8/2011	
N006987-014B	MW-49-275-183	Water	12/7/2011 12:29:00 PM	12/8/2011	
N006987-014C	MW-49-275-183	Water	12/7/2011 12:29:00 PM	12/8/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-014D	MW-49-275-183	Water	12/7/2011 12:29:00 PM	12/8/2011	
N006987-014E	MW-49-275-183	Water	12/7/2011 12:29:00 PM	12/8/2011	
N006987-015A	MW-49-365-183	Water	12/7/2011 2:54:00 PM	12/8/2011	
N006987-015B	MW-49-365-183	Water	12/7/2011 2:54:00 PM	12/8/2011	
N006987-015C	MW-49-365-183	Water	12/7/2011 2:54:00 PM	12/8/2011	
N006987-015D	MW-49-365-183	Water	12/7/2011 2:54:00 PM	12/8/2011	
N006987-015E	MW-49-365-183	Water	12/7/2011 2:54:00 PM	12/8/2011	
N006987-016A	MW-51-183	Water	12/7/2011 2:37:00 PM	12/8/2011	
N006987-016B	MW-51-183	Water	12/7/2011 2:37:00 PM	12/8/2011	
N006987-016C	MW-51-183	Water	12/7/2011 2:37:00 PM	12/8/2011	
N006987-016D	MW-51-183	Water	12/7/2011 2:37:00 PM	12/8/2011	
N006987-016E	MW-51-183	Water	12/7/2011 2:37:00 PM	12/8/2011	
N006987-017A	MW-95-183	Water	12/7/2011 10:18:00 AM	12/9/2011	
N006987-017B	MW-95-183	Water	12/7/2011 10:18:00 AM	12/9/2011	
N006987-017C	MW-95-183	Water	12/7/2011 10:18:00 AM	12/9/2011	
N006987-017D	MW-95-183	Water	12/7/2011 10:18:00 AM	12/9/2011	
N006987-018A	PGE-07BR-183	Water	12/7/2011 2:51:00 PM	12/9/2011	
N006987-018B	PGE-07BR-183	Water	12/7/2011 2:51:00 PM	12/9/2011	
N006987-018C	PGE-07BR-183	Water	12/7/2011 2:51:00 PM	12/9/2011	
N006987-018D	PGE-07BR-183	Water	12/7/2011 2:51:00 PM	12/9/2011	
N006987-019A	MW-20-100-183	Water	12/8/2011 3:10:00 PM	12/9/2011	
N006987-019B	MW-20-100-183	Water	12/8/2011 3:10:00 PM	12/9/2011	
N006987-019C	MW-20-100-183	Water	12/8/2011 3:10:00 PM	12/9/2011	
N006987-019D	MW-20-100-183	Water	12/8/2011 3:10:00 PM	12/9/2011	
N006987-020A	MW-30-050-183	Water	12/8/2011 9:25:00 AM	12/9/2011	
N006987-020B	MW-30-050-183	Water	12/8/2011 9:25:00 AM	12/9/2011	
N006987-020C	MW-30-050-183	Water	12/8/2011 9:25:00 AM	12/9/2011	
N006987-020D	MW-30-050-183	Water	12/8/2011 9:25:00 AM	12/9/2011	
N006987-020E	MW-30-050-183	Water	12/8/2011 9:25:00 AM	12/9/2011	
N006987-021A	MW-44-070-183	Water	12/8/2011 10:22:00 AM	12/9/2011	

Advanced Technology Laboratories, Inc.
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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-021B	MW-44-070-183	Water	12/8/2011 10:22:00 AM	12/9/2011	
N006987-021C	MW-44-070-183	Water	12/8/2011 10:22:00 AM	12/9/2011	
N006987-021D	MW-44-070-183	Water	12/8/2011 10:22:00 AM	12/9/2011	
N006987-021E	MW-44-070-183	Water	12/8/2011 10:22:00 AM	12/9/2011	
N006987-022A	MW-44-115-183	Water	12/8/2011 11:00:00 AM	12/9/2011	
N006987-022B	MW-44-115-183	Water	12/8/2011 11:00:00 AM	12/9/2011	
N006987-022C	MW-44-115-183	Water	12/8/2011 11:00:00 AM	12/9/2011	
N006987-022D	MW-44-115-183	Water	12/8/2011 11:00:00 AM	12/9/2011	
N006987-022E	MW-44-115-183	Water	12/8/2011 11:00:00 AM	12/9/2011	
N006987-023A	MW-47-055-183	Water	12/8/2011 11:34:00 AM	12/9/2011	
N006987-023B	MW-47-055-183	Water	12/8/2011 11:34:00 AM	12/9/2011	
N006987-023C	MW-47-055-183	Water	12/8/2011 11:34:00 AM	12/9/2011	
N006987-023D	MW-47-055-183	Water	12/8/2011 11:34:00 AM	12/9/2011	
N006987-023E	MW-47-055-183	Water	12/8/2011 11:34:00 AM	12/9/2011	
N006987-024A	MW-47-115-183	Water	12/8/2011 12:34:00 PM	12/9/2011	
N006987-024B	MW-47-115-183	Water	12/8/2011 12:34:00 PM	12/9/2011	
N006987-024C	MW-47-115-183	Water	12/8/2011 12:34:00 PM	12/9/2011	
N006987-024D	MW-47-115-183	Water	12/8/2011 12:34:00 PM	12/9/2011	
N006987-024E	MW-47-115-183	Water	12/8/2011 12:34:00 PM	12/9/2011	
N006987-025A	MW-50-200-183	Water	12/8/2011 3:59:00 PM	12/9/2011	
N006987-025B	MW-50-200-183	Water	12/8/2011 3:59:00 PM	12/9/2011	
N006987-025C	MW-50-200-183	Water	12/8/2011 3:59:00 PM	12/9/2011	
N006987-025D	MW-50-200-183	Water	12/8/2011 3:59:00 PM	12/9/2011	
N006987-025E	MW-50-200-183	Water	12/8/2011 3:59:00 PM	12/9/2011	
N006987-026A	MW-96-183	Water	12/8/2011 4:05:00 PM	12/9/2011	
N006987-026B	MW-96-183	Water	12/8/2011 4:05:00 PM	12/9/2011	
N006987-026C	MW-96-183	Water	12/8/2011 4:05:00 PM	12/9/2011	
N006987-026D	MW-96-183	Water	12/8/2011 4:05:00 PM	12/9/2011	
N006987-026E	MW-96-183	Water	12/8/2011 4:05:00 PM	12/9/2011	
N006987-027A	PGE-08-183	Water	12/8/2011 12:25:00 PM	12/9/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-027B	PGE-08-183	Water	12/8/2011 12:25:00 PM	12/9/2011	
N006987-027C	PGE-08-183	Water	12/8/2011 12:25:00 PM	12/9/2011	
N006987-027D	PGE-08-183	Water	12/8/2011 12:25:00 PM	12/9/2011	
N006987-028A	TW-04-183	Water	12/8/2011 10:45:00 AM	12/9/2011	
N006987-028B	TW-04-183	Water	12/8/2011 10:45:00 AM	12/9/2011	
N006987-028C	TW-04-183	Water	12/8/2011 10:45:00 AM	12/9/2011	
N006987-028D	TW-04-183	Water	12/8/2011 10:45:00 AM	12/9/2011	
N006987-029A	MW-18-183	Water	12/8/2011 2:39:00 PM	12/9/2011	
N006987-029B	MW-18-183	Water	12/8/2011 2:39:00 PM	12/9/2011	
N006987-029C	MW-18-183	Water	12/8/2011 2:39:00 PM	12/9/2011	
N006987-029D	MW-18-183	Water	12/8/2011 2:39:00 PM	12/9/2011	
N006987-030A	MW-32-020-183	Water	12/8/2011 4:10:00 PM	12/9/2011	
N006987-030B	MW-32-020-183	Water	12/8/2011 4:10:00 PM	12/9/2011	
N006987-030C	MW-32-020-183	Water	12/8/2011 4:10:00 PM	12/9/2011	
N006987-030D	MW-32-020-183	Water	12/8/2011 4:10:00 PM	12/9/2011	
N006987-030E	MW-32-020-183	Water	12/8/2011 4:10:00 PM	12/9/2011	
N006987-031A	MW-37D-183	Water	12/8/2011 4:04:00 PM	12/9/2011	
N006987-031B	MW-37D-183	Water	12/8/2011 4:04:00 PM	12/9/2011	
N006987-031C	MW-37D-183	Water	12/8/2011 4:04:00 PM	12/9/2011	
N006987-031D	MW-37D-183	Water	12/8/2011 4:04:00 PM	12/9/2011	
N006987-032A	MW-44-125-183	Water	12/8/2011 3:22:00 PM	12/9/2011	
N006987-032B	MW-44-125-183	Water	12/8/2011 3:22:00 PM	12/9/2011	
N006987-032C	MW-44-125-183	Water	12/8/2011 3:22:00 PM	12/9/2011	
N006987-032D	MW-44-125-183	Water	12/8/2011 3:22:00 PM	12/9/2011	
N006987-032E	MW-44-125-183	Water	12/8/2011 3:22:00 PM	12/9/2011	
N006987-033A	MW-97-183	Water	12/8/2011 12:00:00 PM	12/9/2011	
N006987-033B	MW-97-183	Water	12/8/2011 12:00:00 PM	12/9/2011	
N006987-033C	MW-97-183	Water	12/8/2011 12:00:00 PM	12/9/2011	
N006987-033D	MW-97-183	Water	12/8/2011 12:00:00 PM	12/9/2011	
N006987-033E	MW-97-183	Water	12/8/2011 12:00:00 PM	12/9/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006987
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006987-034A	MW-48-183	Water	12/7/2011 7:45:00 AM	12/9/2011	
N006987-034B	MW-48-183	Water	12/7/2011 7:45:00 AM	12/9/2011	
N006987-034C	MW-48-183	Water	12/7/2011 7:45:00 AM	12/9/2011	
N006987-034D	MW-48-183	Water	12/7/2011 7:45:00 AM	12/9/2011	
N006987-035A	MW-91-183	Water	12/7/2011 8:23:00 AM	12/8/2011	
N006987-036A	MW-24BR-183	Water	12/7/2011 8:21:00 AM	12/8/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-15-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	12/9/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	12/9/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-17-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:42:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	1400	0.10	0.10		umhos/cm	1	12/9/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	2400	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-030-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209D**	QC Batch: **R82537**			PrepDate:			Analyst: **CEI**
Specific Conductance	33000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	6700	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	9600	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:46:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	5000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40D-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209A**	QC Batch: **R82534**			PrepDate:			Analyst: **CEI**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209E**	QC Batch: **R82538**			PrepDate:			Analyst: **CEI**
Specific Conductance	2300	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 4:18:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	5000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: *09-Jan-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_120109A**	QC Batch: **R82819**			PrepDate:			Analyst: **CEI**
Specific Conductance	13000	0.10	0.10		umhos/cm	1	1/9/2012

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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-275-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:29:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209D**	QC Batch: **R82537**			PrepDate:			Analyst: **CEI**
Specific Conductance	28000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209D**	QC Batch: **R82537**			PrepDate:			Analyst: **CEI**
Specific Conductance	42000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	10000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	5000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-07BR-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:51:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	2800	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	1200	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	2200	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209B**	QC Batch: **R82535**			PrepDate:			Analyst: **CEI**
Specific Conductance	4600	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-08-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-04-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-18-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 2:39:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	1300	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209D**	QC Batch: **R82537**			PrepDate:			Analyst: **CEI**
Specific Conductance	52000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37D-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:04:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	9800	0.10	0.10		umhos/cm	1	12/9/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-48-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 7:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111209C**	QC Batch: **R82536**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/9/2011

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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82534** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82534**
Client ID: **LCSW** Batch ID: **R82534** TestNo: **EPA 120.1** Analysis Date: **12/9/2011** SeqNo: **1337477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9910.000	0.10	9986	0	99.2	85	115				

Sample ID: **N006987-010CDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82534**
Client ID: **ZZZZZZ** Batch ID: **R82534** TestNo: **EPA 120.1** Analysis Date: **12/9/2011** SeqNo: **1337488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	15100.000	0.10						15080	0.133	10	

Sample ID: **N006987-010CMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82534**
Client ID: **ZZZZZZ** Batch ID: **R82534** TestNo: **EPA 120.1** Analysis Date: **12/9/2011** SeqNo: **1337489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	25020.000	0.20	9986	15080	99.5	75	125				

Sample ID: **N006987-010CMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82534**
Client ID: **ZZZZZZ** Batch ID: **R82534** TestNo: **EPA 120.1** Analysis Date: **12/9/2011** SeqNo: **1337490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	25060.000	0.20	9986	15080	99.9	75	125	25020	0.160	10	

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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82535**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82535**
Client ID: **LCSW**	Batch ID: **R82535**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9900.000	0.10	9986	0	99.1	85	115				

Sample ID: **N006987-023CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82535**
Client ID: **ZZZZZZ**	Batch ID: **R82535**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4600.000	0.10						4580	0.436	10	

Sample ID: **N006987-023CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82535**
Client ID: **ZZZZZZ**	Batch ID: **R82535**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	14920.000	0.20	9986	4580	104	75	125				

Sample ID: **N006987-023CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82535**
Client ID: **ZZZZZZ**	Batch ID: **R82535**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	14900.000	0.20	9986	4580	103	75	125	14920	0.134	10	

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82536**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82536**			
Client ID: **LCSW**	Batch ID: **R82536**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337505**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9880.000	0.10	9986	0	98.9	85	115				

Sample ID: **N006987-024CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82536**			
Client ID: **ZZZZZZ**	Batch ID: **R82536**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337517**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	13850.000	0.10						13860	0.0722	10	

Sample ID: **N006987-024CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82536**			
Client ID: **ZZZZZZ**	Batch ID: **R82536**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337518**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24240.000	0.20	9986	13860	104	75	125				

Sample ID: **N006987-024CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82536**			
Client ID: **ZZZZZZ**	Batch ID: **R82536**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337519**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24200.000	0.20	9986	13860	104	75	125	24240	0.165	10	

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82537**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82537**
Client ID: **LCSW**	Batch ID: **R82537**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	99600.000	0.10	99880	0	99.7	85	115				

Sample ID: **N006987-030CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82537**
Client ID: **ZZZZZZ**	Batch ID: **R82537**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	52200.000	0.10						52400	0.382	10	

Sample ID: **N006987-030CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82537**
Client ID: **ZZZZZZ**	Batch ID: **R82537**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	153800.000	0.20	99880	52400	102	75	125				

Sample ID: **N006987-030CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82537**
Client ID: **ZZZZZZ**	Batch ID: **R82537**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**	SeqNo: **1337527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	153400.000	0.20	99880	52400	101	75	125	153800	0.260	10	

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82538**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82538**			
Client ID: **LCSW**	Batch ID: **R82538**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337528**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1420.000	0.10	1411	0	101	85	115				

Sample ID: **N006987-011CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82538**			
Client ID: **ZZZZZZ**	Batch ID: **R82538**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337530**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2270.000	0.10						2280	0.440	10	

Sample ID: **N006987-011CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82538**			
Client ID: **ZZZZZZ**	Batch ID: **R82538**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337531**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3600.000	0.20	1411	2280	93.6	75	125				

Sample ID: **N006987-011CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82538**			
Client ID: **ZZZZZZ**	Batch ID: **R82538**	TestNo: **EPA 120.1**		Analysis Date: **12/9/2011**			SeqNo: **1337532**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3640.000	0.20	1411	2280	96.4	75	125	3600	1.10	10	

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: N006987-013CDUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12800.000	0.10						12780	0.156	10	

Sample ID: N006987-013CMS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	22780.000	0.20	9986	12780	100	75	125				

Sample ID: N006987-013CMSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	22800.000	0.20	9986	12780	100	75	125	22780	0.0878	10	

Sample ID: LCS-R82819	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: LCSW	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9890.000	0.10	9986	0	99.0	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

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111213A**	QC Batch: **38559**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	1400	20	20		mg/L	1	12/13/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111213A**	QC Batch: **38559**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	1700	20	20		mg/L	1	12/13/2011

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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38559**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **PBW**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338603**

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-38559**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **LCSW**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	918.000	10	1000	0	91.8	80	120				

Sample ID: **N006987-004C-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **ZZZZZZ**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1474.000	20						1422	3.59	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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-15-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	82	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	82	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	91	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	91	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-17-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:42:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	59	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	59	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	71	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	71	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	430	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	430	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-030-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	910	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	910	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	72	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	72	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	49	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	49	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:46:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	54	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	54	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 4:18:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	56	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	56	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	80	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	80	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-275-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:29:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	40	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	40	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	33	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	33	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	100	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	100	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	57	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	57	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-07BR-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:51:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	10	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	10	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210G**	QC Batch: **R82540**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	120	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	300	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	300	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	80	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	80	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	70	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	70	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	40	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	40	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	74	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	74	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-08-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-04-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	50	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-18-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 2:39:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	86	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	86	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	1000	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	1000	1.2	5.0		mg/L	1	12/10/2011

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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37D-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:04:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	31	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	31	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	100	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	100	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	130	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	130	1.2	5.0		mg/L	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-48-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 7:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111210C**	QC Batch: **R82757**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	29	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/10/2011
Alkalinity, Total (As CaCO3)	29	1.2	5.0		mg/L	1	12/10/2011

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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82540** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **LCSW** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	102.249	5.0	100.0	0	102	85	115				
Alkalinity, Total (As CaCO3)	102.249	5.0	100.0	0	102	85	115				

Sample ID: **LCSD-R82540** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **LCSS02** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.227	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	101.227	5.0	100.0	0	101	85	115				

Sample ID: **MB-R82540** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **PBW** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N006987-019C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	113.497	5.0						118.6	4.41	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	113.497	5.0						118.6	4.41	30	

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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N006987-019C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	212.679	5.0	100.0	118.6	94.1	75	125				
Alkalinity, Total (As CaCO3)	212.679	5.0	100.0	118.6	94.1	75	125				

Sample ID: **N006987-019C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82540**
Client ID: **ZZZZZZ** Batch ID: **R82540** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1337584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	211.656	5.0	100.0	118.6	93.0	75	125	212.7	0.482	20	
Alkalinity, Total (As CaCO3)	211.656	5.0	100.0	118.6	93.0	75	125	212.7	0.482	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82757** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **LCSW** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.204	5.0	100.0	0	100	85	115				
Alkalinity, Total (As CaCO3)	100.204	5.0	100.0	0	100	85	115				

Sample ID: **LCSD-R82757** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **LCSS02** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.227	5.0	100.0	0	101	85	115	100.2	1.02	20	
Alkalinity, Total (As CaCO3)	101.227	5.0	100.0	0	101	85	115	100.2	1.02	20	

Sample ID: **MB-R82757** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **PBW** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N006987-034C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **ZZZZZZ** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	29.652	5.0						28.63	3.51	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	29.652	5.0						28.63	3.51	30	

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N006987-034C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **ZZZZZZ** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	112.474	5.0	100.0	28.63	83.8	75	125				
Alkalinity, Total (As CaCO3)	112.474	5.0	100.0	28.63	83.8	75	125				

Sample ID: **N006987-034C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82757**
Client ID: **ZZZZZZ** Batch ID: **R82757** TestNo: **SM 2320 B** Analysis Date: **12/10/2011** SeqNo: **1343230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	111.452	5.0	100.0	28.63	82.8	75	125	112.5	0.913	20	
Alkalinity, Total (As CaCO3)	111.452	5.0	100.0	28.63	82.8	75	125	112.5	0.913	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

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CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-001

Client Sample ID: MW-15-183
Collection Date: 12/7/2011 11:31:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	340	1.4	50		mg/L	100	12/11/2011 05:10 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	110	0.62	20		mg/L	20	12/11/2011 05:45 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.7	0.024	1.0		mg/L	2	12/9/2011 08:06 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	170	0.70	25		mg/L	50	12/11/2011 07:30 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	160	0.62	20		mg/L	20	12/11/2011 12:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.8	0.012	0.50		mg/L	1	12/9/2011 09:40 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-003

Client Sample ID: MW-17-183
Collection Date: 12/7/2011 1:42:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	120	0.70	25		mg/L	50	12/11/2011 06:43 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	450	1.6	50		mg/L	50	12/11/2011 06:43 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.6	0.024	1.0		mg/L	2	12/9/2011 09:52 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-004

Client Sample ID: MW-20-070-183
Collection Date: 12/7/2011 1:25:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.0070	0.50		mg/L	1	12/9/2011 12:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	540	2.8	100		mg/L	200	12/11/2011 08:17 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	330	1.6	50		mg/L	50	12/11/2011 08:28 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	11	0.060	2.5		mg/L	5	12/9/2011 09:04 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-005

Client Sample ID: MW-29-183
Collection Date: 12/7/2011 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	280	0.70	25		mg/L	50	12/11/2011 02:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	450	1.6	50		mg/L	50	12/11/2011 02:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/9/2011 07:08 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

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CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-006

Client Sample ID: MW-30-030-183
Collection Date: 12/7/2011 3:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	10000	28	1000		mg/L	2000	12/11/2011 10:13 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	3200	6.2	200		mg/L	200	12/11/2011 10:25 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/9/2011 10:27 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	2100	7.0	250		mg/L	500	12/11/2011 01:52 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	340	1.6	50		mg/L	50	12/11/2011 02:04 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	1.9	0.024	1.0		mg/L	2	12/9/2011 06:56 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	3000	7.0	250		mg/L	500	12/11/2011 03:37 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	660	3.1	100		mg/L	100	12/11/2011 03:49 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	2.6	0.060	2.5		mg/L	5	12/9/2011 07:43 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-009

Client Sample ID: MW-37S-183
Collection Date: 12/7/2011 9:46:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	1400	7.0	250		mg/L	500	12/11/2011 02:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	260	1.6	50		mg/L	50	12/11/2011 03:02 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	1.4	0.024	1.0		mg/L	2	12/9/2011 07:19 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-010

Client Sample ID: MW-40D-183
Collection Date: 12/7/2011 12:03:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Chloride	5300	14	500		mg/L	1000	12/11/2011 04:24 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210B** QC Batch: **R82692**				PrepDate:			Analyst: **QBM**
Sulfate	730	3.1	100		mg/L	100	12/11/2011 04:35 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111209A** QC Batch: **R82765**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 08:41 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	3.7	0.012	0.50	H	mg/L	1	12/9/2011 07:35 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-012

Client Sample ID: MW-41S-183
Collection Date: 12/7/2011 4:18:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	1400	7.0	250		mg/L	500	12/11/2011 10:36 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	250	1.6	50		mg/L	50	12/11/2011 10:48 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	1.2	0.024	1.0		mg/L	2	12/9/2011 10:38 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	4500	14	500		mg/L	1000	12/11/2011 04:00 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	730	3.1	100		mg/L	100	12/11/2011 04:12 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 07:54 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-275-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:29:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	9000	28	1000		mg/L	2000	12/11/2011 06:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	1400	3.1	100		mg/L	100	12/11/2011 06:32 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/9/2011 08:53 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	15000	28	1000		mg/L	2000	12/11/2011 09:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	1100	3.1	100		mg/L	100	12/11/2011 10:01 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/9/2011 10:15 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	3100	14	500		mg/L	1000	12/11/2011 08:40 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	720	3.1	100		mg/L	100	12/11/2011 08:51 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	11	0.060	2.5		mg/L	5	12/9/2011 09:16 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	1400	7.0	250		mg/L	500	12/11/2011 03:14 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	270	1.6	50		mg/L	50	12/11/2011 03:25 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	1.3	0.024	1.0		mg/L	2	12/9/2011 07:31 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-07BR-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:51:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	6600	14	500		mg/L	1000	12/11/2011 09:03 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	740	3.1	100		mg/L	100	12/11/2011 09:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.24	10		mg/L	20	12/9/2011 10:03 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-019

Client Sample ID: MW-20-100-183
Collection Date: 12/8/2011 3:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.0070	0.50		mg/L	1	12/9/2011 07:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Chloride	580	1.4	50		mg/L	100	12/10/2011 04:31 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Sulfate	380	1.6	50		mg/L	50	12/10/2011 04:43 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Nitrate as N	13	0.060	2.5		mg/L	5	12/9/2011 03:54 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	130	0.28	10		mg/L	20	12/11/2011 11:11 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	210	0.62	20		mg/L	20	12/11/2011 11:11 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/9/2011 11:13 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	370	1.4	50		mg/L	100	12/11/2011 12:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	240	0.62	20		mg/L	20	12/11/2011 11:35 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/9/2011 11:25 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	3300	14	500		mg/L	1000	12/9/2011 11:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	720	3.1	100		mg/L	100	12/9/2011 11:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 02:09 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	1300	7.0	250		mg/L	500	12/9/2011 11:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	250	0.62	20		mg/L	20	12/9/2011 11:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	1.6	0.012	0.50		mg/L	1	12/9/2011 02:21 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	4500	14	500		mg/L	1000	12/10/2011 12:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	720	3.1	100		mg/L	100	12/10/2011 12:27 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 02:44 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	7100	14	500		mg/L	1000	12/10/2011 02:35 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	1000	3.1	100		mg/L	100	12/10/2011 02:46 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	5.3	0.060	2.5		mg/L	5	12/9/2011 04:52 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	3300	14	500		mg/L	1000	12/10/2011 03:45 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	730	3.1	100		mg/L	100	12/10/2011 03:56 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 04:17 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		

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CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-027

Client Sample ID: PGE-08-183
Collection Date: 12/8/2011 12:25:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Chloride	6400	14	500		mg/L	1000	12/10/2011 01:02 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Sulfate	1900	6.2	200		mg/L	200	12/10/2011 01:13 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 02:56 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-04-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	7100	14	500		mg/L	1000	12/9/2011 10:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	1000	3.1	100		mg/L	100	12/9/2011 10:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 01:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-18-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 2:39:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Chloride	280	1.4	50		mg/L	100	12/10/2011 01:25 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Sulfate	82	0.31	10		mg/L	10	12/10/2011 01:48 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B** QC Batch: **R82766**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.8	0.012	0.50		mg/L	1	12/9/2011 03:07 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	17000	28	1000		mg/L	2000	12/10/2011 04:08 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	4400	16	500		mg/L	500	12/10/2011 06:58 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/9/2011 04:29 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37D-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:04:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	5100	14	500		mg/L	1000	12/10/2011 03:21 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	630	1.6	50		mg/L	50	12/10/2011 03:33 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 04:06 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	4000	14	500		mg/L	1000	12/10/2011 02:11 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	660	1.6	50		mg/L	50	12/10/2011 02:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 03:19 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Chloride	2500	7.0	250		mg/L	500	12/10/2011 06:35 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Sulfate	490	1.6	50		mg/L	50	12/10/2011 06:47 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209B**	QC Batch: **R82766**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/9/2011 02:32 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-48-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 7:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Chloride	6300	14	500		mg/L	1000	12/11/2011 01:05 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210B**	QC Batch: **R82692**			PrepDate:			Analyst: **QBM**
Sulfate	570	1.6	50		mg/L	50	12/11/2011 01:29 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111209A**	QC Batch: **R82765**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/9/2011 06:44 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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82765_BR** SampType: **MBLK** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **PBW** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82765_BR** SampType: **LCS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **LCSW** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.483	0.50	2.500	0	99.3	90	110				

Sample ID: **N006987-016BDUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **ZZZZZZ** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.925	2.5						0.9150	0	20	

Sample ID: **N006987-004BMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **ZZZZZZ** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.703	0.50	2.500	0.4390	90.6	80	120				

Sample ID: **N006987-004BMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **ZZZZZZ** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.699	0.50	2.500	0.4390	90.4	80	120	2.703	0.148	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

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82766_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **PBW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82766_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **LCSW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.313	0.50	2.500	0	92.5	90	110				

Sample ID: **N006987-029BDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.192	0.50						0.1930	0	20	

Sample ID: **N006986-001CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	11.705	2.5	12.50	0.3250	91.0	80	120				

Sample ID: **N006986-001CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	11.765	2.5	12.50	0.3250	91.5	80	120	11.71	0.511	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82692_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **PBW**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82692_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **LCSW**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.422	0.50	2.500	0	96.9	90	110				

Sample ID: **N006987-034BDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6261.000	500						6286	0.399	20	

Sample ID: **N006987-001BMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	595.100	50	250.0	337.8	103	80	120				

Sample ID: **N006987-001BMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	591.400	50	250.0	337.8	101	80	120	595.1	0.624	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
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Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N006987-002BMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82692**
Client ID: **ZZZZZZ** Batch ID: **R82692** TestNo: **EPA 300.0** Analysis Date: **12/11/2011** SeqNo: **1341676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	295.950	25	125.0	170.7	100	80	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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82766_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **PBW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82766_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **LCSW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.287	0.50	2.500	0	91.5	90	110				

Sample ID: **N006986-001CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5812.000	500	2500	3417	95.8	80	120				

Sample ID: **N006986-001CMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5788.000	500	2500	3417	94.8	80	120	5812	0.414	20	

Sample ID: **N006987-029BDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1343792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	276.100	50						276.9	0.289	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

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Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N006987-019BMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82766**
Client ID: **ZZZZZZ** Batch ID: **R82766** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1343801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	851.500	50	250.0	581.5	108	80	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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82692_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **PBW**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82692_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **LCSW**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341685**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.921	1.0	5.000	0	98.4	90	110				

Sample ID: **N006987-034BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341687**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	567.800	50						565.5	0.406	20	

Sample ID: **N006987-001BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	214.800	20	100.0	110.9	104	80	120				

Sample ID: **N006987-001BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82692**
Client ID: **ZZZZZZ**	Batch ID: **R82692**	TestNo: **EPA 300.0**		Analysis Date: **12/11/2011**	SeqNo: **1341701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	214.760	20	100.0	110.9	104	80	120	214.8	0.0186	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
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Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N006987-002BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82692**
Client ID: **ZZZZZZ** Batch ID: **R82692** TestNo: **EPA 300.0** Analysis Date: **12/11/2011** SeqNo: **1341719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	259.120	20	100.0	156.6	102	80	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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82766_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82766**		
Client ID: **PBW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**				SeqNo: **1344010**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82766_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82766**		
Client ID: **LCSW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**				SeqNo: **1344011**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.704	1.0	5.000	0	94.1	90	110				

Sample ID: **N006986-001CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82766**		
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**				SeqNo: **1344019**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	814.650	50	250.0	551.6	105	80	120				

Sample ID: **N006986-001CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82766**		
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**				SeqNo: **1344020**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	812.200	50	250.0	551.6	104	80	120	814.6	0.301	20	

Sample ID: **N006987-029BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82766**		
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1344031**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	81.960	10						81.83	0.159	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N006987-019BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82766**
Client ID: **ZZZZZZ** Batch ID: **R82766** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1344039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	635.700	50	250.0	382.2	101	80	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		

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Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82765_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82765**
Client ID: **PBW**	Batch ID: **R82765**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82765_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82765**
Client ID: **LCSW**	Batch ID: **R82765**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.431	0.50	2.500	0	97.2	90	110				

Sample ID: **N006987-004BMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82765**
Client ID: **ZZZZZZ**	Batch ID: **R82765**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	22.230	2.5	12.50	10.55	93.4	80	120				

Sample ID: **N006987-004BMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82765**
Client ID: **ZZZZZZ**	Batch ID: **R82765**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	22.730	2.5	12.50	10.55	97.4	80	120	22.23	2.22	20	

Sample ID: **N006987-016BDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82765**
Client ID: **ZZZZZZ**	Batch ID: **R82765**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.340	2.5						10.56	2.06	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

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N006987-012BMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82765**
Client ID: **ZZZZZZ** Batch ID: **R82765** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.630	1.0	5.000	1.204	88.5	80	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		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82766_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **PBW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82766_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **LCSW**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.313	0.50	2.500	0	92.5	90	110				

Sample ID: **N006987-023BMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.075	0.50	2.500	1.600	99.0	80	120				

Sample ID: **N006987-029BDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.764	0.50						3.760	0.106	20	

Sample ID: **N006986-001CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82766**
Client ID: **ZZZZZZ**	Batch ID: **R82766**	TestNo: **EPA 300.0**		Analysis Date: **12/9/2011**	SeqNo: **1343919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.620	2.5	12.50	0.3100	90.5	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N006986-001CMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82766**
Client ID: **ZZZZZZ** Batch ID: **R82766** TestNo: **EPA 300.0** Analysis Date: **12/9/2011** SeqNo: **1343920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.635	2.5	12.50	0.3100	90.6	80	120	11.62	0.129	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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	2.0	0.15	0.50		mg/L	5	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-275-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:29:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.28	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.30	0.030	0.10		mg/L	1	12/16/2011

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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	10	0.30	1.0		mg/L	10	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.14	0.030	0.10		mg/L	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38551**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/16/2011

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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38551**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **LCSW**	Batch ID: **38551**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.999	0.10	1.000	0	99.9	85	115				

Sample ID: **MB-38551**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **PBW**	Batch ID: **38551**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N006987-005D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38551**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	4.055	0.50	2.000	2.000	103	75	125				

Sample ID: **N006987-005D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38551**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	4.070	0.50	2.000	2.000	104	75	125	4.055	0.369	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.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-15-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	20	14	20		ug/L	1	12/19/2011 03:03 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 03:03 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	90	0.12	0.50		mg/L	1	12/19/2011 03:03 PM
Magnesium	20	0.0063	0.10		mg/L	1	12/19/2011 03:03 PM
Sodium	180	0.60	2.5		mg/L	5	12/20/2011 10:31 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-002

Client Sample ID: MW-16-183
Collection Date: 12/7/2011 12:38:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**				PrepDate: **12/13/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	12/23/2011 02:36 PM
Antimony	ND	5.4	10		ug/L	1	1/4/2012 01:48 PM
Barium	32	0.20	3.0		ug/L	1	12/23/2011 02:36 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/4/2012 01:48 PM
Boron	340	13	100		ug/L	1	12/19/2011 04:08 PM
Cadmium	ND	0.23	3.0		ug/L	1	12/23/2011 02:36 PM
Cobalt	ND	0.31	3.0		ug/L	1	12/23/2011 02:36 PM
Copper	ND	0.53	5.0		ug/L	1	1/4/2012 01:48 PM
Iron	33	14	20		ug/L	1	12/19/2011 04:08 PM
Lead	ND	1.5	10		ug/L	1	12/23/2011 02:36 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 04:08 PM
Molybdenum	13	0.49	5.0		ug/L	1	12/23/2011 02:36 PM
Nickel	ND	1.1	5.0		ug/L	1	12/23/2011 02:36 PM
Silver	ND	0.72	3.0		ug/L	1	12/23/2011 02:36 PM
Vanadium	37	0.19	3.0		ug/L	1	12/23/2011 02:36 PM
Zinc	ND	4.6	10		ug/L	1	12/23/2011 02:36 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**				PrepDate: **12/13/2011**		Analyst: **KAB**
Calcium	28	0.12	0.50		mg/L	1	12/19/2011 04:08 PM
Magnesium	4.9	0.0063	0.10		mg/L	1	12/19/2011 04:08 PM
Sodium	200	0.60	2.5		mg/L	5	12/20/2011 10:41 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-003

Client Sample ID: MW-17-183
Collection Date: 12/7/2011 1:42:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	12/23/2011 03:11 PM
Antimony	ND	5.4	10		ug/L	1	1/4/2012 01:52 PM
Barium	23	0.20	3.0		ug/L	1	12/23/2011 03:11 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/4/2012 01:52 PM
Boron	280	13	100		ug/L	1	12/19/2011 04:29 PM
Cadmium	ND	0.23	3.0		ug/L	1	12/23/2011 03:11 PM
Cobalt	ND	0.31	3.0		ug/L	1	12/23/2011 03:11 PM
Copper	ND	0.53	5.0		ug/L	1	1/4/2012 01:52 PM
Iron	27	14	20		ug/L	1	12/19/2011 04:29 PM
Lead	ND	1.5	10		ug/L	1	12/23/2011 03:11 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 04:29 PM
Molybdenum	20	0.49	5.0		ug/L	1	12/23/2011 03:11 PM
Nickel	ND	1.1	5.0		ug/L	1	12/23/2011 03:11 PM
Silver	ND	0.72	3.0		ug/L	1	12/23/2011 03:11 PM
Vanadium	4.5	0.19	3.0		ug/L	1	12/23/2011 03:11 PM
Zinc	ND	4.6	10		ug/L	1	12/23/2011 03:11 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	76	0.12	0.50		mg/L	1	12/19/2011 04:29 PM
Magnesium	9.8	0.0063	0.10		mg/L	1	12/19/2011 04:29 PM
Sodium	210	6.0	25		mg/L	50	12/21/2011 11:02 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 04:35 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 04:35 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	100	0.12	0.50		mg/L	1	12/19/2011 04:35 PM
Magnesium	25	0.0063	0.10		mg/L	1	12/19/2011 04:35 PM
Sodium	380	1.2	5.0		mg/L	10	12/21/2011 11:07 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	380	14	20		ug/L	1	12/19/2011 04:40 PM
Manganese	260	1.7	10		ug/L	1	12/19/2011 04:40 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	150	0.12	0.50		mg/L	1	12/19/2011 04:40 PM
Magnesium	56	0.0063	0.10		mg/L	1	12/19/2011 04:40 PM
Sodium	280	3.0	12		mg/L	25	12/21/2011 11:10 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-030-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	2300	29	40		ug/L	2	12/19/2011 07:39 PM
Manganese	370	3.3	20		ug/L	2	12/19/2011 07:39 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	340	0.23	1.0		mg/L	2	12/19/2011 07:39 PM
Magnesium	290	0.013	0.20		mg/L	2	12/19/2011 07:39 PM
Sodium	6300	60	250		mg/L	500	12/21/2011 02:21 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	23	14	20		ug/L	1	12/19/2011 05:08 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 05:08 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	290	0.12	0.50		mg/L	1	12/19/2011 05:08 PM
Magnesium	31	0.0063	0.10		mg/L	1	12/19/2011 05:08 PM
Sodium	1200	3.0	12		mg/L	25	12/21/2011 11:19 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	31	14	20		ug/L	1	12/19/2011 05:30 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 05:30 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	250	0.12	0.50		mg/L	1	12/19/2011 05:30 PM
Magnesium	25	0.0063	0.10		mg/L	1	12/19/2011 05:30 PM
Sodium	1800	6.0	25		mg/L	50	12/21/2011 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:46:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 05:35 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 05:35 PM
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	160	0.12	0.50		mg/L	1	12/19/2011 05:35 PM
Magnesium	18	0.0063	0.10		mg/L	1	12/19/2011 05:35 PM
Sodium	830	3.0	12		mg/L	25	12/21/2011 11:26 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-010

Client Sample ID: MW-40D-183
Collection Date: 12/7/2011 12:03:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	27	14	20		ug/L	1	12/19/2011 05:40 PM
Manganese	12	1.7	10		ug/L	1	12/19/2011 05:40 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	410	0.12	0.50		mg/L	1	12/19/2011 05:40 PM
Magnesium	40	0.0063	0.10		mg/L	1	12/19/2011 05:40 PM
Sodium	3000	12	50		mg/L	100	12/21/2011 11:29 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_111219B**	QC Batch: **38584**				PrepDate:	**12/13/2011**	Analyst: **KAB**
Manganese	ND	1.7	10		ug/L	1	12/19/2011 05:46 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 4:18:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	28	14	20		ug/L	1	12/19/2011 09:43 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 05:52 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	110	0.12	0.50		mg/L	1	12/19/2011 05:52 PM
Magnesium	13	0.0063	0.10		mg/L	1	12/19/2011 05:52 PM
Sodium	890	3.0	12		mg/L	25	12/21/2011 11:36 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	640	14	20		ug/L	1	12/19/2011 05:57 PM
Manganese	440	1.7	10		ug/L	1	12/19/2011 05:57 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	350	0.12	0.50		mg/L	1	12/19/2011 05:57 PM
Magnesium	30	0.0063	0.10		mg/L	1	12/19/2011 05:57 PM
Sodium	2500	12	50		mg/L	100	12/21/2011 11:39 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-014

Client Sample ID: MW-49-275-183
Collection Date: 12/7/2011 12:29:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	98	29	40		ug/L	2	12/19/2011 07:45 PM
Manganese	450	3.3	20		ug/L	2	12/19/2011 07:45 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	230	0.23	1.0		mg/L	2	12/19/2011 07:45 PM
Magnesium	6.2	0.013	0.20		mg/L	2	12/19/2011 07:45 PM
Sodium	4700	30	120		mg/L	250	12/21/2011 11:42 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	160	72	100		ug/L	5	1/4/2012 02:19 PM
Manganese	170	8.3	50		ug/L	5	1/4/2012 09:22 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	390	0.58	2.5		mg/L	5	1/4/2012 09:22 PM
Magnesium	9.5	0.031	0.50		mg/L	5	1/4/2012 09:22 PM
Sodium	8300	60	250		mg/L	500	12/21/2011 11:44 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 06:34 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 06:34 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	250	0.12	0.50		mg/L	1	12/19/2011 06:34 PM
Magnesium	15	0.0063	0.10		mg/L	1	12/19/2011 06:34 PM
Sodium	2000	12	50		mg/L	100	12/21/2011 11:50 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	30	14	20		ug/L	1	1/4/2012 02:23 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 07:18 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	110	0.12	0.50		mg/L	1	12/19/2011 07:18 PM
Magnesium	13	0.0063	0.10		mg/L	1	12/19/2011 07:18 PM
Sodium	860	3.0	12		mg/L	25	12/21/2011 11:52 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-07BR-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:51:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	94000	14	20		ug/L	1	12/19/2011 07:23 PM
Manganese	4300	1.7	10		ug/L	1	12/19/2011 07:23 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	390	0.12	0.50		mg/L	1	12/19/2011 07:23 PM
Magnesium	12	0.0063	0.10		mg/L	1	12/19/2011 07:23 PM
Sodium	3800	12	50		mg/L	100	12/21/2011 11:58 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/19/2011 07:29 PM
Manganese	ND	1.7	10		ug/L	1	12/19/2011 07:29 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111219B**	QC Batch: **38584**			PrepDate:	**12/13/2011**		Analyst: **KAB**
Calcium	170	0.12	0.50		mg/L	1	12/19/2011 07:29 PM
Magnesium	25	0.0063	0.10		mg/L	1	12/19/2011 07:29 PM
Sodium	390	1.2	5.0		mg/L	10	12/21/2011 12:02 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	22	14	20		ug/L	1	12/23/2011 03:33 PM
Manganese	77	1.7	10		ug/L	1	12/23/2011 03:33 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	34	0.12	0.50		mg/L	1	12/23/2011 03:33 PM
Magnesium	9.4	0.0063	0.10		mg/L	1	12/23/2011 03:33 PM
Sodium	240	12	50		mg/L	100	1/3/2012 03:53 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		

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CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-021

Client Sample ID: MW-44-070-183
Collection Date: 12/8/2011 10:22:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	220	14	20		ug/L	1	12/23/2011 03:38 PM
Manganese	120	1.7	10		ug/L	1	12/23/2011 03:38 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	48	0.12	0.50		mg/L	1	12/23/2011 03:38 PM
Magnesium	7.5	0.0063	0.10		mg/L	1	12/23/2011 03:38 PM
Sodium	490	3.0	12		mg/L	25	1/3/2012 03:55 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/23/2011 03:42 PM
Manganese	ND	1.7	10		ug/L	1	12/23/2011 03:42 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	130	0.12	0.50		mg/L	1	12/23/2011 03:42 PM
Magnesium	6.9	0.0063	0.10		mg/L	1	12/23/2011 03:42 PM
Sodium	2400	12	50		mg/L	100	1/3/2012 04:02 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/23/2011 03:47 PM
Manganese	ND	1.7	10		ug/L	1	12/23/2011 03:47 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	200	0.12	0.50		mg/L	1	12/23/2011 03:47 PM
Magnesium	28	0.0063	0.10		mg/L	1	12/23/2011 03:47 PM
Sodium	770	3.0	12		mg/L	25	1/3/2012 04:05 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/23/2011 04:28 PM
Manganese	ND	1.7	10		ug/L	1	12/23/2011 04:28 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	410	0.12	0.50		mg/L	1	12/23/2011 04:28 PM
Magnesium	34	0.0063	0.10		mg/L	1	12/23/2011 04:28 PM
Sodium	2800	12	50		mg/L	100	1/3/2012 04:08 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	12/23/2011 05:49 PM
Manganese	ND	3.3	20		ug/L	2	12/23/2011 05:49 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	600	0.23	1.0		mg/L	2	12/23/2011 05:49 PM
Magnesium	33	0.013	0.20		mg/L	2	12/23/2011 05:49 PM
Sodium	4500	12	50		mg/L	100	1/3/2012 04:11 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/23/2011 04:45 PM
Manganese	ND	1.7	10		ug/L	1	12/23/2011 04:45 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	130	0.12	0.50		mg/L	1	12/23/2011 04:45 PM
Magnesium	7.3	0.0063	0.10		mg/L	1	12/23/2011 04:45 PM
Sodium	2500	12	50		mg/L	100	1/3/2012 04:14 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-027

Client Sample ID: PGE-08-183
Collection Date: 12/8/2011 12:25:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	180	29	40		ug/L	2	12/27/2011 02:17 PM
Manganese	610	3.3	20		ug/L	2	12/27/2011 02:17 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	870	0.23	1.0		mg/L	2	12/27/2011 02:17 PM
Magnesium	20	0.013	0.20		mg/L	2	12/27/2011 02:17 PM
Sodium	3900	12	50		mg/L	100	1/3/2012 04:21 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-04-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	12/27/2011 02:21 PM
Manganese	83	3.3	20		ug/L	2	12/27/2011 02:21 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	420	0.23	1.0		mg/L	2	12/27/2011 02:21 PM
Magnesium	41	0.013	0.20		mg/L	2	12/27/2011 02:21 PM
Sodium	4900	12	50		mg/L	100	1/3/2012 04:27 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-18-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 2:39:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	12/23/2011 05:17 PM
Manganese	ND	1.7	10		ug/L	1	12/23/2011 05:17 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	77	0.12	0.50		mg/L	1	12/23/2011 05:17 PM
Magnesium	12	0.0063	0.10		mg/L	1	12/23/2011 05:17 PM
Sodium	150	1.2	5.0		mg/L	10	1/3/2012 04:30 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	17000	72	100		ug/L	5	12/27/2011 03:20 PM
Manganese	1100	8.3	50		ug/L	5	12/27/2011 03:20 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	1400	0.58	2.5		mg/L	5	12/27/2011 03:20 PM
Magnesium	670	0.031	0.50		mg/L	5	12/27/2011 03:20 PM
Sodium	11000	60	250		mg/L	500	1/3/2012 04:46 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37D-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:04:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	12/27/2011 02:44 PM
Manganese	ND	3.3	20		ug/L	2	12/27/2011 02:44 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	480	0.23	1.0		mg/L	2	12/27/2011 02:44 PM
Magnesium	25	0.013	0.20		mg/L	2	12/27/2011 02:44 PM
Sodium	3000	12	50		mg/L	100	1/3/2012 04:49 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	12/27/2011 02:48 PM
Manganese	550	3.3	20		ug/L	2	12/27/2011 02:48 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	120	0.23	1.0		mg/L	2	12/27/2011 02:48 PM
Magnesium	6.8	0.013	0.20		mg/L	2	12/27/2011 02:48 PM
Sodium	2700	12	50		mg/L	100	1/3/2012 04:52 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-033

Client Sample ID: MW-97-183
Collection Date: 12/8/2011 12:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	12/27/2011 02:53 PM
Manganese	560	3.3	20		ug/L	2	12/27/2011 02:53 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	120	0.23	1.0		mg/L	2	12/27/2011 02:53 PM
Magnesium	6.9	0.013	0.20		mg/L	2	12/27/2011 02:53 PM
Sodium	2900	6.0	25		mg/L	50	1/3/2012 04:56 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-48-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 7:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	72	100		ug/L	5	12/23/2011 05:05 PM
Manganese	53	8.3	50		ug/L	5	12/23/2011 05:05 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_111223A**	QC Batch: **38585**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	410	0.58	2.5		mg/L	5	12/23/2011 05:05 PM
Magnesium	37	0.031	0.50		mg/L	5	12/23/2011 05:05 PM
Sodium	4000	12	50		mg/L	100	1/3/2012 05:00 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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	28.020	100									
Iron	ND	20									
Manganese	ND	10									

Sample ID: **LCS-38584** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **LCSW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	996.229	100	1000	0	99.6	85	115				
Iron	45.524	20	50.00	0	91.0	85	115				
Manganese	45.787	10	50.00	0	91.6	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1362.728	100	1000	337.2	103	75	125				
Iron	62.021	20	50.00	33.26	57.5	75	125				S
Manganese	42.921	10	50.00	0	85.8	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1361.674	100	1000	337.2	102	75	125	1363	0.0774	20	
Iron	59.173	20	50.00	33.26	51.8	75	125	62.02	4.70	20	S
Manganese	42.417	10	50.00	0	84.8	75	125	42.92	1.18	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Barium	ND	3.0									
Cadmium	ND	3.0									
Cobalt	ND	3.0									
Lead	ND	10									
Molybdenum	1.108	5.0									
Nickel	ND	5.0									
Silver	1.340	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38584** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **LCSW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1042.936	50	1000	0	104	85	115				
Barium	51.213	3.0	50.00	0	102	85	115				
Cadmium	8.749	3.0	10.00	0	87.5	85	115				
Cobalt	10.181	3.0	10.00	0	102	85	115				
Lead	50.143	10	50.00	0	100	85	115				
Molybdenum	47.552	5.0	50.00	0	95.1	85	115				
Nickel	42.648	5.0	50.00	0	85.3	85	115				
Silver	10.436	3.0	10.00	0	104	85	115				
Vanadium	9.219	3.0	10.00	0	92.2	85	115				
Zinc	50.872	10	50.00	0	102	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1003.430	50	1000	0	100	75	125				
Barium	86.103	3.0	50.00	31.59	109	75	125				
Cadmium	8.334	3.0	10.00	0	83.3	75	125				
Cobalt	7.130	3.0	10.00	0	71.3	75	125				S
Lead	47.125	10	50.00	0	94.2	75	125				
Molybdenum	62.194	5.0	50.00	13.17	98.0	75	125				
Nickel	44.648	5.0	50.00	0	89.3	75	125				
Silver	11.366	3.0	10.00	1.826	95.4	75	125				
Vanadium	49.241	3.0	10.00	37.49	118	75	125				
Zinc	52.898	10	50.00	0	106	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1010.647	50	1000	0	101	75	125	1003	0.717	20	
Barium	86.622	3.0	50.00	31.59	110	75	125	86.10	0.601	20	
Cadmium	8.407	3.0	10.00	0	84.1	75	125	8.334	0.870	20	
Cobalt	7.242	3.0	10.00	0	72.4	75	125	7.130	1.56	20	S
Lead	48.323	10	50.00	0	96.6	75	125	47.12	2.51	20	
Molybdenum	62.782	5.0	50.00	13.17	99.2	75	125	62.19	0.940	20	
Nickel	44.927	5.0	50.00	0	89.9	75	125	44.65	0.621	20	
Silver	11.355	3.0	10.00	1.826	95.3	75	125	11.37	0.0977	20	
Vanadium	49.366	3.0	10.00	37.49	119	75	125	49.24	0.253	20	
Zinc	53.305	10	50.00	0	107	75	125	52.90	0.767	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38585**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **PBW**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/23/2011**	SeqNo: **1343321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									
Manganese	2.331	10									

Sample ID: **LCS-38585**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **LCSW**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/23/2011**	SeqNo: **1343322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	48.375	20	50.00	0	96.8	85	115				
Manganese	50.593	10	50.00	0	101	85	115				

Sample ID: **N006987-034A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	100	50.00	0	0	75	125				S
Manganese	100.862	50	50.00	53.21	95.3	75	125				

Sample ID: **N006987-034A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	100	50.00	0	0	75	125	0	0	20	S
Manganese	100.513	50	50.00	53.21	94.6	75	125	100.9	0.346	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38697** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/23/2011** RunNo: **82769**
Client ID: **PBW** Batch ID: **38697** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10									
Beryllium	ND	1.0									
Copper	1.229	5.0									

Sample ID: **LCS-38697** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/23/2011** RunNo: **82769**
Client ID: **LCSW** Batch ID: **38697** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344095**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.385	10	50.00	0	88.8	85	115				
Beryllium	10.484	1.0	10.00	0	105	85	115				
Copper	9.842	5.0	10.00	0	98.4	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/23/2011** RunNo: **82769**
Client ID: **ZZZZZZ** Batch ID: **38697** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344099**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.937	10	50.00	0	89.9	75	125				
Beryllium	10.524	1.0	10.00	0	105	75	125				
Copper	11.559	5.0	10.00	3.701	78.6	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/23/2011** RunNo: **82769**
Client ID: **ZZZZZZ** Batch ID: **38697** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344100**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.958	10	50.00	0	89.9	75	125	44.94	0.0465	20	
Beryllium	10.803	1.0	10.00	0	108	75	125	10.52	2.61	20	
Copper	13.429	5.0	10.00	3.701	97.3	75	125	11.56	15.0	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	0.029	0.10									

Sample ID: **LCS-38584** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **LCSW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.979	0.50	1.000	0	97.9	85	115				
Magnesium	1.025	0.10	1.000	0	102	85	115				

Sample ID: **N006987-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	28.203	0.50	1.000	28.25	-4.29	75	125				S
Magnesium	5.892	0.10	1.000	4.931	96.1	75	125				

Sample ID: **N006987-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **ZZZZZZ** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/19/2011** SeqNo: **1339350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	28.141	0.50	1.000	28.25	-10.5	75	125	28.20	0.221	20	S
Magnesium	5.862	0.10	1.000	4.931	93.1	75	125	5.892	0.509	20	

Sample ID: **MB-38584** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/13/2011** RunNo: **82601**
Client ID: **PBW** Batch ID: **38584** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/20/2011** SeqNo: **1339978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.366	0.50									

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-38584**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:	RunNo: **82601**
Client ID: **LCSW**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2.430	0.50	2.500	0	97.2	85	115				

Sample ID: **N006987-002A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	217.086	2.5	15.00	198.0	128	75	125				S

Sample ID: **N006987-002A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/13/2011**	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**	SeqNo: **1339987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	213.193	2.5	15.00	198.0	102	75	125	217.1	1.81	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38585** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82760**
Client ID: **PBW** Batch ID: **38585** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38585** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82760**
Client ID: **LCSW** Batch ID: **38585** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/23/2011** SeqNo: **1343352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.909	0.50	1.000	0	90.9	85	115				
Magnesium	0.968	0.10	1.000	0	96.8	85	115				

Sample ID: **N006987-034A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82760**
Client ID: **ZZZZZZ** Batch ID: **38585** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	404.609	2.5	1.000	405.4	-76.2	75	125				S
Magnesium	37.529	0.50	1.000	37.17	35.8	75	125				S

Sample ID: **N006987-034A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82760**
Client ID: **ZZZZZZ** Batch ID: **38585** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	403.522	2.5	1.000	405.4	-185	75	125	404.6	0.269	20	S
Magnesium	37.566	0.50	1.000	37.17	39.4	75	125	37.53	0.0980	20	S

Sample ID: **MB-38585** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82760**
Client ID: **PBW** Batch ID: **38585** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1343441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.388	0.50									

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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-38585**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **LCSW**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2.438	0.50	2.500	0	97.5	85	115				

Sample ID: **N006987-034A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4045.549	50	15.00	3964	542	75	125				S

Sample ID: **N006987-034A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4030.152	50	15.00	3964	440	75	125	4046	0.381	20	S

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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	11	0.0025	0.10		µg/L	1	12/22/2011 12:55 PM
Selenium	1.8	0.29	0.50		µg/L	1	12/22/2011 12:55 PM
Thallium	ND	0.015	0.50		µg/L	1	12/22/2011 12:55 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-17-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:42:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.5	0.0025	0.10		µg/L	1	12/22/2011 01:44 PM
Selenium	10	0.29	0.50		µg/L	1	12/22/2011 01:44 PM
Thallium	ND	0.015	0.50		µg/L	1	12/22/2011 01:44 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Molybdenum	36	0.047	0.50		µg/L	1	12/22/2011 02:08 PM
Selenium	7.7	0.29	0.50		µg/L	1	12/22/2011 02:08 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	4.4	0.0025	0.10		µg/L	1	12/22/2011 02:44 PM
Molybdenum	6.6	0.047	0.50		µg/L	1	12/22/2011 02:44 PM
Selenium	4.7	0.29	0.50		µg/L	1	12/22/2011 02:44 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-030-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_111222A**	QC Batch: **38576**				PrepDate: **12/20/2011**		Analyst: **CEI**
Arsenic	2.6	0.012	0.50		µg/L	5	12/22/2011 03:02 PM
Molybdenum	65	1.2	12		µg/L	25	12/22/2011 03:20 PM
Selenium	ND	7.2	12		µg/L	25	12/22/2011 03:20 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.2	0.0025	0.10		µg/L	1	12/22/2011 03:32 PM
Molybdenum	8.5	0.24	2.5		µg/L	5	12/22/2011 03:26 PM
Selenium	1.1	0.29	0.50		µg/L	1	12/22/2011 03:32 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	0.99	0.0025	0.10		µg/L	1	12/23/2011 09:27 AM
Molybdenum	26	0.24	2.5		µg/L	5	12/22/2011 05:05 PM
Selenium	ND	1.4	2.5		µg/L	5	12/22/2011 05:05 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:46:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.9	0.0025	0.10		µg/L	1	12/23/2011 09:37 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40D-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	4.6	0.012	0.50		µg/L	5	12/23/2011 09:46 AM
Molybdenum	47	1.2	12		µg/L	25	12/22/2011 06:54 PM
Selenium	ND	1.4	2.5		µg/L	5	12/22/2011 05:53 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.2	0.0025	0.10		µg/L	1	12/23/2011 10:02 AM
Molybdenum	7.1	0.047	0.50		µg/L	1	12/22/2011 07:06 PM
Selenium	2.7	0.29	0.50		µg/L	1	12/22/2011 07:06 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 4:18:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	2.1	0.0025	0.10		µg/L	1	12/23/2011 10:21 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.9	0.012	0.50		µg/L	5	12/23/2011 10:31 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	4.5	0.012	0.50		µg/L	5	12/23/2011 10:56 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	2.1	0.0025	0.10		µg/L	1	12/23/2011 11:01 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111222A**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Molybdenum	4.5	0.24	2.5		µg/L	5	12/22/2011 09:25 PM
Selenium	6.5	0.29	0.50		µg/L	1	12/22/2011 09:31 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	5.6	0.0025	0.10		µg/L	1	12/23/2011 11:30 AM
Molybdenum	5.1	0.047	0.50		µg/L	1	12/22/2011 09:55 PM
Selenium	ND	0.29	0.50		µg/L	1	12/22/2011 09:55 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	3.9	0.0025	0.10		µg/L	1	12/23/2011 11:40 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	5.7	0.0025	0.10		µg/L	1	12/23/2011 11:55 AM
Molybdenum	77	1.2	12		µg/L	25	12/22/2011 11:25 PM
Selenium	ND	7.2	12		µg/L	25	12/22/2011 11:25 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111223B**	QC Batch: **38576**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	1.4	0.0025	0.10		µg/L	1	12/23/2011 12:19 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111227A**	QC Batch: **38577**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	5.4	0.0025	0.10		µg/L	1	12/27/2011 07:05 PM
Molybdenum	76	0.24	2.5		µg/L	5	12/27/2011 06:59 PM
Selenium	ND	0.29	0.50		µg/L	1	12/27/2011 07:05 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-08-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111227A**	QC Batch: **38577**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Molybdenum	110	0.24	2.5		µg/L	5	12/27/2011 08:48 PM
Selenium	ND	1.4	2.5		µg/L	5	12/27/2011 08:48 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-020-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111227A**	QC Batch: **38577**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	3.2	0.012	0.50		µg/L	5	12/27/2011 09:12 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111227A**	QC Batch: **38577**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	4.9	0.012	0.50		µg/L	5	12/27/2011 09:36 PM
Molybdenum	160	0.24	2.5		µg/L	5	12/27/2011 09:36 PM
Selenium	ND	1.4	2.5		µg/L	5	12/27/2011 09:36 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111227A**	QC Batch: **38577**			PrepDate:	**12/20/2011**		Analyst: **CEI**
Arsenic	4.8	0.012	0.50		µg/L	5	12/27/2011 10:00 PM
Molybdenum	150	1.2	12		µg/L	25	12/28/2011 09:59 AM
Selenium	ND	1.4	2.5		µg/L	5	12/27/2011 10:00 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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38576** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/20/2011** RunNo: **82753**
Client ID: **PBW** Batch ID: **38576** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/22/2011** SeqNo: **1343030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.013	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38576** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/20/2011** RunNo: **82753**
Client ID: **LCSW** Batch ID: **38576** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/22/2011** SeqNo: **1343031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.098	0.10	10.00	0	101	85	115				
Molybdenum	10.176	0.50	10.00	0	102	85	115				
Selenium	10.213	0.50	10.00	0	102	85	115				
Thallium	10.503	0.50	10.00	0	105	85	115				

Sample ID: **N006986-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/20/2011** RunNo: **82753**
Client ID: **ZZZZZZ** Batch ID: **38576** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/22/2011** SeqNo: **1343038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	9.362	12	10.00	0	93.6	75	125				

Sample ID: **N006986-001B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/20/2011** RunNo: **82753**
Client ID: **ZZZZZZ** Batch ID: **38576** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/22/2011** SeqNo: **1343042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.345	0.50	10.00	0.7410	106	75	125				
Molybdenum	35.356	2.5	10.00	24.25	111	75	125				
Selenium	10.974	2.5	10.00	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

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82753**
Client ID: **ZZZZZZ**	Batch ID: **38576**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/22/2011**	SeqNo: **1343043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	9.119	12	10.00	0	91.2	75	125	9.362	0	20	

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82753**
Client ID: **ZZZZZZ**	Batch ID: **38576**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/22/2011**	SeqNo: **1343045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.292	0.50	10.00	0.7410	106	75	125	11.35	0.472	20	
Molybdenum	34.916	2.5	10.00	24.25	107	75	125	35.36	1.25	20	
Selenium	10.449	2.5	10.00	0	104	75	125	10.97	4.90	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

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38577**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **PBW**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343176**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.019	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-38577**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **LCSW**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.996	0.10	10.00	0	100	85	115				
Molybdenum	10.054	0.50	10.00	0	101	85	115				
Selenium	10.060	0.50	10.00	0	101	85	115				

Sample ID: **N006987-026A-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **ZZZZZZ**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	89.498	2.5	10.00	76.32	132	75	125				S

Sample ID: **N006987-026A-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **ZZZZZZ**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.349	0.10	10.00	5.358	99.9	75	125				
Selenium	8.317	0.50	10.00	0	83.2	75	125				

Sample ID: **N006987-026A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **ZZZZZZ**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006987-026A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **ZZZZZZ**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	90.235	2.5	10.00	76.32	139	75	125	89.50	0.820	20	S

Sample ID: **N006987-026A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/20/2011**	RunNo: **82755**
Client ID: **ZZZZZZ**	Batch ID: **38577**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.622	0.10	10.00	5.358	103	75	125	15.35	1.76	20	
Selenium	8.281	0.50	10.00	0	82.8	75	125	8.317	0.431	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-17-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:42:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: **LCS-38592**	SampType: **LCS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **LCSW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.895	0.20	5.000	0	97.9	85	115				

Sample ID: **MB-38592**	SampType: **MBLK**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **PBW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N006986-001B-MS**	SampType: **MS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.765	0.20	5.000	0	95.3	75	125				

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.896	0.20	5.000	0	97.9	75	125	4.765	2.70	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

CH2MHILL

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	Container:	Preservatives:	Filtered:	Holding Time:
Extra (*)	1Liter Poly	4°C	NA	30
Arsenic (6020A) FF	500 ml Poly	HNO3, 4°C	Field	180
Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	500 ml Poly	HNO3, 4°C	Field	180
Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	500 ml Poly	HNO3, 4°C	Field	180
Metals (6010BFF) FF Mn	500 ml Poly	HNO3, 4°C	Field	180
Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMnHgMoNiSeAgTlVZnNa	500 ml Poly	HNO3, 4°C	Field	180
Metals (SW6010B/SW6020Adis) FF Mo,Se	500 ml Poly	HNO3, 4°C	Field	180
Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSeAgTlVZn	500 ml Poly	HNO3, 4°C	Field	180
Specific Conductance (E120.1)	2x1 Liter	4°C	NA	2
Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	2x1 Liter	4°C	NA	2
Anions (E300.0) Chloride,Sulfate,Nitrate	2x1 Liter	4°C	NA	2
Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	2x1 Liter	4°C	NA	2
Anions (E300.0) Nitrate	2x1 Liter	4°C	NA	2
TDS (SM2540C)	2x1 Liter	4°C	NA	2
Alkalinity (SM2320B)	2x1 Liter	4°C	NA	2
Ammonia (SM4500NH3)	1 Liter Poly	H2SO4, pH<2, 4°C	NA	28

DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMnHgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSeAgTlVZn	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
~~MW-73-183~~	~~12/6/11~~	~~1094~~	~~W~~																	
~~MW-74-183~~	12/6/11	1700	W																	NOC 9/87
MW-15-183	12/7/11	1131	W	X		X				X	X						X		4	-1
MW-16-183	12/7/11	1238	W	X				X		X	X						X		4	2
MW-17-183	12/7/11	1342	W	X				X		X	X						X		4	3
MW-20-070183	12/7/11	1325	W	X		X			X	X	X	X			X	X			4	4
MW-29-183	12/7/11	935	W	X	X	X			X	X	X					X	X		5	5
MW-30-030-183	12/7/11	1547	W	X	X	X			X	X	X					X			4	6
MW-35-060-183	12/7/11	933	W	X	X	X			X	X	X					X	X		5	7
MW-35135183	12/7/11	1015	W	X	X	X			X	X	X					X	X		5	8
MW-37B-183	12/7/11	946	W	X	X	X				X	X					X	~~X~~		4	9
MW-40D-183	12/7/11	1203	W	X	X	X			X	X	X								4	10
MW-40S-183	12/7/11	1112	W		X		X		X	X			~~X~~	X					4	11
MW-41S-183	12/7/11	1618	W	X	X	X				X	X						X		4	12

	Signatures	Date/Time
Approved by		
Sampled by		12/8/11 1515
Relinquished by		
Received by	PMGalang	12/8/11 1815
Relinquished by	PMGalang	12/8/11 2058
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
and
Marlon

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

Marlon 230

CH2MHILL

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C
	Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA
	Holding Time:	30	180	180	180	180	180	180	180	2	2	2	2	2	2	2	28

DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMn HgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSe AgTlVZn	Specific Conductance (E120.1)	Bromide,Chloride,Sulfate,Nitrate Anions (E300.0)	Chloride,Sulfate,Nitrate Anions (E300.0)	Chloride,Sulfate,Nitrate,Fluoride Anions (E300.0)	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
																				1006987
12/7/11	1118	W	X	X		X					X		X				X	X	5	-13
12/7/11	1229	W	X			X					X		X				X	X	5	-14
12/7/11	1454	W	X			X					X		X				X	X	5	-15
12/7/11	1437	W	X	X		X					X		X				X	X	5	-16
~~12/7/11~~	~~1550~~	~~W~~																		
~~12/7/11~~	~~1635~~	~~W~~																		
~~12/7/11~~	~~1610~~	~~W~~																		
~~12/7/11~~	~~1622~~	~~W~~																		
12/7/11	1018	W	X	X		X					X		X				X		4	17
12/7/11	1451	W	X			X					X		X				X		4	18
12/8/11	1510	W	X			X			X		X	X				X	X		4	19
12/8/11	925	W	X	X		X			X		X		X				X	X	5	20
12/8/11	1022	W	X	X		X					X		X				X	X	5	21
12/8/11	1100	W	X	X		X			X		X		X				X	X	5	22

	Signatures	Date/Time
Approved by		
Sampled by		12/8/11 1815
Relinquished by		
Received by	P/M Gaelang	12/8/11 1815
Relinquished by	Gaelang	12/8/11 2038
Received by		

Shipping Details
Method of Shipment: FedEx
On Ice: ~~yes~~ / no 2.2°C / 1.8°C / 2.6°C / 2.4°C / 1.6°C / 1.0°C / 5.2°C
Airbill No: 1R+2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMn HgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSe AgTlVZn	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)
Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly
Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C
Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA
Holding Time:	30	180	180	180	180	180	180	180	2	2	2	2	2	2	2	28

Sample	DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSb...	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22	Specific Conductance (E120.1)	Anions Bromide,Chloride,Sulfate,Nitrate	Anions Chloride,Sulfate,Nitrate	Anions Chloride,Sulfate,Nitrate,Fluoride	Anions Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS N006987
MW-47-055-183	12/8/11	1134	W	X	X		X					X		X				X	X	5	-23
MW-47-115-183	12/8/11	1234	W	X			X					X		X				X	X	5	-24
MW-50-200-183	12/8/11	1559	W	X			X					X		X				X	X	5	-25
MW-96-183	12/8/11	1005	W	X	X		X			X		X		X				X	X	5	-26
PGE-08-183	12/8/11	1225	W	X			X			X		X		X				X		4	-27
TW-04-183	12/8/11	1045	W	X			X					X		X				X		4	-28
MW-18-183	12/8/11	1439	W	X			X					X		X				X		4	-29
MW-32-020-183	12/8/11	1610	W	X	X		X					X		X				X	X	5	-30
MW-37D-183	12/8/11	1604	W	X			X					X		X				X		4	-31
MW-44-125-183	12/8/11	1522	W	X	X		X			X		X		X				X	X	5	-32
MW-97-183	12-8-11	1200	W	X	X		X			X		X		X				X	X	5	-33
MW-48-183	12/7/11	0745	W	X			X					X		X				X		4	-34

	Signatures	Date/Time
Approved by		12/8/11
Sampled by	[signature]	1815
Relinquished by	[signature]	
Received by	[signature] MGalang	12/8/11 1815
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
and
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Special Instructions:

Report Copy to
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CH2MHILL

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	180	180	180	2	2	2	2	2	2	2	28			
DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMnHgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSeAgTlVZn	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
~~MW-73-183~~	~~12/6/11~~	~~1046~~	~~W~~																	
~~MW-74-183~~	~~12/6/11~~	~~1700~~	~~W~~																	
MW-15-183	12/7/11	1131	W	X			X				X	X					X		4	
MW-16-183	12/7/11	1238	W	X				X			X	X					X		4	
MW-17-183	12/7/11	1342	W	X				X			X	X					X		4	
MW-20-070-183	12/7/11	1325	W	X			X			X	X	X				X	X		4	
MW-29-183	12/7/11	935	W	X	X		X			X	X	X					X	X	5	
MW-30-030-183	12/7/11	1547	W	X	X		X			X	X	X					X		4	
MW-35-060-183	12/7/11	933	W	X	X		X			X	X	X					X	X	5	
MW-35-135-183	12/7/11	1015	W	X	X		X			X	X	X					X	X	5	
MW-37S-183	12/7/11	946	W	X	X		X			X	X	X					X	X	4	
MW-40D-183	12/7/11	1203	W	X	X		X			X	X	X					X		4	
MW-40S-183	12/7/11	1112	W		X			X		X	X		X	X					4	
MW-41S-183	12/7/11	1018	W	X	X		X			X	X	X					X		4	

	Signatures	Date/Time
Approved by		12/8/11
Sampled by		1515
Relinquished by		
Received by	PMGalaxy	12/8/11 1815
Relinquished by	PMGalaxy	12/8/11 2058
Received by		12/8/11 2058

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
and
Marlon

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL **CHAIN OF CUSTODY RECORD** Page 2 OF 83

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	DATE	TIME	Matrix	Container	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	Number of Containers	COMMENTS
				Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
				Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA		
				Holding Time:	30	180	180	180	180	180	180	180	2	2	2	2	2	2	2	28		
					Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMn HgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSe AgTlVZn	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		
	MW-49-135-183	12/7/11	1118	W	X	X		X					X		X				X	X	5	
	MW-49-275-183	12/7/11	1229	W	X			X					X		X				X	X	5	
	MW-49-365-183	12/7/11	1454	W	X			X					X		X				X	X	5	
	MW-51-183	12/7/11	1437	W	X	X		X					X		X				X	X	5	
6	~~MW-75-183~~	~~12/7/11~~	~~1550~~	~~W~~																		
6	~~MW-76-183~~	~~12/7/11~~	~~1635~~	~~W~~																		
6	~~MW-77-183~~	~~12/7/11~~	~~1610~~	~~W~~																		
6	~~MW-78-183~~	~~12/7/11~~	~~1022~~	~~W~~																		
	MW-95-183	12/7/11	1018	W	X	X		X					X		X				X		4	
	PGE-07BR-183	12/7/11	1451	W	X			X					X		X				X		4	
	MW-20-100-183	12/8/11	1510	W	X			X			X		X	X				X	X		4	
	MW-30-150-183	12/8/11	925	W	X	X		X			X		X		X				X	X	5	
	MW-44-070-183	12/8/11	1022	W	X	X		X					X		X				X	X	5	
	MW-44-115-183	12/8/11	1100	W	X	X		X			X		X		X				X	X	5	

	Signatures	Date/Time
Approved by		12/8/11
Sampled by		1815
Relinquished by		
Received by	PM Gosling	12/8/11 1815
Relinquished by	Gosling	12/8/11 2038
Received by		12/8/11 2038

Shipping Details
Method of Shipment: FedEx
On Ice: ~~yes~~ / no 2.2°C / 1.8°C / 2.6°C / 2.4°C / 6.6°C / 1.0°C / 5.2°C
Airbill No: 1R+2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.01
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 11/29/2011
COC Number: ATL-183

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	180	180	180	2	2	2	2	2	2	2	28			
DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) FF	Metals (6010BFF) FF Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) FF Cations:Ca,Mg,Na,Fe,Mn	Metals (6010BFF) FF Mn	Metals (SW6010B/SW6020Adis) FF AlSbAsBaBeBCaCdCoCuFePbMgMn HgMoNiSeAgTlVZnNa	Metals (SW6010B/SW6020Adis) FF Mo,Se	Metals (SW6010B/SW6020Adis) FF T22:SbAsBaBeCdCoCuPbHgMoNiSe AgTlVZn	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Anions (E300.0) Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-47-055-183	12/8/11	1134	W	X	X		X					X		X			X	X	5	
MW-47-115-183	12/8/11	1234	W	X			X					X		X			X	X	5	
MW-50-200-183	12/8/11	1559	W	X			X					X		X			X	X	5	
MW-96-183	12/8/11	1605	W	X	X		X			X		X		X			X	X	5	
PGE-08-183	12/8/11	1225	W	X			X			X		X		X			X		4	
TW-04-183	12/8/11	1045	W	X			X					X		X			X		4	
MW-18-183	12/8/11	1439	W	X			X					X		X			X		4	
MW-32-020-183	12/8/11	1610	W	X	X		X					X		X			X	X	5	
MW-37D-183	12/8/11	1604	W	X			X					X		X			X		4	
MW-44-125-183	12/8/11	1522	W	X	X		X			X		X		X			X	X	5	
MW-97-183	12-8-11	1200	W	X	X		X			X		X		X			X	X	5	
MW-48-183	12/7/11	0745	W	X			X					X		X			X		4	

	Signatures	Date/Time
Approved by		
Sampled by		12/8/11 1515
Relinquished by		
Received by	DMG alamg	12/8/11 1515
Relinquished by	PMG alamg	12/8/11 2038
Received by		12/8/11 2038

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
and
Marion

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO 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.

Cooler Received/Opened On:	12/8/2011	Workorder:	N006987
Rep sample Temp (Deg C):	2.2,1.8,2.6,2.4,4.6,1.0,3.2	IR Gun ID:	2
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		

Sample Receipt Checklist

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: see correspondence

Checklist Completed By NS 12/13/11

Reviewed By:

Nancy Sibucao

From: Advanced Technology Labs, Inc. [reports@atl-labs.com]
Sent: Saturday, December 10, 2011 11:12 AM
To: 'shawn.duffy@ch2m.com'
Cc: 'edata@ch2m.com'
Subject: PG&E Topock,423575.MP.02.GM.0 sample receiving items for samples received 12/8/2011 (ATL No.N006987)
Attachments: N006987 WOSummary.pdf

Please be informed of the following:

1a.For sample MW-40S-183, we only received two 16oz plastic both for metals and no samples for conductivity (EPA 120.1) and nitrate (EPA 300.0) on 12/8/11 pick-up.
1b. The two missing 32oz. plastic for sample MW-40S-183 sampled 12/7/2011@1112 was included in the 12/9/11 pick-up and reached the lab@1724, thus,the nitrate sample was analyzed past the holding time period.

2a.We also received on 12/8/11 pick-up one 16oz plastic each for samples MW-91-183 and MW-24BR-183 both for metals but were not included in the COC. We logged these 2extra samples as N006987-035 and N006987-036 and put it on hold for now since the COC and the rest of the containers for these two extra samples were in the 12/9/11 pick-up and we logged them as N006998-013 and N006998-007 respectively.

Please advise. Thanks.

Nancy Sibucao
Project Coordinator
Advanced Technology Laboratories, Inc.
www.atl-labs.com
Tel: (702) 307-3248 ext. 412
Fax: (702) 307-2691

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 **N006987-004C,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(30.7140-30.6429)*1000000}{50}$$

$$= 1422 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 1400 mg/L

Sample ID: **N006987-001C @ pH 7.94**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.225mL)

= **0.02045 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (4.00) (0.02045N) (1) * 1000

= **81.8 mg/L**

Reporting results in two significant figures,

= **82 mg/L** as $CaCO_3$

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02045N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (40mL) (0.02045) (1) * 1000

= **81.8 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	OH Alkalinity as $CaCO_3$	CO_3 Alkalinity as $CaCO_3$	HCO_3 Alkalinity as $CaCO_3$
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **81.8 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **82 mg/L**

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Nitrate concentration, in mg/L, in the original sample as follows:

Nitrate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N006987-001B**, concentration in mg/L are calculated as follows:

Nitrate, mg/L	=	2.344 * 2
	=	4.688 mg/L

Reporting **N006987-001B**, results in two significant figures,

Nitrate, mg/L	**=**	**4.7 mg/L**

mc 1/4/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N006987-005D,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 1.779 * 1 → 0.4 * 5

= 1.779 mg/L → 2.0

NS for 1/5/12

Reporting result in two significant figures,

Ammonia as N = 1.8 mg/L → 2.0

MI 12/21/2011 5:16:21 PM

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 mg/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N006987-001A, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.02032 \frac{mg/L * 0.025 L * 1 * 1000}{0.025 L}$$

Fe = 20.32 ug/L

Reporting result in two significant figures,

Fe = 20 ug/L

1/04/2012

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/23/2011	**Units:**	mg/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006987-002A
Batch # : 38584

Analyte	A	B	Difference	% D
Barium	31.59	20.784	10.80600	34.2
Vanadium	37.49	30.612	6.87800	18.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original sample
B= mg/L, ICP calculated concentration @5x dilution

NS fn
1/4/12

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/19/2011	**Units:**	mg/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006987-002A
Batch # : 38584

Analyte	A	B	Difference	% D
Calcium	28.25	27.855	0.39500	1.4
Magnesium	4.931	5.253	-0.32200	-6.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original sample
B= mg/L, ICP calculated concentration @5x dilution

1/7/12

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/20/2011	**Units:**	mg/L
Digestion Date:	12/13/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006987-002A
Batch # : 38584

Analyte	A	B	Difference	% D
Sodium	198.0	185.447	12.55300	6.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @5x dilution
B= mg/L, ICP calculated concentration @25x dilution

WS fr
1/7/12

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/27/2011	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006987-034A
Batch # : 38585

Analyte	A	B	Difference	% D
Calcium	405.4	433.854	-28.45400	-7.0
Magnesium	37.17	39.996	-2.82600	-7.6

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @ 5X dilution
B= mg/L, ICP calculated concentration @25x dilution

NS 1/7/12

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/3/2012	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006987-034A
Batch # : 38585

Analyte	A	B	Difference	% D
Sodium	3964	3666.225	297.77500	7.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

WS fn
1/7/12

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-002ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/23/2011**	SeqNo: **1343303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	20.784	15						31.59	41.3	10	R
Vanadium	30.612	15						37.49	20.2	10	R

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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006987-002ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/19/2011	SeqNo: 1339343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	27.855	2.5						28.25	1.39	10	
Magnesium	5.253	0.50						4.931	6.33	10	

Sample ID: N006987-002ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/13/2011	RunNo: 82601
Client ID: ZZZZZZ	Batch ID: 38584	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/20/2011	SeqNo: 1339984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	185.447	12						198.0	6.53	10	

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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N006987-034ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	433.854	12						405.4	6.79	10	
Magnesium	39.996	2.5						37.17	7.32	10	

Sample ID: **N006987-034ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3666.225	250						3964	7.81	10	

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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**	SeqNo: **1339292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5482.549	200	5000	337.2	103	75	125				
Iron	10062.576	40	10000	33.26	100	75	125				
Manganese	971.556	20	1000	0	97.2	75	125				

Sample ID: **N006987-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82601**
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/23/2011**	SeqNo: **1343307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20168.017	100	20000	0	101	75	125				
Barium	1060.895	6.0	1000	31.59	103	75	125				
Cadmium	1013.862	6.0	1000	0	101	75	125				
Cobalt	1034.678	6.0	1000	0	103	75	125				
Copper	1028.146	10	1000	4.381	102	75	125				
Lead	1019.031	20	1000	0	102	75	125				
Molybdenum	989.371	10	1000	13.17	97.6	75	125				
Nickel	999.761	10	1000	0	100	75	125				
Silver	976.095	6.0	1000	1.826	97.4	75	125				
Vanadium	1064.288	6.0	1000	37.49	103	75	125				
Zinc	1007.719	20	1000	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		

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-034A-PS 5**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82760**
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	48509.814	100	50000	0	97.0	75	125				
Manganese	4876.904	50	5000	53.21	96.5	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		

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:				RunNo: **82769**	
Client ID: **ZZZZZZ**	Batch ID: **38697**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/4/2012**				SeqNo: **1344101**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1098.415	20	1000	0	110	75	125				
Beryllium	1013.330	2.0	1000	0	101	75	125				
Copper	1022.846	10	1000	3.701	102	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		

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N006987-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82601**			
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/19/2011**			SeqNo: **1339351**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	37.928	1.0	10.00	28.25	96.8	75	125				
Magnesium	14.708	0.20	10.00	4.931	97.8	75	125				

Sample ID: **N006987-002A-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82601**			
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**			SeqNo: **1339988**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	324.684	2.5	125.0	198.0	101	75	125				

Sample ID: **N006987-002A-PS 25**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82601**			
Client ID: **ZZZZZZ**	Batch ID: **38584**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2011**			SeqNo: **1339989**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	786.334	12	625.0	198.0	94.1	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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N006987-034A-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82760**			
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**			SeqNo: **1343419**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	479.150	2.5	50.00	405.4	148	75	125				S
Magnesium	86.494	0.50	50.00	37.17	98.6	75	125				

Sample ID: **N006987-034A-PS 10**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82760**			
Client ID: **ZZZZZZ**	Batch ID: **38585**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**			SeqNo: **1343469**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	6796.418	50	2500	3964	113	75	125				

DTaf Ca @ 25x is within acceptance criteria NS 1/7/12

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 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 **N006987-002A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 10.599 * 1 * (25/25)

= 10.599 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 11

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006987
Test Method: EPA 6020
Analysis Date: 12/22/11

Matrix: Water
Batch No.: 38576

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to As, Se & Tl. The calc. Values were < 25X the RL. PS @ 2x, 5X & 25X passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006986-001B-DT 25X	Arsenic	µg/L	0.840869282	NA	0.740966093	-13.48%	10
N006986-001B-DT 25X	Molybdenum	µg/L	23.00343942	PASS	24.25235166	5.15%	10
N006986-001B-DT 25X	Selenium	µg/L	0	NA	0		10
N006986-001B-DT 5X	Thallium	µg/L	0	NA	0		10

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006987
Test Method: EPA 6020
Analysis Date: 12/27/11

Matrix: Water
Batch No.: 38577

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se. The calc. Values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006987-026A-DT 5X	Arsenic	µg/L	5.595782851	PASS	5.357802409	-4.44%	10
N006987-026A-DT 5X	Selenium	µg/L	0	NA	0		10
N006987-026A-DT 25X	Molybdenum	µg/L	74.47908886	PASS	76.32239785	2.42%	10

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006986-001B-PS 5**	SampType: **PS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **82753**
Client ID: **ZZZZZZ**	Batch ID: **38576**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/22/2011**	SeqNo: **1343036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	53.426	0.50	50.00	0.7410	105	75	125				
Molybdenum	82.114	2.5	50.00	24.25	116	75	125				
Selenium	49.314	2.5	50.00	0	98.6	75	125				

Sample ID: **N006986-001B-PS 2**	SampType: **PS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **82753**
Client ID: **ZZZZZZ**	Batch ID: **38576**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/22/2011**	SeqNo: **1343037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	261.181	12	250.0	0	104	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: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N006987-026A-PS 5	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82755
Client ID: ZZZZZZ	Batch ID: 38577	TestNo: EPA 6020	EPA 3010A	Analysis Date: 12/27/2011	SeqNo: 1343181

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	134.680	2.5	50.00	76.32	117	75	125				

Sample ID: N006987-026A-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82755
Client ID: ZZZZZZ	Batch ID: 38577	TestNo: EPA 6020	EPA 3010A	Analysis Date: 12/27/2011	SeqNo: 1343182

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.369	0.20	20.00	5.358	100	75	125				
Selenium	16.462	1.0	20.00	0	82.3	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 **N006987-002A**, 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 = 0.0

Mercury, ug/L = ND

M 1/4/12

February 20, 2012

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.: N006987

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 08, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-15-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 03:12 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-16-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:38:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 03:17 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-17-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:42:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 03:22 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-070-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 1:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:		**2/15/2012**	Analyst: **JT**
Iron	33	14	20		ug/L	1	2/16/2012 03:37 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, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-29-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	400	14	20		ug/L	1	2/16/2012 02:44 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-030-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	2500	72	100		ug/L	5	2/16/2012 05:31 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-060-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 03:49 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-35-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:15:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 03:55 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 9:46:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 04:01 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-40D-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 04:07 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-41S-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 4:18:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 04:20 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-135-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 11:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	730	14	20		ug/L	1	2/16/2012 04:26 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

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-275-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 12:29:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	47	14	20		ug/L	1	2/16/2012 04:32 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-49-365-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:54:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	72	100		ug/L	5	2/16/2012 05:36 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-51-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:37:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 04:54 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-95-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 10:18:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **ICP2_120216B**	QC Batch: **39047**			PrepDate:	**2/15/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 05:00 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-07BR-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 2:51:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	91000	14	20		ug/L	1	2/16/2012 05:07 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-100-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120216B**	QC Batch: **39047**				PrepDate:	**2/15/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/16/2012 05:13 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-30-050-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 9:25:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	38	14	20		ug/L	1	2/15/2012 01:10 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-070-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:22:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	220	14	20		ug/L	1	2/15/2012 01:15 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:00:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	25	14	20		ug/L	1	2/15/2012 01:19 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		

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ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-055-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 11:34:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 01:26 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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-47-115-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:34:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 01:32 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-50-200-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:59:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 01:38 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-96-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:05:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 01:44 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	PGE-08-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:25:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	160	14	20		ug/L	1	2/15/2012 02:00 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-04-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 10:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 02:06 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-18-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 2:39:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 02:12 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT: CH2M HILL
Lab Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006987-030

Client Sample ID: MW-32-020-183
Collection Date: 12/8/2011 4:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120216B**	QC Batch: **39021**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	16000	72	100		ug/L	5	2/16/2012 05:25 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-37D-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 4:04:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 02:23 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-44-125-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 3:22:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	39	14	20		ug/L	1	2/15/2012 02:29 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-97-183
Lab Order:	N006987	**Collection Date:**	12/8/2011 12:00:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	69	14	20		ug/L	1	2/15/2012 02:36 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-48-183
Lab Order:	N006987	**Collection Date:**	12/7/2011 7:45:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006987-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39021**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 12:15 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		

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CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-39021**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **PBW**	Batch ID: **39021**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-39021**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **LCSW**	Batch ID: **39021**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	51.004	20	50.00	0	102	85	115				

Sample ID: **N006987-034A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39021**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.832	20	100.0	0	110	75	125				

Sample ID: **N006987-034A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39021**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.070	20	100.0	0	110	75	125	109.8	0.217	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

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-39047**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/15/2012**	RunNo: **83239**
Client ID: **PBW**	Batch ID: **39047**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/16/2012**	SeqNo: **1360869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-39047**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/15/2012**	RunNo: **83239**
Client ID: **LCSW**	Batch ID: **39047**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/16/2012**	SeqNo: **1360870**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	49.486	20	50.00	0	99.0	85	115				

Sample ID: **N006987-005A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/15/2012**	RunNo: **83239**
Client ID: **ZZZZZZ**	Batch ID: **39047**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/16/2012**	SeqNo: **1360874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	520.607	20	100.0	404.4	116	75	125				

Sample ID: **N006987-005A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/15/2012**	RunNo: **83239**
Client ID: **ZZZZZZ**	Batch ID: **39047**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/16/2012**	SeqNo: **1360875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	524.718	20	100.0	404.4	120	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 6010
TEST NAME: Heavy Metals by ICP
MATRIX: Aqueous

FORMULA:

Calculate the Iron concentration, in ug/L, in the original sample as follows:

Iron, ug/L = A * DF * PF*1000

where:

A = mg/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N006987-004A**, the concentration in ug/L is calculated as follows:

Iron, ug/L = 0.03335* 1 * (25/25)*1000

= 33.35 ug/L

Reporting results in two significant figures,

Iron, ug/L = 33

2/20/12

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006987
Test Method: EPA 6010
Analysis Date: 02/15/12

Matrix: Water
Batch No.: 39021

Instrument ID: ICP-01/02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable for analytes with concentration < 25X the RL.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006987-034A DT 5X	Iron	µg/L	0	NA	0		10

Note: NA - Not Applicable

Post Spike not Applicable since DT passes criteria.

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006987
Test Method: EPA 6010
Analysis Date: 02/16/12

Matrix: Water
Batch No.: 39047

Instrument ID: ICP-01/02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable for analytes with concentration < 25X the RL.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006987-005- DT 5X	Iron	µg/L	412.1877194	PASS	404.399409	-1.93%	10

Note: NA - Not Applicable

Post Spike not Applicable since DT passes criteria.

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-034A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date:	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39021**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4624.507	40	5000	0	92.5	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		

CLIENT: CH2M HILL
Work Order: N006987
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006987-005A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date:	RunNo: **83239**
Client ID: **ZZZZZZ**	Batch ID: **39047**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/16/2012**	SeqNo: **1360873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5406.824	40	5000	404.4	100	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

January 09, 2012

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.: N006998

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 09, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006998

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 were analyzed within method holding time.

Analytical Comments for SM 4500-NH3C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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Advanced Technology Laboratories, Inc.

Date: *09-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006998
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006998-001A	MW-09-183	Water	12/9/2011 8:32:00 AM	12/9/2011	
N006998-001B	MW-09-183	Water	12/9/2011 8:32:00 AM	12/9/2011	
N006998-001C	MW-09-183	Water	12/9/2011 8:32:00 AM	12/9/2011	
N006998-001D	MW-09-183	Water	12/9/2011 8:32:00 AM	12/9/2011	
N006998-002A	MW-10-183	Water	12/9/2011 9:38:00 AM	12/9/2011	
N006998-002B	MW-10-183	Water	12/9/2011 9:38:00 AM	12/9/2011	
N006998-002C	MW-10-183	Water	12/9/2011 9:38:00 AM	12/9/2011	
N006998-002D	MW-10-183	Water	12/9/2011 9:38:00 AM	12/9/2011	
N006998-003A	MW-12-183	Water	12/9/2011 12:10:00 PM	12/9/2011	
N006998-003B	MW-12-183	Water	12/9/2011 12:10:00 PM	12/9/2011	
N006998-003C	MW-12-183	Water	12/9/2011 12:10:00 PM	12/9/2011	
N006998-003D	MW-12-183	Water	12/9/2011 12:10:00 PM	12/9/2011	
N006998-004A	MW-14-183	Water	12/9/2011 10:32:00 AM	12/9/2011	
N006998-004B	MW-14-183	Water	12/9/2011 10:32:00 AM	12/9/2011	
N006998-004C	MW-14-183	Water	12/9/2011 10:32:00 AM	12/9/2011	
N006998-004D	MW-14-183	Water	12/9/2011 10:32:00 AM	12/9/2011	
N006998-005A	MW-19-183	Water	12/9/2011 9:35:00 AM	12/9/2011	
N006998-005B	MW-19-183	Water	12/9/2011 9:35:00 AM	12/9/2011	
N006998-005C	MW-19-183	Water	12/9/2011 9:35:00 AM	12/9/2011	
N006998-005D	MW-19-183	Water	12/9/2011 9:35:00 AM	12/9/2011	
N006998-006A	MW-20-130-183	Water	12/9/2011 11:31:00 AM	12/9/2011	
N006998-006B	MW-20-130-183	Water	12/9/2011 11:31:00 AM	12/9/2011	
N006998-006C	MW-20-130-183	Water	12/9/2011 11:31:00 AM	12/9/2011	
N006998-006D	MW-20-130-183	Water	12/9/2011 11:31:00 AM	12/9/2011	
N006998-006E	MW-20-130-183	Water	12/9/2011 11:31:00 AM	12/9/2011	
N006998-007A	MW-24BR-183	Water	12/9/2011 8:11:00 AM	12/9/2011	
N006998-007B	MW-24BR-183	Water	12/9/2011 8:11:00 AM	12/9/2011	
N006998-007C	MW-24BR-183	Water	12/9/2011 8:11:00 AM	12/9/2011	
N006998-007D	MW-24BR-183	Water	12/9/2011 8:11:00 AM	12/9/2011	

Advanced Technology Laboratories, Inc.
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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006998
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006998-008A	MW-26-183	Water	12/9/2011 11:08:00 AM	12/9/2011	
N006998-008B	MW-26-183	Water	12/9/2011 11:08:00 AM	12/9/2011	
N006998-008C	MW-26-183	Water	12/9/2011 11:08:00 AM	12/9/2011	
N006998-008D	MW-26-183	Water	12/9/2011 11:08:00 AM	12/9/2011	
N006998-008E	MW-26-183	Water	12/9/2011 11:08:00 AM	12/9/2011	
N006998-009A	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-009B	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-009C	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-009D	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-009E	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-009F	MW-32-035-183	Water	12/9/2011 11:41:00 AM	12/9/2011	
N006998-010A	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-010B	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-010C	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-010D	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-010E	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-010F	MW-43-025-183	Water	12/9/2011 8:33:00 AM	12/9/2011	
N006998-011A	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-011B	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-011C	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-011D	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-011E	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-011F	MW-43-075-183	Water	12/9/2011 9:28:00 AM	12/9/2011	
N006998-012A	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-012B	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-012C	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-012D	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-012E	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-012F	MW-43-090-183	Water	12/9/2011 10:27:00 AM	12/9/2011	
N006998-013A	MW-91-183	Water	12/9/2011 8:12:00 AM	12/9/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N006998
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N006998-013B	MW-91-183	Water	12/9/2011 8:12:00 AM	12/9/2011	
N006998-013C	MW-91-183	Water	12/9/2011 8:12:00 AM	12/9/2011	
N006998-013D	MW-91-183	Water	12/9/2011 8:12:00 AM	12/9/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-09-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	2800	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-10-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:38:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	2600	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	6400	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-14-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-19-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-130-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-24BR-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:11:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-26-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:08:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	4000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-025-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210A**	QC Batch: **R82576**			PrepDate:			Analyst: **CEI**
Specific Conductance	1200	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: *09-Jan-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-075-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:28:00 AM
Project:	PG&E Topock.423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_120109A**	QC Batch: **R82819**			PrepDate:			Analyst: **CEI**
Specific Conductance	12000	0.10	0.10		umhos/cm	1	1/9/2012

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-090-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:27:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210B**	QC Batch: **R82577**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-91-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111210B**	QC Batch: **R82577**			PrepDate:			Analyst: **CEI**
Specific Conductance	14000	0.10	0.10		umhos/cm	1	12/10/2011

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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82576**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82576**			
Client ID: **LCSW**	Batch ID: **R82576**	TestNo: **EPA 120.1**		Analysis Date: **12/10/2011**			SeqNo: **1338323**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1427.000	0.10	1411	0	101	85	115				

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82576**			
Client ID: **ZZZZZZ**	Batch ID: **R82576**	TestNo: **EPA 120.1**		Analysis Date: **12/10/2011**			SeqNo: **1338337**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1195.000	0.10						1200	0.418	10	

Sample ID: **N006998-010BMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82576**			
Client ID: **ZZZZZZ**	Batch ID: **R82576**	TestNo: **EPA 120.1**		Analysis Date: **12/10/2011**			SeqNo: **1338338**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2606.000	0.20	1411	1200	99.6	75	125				

Sample ID: **N006998-010BMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82576**			
Client ID: **ZZZZZZ**	Batch ID: **R82576**	TestNo: **EPA 120.1**		Analysis Date: **12/10/2011**			SeqNo: **1338339**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2602.000	0.20	1411	1200	99.4	75	125	2606	0.154	10	

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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82577** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82577**
Client ID: **LCSW** Batch ID: **R82577** TestNo: **EPA 120.1** Analysis Date: **12/10/2011** SeqNo: **1338340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9820.000	0.10	9986	0	98.3	85	115				

Sample ID: **N007001-001DDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82577**
Client ID: **ZZZZZZ** Batch ID: **R82577** TestNo: **EPA 120.1** Analysis Date: **12/10/2011** SeqNo: **1338347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	8440.000	0.10						8440	0	10	

Sample ID: **N007001-001DMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82577**
Client ID: **ZZZZZZ** Batch ID: **R82577** TestNo: **EPA 120.1** Analysis Date: **12/10/2011** SeqNo: **1338348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18280.000	0.20	9986	8440	98.5	75	125				

Sample ID: **N007001-001DMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82577**
Client ID: **ZZZZZZ** Batch ID: **R82577** TestNo: **EPA 120.1** Analysis Date: **12/10/2011** SeqNo: **1338349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18320.000	0.20	9986	8440	98.9	75	125	18280	0.219	10	

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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: N006987-013CDUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	12800.000	0.10						12780	0.156	10	

Sample ID: N006987-013CMS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	22780.000	0.20	9986	12780	100	75	125				

Sample ID: N006987-013CMSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: ZZZZZZ	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	22800.000	0.20	9986	12780	100	75	125	22780	0.0878	10	

Sample ID: LCS-R82819	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 82819
Client ID: LCSW	Batch ID: R82819	TestNo: EPA 120.1		Analysis Date: 1/9/2012	SeqNo: 1346580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9890.000	0.10	9986	0	99.0	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-130-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111213A**	QC Batch: **38559**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	6200	100	100		mg/L	1	12/13/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-26-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:08:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111213A**	QC Batch: **38559**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	2300	33	33		mg/L	1	12/13/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111213A**	QC Batch: **38559**			PrepDate:	**12/12/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	8500	100	100		mg/L	1	12/13/2011

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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38559**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **PBW**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338603**

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-38559**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **LCSW**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	918.000	10	1000	0	91.8	80	120				

Sample ID: **N006987-004C-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/12/2011**	RunNo: **82587**
Client ID: **ZZZZZZ**	Batch ID: **38559**	TestNo: **SM2540C**		Analysis Date: **12/13/2011**	SeqNo: **1338607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1474.000	20						1422	3.59	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

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-001

Client Sample ID: MW-09-183
Collection Date: 12/9/2011 8:32:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	110	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-10-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:38:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	110	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-14-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	79	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	79	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-19-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	67	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	67	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-130-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	74	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	74	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-24BR-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:11:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	48	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	48	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-26-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:08:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	94	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	94	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	640	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	640	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-025-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	210	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	210	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-075-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-090-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:27:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	420	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	420	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-91-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214B**	QC Batch: **R82758**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	47	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	47	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82758** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82758**
Client ID: **LCSW** Batch ID: **R82758** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1343251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	102.041	5.0	100.0	0	102	85	115				
Alkalinity, Total (As CaCO3)	102.041	5.0	100.0	0	102	85	115				

Sample ID: **LCSD-R82758** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82758**
Client ID: **LCSS02** Batch ID: **R82758** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1343252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.000	5.0	100.0	0	100	85	115	102.0	2.02	20	
Alkalinity, Total (As CaCO3)	100.000	5.0	100.0	0	100	85	115	102.0	2.02	20	

Sample ID: **MB-R82758** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82758**
Client ID: **PBW** Batch ID: **R82758** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1343253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007001-001D-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82758**
Client ID: **ZZZZZZ** Batch ID: **R82758** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1343268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	35.714	5.0						36.73	2.82	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	35.714	5.0						36.73	2.82	30	

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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007001-001D-MS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82758**
Client ID: **ZZZZZZ**	Batch ID: **R82758**	TestNo: **SM 2320 B**		Analysis Date: **12/14/2011**	SeqNo: **1343269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	122.449	5.0	100.0	36.73	85.7	75	125				
Alkalinity, Total (As CaCO3)	122.449	5.0	100.0	36.73	85.7	75	125				

Sample ID: **N007001-001D-MSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82758**
Client ID: **ZZZZZZ**	Batch ID: **R82758**	TestNo: **SM 2320 B**		Analysis Date: **12/14/2011**	SeqNo: **1343270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	120.408	5.0	100.0	36.73	83.7	75	125	122.4	1.68	20	
Alkalinity, Total (As CaCO3)	120.408	5.0	100.0	36.73	83.7	75	125	122.4	1.68	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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-001

Client Sample ID: MW-09-183
Collection Date: 12/9/2011 8:32:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	690	2.8	100		mg/L	200	12/10/2011 06:53 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	250	0.62	20		mg/L	20	12/10/2011 07:04 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	9.6	0.060	2.5		mg/L	5	12/10/2011 10:32 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

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-002

Client Sample ID: MW-10-183
Collection Date: 12/9/2011 9:38:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	530	2.8	100		mg/L	200	12/10/2011 07:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Fluoride	7.4	0.020	2.5		mg/L	5	12/10/2011 10:43 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	280	1.6	50		mg/L	50	12/10/2011 07:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	11	0.060	2.5		mg/L	5	12/10/2011 10:43 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-003

Client Sample ID: MW-12-183
Collection Date: 12/9/2011 12:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	1700	7.0	250		mg/L	500	12/10/2011 07:39 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	450	1.6	50		mg/L	50	12/10/2011 07:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	9.9	0.060	2.5		mg/L	5	12/10/2011 10:55 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-004

Client Sample ID: MW-14-183
Collection Date: 12/9/2011 10:32:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	350	1.4	50		mg/L	100	12/10/2011 08:03 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	100	0.31	10		mg/L	10	12/10/2011 08:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.7	0.024	1.0		mg/L	2	12/10/2011 11:07 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

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-005

Client Sample ID: MW-19-183
Collection Date: 12/9/2011 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	520	1.4	50		mg/L	100	12/10/2011 08:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	170	0.62	20		mg/L	20	12/10/2011 08:38 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.2	0.024	1.0		mg/L	2	12/10/2011 11:18 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-006

Client Sample ID: MW-20-130-183
Collection Date: 12/9/2011 11:31:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/10/2011 11:30 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	3300	14	500		mg/L	1000	12/10/2011 09:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	1200	3.1	100		mg/L	100	12/10/2011 09:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	12	0.060	2.5		mg/L	5	12/10/2011 11:30 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
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-007

Client Sample ID: MW-24BR-183
Collection Date: 12/9/2011 8:11:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	4600	14	500		mg/L	1000	12/10/2011 09:36 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	470	1.6	50		mg/L	50	12/10/2011 09:47 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/10/2011 12:05 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-008

Client Sample ID: MW-26-183
Collection Date: 12/9/2011 11:08:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Bromide	1.2	0.014	1.0		mg/L	2	12/10/2011 12:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	930	2.8	100		mg/L	200	12/10/2011 09:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	530	1.6	50		mg/L	50	12/10/2011 10:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	14	0.060	2.5		mg/L	5	12/10/2011 12:17 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-009

Client Sample ID: MW-32-035-183
Collection Date: 12/9/2011 11:41:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/10/2011 12:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	5000	14	500		mg/L	1000	12/10/2011 10:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	1700	6.2	200		mg/L	200	12/10/2011 10:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/10/2011 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-010

Client Sample ID: MW-43-025-183
Collection Date: 12/9/2011 8:33:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	92	0.28	10		mg/L	20	12/10/2011 05:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	250	0.62	20		mg/L	20	12/10/2011 05:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/10/2011 12:51 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-011

Client Sample ID: MW-43-075-183
Collection Date: 12/9/2011 9:28:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A**	QC Batch: **R82590**			PrepDate:			Analyst: **QBM**
Chloride	2900	7.0	250		mg/L	500	12/10/2011 10:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A**	QC Batch: **R82590**			PrepDate:			Analyst: **QBM**
Sulfate	1500	3.1	100		mg/L	100	12/10/2011 10:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A**	QC Batch: **R82590**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/10/2011 01:03 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-012

Client Sample ID: MW-43-090-183
Collection Date: 12/9/2011 10:27:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	5200	14	500		mg/L	1000	12/10/2011 11:32 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	2000	6.2	200		mg/L	200	12/10/2011 11:44 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/10/2011 01:15 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-013

Client Sample ID: MW-91-183
Collection Date: 12/9/2011 8:12:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Chloride	4800	14	500		mg/L	1000	12/10/2011 11:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Sulfate	480	3.1	100		mg/L	100	12/11/2011 12:07 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111210A** QC Batch: **R82590**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/10/2011 01:26 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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82590_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **PBW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82590_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **LCSW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.402	0.50	2.500	0	96.1	90	110				

Sample ID: **N007001-001CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	11.655	2.5	12.50	0.3750	90.2	80	120				

Sample ID: **N007001-001CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	11.700	2.5	12.50	0.3750	90.6	80	120	11.66	0.385	20	

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.104	0.50						0.1100	0	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

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **N006998-010BMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82590**
Client ID: **ZZZZZZ** Batch ID: **R82590** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1341426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.381	0.50	2.500	0.1100	90.8	80	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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82590_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **PBW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82590_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **LCSW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.335	0.50	2.500	0	93.4	90	110				

Sample ID: **N007001-001CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4929.000	500	2500	2620	92.4	80	120				

Sample ID: **N007001-001CMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4998.000	500	2500	2620	95.1	80	120	4929	1.39	20	

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	92.200	10						92.00	0.217	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N006998-010BMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82590**
Client ID: **ZZZZZZ** Batch ID: **R82590** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1341450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	144.240	10	50.00	92.00	104	80	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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82590_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **PBW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341473**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82590_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **LCSW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341474**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.368	0.50	2.500	0	94.7	90	110				

Sample ID: **N007001-001CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341482**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	14.495	2.5	12.50	2.620	95.0	80	120				

Sample ID: **N007001-001CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341483**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	14.475	2.5	12.50	2.620	94.8	80	120	14.50	0.138	20	

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341486**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.593	0.50						0.5910	0.338	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N006998-010BMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82590**
Client ID: **ZZZZZZ** Batch ID: **R82590** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1341487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.034	0.50	2.500	0.5910	97.7	80	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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82590_S04**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **PBW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341604**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82590_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **LCSW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341605**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.734	1.0	5.000	0	94.7	90	110				

Sample ID: **N007001-001CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341611**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	759.050	50	250.0	508.5	100	80	120				

Sample ID: **N007001-001CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341612**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	758.150	50	250.0	508.5	99.9	80	120	759.0	0.119	20	

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82590**		
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**				SeqNo: **1341616**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	253.780	20						252.3	0.585	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N006998-010BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82590**
Client ID: **ZZZZZZ** Batch ID: **R82590** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1341617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	356.720	20	100.0	252.3	104	80	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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82590_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **PBW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82590_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **LCSW**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.370	0.50	2.500	0	94.8	90	110				

Sample ID: **N007001-001CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.310	2.5	12.50	0.9300	91.0	80	120				

Sample ID: **N007001-001CMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.625	2.5	12.50	0.9300	93.6	80	120	12.31	2.53	20	

Sample ID: **N006998-010BDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82590**
Client ID: **ZZZZZZ**	Batch ID: **R82590**	TestNo: **EPA 300.0**		Analysis Date: **12/10/2011**	SeqNo: **1341568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.053	0.50						0.05200	0	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N006998-010BMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82590**
Client ID: **ZZZZZZ** Batch ID: **R82590** TestNo: **EPA 300.0** Analysis Date: **12/10/2011** SeqNo: **1341569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.307	0.50	2.500	0.05200	90.2	80	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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38562**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	7.8	0.30	1.0		mg/L	10	12/16/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-025-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38562**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	1.8	0.030	0.10		mg/L	1	12/16/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-075-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38562**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.58	0.030	0.10		mg/L	1	12/16/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-090-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:27:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111216A**	QC Batch: **38562**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.37	0.030	0.10		mg/L	1	12/16/2011

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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38562**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **LCSW**	Batch ID: **38562**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.975	0.10	1.000	0	97.5	85	115				

Sample ID: **MB-38562**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **PBW**	Batch ID: **38562**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N006998-009E-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38562**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	9.100	1.0	2.000	7.800	65.0	75	125				S

Sample ID: **N006998-009E-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82582**
Client ID: **ZZZZZZ**	Batch ID: **38562**	TestNo: **SM4500-NH3**		Analysis Date: **12/16/2011**	SeqNo: **1338571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	9.150	1.0	2.000	7.800	67.5	75	125	9.100	0.548	20	S

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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-001

Client Sample ID: MW-09-183
Collection Date: 12/9/2011 8:32:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/4/2012 04:26 PM
Manganese	ND	1.7	10		ug/L	1	12/27/2011 05:27 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	160	0.12	0.50		mg/L	1	12/27/2011 05:27 PM
Magnesium	40	0.0063	0.10		mg/L	1	12/27/2011 05:27 PM
Sodium	430	1.2	5.0		mg/L	10	1/3/2012 06:02 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-002

Client Sample ID: MW-10-183
Collection Date: 12/9/2011 9:38:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Antimony	ND	5.4	10		ug/L	1	12/27/2011 05:41 PM
Barium	54	0.20	3.0		ug/L	1	12/27/2011 05:41 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/4/2012 03:43 PM
Cadmium	ND	0.23	3.0		ug/L	1	12/27/2011 05:41 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/4/2012 03:43 PM
Copper	ND	0.53	5.0		ug/L	1	1/4/2012 03:43 PM
Iron	ND	14	20		ug/L	1	1/4/2012 03:43 PM
Lead	ND	1.5	10		ug/L	1	12/27/2011 05:41 PM
Manganese	ND	1.7	10		ug/L	1	12/27/2011 05:41 PM
Molybdenum	74	0.49	5.0		ug/L	1	12/27/2011 05:41 PM
Nickel	ND	1.1	5.0		ug/L	1	12/27/2011 05:41 PM
Silver	3.4	0.72	3.0		ug/L	1	12/27/2011 05:41 PM
Vanadium	32	0.19	3.0		ug/L	1	12/27/2011 05:41 PM
Zinc	ND	4.6	10		ug/L	1	1/4/2012 03:43 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	84	0.12	0.50		mg/L	1	12/27/2011 05:41 PM
Magnesium	12	0.0063	0.10		mg/L	1	12/27/2011 05:41 PM
Sodium	490	3.0	12		mg/L	25	1/3/2012 06:05 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-003

Client Sample ID: MW-12-183
Collection Date: 12/9/2011 12:10:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Antimony	ND	5.4	10		ug/L	1	12/27/2011 05:46 PM
Barium	69	0.20	3.0		ug/L	1	12/27/2011 05:46 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/4/2012 03:47 PM
Cadmium	ND	0.23	3.0		ug/L	1	12/27/2011 05:46 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/4/2012 03:47 PM
Copper	ND	0.53	5.0		ug/L	1	1/4/2012 03:47 PM
Iron	ND	14	20		ug/L	1	1/4/2012 03:47 PM
Lead	ND	1.5	10		ug/L	1	12/27/2011 05:46 PM
Manganese	ND	1.7	10		ug/L	1	12/27/2011 05:46 PM
Molybdenum	13	0.49	5.0		ug/L	1	12/27/2011 05:46 PM
Nickel	ND	1.1	5.0		ug/L	1	12/27/2011 05:46 PM
Silver	ND	0.72	3.0		ug/L	1	12/27/2011 05:46 PM
Vanadium	14	0.19	3.0		ug/L	1	12/27/2011 05:46 PM
Zinc	18	4.6	10		ug/L	1	1/4/2012 03:47 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	38	0.12	0.50		mg/L	1	12/27/2011 05:46 PM
Magnesium	6.7	0.0063	0.10		mg/L	1	12/27/2011 05:46 PM
Sodium	1400	12	50		mg/L	100	1/3/2012 06:10 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-14-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	50	14	20		ug/L	1	1/4/2012 04:30 PM
Manganese	ND	1.7	10		ug/L	1	1/4/2012 09:31 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	77	0.12	0.50		mg/L	1	1/4/2012 09:31 PM
Magnesium	10	0.0063	0.10		mg/L	1	1/4/2012 09:31 PM
Sodium	230	1.2	5.0		mg/L	10	1/3/2012 06:11 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-005

Client Sample ID: MW-19-183
Collection Date: 12/9/2011 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/4/2012 04:51 PM
Manganese	ND	1.7	10		ug/L	1	1/4/2012 09:35 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	110	0.12	0.50		mg/L	1	1/4/2012 09:35 PM
Magnesium	16	0.0063	0.10		mg/L	1	1/4/2012 09:35 PM
Sodium	330	1.2	5.0		mg/L	10	1/3/2012 06:15 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-006

Client Sample ID: MW-20-130-183
Collection Date: 12/9/2011 11:31:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Boron	2400	13	100		ug/L	1	1/4/2012 04:56 PM
Iron	ND	14	20		ug/L	1	1/4/2012 04:56 PM
Manganese	ND	3.3	20		ug/L	2	12/27/2011 06:17 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	340	0.23	1.0		mg/L	2	12/27/2011 06:17 PM
Magnesium	22	0.013	0.20		mg/L	2	12/27/2011 06:17 PM
Potassium	33	0.62	5.0		mg/L	10	1/3/2012 06:21 PM
Sodium	2400	12	50		mg/L	100	1/3/2012 06:18 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-007

Client Sample ID: MW-24BR-183
Collection Date: 12/9/2011 8:11:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	1/4/2012 05:18 PM
Manganese	390	3.3	20		ug/L	2	1/4/2012 09:39 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	130	0.23	1.0		mg/L	2	1/4/2012 09:39 PM
Magnesium	3.6	0.013	0.20		mg/L	2	1/4/2012 09:39 PM
Sodium	3100	12	50		mg/L	100	1/3/2012 06:29 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-008

Client Sample ID: MW-26-183
Collection Date: 12/9/2011 11:08:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Boron	890	13	100		ug/L	1	1/4/2012 05:13 PM
Iron	ND	14	20		ug/L	1	1/4/2012 05:13 PM
Manganese	ND	1.7	10		ug/L	1	1/4/2012 09:44 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	210	0.12	0.50		mg/L	1	1/4/2012 09:44 PM
Magnesium	47	0.0063	0.10		mg/L	1	1/4/2012 09:44 PM
Potassium	15	0.62	5.0		mg/L	10	1/5/2012 11:34 AM
Sodium	690	3.0	12		mg/L	25	1/3/2012 06:32 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-009

Client Sample ID: MW-32-035-183
Collection Date: 12/9/2011 11:41:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Boron	1700	26	200		ug/L	2	1/4/2012 05:37 PM
Iron	14000	29	40		ug/L	2	1/4/2012 05:37 PM
Manganese	2100	3.3	20		ug/L	2	1/4/2012 09:48 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	680	0.23	1.0		mg/L	2	1/4/2012 09:48 PM
Magnesium	310	0.013	0.20		mg/L	2	1/4/2012 09:48 PM
Potassium	34	1.5	12		mg/L	25	1/5/2012 11:37 AM
Sodium	3100	12	50		mg/L	100	1/3/2012 08:29 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-010

Client Sample ID: MW-43-025-183
Collection Date: 12/9/2011 8:33:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	2900	14	20		ug/L	1	1/4/2012 05:33 PM
Manganese	240	1.7	10		ug/L	1	1/4/2012 09:52 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	84	0.12	0.50		mg/L	1	1/4/2012 09:52 PM
Magnesium	41	0.0063	0.10		mg/L	1	1/4/2012 09:52 PM
Sodium	110	1.2	5.0		mg/L	10	1/3/2012 08:36 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-011

Client Sample ID: MW-43-075-183
Collection Date: 12/9/2011 9:28:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	1700	14	20		ug/L	1	1/4/2012 05:42 PM
Manganese	240	1.7	10		ug/L	1	1/4/2012 09:57 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	270	0.12	0.50		mg/L	1	1/4/2012 09:57 PM
Magnesium	27	0.0063	0.10		mg/L	1	1/4/2012 09:57 PM
Sodium	2600	12	50		mg/L	100	1/3/2012 08:37 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-012

Client Sample ID: MW-43-090-183
Collection Date: 12/9/2011 10:27:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	4200	29	40		ug/L	2	1/4/2012 06:29 PM
Manganese	1100	3.3	20		ug/L	2	1/4/2012 10:09 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	670	0.23	1.0		mg/L	2	1/4/2012 10:09 PM
Magnesium	240	0.013	0.20		mg/L	2	1/4/2012 10:09 PM
Sodium	3500	12	50		mg/L	100	1/3/2012 08:40 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-013

Client Sample ID: MW-91-183
Collection Date: 12/9/2011 8:12:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120104A**	QC Batch: **38712**			PrepDate:	**12/27/2011**		Analyst: **KAB**
Iron	ND	72	100		ug/L	5	1/4/2012 04:04 PM
Manganese	420	8.3	50		ug/L	5	12/27/2011 04:40 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_111227A**	QC Batch: **38586**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	150	0.58	2.5		mg/L	5	12/27/2011 04:40 PM
Magnesium	4.1	0.031	0.50		mg/L	5	12/27/2011 04:40 PM
Sodium	3100	12	50		mg/L	100	1/5/2012 11:40 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		

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38586** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **PBW** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10									
Barium	ND	3.0									
Cadmium	ND	3.0									
Lead	ND	10									
Manganese	3.012	10									
Molybdenum	0.491	5.0									
Nickel	ND	5.0									
Silver	1.446	3.0									
Vanadium	ND	3.0									

Sample ID: **LCS-38586** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **LCSW** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.025	10	50.00	0	110	85	115				
Barium	54.323	3.0	50.00	0	109	85	115				
Cadmium	10.042	3.0	10.00	0	100	85	115				
Lead	52.278	10	50.00	0	105	85	115				
Manganese	52.018	10	50.00	0	104	85	115				
Molybdenum	49.581	5.0	50.00	0	99.2	85	115				
Nickel	49.062	5.0	50.00	0	98.1	85	115				
Silver	11.133	3.0	10.00	0	111	85	115				
Vanadium	10.188	3.0	10.00	0	102	85	115				

Sample ID: **N006998-013A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.765	50	50.00	0	108	75	125				
Barium	184.866	15	50.00	125.9	118	75	125				
Cadmium	5.332	15	10.00	0	53.3	75	125				S
Lead	39.223	50	50.00	0	78.4	75	125				
Manganese	478.501	50	50.00	416.8	123	75	125				
Molybdenum	112.802	25	50.00	61.19	103	75	125				
Nickel	25.283	25	50.00	0	50.6	75	125				S
Silver	20.988	15	10.00	10.39	106	75	125				
Vanadium	7.453	15	10.00	0	74.5	75	125				S

Sample ID: **N006998-013A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.965	50	50.00	0	97.9	75	125	53.76	0	20	
Barium	186.094	15	50.00	125.9	120	75	125	184.9	0.662	20	
Cadmium	5.604	15	10.00	0	56.0	75	125	5.332	0	20	S
Lead	39.554	50	50.00	0	79.1	75	125	39.22	0	20	
Manganese	478.460	50	50.00	416.8	123	75	125	478.5	0.00862	20	
Molybdenum	113.691	25	50.00	61.19	105	75	125	112.8	0.786	20	
Nickel	26.846	25	50.00	0	53.7	75	125	25.28	6.00	20	S
Silver	20.821	15	10.00	10.39	104	75	125	20.99	0.798	20	
Vanadium	7.447	15	10.00	0	74.5	75	125	7.453	0	20	S

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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38712** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/27/2011** RunNo: **82768**
Client ID: **PBW** Batch ID: **38712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	1.0									
Boron	42.298	100									
Cobalt	ND	3.0									
Copper	0.676	5.0									
Iron	ND	20									
Zinc	ND	10									

Sample ID: **LCS-38712** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/27/2011** RunNo: **82768**
Client ID: **LCSW** Batch ID: **38712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344356**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	10.509	1.0	10.00	0	105	85	115				
Boron	955.600	100	1000	0	95.6	85	115				
Cobalt	9.662	3.0	10.00	0	96.6	85	115				
Copper	9.973	5.0	10.00	0	99.7	85	115				
Iron	56.455	20	50.00	0	113	85	115				
Zinc	47.149	10	50.00	0	94.3	85	115				

Sample ID: **N006998-013A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/27/2011** RunNo: **82768**
Client ID: **ZZZZZZ** Batch ID: **38712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344367**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	4.475	5.0	10.00	0	44.8	75	125				S
Boron	3702.386	500	10.00	2482	12200	75	125				S
Cobalt	ND	15	10.00	0	0	75	125				S
Copper	19.438	25	10.00	9.078	104	75	125				
Iron	ND	100	50.00	0	0	75	125				S
Zinc	38.519	50	50.00	0	77.0	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/27/2011** RunNo: **82768**
Client ID: **ZZZZZZ** Batch ID: **38712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1344368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	4.516	5.0	10.00	0	45.2	75	125	4.475	0	20	S
Boron	3679.574	500	10.00	2482	12000	75	125	3702	0.618	20	S
Cobalt	ND	15	10.00	0	0	75	125	0	0	20	S
Copper	20.754	25	10.00	9.078	117	75	125	19.44	0	20	
Iron	ND	100	50.00	0	0	75	125	0	0	20	S
Zinc	37.907	50	50.00	0	75.8	75	125	38.52	0	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38586** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **PBW** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38586** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **LCSW** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343520**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.095	0.50	1.000	0	109	85	115				
Magnesium	1.022	0.10	1.000	0	102	85	115				

Sample ID: **N006998-013A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	148.776	2.5	1.000	145.0	375	75	125				S
Magnesium	5.170	0.50	1.000	4.134	104	75	125				

Sample ID: **N006998-013A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	149.338	2.5	1.000	145.0	432	75	125	148.8	0.378	20	S
Magnesium	5.180	0.50	1.000	4.134	105	75	125	5.170	0.182	20	

Sample ID: **MB-38586** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **PBW** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1343598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.085	0.50									

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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38586**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **PBW**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.256	0.50									

Sample ID: **LCS2-38586**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **LCSW**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1343599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.359	0.50	2.500	0	94.3	85	115				
Sodium	2.382	0.50	2.500	0	95.3	85	115				

Sample ID: **N006998-013A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **ZZZZZZ**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1344862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	56.166	5.0	15.00	36.63	130	75	125				S

Sample ID: **N006998-013A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **ZZZZZZ**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1344863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	56.454	5.0	15.00	36.63	132	75	125	56.17	0.511	20	S

Sample ID: **N006998-013A-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **ZZZZZZ**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1344864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3238.584	50	15.00	3129	731	75	125				S

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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N006998-013A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1344865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3174.209	50	15.00	3129	302	75	125	3239	2.01	20	S

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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-09-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **ICP7_111228B**	QC Batch: **38713**				PrepDate:	**12/27/2011**	Analyst: **CEI**
Molybdenum	1.3	0.047	0.50		µg/L	1	12/28/2011 10:11 AM
Selenium	5.4	0.29	0.50		µg/L	1	12/28/2011 10:11 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-10-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:38:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_111228B**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	6.3	0.0025	0.10		µg/L	1	12/28/2011 12:10 PM
Selenium	6.0	0.29	0.50		µg/L	1	12/28/2011 12:10 PM
Thallium	ND	0.015	0.50		µg/L	1	12/28/2011 12:10 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	49	0.0025	0.10		µg/L	1	1/3/2012 06:01 PM
Selenium	11	0.29	0.50		µg/L	1	1/3/2012 06:01 PM
Thallium	ND	0.076	2.5		µg/L	5	1/3/2012 05:43 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

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-130-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	5.2	0.0025	0.10		µg/L	1	1/3/2012 06:19 PM
Molybdenum	46	0.24	2.5		µg/L	5	1/3/2012 06:13 PM
Selenium	20	0.29	0.50		µg/L	1	1/3/2012 06:19 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-24BR-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:11:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Molybdenum	63	0.24	2.5		µg/L	5	1/3/2012 06:31 PM
Selenium	ND	1.4	2.5		µg/L	5	1/3/2012 06:31 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-26-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:08:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	1.7	0.0025	0.10		µg/L	1	1/3/2012 07:08 PM
Molybdenum	31	0.047	0.50		µg/L	1	1/3/2012 07:08 PM
Selenium	34	0.29	0.50		µg/L	1	1/3/2012 07:08 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	25	0.012	0.50		µg/L	5	1/3/2012 07:20 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-025-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	20	0.0025	0.10		µg/L	1	1/3/2012 07:38 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-075-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	12	0.0025	0.10		µg/L	1	1/3/2012 07:56 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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-090-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:27:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	3.5	0.012	0.50		µg/L	5	1/3/2012 08:38 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		

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CLIENT: CH2M HILL
Lab Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N006998-013

Client Sample ID: MW-91-183
Collection Date: 12/9/2011 8:12:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38713**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Molybdenum	63	0.24	2.5		µg/L	5	1/3/2012 08:57 PM
Selenium	ND	1.4	2.5		µg/L	5	1/3/2012 08:57 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38713** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82794**
Client ID: **PBW** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.022	0.10									
Molybdenum	0.099	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38713** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82794**
Client ID: **LCSW** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.053	0.10	10.00	0	101	85	115				
Molybdenum	10.111	0.50	10.00	0	101	85	115				
Selenium	10.263	0.50	10.00	0	103	85	115				
Thallium	10.201	0.50	10.00	0	102	85	115				

Sample ID: **N006998-001A-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82794**
Client ID: **ZZZZZZ** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.093	0.10	10.00	1.695	104	75	125				
Molybdenum	12.243	0.50	10.00	1.335	109	75	125				
Selenium	14.976	0.50	10.00	5.358	96.2	75	125				
Thallium	10.101	0.50	10.00	0.04953	101	75	125				

Sample ID: **N006998-001A-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82794**
Client ID: **ZZZZZZ** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.960	0.10	10.00	1.695	103	75	125	12.09	1.11	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

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006998-001A-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82794**
Client ID: **ZZZZZZ** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	12.205	0.50	10.00	1.335	109	75	125	12.24	0.313	20	
Selenium	14.956	0.50	10.00	5.358	96.0	75	125	14.98	0.137	20	
Thallium	10.090	0.50	10.00	0.04953	100	75	125	10.10	0.109	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-10-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:38:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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ANALYTICAL RESULTS

Print Date: ***09-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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, Inc.

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CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: **LCS-38592**	SampType: **LCS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **LCSW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.895	0.20	5.000	0	97.9	85	115				

Sample ID: **MB-38592**	SampType: **MBLK**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **PBW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N006986-001B-MS**	SampType: **MS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.765	0.20	5.000	0	95.3	75	125				

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.896	0.20	5.000	0	97.9	75	125	4.765	2.70	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

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CH2MHILL **CHAIN OF CUSTODY RECORD** *12/9/2011 1:56:36 PM* Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/9/2011
COC Number: 8

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	180	2	2	2	2	2	2	28			
		Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Metals (SW6010B/SW6020Adis) Field Filtered T22:SbAsBaBeCdCoCuPbHgMo	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-09-183	12/9/2011 8:32 Water	X			X	X		X		X			X		N0006998 - 1	4	
MW-10-183	12/9/2011 9:38 Water	X			X		X	X			X		X		2	4	
MW-12-183	12/9/2011 12:10 Water	X			X		X	X		X			X		3	4	
MW-14-183	12/9/2011 10:32 Water	X			X			X		X			X		4	4	
MW-19-183	12/9/2011 9:35 Water	X			X			X		X			X		5	4	
MW-20-130-183	12/9/2011 11:31 Water	X	X	X		X		X	X			X	X		6	6	
MW-24BR-183	12/9/2011 8:11 Water	X			X	X		X		X			X		7	4	
MW-26-183	12/9/2011 11:08 Water	X	X	X		X		X	X			X	X		8	6	
MW-32-035-183	12/9/2011 11:41 Water	X	X	X				X	X			X	X	X	9	6	
MW-43-025-183	12/9/2011 8:33 Water	X	X		X			X		X			X	X	10	5	
MW-43-075-183	12/9/2011 9:28 Water	X	X		X			X		X			X	X	11	5	
MW-43-090-183	12/9/2011 10:27 Water	X	X		X			X		X			X	X	12	5	
MW-91-183	12/9/2011 8:12 Water	X			X	X		X		X			X		13	4	
														TOTAL NUMBER OF CONTAINERS		61	

	Signatures	Date/Time
Approved by		12/9/11
Sampled by		1445
Relinquished by	PM Galang	12/9/11 1445
Received by	PM Galang	12/9/11 1724
Relinquished by		
Received by		

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ no 3.4°C/4.2°C/5.0°C/5.4°C
Airbill No: 1ctz
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

12/9/2011 1:56:36 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/9/2011
COC Number: 8

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	180	2	2	2	2	2	2	28			
		Extra (+)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Metals (SW6010B/SW6020Adis) Field Filtered T22:SbAsBaBeCdCoCuPbHgMo	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
DATE	TIME	Matrix															
MW-09-183	12/9/2011	8:32	Water	X			X	X	X	X		X			4	
MW-10-183	12/9/2011	9:38	Water	X			X		X	X		X		X		4	
MW-12-183	12/9/2011	12:10	Water	X			X		X	X		X		X		4	
MW-14-183	12/9/2011	10:32	Water	X			X			X		X		X		4	
MW-19-183	12/9/2011	9:35	Water	X			X			X		X		X		4	
MW-20-130-183	12/9/2011	11:31	Water	X	X	X		X		X	X			X	X		6
MW-24BR-183	12/9/2011	8:11	Water	X			X	X		X		X		X		4	
MW-26-183	12/9/2011	11:08	Water	X	X	X		X		X	X			X	X		6
MW-32-035-183	12/9/2011	11:41	Water	X	X	X				X	X			X	X	X	6
MW-43-025-183	12/9/2011	8:33	Water	X	X		X			X		X		X	X		5
MW-43-075-183	12/9/2011	9:28	Water	X	X		X			X		X		X	X		5
MW-43-090-183	12/9/2011	10:27	Water	X	X		X			X		X		X	X		5
MW-91-183	12/9/2011	8:12	Water	X			X	X		X		X			4	
													TOTAL NUMBER OF CONTAINERS		61	

	Signatures	Date/Time
Approved by		12/9/11
Sampled by		1445
Relinquished by		
Received by	PM Galang	12/9/11 1445
Relinquished by	PM Galang	12/9/11 1726
Received by		12/9/11 1726

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ T no 3.4°C/4.2°C/5.0°C/3.4°C
Airbill No: 1ctt2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

80

Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO 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.

Cooler Received/Opened On: 12/9/2011 Workorder: N006998

Rep sample Temp (Deg C): 3.4,4.2,3.0,3.4 IR Gun ID: 2

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

Sample Receipt Checklist

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 NS 12/10/11 Reviewed By: 12/9/11

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 **N006998-006D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(15.9604-15.8989)*1000000}{10}$$

$$= 6150 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 6200 mg/L

Sample ID: **N006998-001C @ pH 7.70**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$):
Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$):
Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.25mL)

= **0.02041 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (5.2) (0.02041N) (1) * 1000

= **106.1mg/L**

Reporting results in two significant figures,

= **110 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02041N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (5.2mL) (0.02041) (1) * 1000

= **106.1 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **106.1 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **110 mg/L**

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Nitrate concentration, in mg/L, in the original sample as follows:

Nitrate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N006998-001B**, concentration in mg/L are calculated as follows:

Nitrate, mg/L	=	1.930 * 5
	=	9.65 mg/L

Reporting **N006998-001B**, results in two significant figures,

Nitrate, mg/L	=	9.6 ~~**9.7**~~ **mg/L**

mg 1/5/11

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N006998-010D,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 1.762 *1

= 1.762 mg/L

Reporting result in two significant figures,

Ammonia as N = 1.8 mg/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 N006998-001A, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.01889 \frac{mg/L * 0.025\ L * 1000}{0.025\ L}$$

Fe = 18.89 ug/L

Reporting result in two significant figures,
Result is below the reporting limit therefore,

Fe =ND

K 1/6/2022

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/27/2011	**Units:**	ug/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006998-013A
Batch # : 38586

Analyte	A	B	Difference	% D
Barium	125.9	84.314	41.58600	33.0
Manganese	416.8	481.015	-64.21500	-15.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @5X dilution
B= ug/L, ICP calculated concentration @25x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/4/2012	**Units:**	ug/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006998-013A
Batch # : 38712

Analyte	A	B	Difference	% D
Boron	2482	4452.132	-1970.13200	-79.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @5X dilution
B= ug/L, ICP calculated concentration @25x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	12/27/2011	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006998-013A
Batch # : 38586

Analyte	A	B	Difference	% D
Calcium	145.0	138.695	6.30500	4.3
Magnesium	4.134	4.37	-0.23600	-5.7

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @5X dilution
B= mg/L, ICP calculated concentration @25x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/5/2012	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006998-013A
Batch # : 38586

Analyte	A	B	Difference	% D
Sodium	3129	2697.43	431.57000	13.8

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/5/2012	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N006998-013A
Batch # : 38586

Analyte	A	B	Difference	% D
Potassium	36.63	30.897	5.73300	15.7

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @10x dilution
B= mg/L, ICP calculated concentration @50x dilution

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82761**
Client ID: **ZZZZZZ**	Batch ID: **38586**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/27/2011**	SeqNo: **1343491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	84.314	75						125.9	39.6	10	R
Manganese	481.015	250						416.8	14.3	10	R

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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/27/2011**	RunNo: **82768**
Client ID: **ZZZZZZ**	Batch ID: **38712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1344370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4452.132	2500						2482	56.8	10	R

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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006998-013ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/27/2011	SeqNo: 1343526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	138.695	12						145.0	4.46	10	
Magnesium	4.370	2.5						4.134	5.54	10	

Sample ID: N006998-013ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1344866

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2697.430	250						3129	14.8	10	R

Sample ID: N006998-013ADT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1344867

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	30.897	25						36.63	17.0	10	R

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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013A-PS5X** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82761**
Client ID: **ZZZZZZ** Batch ID: **38586** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/27/2011** SeqNo: **1343496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	52679.351	250	50000	0	105	75	125				
Antimony	2873.496	50	2500	0	115	75	125				
Barium	2703.763	15	2500	125.9	103	75	125				
Cadmium	2604.540	15	2500	0	104	75	125				
Calcium	199861.527	2500	50000	145000	110	75	125				
Lead	2529.029	50	2500	0	101	75	125				
Magnesium	53053.099	500	50000	4134	97.8	75	125				
Manganese	5315.534	50	5000	416.8	98.0	75	125				
Molybdenum	2568.399	25	2500	61.19	100	75	125				
Nickel	2548.649	25	2500	0	102	75	125				
Silver	2512.356	15	2500	10.39	100	75	125				
Vanadium	2532.445	15	2500	0	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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013A-PS 5**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82768**
Client ID: **ZZZZZZ**	Batch ID: **38712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1344369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	2471.051	5.0	2500	0	98.8	75	125				
Boron	31310.814	500	25000	2482	115	75	125				
Cobalt	2431.833	15	2500	0	97.3	75	125				
Copper	2600.590	25	2500	9.078	104	75	125				
Iron	47515.964	100	50000	0	95.0	75	125				
Zinc	2536.748	50	2500	0	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: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N006998-013A-PS5X	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 12/27/2011	SeqNo: 1343531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	199.862	2.5	50.00	145.0	110	75	125				
Magnesium	53.053	0.50	50.00	4.134	97.8	75	125				

Sample ID: N006998-013A-PS 1	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1344869

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	282.037	50	250.0	36.63	98.2	75	125				
Sodium	5853.616	50	2500	3937	76.7	75	125				

Sample ID: N006998-013A-PS 5	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82761
Client ID: ZZZZZZ	Batch ID: 38586	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1344870

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	1207.553	250	1250	36.63	93.7	75	125				
Sodium	15182.634	250	12500	3937	90.0	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 **N006998-002A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 6.3 * 1 * (25/25)

= 6.3. ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 6.3

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006998
Test Method: EPA 6020
Analysis Date: 12/28/11

Matrix: Water
Batch No.: 38713

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to As,Mo,Se & Tl. The calc. Values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006998-001A-DT 5X	Arsenic	µg/L	1.758321782	NA	1.695216515	-3.72%	10
N006998-001A-DT 5X	Molybdenum	µg/L	1.484345327	NA	1.335345826	-11.16%	10
N006998-001A-DT 5X	Selenium	µg/L	5.546865826	NA	5.357742622	-3.53%	10
N006998-001A-DT 5X	Thallium	µg/L	0	NA	0.049530266	100.00%	10

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N006998-001A-PS 2** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **82794**
Client ID: **ZZZZZZ** Batch ID: **38713** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/28/2011** SeqNo: **1345278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.404	0.20	20.00	1.695	104	75	125				
Molybdenum	23.344	1.0	20.00	1.335	110	75	125				
Selenium	25.284	1.0	20.00	5.358	99.6	75	125				
Thallium	20.898	1.0	20.00	0.04953	104	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 **N006998-002A**, 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 = 0.0

Mercury, ug/L = ND

AM 1/4/12

February 20, 2012

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.: N006998

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 09, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-09-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 03:43 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-10-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:38:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 03:49 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-12-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 12:10:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 03:54 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-14-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:32:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	45	14	20		ug/L	1	2/15/2012 04:00 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-19-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:35:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 04:27 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-20-130-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 04:34 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-24BR-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:11:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	24	14	20		ug/L	1	2/15/2012 04:40 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-26-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:08:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	2/15/2012 04:46 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-32-035-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 11:41:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	13000	14	20		ug/L	1	2/15/2012 04:52 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-025-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:33:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	3000	14	20		ug/L	1	2/15/2012 04:59 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-075-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 9:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	1700	14	20		ug/L	1	2/15/2012 05:04 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-43-090-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 10:27:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**			PrepDate:	**2/13/2012**		Analyst: **JT**
Iron	3800	14	20		ug/L	1	2/15/2012 05:10 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, Inc.

ANALYTICAL RESULTS

Print Date: *20-Feb-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-91-183
Lab Order:	N006998	**Collection Date:**	12/9/2011 8:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N006998-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120215C**	QC Batch: **39022**				PrepDate:	**2/13/2012**	Analyst: **JT**
Iron	22	14	20		ug/L	1	2/15/2012 03:14 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-39022**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **PBW**	Batch ID: **39022**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-39022**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **LCSW**	Batch ID: **39022**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360958**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	48.930	20	50.00	0	97.9	85	115				

Sample ID: **N006998-013A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39022**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	115.311	20	100.0	22.31	93.0	75	125				

Sample ID: **N006998-013A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **2/13/2012**	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39022**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	114.742	20	100.0	22.31	92.4	75	125	115.3	0.495	20	

423571

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 6010
TEST NAME: Heavy Metals by ICP
MATRIX: Aqueous

FORMULA:

Calculate the Iron concentration, in ug/L, in the original sample as follows:

Iron, ug/L = A * DF * PF*1000

where:

A = mg/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N006998-013A**, the concentration in ug/L is calculated as follows:

Iron, ug/L = 0.02231* 1 * (25/25)*1000

= 22.311ug/L

Reporting results in two significant figures,

Iron, ug/L = 22

2/20/12

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N006998
Test Method: EPA 6010
Analysis Date: 02/15/12

Matrix: Water
Batch No.: 39022

Instrument ID: ICP-01/02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable for analytes with concentration < 25X the RL.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N006998-013A DT 5X	Iron	µg/L	0	NA	22.310984	100.00%	10

Note: NA - Not Applicable

CLIENT: CH2M HILL
Work Order: N006998
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N006998-013A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date:	RunNo: **83240**
Client ID: **ZZZZZZ**	Batch ID: **39022**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **2/15/2012**	SeqNo: **1360961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4728.469	40	5000	22.31	94.1	75	125				

2/21/12

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

January 25, 2012

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.: N007014

RE: PG&E Topock, 417981.ER.02.DM

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 14, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, 417981.ER.02.DM
Lab Order: N007014

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 were analyzed within method holding time.

Analytical Comments for EPA 300.0

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Orthophosphate possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes 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 ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *10-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock, 417981.ER.02.DM
Lab Order: N007014
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007014-001A	MW-101-007	Water	12/12/2011 3:15:00 PM	12/14/2011	
N007014-001B	MW-101-007	Water	12/12/2011 3:15:00 PM	12/14/2011	
N007014-001C	MW-101-007	Water	12/12/2011 3:15:00 PM	12/14/2011	
N007014-001D	MW-101-007	Water	12/12/2011 3:15:00 PM	12/14/2011	
N007014-001E	MW-101-007	Water	12/12/2011 3:15:00 PM	12/14/2011	
N007014-002A	MW-23-080-007	Water	12/12/2011 3:08:00 PM	12/14/2011	
N007014-002B	MW-23-080-007	Water	12/12/2011 3:08:00 PM	12/14/2011	
N007014-002C	MW-23-080-007	Water	12/12/2011 3:08:00 PM	12/14/2011	
N007014-002D	MW-23-080-007	Water	12/12/2011 3:08:00 PM	12/14/2011	
N007014-002E	MW-23-080-007	Water	12/12/2011 3:08:00 PM	12/14/2011	
N007014-003A	MW-63-065-007	Water	12/12/2011 1:18:00 PM	12/14/2011	
N007014-003B	MW-63-065-007	Water	12/12/2011 1:18:00 PM	12/14/2011	
N007014-003C	MW-63-065-007	Water	12/12/2011 1:18:00 PM	12/14/2011	
N007014-003D	MW-63-065-007	Water	12/12/2011 1:18:00 PM	12/14/2011	
N007014-003E	MW-63-065-007	Water	12/12/2011 1:18:00 PM	12/14/2011	
N007014-004A	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004B	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004C	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004D	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004E	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004F	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-004G	MW-64BR-UPR-150-007	Water	12/12/2011 3:00:00 PM	12/14/2011	
N007014-005A	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005B	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005C	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005D	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005E	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005F	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	
N007014-005G	MW-70-105-007	Water	12/12/2011 11:56:00 AM	12/14/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock, 417981.ER.02.DM
Lab Order: N007014
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007014-006A	MW-23-060-007	Water	12/13/2011 8:30:00 AM	12/14/2011	
N007014-006B	MW-23-060-007	Water	12/13/2011 8:30:00 AM	12/14/2011	
N007014-006C	MW-23-060-007	Water	12/13/2011 8:30:00 AM	12/14/2011	
N007014-006D	MW-23-060-007	Water	12/13/2011 8:30:00 AM	12/14/2011	
N007014-006E	MW-23-060-007	Water	12/13/2011 8:30:00 AM	12/14/2011	
N007014-007A	MW-62-065-007	Water	12/13/2011 11:33:00 AM	12/14/2011	
N007014-007B	MW-62-065-007	Water	12/13/2011 11:33:00 AM	12/14/2011	
N007014-007C	MW-62-065-007	Water	12/13/2011 11:33:00 AM	12/14/2011	
N007014-007D	MW-62-065-007	Water	12/13/2011 11:33:00 AM	12/14/2011	
N007014-007E	MW-62-065-007	Water	12/13/2011 11:33:00 AM	12/14/2011	

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	4600	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	3900	0.10	0.10		umhos/cm	1	12/14/2011

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82783** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82783**
Client ID: **LCSW** Batch ID: **R82783** TestNo: **EPA 120.1** Analysis Date: **12/14/2011** SeqNo: **1344988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9760.000	0.10	9986	0	97.7	85	115				

Sample ID: **N007015-003CDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82783**
Client ID: **ZZZZZZ** Batch ID: **R82783** TestNo: **EPA 120.1** Analysis Date: **12/14/2011** SeqNo: **1344999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7370.000	0.10						7350	0.272	10	

Sample ID: **N007015-003CMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82783**
Client ID: **ZZZZZZ** Batch ID: **R82783** TestNo: **EPA 120.1** Analysis Date: **12/14/2011** SeqNo: **1345000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17500.000	0.20	9986	7350	102	75	125				

Sample ID: **N007015-003CMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82783**
Client ID: **ZZZZZZ** Batch ID: **R82783** TestNo: **EPA 120.1** Analysis Date: **12/14/2011** SeqNo: **1345001**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17500.000	0.20	9986	7350	102	75	125	17500	0	10	

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	10000	100	100		mg/L	1	12/15/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	9900	100	100		mg/L	1	12/15/2011

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	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	4000	33	33		mg/L	1	12/15/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	10000	100	100		mg/L	1	12/15/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	2900	33	33		mg/L	1	12/15/2011

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38560**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **PBW**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342621**

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-38560**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **LCSW**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	997.000	10	1000	0	99.7	80	120				

Sample ID: **N007001-001D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **ZZZZZZ**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	5900.000	100						5680	3.80	5	

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A**	QC Batch: **38604**			PrepDate:	**12/15/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/15/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A**	QC Batch: **38604**			PrepDate:	**12/15/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/15/2011

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	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A**	QC Batch: **38604**			PrepDate:	**12/15/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	130	10	10		mg/L	1	12/15/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A**	QC Batch: **38604**			PrepDate:	**12/15/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/15/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A** QC Batch: **38604**				PrepDate: **12/15/2011**			Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/15/2011

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-38604** SampType: **MBLK** TestCode: **160.2_2540D_** Units: **mg/L** Prep Date: **12/15/2011** RunNo: **82713**
Client ID: **PBW** Batch ID: **38604** TestNo: **SM2540D** Analysis Date: **12/15/2011** SeqNo: **1342082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-38604** SampType: **LCS** TestCode: **160.2_2540D_** Units: **mg/L** Prep Date: **12/15/2011** RunNo: **82713**
Client ID: **LCSW** Batch ID: **38604** TestNo: **SM2540D** Analysis Date: **12/15/2011** SeqNo: **1342083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	975.000	10	1000	0	97.5	80	120				

Sample ID: **N007013-001E-DUP** SampType: **DUP** TestCode: **160.2_2540D_** Units: **mg/L** Prep Date: **12/15/2011** RunNo: **82713**
Client ID: **ZZZZZZ** Batch ID: **38604** TestNo: **SM2540D** Analysis Date: **12/15/2011** SeqNo: **1342085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R82554**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **82554**
Client ID: **PBW**	Batch ID: **R82554**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2011**	SeqNo: **1337916**

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-R82554**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **82554**
Client ID: **LCSW**	Batch ID: **R82554**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2011**	SeqNo: **1337917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.086	0.20	5.000	0	102	90	110				

Sample ID: **N007023-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **82554**
Client ID: **ZZZZZZ**	Batch ID: **R82554**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2011**	SeqNo: **1337920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.151	0.20	1.000	0.1149	104	90	110				

Sample ID: **N007023-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **82554**
Client ID: **ZZZZZZ**	Batch ID: **R82554**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2011**	SeqNo: **1337922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.167	0.20	1.000	0.1149	105	90	110	1.151	1.34	20	

Sample ID: **N007014-005GMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **82554**
Client ID: **ZZZZZZ**	Batch ID: **R82554**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2011**	SeqNo: **1344821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	79.185	1.0	25.00	54.52	98.6	90	110				

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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N007014-004GMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **82554**
Client ID: **ZZZZZZ** Batch ID: **R82554** TestNo: **EPA 218.6** Analysis Date: **12/15/2011** SeqNo: **1344823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.715	1.0	5.000	6.785	98.6	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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	39	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	11	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	50	1.2	5.0		mg/L	1	12/14/2011

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, Inc.

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	18	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	22	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	41	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	210	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	210	1.2	5.0		mg/L	1	12/14/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *25-Jan-12*

CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-006

Client Sample ID: MW-23-060-007
Collection Date: 12/13/2011 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	36	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	36	1.2	5.0		mg/L	1	12/14/2011

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	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	100	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	100	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82759** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **LCSW** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.020	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	101.020	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82759** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **LCSS02** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.020	5.0	100.0	0	101	85	115	101.0	0	20	
Alkalinity, Total (As CaCO3)	101.020	5.0	100.0	0	101	85	115	101.0	0	20	

Sample ID: **MB-R82759** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **PBW** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007015-013C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **ZZZZZZ** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	45.918	5.0						46.94	2.20	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	45.918	5.0						46.94	2.20	30	

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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007015-013C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **ZZZZZZ** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	140.816	5.0	100.0	46.94	93.9	75	125				
Alkalinity, Total (As CaCO3)	142.857	5.0	100.0	46.94	95.9	75	125				

Sample ID: **N007015-013C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **ZZZZZZ** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	139.796	5.0	100.0	46.94	92.9	75	125	140.8	0.727	20	
Alkalinity, Total (As CaCO3)	141.837	5.0	100.0	46.94	94.9	75	125	142.9	0.717	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

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CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-001

Client Sample ID: MW-101-007
Collection Date: 12/12/2011 3:15:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/14/2011 10:02 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	5600	14	500		mg/L	1000	12/14/2011 09:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/14/2011 09:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/14/2011 09:51 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/14/2011 10:02 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	960	1.6	50		mg/L	50	12/14/2011 09:51 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.8	0.060	2.5		mg/L	5	12/14/2011 10:02 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

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CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-002

Client Sample ID: MW-23-080-007
Collection Date: 12/12/2011 3:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/14/2011 10:26 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	5700	14	500		mg/L	1000	12/14/2011 08:19 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/14/2011 08:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/14/2011 11:36 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/14/2011 10:26 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	940	3.1	100		mg/L	100	12/14/2011 10:14 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.9	0.060	2.5		mg/L	5	12/14/2011 10:26 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

CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-003

Client Sample ID: MW-63-065-007
Collection Date: 12/12/2011 1:18:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/14/2011 11:02 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	1800	7.0	250		mg/L	500	12/14/2011 08:42 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.020	2.5		mg/L	5	12/14/2011 09:06 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.12	10		mg/L	20	12/14/2011 10:37 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.050	0.20		mg/L	2	12/14/2011 11:02 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	580	1.6	50		mg/L	50	12/14/2011 08:54 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	1.3	0.024	1.0		mg/L	2	12/14/2011 11:02 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

CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-006

Client Sample ID: MW-23-060-007
Collection Date: 12/13/2011 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/14/2011 03:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	5700	14	500		mg/L	1000	12/14/2011 02:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.040	5.0		mg/L	10	12/14/2011 05:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.60	50		mg/L	100	12/14/2011 02:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/14/2011 03:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	640	3.1	100		mg/L	100	12/14/2011 02:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	5.0	0.060	2.5		mg/L	5	12/14/2011 03:04 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

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CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-007

Client Sample ID: MW-62-065-007
Collection Date: 12/13/2011 11:33:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/14/2011 06:46 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	1800	7.0	250		mg/L	500	12/14/2011 11:02 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	3.4	0.0080	1.0		mg/L	2	12/14/2011 06:46 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/14/2011 11:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.050	0.20		mg/L	2	12/14/2011 06:46 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	400	1.6	50		mg/L	50	12/14/2011 11:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.6	0.024	1.0		mg/L	2	12/14/2011 06:46 PM

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out
E Value above quantitation range
ND Not Detected at the Reporting Limit
Results are wet unless otherwise specified

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82779_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82779_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.466	0.50	2.500	0	98.6	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.084	0.50						0.09600	0	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.449	0.50	2.500	0.09600	94.1	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	13.240	2.5	12.50	1.070	97.4	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

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	13.265	2.5	12.50	1.070	97.6	80	120	13.24	0.189	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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82779_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82779_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.359	0.50	2.500	0	94.4	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	94.780	10						97.42	2.75	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	146.600	10	50.00	97.42	98.4	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8067.000	500	2500	5710	94.3	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8045.000	500	2500	5710	93.4	80	120	8067	0.273	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82779_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82779_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.398	0.50	2.500	0	95.9	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.488	0.50						0.5210	0	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.982	0.50	2.500	0.5210	98.4	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	26.930	5.0	25.00	0	108	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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	27.750	5.0	25.00	0	111	80	120	26.93	3.00	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R82779_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R82779_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.384	0.50	2.500	0	95.4	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50						0	0	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.864	0.50	2.500	0	115	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	285.200	50	250.0	0	114	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	286.100	50	250.0	0	114	80	120	285.2	0.315	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **MB-R82779_PO4** SampType: **MBLK** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **PBW** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.10									

Sample ID: **LCS-R82779_PO4** SampType: **LCS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **LCSW** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	2.383	0.10	2.500	0	95.3	90	110				

Sample ID: **N007015-002CDUP** SampType: **DUP** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.10						0	0	20	

Sample ID: **N007015-002CMS** SampType: **MS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	2.515	0.10	2.500	0	101	80	120				

Sample ID: **N007014-006CMS** SampType: **MS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	8.025	0.50	12.50	0	64.2	80	120				S

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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	8.650	0.50	12.50	0	69.2	80	120	8.025	7.50	20	S

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82779_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82779_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.709	1.0	5.000	0	94.2	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	252.160	20						255.6	1.34	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	362.820	20	100.0	255.6	107	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1140.100	100	500.0	643.3	99.4	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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1130.200	100	500.0	643.3	97.4	80	120	1140	0.872	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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82779_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82779_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.385	0.50	2.500	0	95.4	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.327	0.50	2.500	0	93.1	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.380	2.5	12.50	5.015	98.9	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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.385	2.5	12.50	5.015	99.0	80	120	17.38	0.0288	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.11	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.18	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38641**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **LCSW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.064	0.10	1.000	0	106	85	115				

Sample ID: **MB-38641**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **PBW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007014-001D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.177	0.10	2.000	0.1140	103	75	125				

Sample ID: **N007014-001D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.176	0.10	2.000	0.1140	103	75	125	2.177	0.0459	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.

ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/5/2012 03:55 PM
Antimony	ND	11	20		ug/L	2	1/5/2012 03:55 PM
Barium	69	0.40	6.0		ug/L	2	1/5/2012 03:55 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/5/2012 03:55 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/5/2012 03:55 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/5/2012 03:55 PM
Copper	ND	1.1	10		ug/L	2	1/5/2012 03:55 PM
Iron	ND	29	40		ug/L	2	1/5/2012 03:55 PM
Lead	ND	2.9	20		ug/L	2	1/5/2012 03:55 PM
Manganese	ND	3.3	20		ug/L	2	1/5/2012 03:55 PM
Molybdenum	41	0.98	10		ug/L	2	1/5/2012 03:55 PM
Nickel	ND	2.3	10		ug/L	2	1/5/2012 03:55 PM
Silver	14	1.4	6.0		ug/L	2	1/9/2012 10:56 AM
Vanadium	19	0.38	6.0		ug/L	2	1/5/2012 03:55 PM
Zinc	ND	9.2	20		ug/L	2	1/5/2012 03:55 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	780	0.23	1.0		mg/L	2	1/5/2012 03:55 PM
Magnesium	1.8	0.013	0.20		mg/L	2	1/5/2012 03:55 PM
Potassium	52	1.5	12		mg/L	25	1/7/2012 01:00 PM
Sodium	3100	12	50		mg/L	100	1/7/2012 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-002

Client Sample ID: MW-23-080-007
Collection Date: 12/12/2011 3:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/5/2012 03:59 PM
Antimony	ND	11	20		ug/L	2	1/5/2012 03:59 PM
Barium	67	0.40	6.0		ug/L	2	1/5/2012 03:59 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/5/2012 03:59 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/5/2012 03:59 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/5/2012 03:59 PM
Copper	ND	1.1	10		ug/L	2	1/5/2012 03:59 PM
Iron	ND	29	40		ug/L	2	1/5/2012 03:59 PM
Lead	ND	2.9	20		ug/L	2	1/5/2012 03:59 PM
Manganese	ND	3.3	20		ug/L	2	1/5/2012 03:59 PM
Molybdenum	41	0.98	10		ug/L	2	1/5/2012 03:59 PM
Nickel	ND	2.3	10		ug/L	2	1/5/2012 03:59 PM
Silver	14	1.4	6.0		ug/L	2	1/9/2012 11:01 AM
Vanadium	19	0.38	6.0		ug/L	2	1/5/2012 03:59 PM
Zinc	ND	9.2	20		ug/L	2	1/5/2012 03:59 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	760	0.23	1.0		mg/L	2	1/5/2012 03:59 PM
Magnesium	1.5	0.013	0.20		mg/L	2	1/5/2012 03:59 PM
Potassium	51	1.5	12		mg/L	25	1/7/2012 01:06 PM
Sodium	3100	12	50		mg/L	100	1/7/2012 01:03 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		

Advanced Technology Laboratories, Inc.

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CLIENT: CH2M HILL
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-003

Client Sample ID: MW-63-065-007
Collection Date: 12/12/2011 1:18:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	270	8.4	50		ug/L	1	1/9/2012 03:33 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 03:33 PM
Barium	40	0.20	3.0		ug/L	1	1/9/2012 03:33 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 03:33 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 03:33 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 03:33 PM
Copper	11	0.53	5.0		ug/L	1	1/9/2012 03:33 PM
Iron	510	14	20		ug/L	1	1/9/2012 03:33 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 03:33 PM
Manganese	51	1.7	10		ug/L	1	1/9/2012 03:33 PM
Molybdenum	21	0.49	5.0		ug/L	1	1/9/2012 03:33 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 03:33 PM
Silver	3.3	0.72	3.0		ug/L	1	1/9/2012 12:34 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 03:33 PM
Zinc	73	4.6	10		ug/L	1	1/9/2012 03:33 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	180	0.12	0.50		mg/L	1	1/9/2012 03:33 PM
Magnesium	20	0.0063	0.10		mg/L	1	1/9/2012 03:33 PM
Potassium	17	0.62	5.0		mg/L	10	1/7/2012 02:35 PM
Sodium	1100	6.0	25		mg/L	50	1/7/2012 01:19 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
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-006

Client Sample ID: MW-23-060-007
Collection Date: 12/13/2011 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/5/2012 04:32 PM
Antimony	ND	11	20		ug/L	2	1/5/2012 04:32 PM
Barium	130	0.40	6.0		ug/L	2	1/5/2012 04:32 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/5/2012 04:32 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/5/2012 04:32 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/5/2012 04:32 PM
Copper	ND	1.1	10		ug/L	2	1/5/2012 04:32 PM
Iron	ND	29	40		ug/L	2	1/5/2012 04:32 PM
Lead	ND	2.9	20		ug/L	2	1/5/2012 04:32 PM
Manganese	ND	3.3	20		ug/L	2	1/5/2012 04:32 PM
Molybdenum	12	0.98	10		ug/L	2	1/5/2012 04:32 PM
Nickel	ND	2.3	10		ug/L	2	1/5/2012 04:32 PM
Silver	15	1.4	6.0		ug/L	2	1/9/2012 11:22 AM
Vanadium	ND	0.38	6.0		ug/L	2	1/5/2012 04:32 PM
Zinc	ND	9.2	20		ug/L	2	1/5/2012 04:32 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	830	0.23	1.0		mg/L	2	1/5/2012 04:32 PM
Magnesium	28	0.013	0.20		mg/L	2	1/5/2012 04:32 PM
Potassium	57	1.5	12		mg/L	25	1/7/2012 02:58 PM
Sodium	2900	12	50		mg/L	100	1/7/2012 01:29 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
Lab Order: N007014
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007014-007

Client Sample ID: MW-62-065-007
Collection Date: 12/13/2011 11:33:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 03:51 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 03:51 PM
Barium	39	0.20	3.0		ug/L	1	1/9/2012 03:51 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 03:51 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 03:51 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 03:51 PM
Copper	5.2	0.53	5.0		ug/L	1	1/9/2012 03:51 PM
Iron	ND	14	20		ug/L	1	1/9/2012 03:51 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 03:51 PM
Manganese	ND	1.7	10		ug/L	1	1/9/2012 03:51 PM
Molybdenum	12	0.49	5.0		ug/L	1	1/9/2012 03:51 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 03:51 PM
Silver	4.4	0.72	3.0		ug/L	1	1/9/2012 12:59 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 03:51 PM
Zinc	100	4.6	10		ug/L	1	1/9/2012 03:51 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	230	0.12	0.50		mg/L	1	1/9/2012 03:51 PM
Magnesium	27	0.0063	0.10		mg/L	1	1/9/2012 03:51 PM
Potassium	25	0.62	5.0		mg/L	10	1/7/2012 03:01 PM
Sodium	1100	6.0	25		mg/L	50	1/7/2012 01:32 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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Antimony	ND	10									
Barium	ND	3.0									
Beryllium	ND	1.0									
Cadmium	ND	3.0									
Cobalt	ND	3.0									
Copper	ND	5.0									
Iron	ND	20									
Lead	ND	10									
Manganese	3.845	10									
Molybdenum	1.607	5.0									
Nickel	ND	5.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1024.087	50	1000	0	102	85	115				
Antimony	50.353	10	50.00	0	101	85	115				
Barium	51.204	3.0	50.00	0	102	85	115				
Beryllium	9.766	1.0	10.00	0	97.7	85	115				
Cadmium	9.017	3.0	10.00	0	90.2	85	115				
Cobalt	9.922	3.0	10.00	0	99.2	85	115				
Copper	10.002	5.0	10.00	0	100	85	115				
Iron	56.492	20	50.00	0	113	85	115				
Lead	51.112	10	50.00	0	102	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

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	46.710	10	50.00	0	93.4	85	115				
Molybdenum	50.287	5.0	50.00	0	101	85	115				
Nickel	46.067	5.0	50.00	0	92.1	85	115				
Vanadium	9.605	3.0	10.00	0	96.1	85	115				
Zinc	51.788	10	50.00	0	104	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1116.714	100	1000	0	112	75	125				
Antimony	47.681	20	50.00	0	95.4	75	125				
Barium	123.049	6.0	50.00	67.10	112	75	125				
Beryllium	9.060	2.0	10.00	0	90.6	75	125				
Cadmium	2.961	6.0	10.00	0	29.6	75	125				S
Cobalt	4.393	6.0	10.00	0	43.9	75	125				S
Copper	11.723	10	10.00	1.181	105	75	125				
Iron	37.571	40	50.00	0	75.1	75	125				
Lead	35.828	20	50.00	0	71.7	75	125				S
Manganese	48.690	20	50.00	7.732	81.9	75	125				
Molybdenum	92.440	10	50.00	40.97	103	75	125				
Nickel	32.885	10	50.00	0	65.8	75	125				S
Vanadium	31.041	6.0	10.00	19.02	120	75	125				
Zinc	48.642	20	50.00	0	97.3	75	125				

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1115.869	100	1000	0	112	75	125	1117	0.0757	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	43.550	20	50.00	0	87.1	75	125	47.68	9.06	20	
Barium	122.772	6.0	50.00	67.10	111	75	125	123.0	0.225	20	
Beryllium	9.090	2.0	10.00	0	90.9	75	125	9.060	0.335	20	
Cadmium	2.717	6.0	10.00	0	27.2	75	125	2.961	0	20	S
Cobalt	4.422	6.0	10.00	0	44.2	75	125	4.393	0	20	S
Copper	11.726	10	10.00	1.181	105	75	125	11.72	0.0246	20	
Iron	36.869	40	50.00	0	73.7	75	125	37.57	0	20	S
Lead	36.305	20	50.00	0	72.6	75	125	35.83	1.32	20	S
Manganese	48.737	20	50.00	7.732	82.0	75	125	48.69	0.0959	20	
Molybdenum	92.160	10	50.00	40.97	102	75	125	92.44	0.304	20	
Nickel	31.944	10	50.00	0	63.9	75	125	32.88	2.90	20	S
Vanadium	31.047	6.0	10.00	19.02	120	75	125	31.04	0.0196	20	
Zinc	49.120	20	50.00	0	98.2	75	125	48.64	0.977	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	3.0									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	9.938	3.0	10.00	0	99.4	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.
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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	24.698	6.0	10.00	13.86	108	75	125				

Sample ID: **N007014-002B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	25.553	6.0	10.00	13.86	117	75	125	24.70	3.40	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.017	0.50	1.000	0	102	85	115				
Magnesium	1.008	0.10	1.000	0	101	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	795.029	1.0	1.000	757.9	3720	75	125				S
Magnesium	2.439	0.20	1.000	1.453	98.6	75	125				

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	799.140	1.0	1.000	757.9	4130	75	125	795.0	0.516	20	S
Magnesium	2.443	0.20	1.000	1.453	99.0	75	125	2.439	0.137	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.102	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.339	0.50									

Sample ID: **LCS2-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.508	0.50	2.500	0	100	85	115				
Sodium	2.601	0.50	2.500	0	104	85	115				

Sample ID: **N007014-002B-MS2** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	76.644	12	15.00	51.20	170	75	125				S

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	77.024	12	15.00	51.20	172	75	125	76.64	0.494	20	S

Sample ID: **N007014-002B-MS2** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3130.107	50	15.00	3147	-115	75	125				S

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

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3226.793	50	15.00	3147	529	75	125	3130	3.04	20	S

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	3.3	0.012	0.50		µg/L	5	1/4/2012 12:40 AM
Chromium	8.5	0.16	0.50		µg/L	1	1/4/2012 12:46 AM
Selenium	5.3	1.4	2.5		µg/L	5	1/4/2012 04:18 PM
Thallium	ND	0.076	2.5		µg/L	5	1/4/2012 12:40 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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	3.3	0.012	0.50		µg/L	5	1/4/2012 01:04 AM
Chromium	8.5	0.16	0.50		µg/L	1	1/4/2012 01:16 AM
Selenium	4.8	1.4	2.5		µg/L	5	1/4/2012 04:30 PM
Thallium	ND	0.076	2.5		µg/L	5	1/4/2012 01:04 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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	1.5	0.0025	0.10		µg/L	1	1/4/2012 02:22 AM
Chromium	1.8	0.16	0.50		µg/L	1	1/4/2012 02:22 AM
Selenium	1.1	0.29	0.50		µg/L	1	1/4/2012 02:22 AM
Thallium	0.82	0.015	0.50		µg/L	1	1/4/2012 02:22 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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	2.2	0.012	0.50		µg/L	5	1/4/2012 03:34 AM
Chromium	26	0.16	0.50		µg/L	1	1/4/2012 03:40 AM
Selenium	4.7	1.4	2.5		µg/L	5	1/4/2012 03:34 AM
Thallium	ND	0.076	2.5		µg/L	5	1/4/2012 03:34 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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	0.98	0.0025	0.10		µg/L	1	1/4/2012 05:05 AM
Chromium	490	0.80	2.5		µg/L	5	1/4/2012 04:04 AM
Selenium	3.2	0.29	0.50		µg/L	1	1/4/2012 05:05 AM
Thallium	ND	0.015	0.50		µg/L	1	1/4/2012 05:05 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		

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38609**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **PBW**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1345997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.008	0.10									
Chromium	0.217	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38609**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **LCSW**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1345998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.261	0.10	10.00	0	92.6	85	115				
Chromium	10.487	0.50	10.00	0	105	85	115				
Selenium	8.867	0.50	10.00	0	88.7	85	115				
Thallium	10.563	0.50	10.00	0	106	85	115				

Sample ID: **N007014-004B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1346010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	11.693	2.5	10.00	0.5365	112	75	125				

Sample ID: **N007014-004B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1346011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.989	0.10	10.00	1.594	93.9	75	125				
Chromium	14.590	0.50	10.00	6.645	79.4	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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1346013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	11.751	2.5	10.00	0.5365	112	75	125	11.69	0.498	20	

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.798	0.10	10.00	1.594	92.0	75	125	10.99	1.75	20	
Chromium	14.610	0.50	10.00	6.645	79.7	75	125	14.59	0.140	20	

Sample ID: **N007014-004B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82813**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	16.424	2.5	10.00	7.644	87.8	75	125				

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82813**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	16.683	2.5	10.00	7.644	90.4	75	125	16.42	1.56	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

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-101-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:15:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 7470A							
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-080-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 3:08:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-63-065-007
Lab Order:	N007014	**Collection Date:**	12/12/2011 1:18:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-23-060-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 8:30:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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ANALYTICAL RESULTS

Print Date: ***10-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-065-007
Lab Order:	N007014	**Collection Date:**	12/13/2011 11:33:00 AM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007014-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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, Inc.

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CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: **LCS-38592**	SampType: **LCS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **LCSW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.895	0.20	5.000	0	97.9	85	115				

Sample ID: **MB-38592**	SampType: **MBLK**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **PBW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N006986-001B-MS**	SampType: **MS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.765	0.20	5.000	0	95.3	75	125				

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.896	0.20	5.000	0	97.9	75	125	4.765	2.70	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

CLIENT: CH2M HILL
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_DM_PGE

Sample ID: **LCS-38627_DRO** SampType: **LCS** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **LCSW** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel	719.369	50	1000	0	71.9	61	143				
Surr: Octacosane	73.934		80.00		92.4	26	152				
Surr: p-Terphenyl	71.451		80.00		89.3	57	132				

Sample ID: **LCS-38627_ORO** SampType: **LCS** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **LCSW** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Motor Oil	1171.240	50	1000	0	117	50	150				
Surr: Octacosane	96.680		80.00		121	26	152				
Surr: p-Terphenyl	93.924		80.00		117	57	132				

Sample ID: **LCSD-38627_ORO** SampType: **LCSD** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **LCSS02** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Motor Oil	1185.866	50	1000	0	119	50	150	1171	1.24	30	
Surr: Octacosane	88.496		80.00		111	26	152		0		
Surr: p-Terphenyl	91.994		80.00		115	57	132		0		

Sample ID: **MB-38627** SampType: **MBLK** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **PBW** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel	ND	50									
TPH-Motor Oil	18.727	50									
Surr: Octacosane	74.346		80.00		92.9	26	152				
Surr: p-Terphenyl	70.263		80.00		87.8	57	132				

Qualifiers:

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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

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015_W_DM_PGE

Sample ID: **N007013-001C-MS** SampType: **MS** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **ZZZZZZ** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel	862.427	51	1020	17.47	82.8	61	143				
Surr: Octacosane	82.098		81.63		101	26	152				
Surr: p-Terphenyl	79.441		81.63		97.3	57	132				

Sample ID: **N007013-001C-MSD** SampType: **MSD** TestCode: **8015_W_DM_** Units: **ug/L** Prep Date: **12/16/2011** RunNo: **82633**
Client ID: **ZZZZZZ** Batch ID: **38627** TestNo: **EPA 8015B** **EPA 3510C** Analysis Date: **12/20/2011** SeqNo: **1340303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH-Diesel	804.278	51	1020	17.47	77.1	61	143	862.4	6.98	30	
Surr: Octacosane	72.664		81.63		89.0	26	152		0		
Surr: p-Terphenyl	70.336		81.63		86.2	57	132		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

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Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.860	1.0	20.00	0	94.3	81	129				
1,1,1-Trichloroethane	16.820	1.0	20.00	0	84.1	67	132				
1,1,2,2-Tetrachloroethane	20.560	1.0	20.00	0	103	63	128				
1,1,2-Trichloroethane	19.210	1.0	20.00	0	96.0	75	125				
1,1-Dichloroethane	22.180	1.0	20.00	0	111	69	133				
1,1-Dichloroethene	22.140	1.0	20.00	0	111	68	130				
1,1-Dichloropropene	20.100	1.0	20.00	0	101	73	132				
1,2,3-Trichlorobenzene	20.180	1.0	20.00	0	101	67	137				
1,2,3-Trichloropropane	20.520	1.0	20.00	0	103	73	124				
1,2,4-Trichlorobenzene	20.530	1.0	20.00	0	103	66	134				
1,2,4-Trimethylbenzene	21.280	1.0	20.00	0	106	74	132				
1,2-Dibromo-3-chloropropane	18.790	2.0	20.00	0	94.0	50	132				
1,2-Dibromoethane	19.150	1.0	20.00	0	95.8	80	121				
1,2-Dichlorobenzene	19.800	1.0	20.00	0	99.0	71	122				
1,2-Dichloroethane	20.280	1.0	20.00	0	101	69	132				
1,2-Dichloropropane	18.950	1.0	20.00	0	94.8	75	125				
1,3,5-Trimethylbenzene	21.380	1.0	20.00	0	107	74	131				
1,3-Dichlorobenzene	20.210	1.0	20.00	0	101	75	124				
1,3-Dichloropropane	19.530	1.0	20.00	0	97.6	73	126				
1,4-Dichlorobenzene	19.880	1.0	20.00	0	99.4	74	123				
2,2-Dichloropropane	17.300	1.0	20.00	0	86.5	69	137				
2-Butanone	185.540	10	200.0	0	92.8	49	136				
2-Chlorotoluene	20.910	1.0	20.00	0	105	73	126				
4-Chlorotoluene	20.750	1.0	20.00	0	104	74	128				
4-Isopropyltoluene	21.310	1.0	20.00	0	107	73	130				
4-Methyl-2-pentanone	187.460	10	200.0	0	93.7	58	134				
Acetone	187.690	10	200.0	0	93.8	40	135				
Acrolein	181.760	20	200.0	0	90.9	75	125				
Acrylonitrile	183.060	20	200.0	0	91.5	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
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H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

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Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.120	1.0	20.00	0	101	81	122				
Bromobenzene	19.740	1.0	20.00	0	98.7	76	124				
Bromochloromethane	20.710	1.0	20.00	0	104	65	129				
Bromodichloromethane	17.330	1.0	20.00	0	86.7	76	121				
Bromoform	18.350	1.0	20.00	0	91.8	69	128				
Bromomethane	19.650	1.0	20.00	0	98.2	53	141				
Carbon disulfide	21.140	1.0	20.00	0	106	75	125				
Carbon tetrachloride	22.810	1.0	20.00	0	114	66	138				
Chlorobenzene	20.010	1.0	20.00	0	100	81	122				
Chloroethane	21.070	1.0	20.00	0	105	58	133				
Chloroform	20.940	1.0	20.00	0	105	69	128				
Chloromethane	20.510	1.0	20.00	0	103	56	131				
cis-1,2-Dichloroethene	21.650	1.0	20.00	0	108	72	126				
cis-1,3-Dichloropropene	19.740	1.0	20.00	0	98.7	69	131				
Dibromochloromethane	18.120	1.0	20.00	0	90.6	66	133				
Dibromomethane	20.880	1.0	20.00	0	104	76	125				
Dichlorodifluoromethane	21.300	1.0	20.00	0	106	53	153				
Ethylbenzene	20.370	1.0	20.00	0	102	73	127				
Freon-113	18.730	1.0	20.00	0	93.6	75	125				
Hexachlorobutadiene	21.420	1.0	20.00	0	107	67	131				
Isopropylbenzene	21.140	1.0	20.00	0	106	75	127				
m,p-Xylene	41.270	1.0	40.00	0	103	76	128				
Methylene chloride	20.630	5.0	20.00	0	103	63	137				
MTBE	18.920	1.0	20.00	0	94.6	65	123				
n-Butylbenzene	21.490	1.0	20.00	0	107	69	137				
n-Propylbenzene	21.270	1.0	20.00	0	106	72	129				
Naphthalene	19.460	1.0	20.00	0	97.3	54	138				
o-Xylene	20.680	1.0	20.00	0	103	80	121				
sec-Butylbenzene	21.090	1.0	20.00	0	105	72	127				
Styrene	20.670	1.0	20.00	0	103	65	134				

Qualifiers:

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- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
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- 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

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Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	20.990	1.0	20.00	0	105	70	129				
Tetrachloroethene	21.300	1.0	20.00	0	106	66	128				
Toluene	19.640	2.5	20.00	0	98.2	77	122				
trans-1,2-Dichloroethene	21.890	1.0	20.00	0	109	63	137				
trans-1,3-Dichloropropene	20.420	1.0	20.00	0	102	59	135				
Trichloroethene	19.320	1.0	20.00	0	96.6	70	127				
Trichlorofluoromethane	22.460	1.0	20.00	0	112	57	129				
Vinyl chloride	20.620	1.0	20.00	0	103	50	134				
Xylenes, Total	61.950	2.0	60.00	0	103	75	125				
Surr: 1,2-Dichloroethane-d4	24.510		25.00		98.0	72	119				
Surr: 4-Bromofluorobenzene	23.270		25.00		93.1	76	119				
Surr: Dibromofluoromethane	26.320		25.00		105	85	115				
Surr: Toluene-d8	23.270		25.00		93.1	81	120				

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.320	1.0	20.00	0	91.6	81	129				
1,1,1-Trichloroethane	16.640	1.0	20.00	0	83.2	67	132				
1,1,2,2-Tetrachloroethane	18.160	1.0	20.00	0	90.8	63	128				
1,1,2-Trichloroethane	17.160	1.0	20.00	0	85.8	75	125				
1,1-Dichloroethane	21.470	1.0	20.00	0	107	69	133				
1,1-Dichloroethene	21.850	1.0	20.00	0	109	68	130				
1,1-Dichloropropene	19.680	1.0	20.00	0	98.4	73	132				
1,2,3-Trichlorobenzene	18.710	1.0	20.00	0	93.6	67	137				
1,2,3-Trichloropropane	15.520	1.0	20.00	0	77.6	73	124				
1,2,4-Trichlorobenzene	19.530	1.0	20.00	0	97.6	66	134				
1,2,4-Trimethylbenzene	19.520	1.0	20.00	0	97.6	74	132				
1,2-Dibromo-3-chloropropane	15.840	2.0	20.00	0	79.2	50	132				

Qualifiers:

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- 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

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	16.870	1.0	20.00	0	84.4	80	121				
1,2-Dichlorobenzene	19.490	1.0	20.00	0	97.5	71	122				
1,2-Dichloroethane	18.480	1.0	20.00	0	92.4	69	132				
1,2-Dichloropropane	18.750	1.0	20.00	0	93.8	75	125				
1,3,5-Trimethylbenzene	20.850	1.0	20.00	0	104	74	131				
1,3-Dichlorobenzene	20.070	1.0	20.00	0	100	75	124				
1,3-Dichloropropane	17.930	1.0	20.00	0	89.7	73	126				
1,4-Dichlorobenzene	19.520	1.0	20.00	0	97.6	74	123				
2,2-Dichloropropane	17.030	1.0	20.00	0	85.2	69	137				
2-Butanone	96.960	10	200.0	0	48.5	49	136				S
2-Chlorotoluene	20.710	1.0	20.00	0	104	73	126				
4-Chlorotoluene	20.660	1.0	20.00	0	103	74	128				
4-Isopropyltoluene	21.020	1.0	20.00	0	105	73	130				
4-Methyl-2-pentanone	155.670	10	200.0	0	77.8	58	134				
Acetone	67.590	10	200.0	0	33.8	40	135				S
Acrolein	149.700	20	200.0	0	74.8	75	125				S
Acrylonitrile	151.590	20	200.0	0	75.8	75	125				
Benzene	19.850	1.0	20.00	0	99.2	81	122				
Bromobenzene	19.060	1.0	20.00	0	95.3	76	124				
Bromochloromethane	19.060	1.0	20.00	0	95.3	65	129				
Bromodichloromethane	16.420	1.0	20.00	0	82.1	76	121				
Bromoform	16.560	1.0	20.00	0	82.8	69	128				
Bromomethane	19.000	1.0	20.00	0	95.0	53	141				
Carbon disulfide	20.360	1.0	20.00	0	102	75	125				
Carbon tetrachloride	22.540	1.0	20.00	0	113	66	138				
Chlorobenzene	19.910	1.0	20.00	0	99.6	81	122				
Chloroethane	20.310	1.0	20.00	0	102	58	133				
Chloroform	20.350	1.0	20.00	0	102	69	128				
Chloromethane	19.870	1.0	20.00	0	99.4	56	131				
cis-1,2-Dichloroethene	21.240	1.0	20.00	0	106	72	126				

Qualifiers:

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- DO Surrogate Diluted Out

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Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	18.690	1.0	20.00	0	93.5	69	131				
Dibromochloromethane	16.780	1.0	20.00	0	83.9	66	133				
Dibromomethane	18.120	1.0	20.00	0	90.6	76	125				
Dichlorodifluoromethane	20.720	1.0	20.00	0	104	53	153				
Ethylbenzene	20.330	1.0	20.00	0	102	73	127				
Freon-113	18.090	1.0	20.00	0	90.4	75	125				
Hexachlorobutadiene	21.400	1.0	20.00	0	107	67	131				
Isopropylbenzene	21.070	1.0	20.00	0	105	75	127				
m,p-Xylene	40.850	1.0	40.00	0	102	76	128				
Methylene chloride	19.250	5.0	20.00	0	96.2	63	137				
MTBE	17.410	1.0	20.00	0	87.1	65	123				
n-Butylbenzene	21.380	1.0	20.00	0	107	69	137				
n-Propylbenzene	21.410	1.0	20.00	0	107	72	129				
Naphthalene	15.990	1.0	20.00	0	80.0	54	138				
o-Xylene	20.340	1.0	20.00	0	102	80	121				
sec-Butylbenzene	21.020	1.0	20.00	0	105	72	127				
Styrene	17.500	1.0	20.00	0	87.5	65	134				
tert-Butylbenzene	21.150	1.0	20.00	0	106	70	129				
Tetrachloroethene	21.440	1.0	20.00	0	107	66	128				
Toluene	19.140	2.5	20.00	0.5100	93.2	77	122				
trans-1,2-Dichloroethene	21.710	1.0	20.00	0	109	63	137				
trans-1,3-Dichloropropene	18.490	1.0	20.00	0	92.5	59	135				
Trichloroethene	18.940	1.0	20.00	0	94.7	70	127				
Trichlorofluoromethane	21.460	1.0	20.00	0	107	57	129				
Vinyl chloride	19.900	1.0	20.00	0	99.5	50	134				
Xylenes, Total	61.190	2.0	60.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	23.170		25.00		92.7	72	119				
Surr: 4-Bromofluorobenzene	24.490		25.00		98.0	76	119				
Surr: Dibromofluoromethane	27.070		25.00		108	85	115				
Surr: Toluene-d8	24.020		25.00		96.1	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

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.450	1.0	20.00	0	92.2	81	129	18.32	0.707	20	
1,1,1-Trichloroethane	16.740	1.0	20.00	0	83.7	67	132	16.64	0.599	20	
1,1,2,2-Tetrachloroethane	17.880	1.0	20.00	0	89.4	63	128	18.16	1.55	20	
1,1,2-Trichloroethane	16.760	1.0	20.00	0	83.8	75	125	17.16	2.36	20	
1,1-Dichloroethane	21.550	1.0	20.00	0	108	69	133	21.47	0.372	20	
1,1-Dichloroethene	21.530	1.0	20.00	0	108	68	130	21.85	1.48	20	
1,1-Dichloropropene	19.390	1.0	20.00	0	97.0	73	132	19.68	1.48	20	
1,2,3-Trichlorobenzene	19.130	1.0	20.00	0	95.7	67	137	18.71	2.22	20	
1,2,3-Trichloropropane	15.320	1.0	20.00	0	76.6	73	124	15.52	1.30	20	
1,2,4-Trichlorobenzene	20.040	1.0	20.00	0	100	66	134	19.53	2.58	20	
1,2,4-Trimethylbenzene	17.520	1.0	20.00	0	87.6	74	132	19.52	10.8	20	
1,2-Dibromo-3-chloropropane	15.700	2.0	20.00	0	78.5	50	132	15.84	0.888	20	
1,2-Dibromoethane	16.020	1.0	20.00	0	80.1	80	121	16.87	5.17	20	
1,2-Dichlorobenzene	19.770	1.0	20.00	0	98.8	71	122	19.49	1.43	20	
1,2-Dichloroethane	18.380	1.0	20.00	0	91.9	69	132	18.48	0.543	20	
1,2-Dichloropropane	18.870	1.0	20.00	0	94.4	75	125	18.75	0.638	20	
1,3,5-Trimethylbenzene	20.650	1.0	20.00	0	103	74	131	20.85	0.964	20	
1,3-Dichlorobenzene	20.730	1.0	20.00	0	104	75	124	20.07	3.24	20	
1,3-Dichloropropane	17.960	1.0	20.00	0	89.8	73	126	17.93	0.167	20	
1,4-Dichlorobenzene	19.890	1.0	20.00	0	99.4	74	123	19.52	1.88	20	
2,2-Dichloropropane	17.310	1.0	20.00	0	86.6	69	137	17.03	1.63	20	
2-Butanone	91.140	10	200.0	0	45.6	49	136	96.96	6.19	20	S
2-Chlorotoluene	21.110	1.0	20.00	0	106	73	126	20.71	1.91	20	
4-Chlorotoluene	21.110	1.0	20.00	0	106	74	128	20.66	2.15	20	
4-Isopropyltoluene	21.380	1.0	20.00	0	107	73	130	21.02	1.70	20	
4-Methyl-2-pentanone	147.930	10	200.0	0	74.0	58	134	155.7	5.10	20	
Acetone	63.860	10	200.0	0	31.9	40	135	67.59	5.68	20	S
Acrolein	140.630	20	200.0	0	70.3	75	125	149.7	6.25	20	S
Acrylonitrile	149.310	20	200.0	0	74.7	75	125	151.6	1.52	20	S
Benzene	19.750	1.0	20.00	0	98.8	81	122	19.85	0.505	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.770	1.0	20.00	0	98.8	76	124	19.06	3.66	20	
Bromochloromethane	19.070	1.0	20.00	0	95.4	65	129	19.06	0.0525	20	
Bromodichloromethane	16.730	1.0	20.00	0	83.6	76	121	16.42	1.87	20	
Bromoform	16.030	1.0	20.00	0	80.2	69	128	16.56	3.25	20	
Bromomethane	18.800	1.0	20.00	0	94.0	53	141	19.00	1.06	20	
Carbon disulfide	20.560	1.0	20.00	0	103	75	125	20.36	0.978	20	
Carbon tetrachloride	22.950	1.0	20.00	0	115	66	138	22.54	1.80	20	
Chlorobenzene	20.110	1.0	20.00	0	101	81	122	19.91	1.00	20	
Chloroethane	19.850	1.0	20.00	0	99.2	58	133	20.31	2.29	20	
Chloroform	20.500	1.0	20.00	0	103	69	128	20.35	0.734	20	
Chloromethane	19.750	1.0	20.00	0	98.8	56	131	19.87	0.606	20	
cis-1,2-Dichloroethene	21.440	1.0	20.00	0	107	72	126	21.24	0.937	20	
cis-1,3-Dichloropropene	18.630	1.0	20.00	0	93.2	69	131	18.69	0.322	20	
Dibromochloromethane	16.820	1.0	20.00	0	84.1	66	133	16.78	0.238	20	
Dibromomethane	18.300	1.0	20.00	0	91.5	76	125	18.12	0.988	20	
Dichlorodifluoromethane	20.350	1.0	20.00	0	102	53	153	20.72	1.80	20	
Ethylbenzene	20.280	1.0	20.00	0	101	73	127	20.33	0.246	20	
Freon-113	18.300	1.0	20.00	0	91.5	75	125	18.09	1.15	20	
Hexachlorobutadiene	21.630	1.0	20.00	0	108	67	131	21.40	1.07	20	
Isopropylbenzene	21.480	1.0	20.00	0	107	75	127	21.07	1.93	20	
m,p-Xylene	40.340	1.0	40.00	0	101	76	128	40.85	1.26	20	
Methylene chloride	19.480	5.0	20.00	0	97.4	63	137	19.25	1.19	20	
MTBE	17.000	1.0	20.00	0	85.0	65	123	17.41	2.38	20	
n-Butylbenzene	21.710	1.0	20.00	0	109	69	137	21.38	1.53	20	
n-Propylbenzene	21.580	1.0	20.00	0	108	72	129	21.41	0.791	20	
Naphthalene	15.210	1.0	20.00	0	76.1	54	138	15.99	5.00	20	
o-Xylene	20.350	1.0	20.00	0	102	80	121	20.34	0.0492	20	
sec-Butylbenzene	21.350	1.0	20.00	0	107	72	127	21.02	1.56	20	
Styrene	13.160	1.0	20.00	0	65.8	65	134	17.50	28.3	20	R
tert-Butylbenzene	21.470	1.0	20.00	0	107	70	129	21.15	1.50	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	21.620	1.0	20.00	0	108	66	128	21.44	0.836	20	
Toluene	19.040	2.5	20.00	0.5100	92.7	77	122	19.14	0.524	20	
trans-1,2-Dichloroethene	21.380	1.0	20.00	0	107	63	137	21.71	1.53	20	
trans-1,3-Dichloropropene	17.820	1.0	20.00	0	89.1	59	135	18.49	3.69	20	
Trichloroethene	19.120	1.0	20.00	0	95.6	70	127	18.94	0.946	20	
Trichlorofluoromethane	21.110	1.0	20.00	0	106	57	129	21.46	1.64	20	
Vinyl chloride	19.640	1.0	20.00	0	98.2	50	134	19.90	1.32	20	
Xylenes, Total	60.690	2.0	60.00	0	101	75	125	61.19	0.820	20	
Surr: 1,2-Dichloroethane-d4	23.230		25.00		92.9	72	119		0		
Surr: 4-Bromofluorobenzene	24.230		25.00		96.9	76	119		0		
Surr: Dibromofluoromethane	27.420		25.00		110	85	115		0		
Surr: Toluene-d8	23.910		25.00		95.6	81	120		0		

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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	0.480	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	22.930		25.00		91.7	72	119				
Surr: 4-Bromofluorobenzene	24.710		25.00		98.8	76	119				
Surr: Dibromofluoromethane	23.690		25.00		94.8	85	115				
Surr: Toluene-d8	25.750		25.00		103	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
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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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

ER-007 ATL #1

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:01:41 PM

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470Ad is) Field Filtered Title 22 metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	VOCs (SW8260B)		Number of Containers	COMMENTS
Container:				1Liter Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	5 X 1L Amber	3-40ml vials			
Preservatives:				4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	4°C	HCL,4°C			
Filtered:				NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Holding Time:				30	28	180	180	180	180	2	2	2	2	2	28	28	7	14			
MW-101-007	12/12/2011	15:15	Water	X		X	X		X	X	X	X	X	X	X	X			N1007014-1	10	
MW-23-080-007	12/12/2011	15:08	Water	X		X	X		X	X	X	X	X	X	X	X			-2	10	
MW-63-065-007	12/12/2011	13:18	Water	X		X	X		X	X	X	X	X	X	X	X			-3	10	
MW-64BR-UPR-150-0	12/12/2011	15:00	Water	X	X	X	X	X	X	X	X	X	X	X	X	X		X	-4	14	
MW-70-105-007	12/12/2011	11:56	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		-5	13	
MW-23-060-007	12/13/2011	8:30	Water	X		X	X		X	X	X	X	X	X	X	X			-6	10	
MW-62-065-007	12/13/2011	11:33	Water	X		X	X		X	X	X	X	X	X	X	X			-7	10	
																		TOTAL NUMBER OF CONTAINERS		77	

	Signatures	Date/Time
Approved by		12/13/11 1715
Sampled by		
Relinquished by	PMGalaney	12/13/11/1715
Received by	MGalaney	12/13/11 1933
Relinquished by	MSCARLIN	12/13/11 1933
Received by		

Shipping Details

Method of Shipment: courier
On Ice: (yes) no 1.8, 2.2, 2.4, 2.6, 3.4
Airbill No: 1R#2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

128

ER-007 ATL #1

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:01:41 PM

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy

Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 4

			Container:	1Liter Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	5 X 1L Amber	3-40ml vials		
			Preservatives:	4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	4°C	HCL,4°C		
			Filtered:	NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA		
			Holding Time:	30	28	180	180	180	180	2	2	2	2	2	28	28	7	14		
	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470Ad is) Field Filtered Title 22 metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	VOCs (SW8260B)	Number of Containers	COMMENTS
MW-101-007 ✓	12/12/2011	15:15	Water	X		X	X		X	X	X	X	X	X	X	X			10	
MW-23-080-007 ✓	12/12/2011	15:08	Water	X		X	X		X	X	X	X	X	X	X	X			10	
MW-63-065-007 ✓	12/12/2011	13:18	Water	X		X	X		X	X	X	X	X	X	X	X			10	
✓ MW-64BR-UPR-150-0	12/12/2011	15:00	Water	X	X	X	X	X	X	X	X	X	X	X	X	X		X	14	
MW-70-105-007 ✓	12/12/2011	11:56	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X		13	
MW-23-060-007 ✓	12/13/2011	8:30	Water	X		X	X		X	X	X	X	X	X	X	X			10	
MW-62-065-007 ✓	12/13/2011	11:33	Water	X		X	X		X	X	X	X	X	X	X	X			10	
																		TOTAL NUMBER OF CONTAINERS	77	

	Signatures	Date/Time
Approved by		
Sampled by		
Relinquished by	[signature]	12/13/11 1715
Received by	[signature] P M Galaney	12/13/11/1715
Relinquished by	[signature] P M Galaney	12/13/11 1933
Received by	MBCARTIN [signature]	12/13/11@1933

Shipping Details

Method of Shipment: courier
On Ice: (yes) no 1.8, 2.2, 2.8, 2.6, 3.4
Airbill No: IR#2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Advanced Technology Laboratories, Inc.

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:	12/14/2011	Workorder:	N007014
Rep sample Temp (Deg C):	1.8, 2.2, 2.8, 2.6, 3.4	IR Gun ID:	2
Temp Blank:	☐ Yes ☑ No		
Carrier name:	ATL		
Last 4 digits of Tracking No.:	na	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample MW-64BR-UPR-150-0 is missing character by the end. Sample ID should end by -007 as specified in the label and was confirmed by client. See correspondence.

Checklist Completed B MBC 12/14/11 Reviewed By:

CLIENT CORRESPONDENCE LOG

DATE: 12/14/2011 1:02:08 PM

Client Name: -CH2M HILL-OAKLAND

ATL Workorder No.: N007014

DATE	CONTACT	CALL IN/OUT	ISSUE / PROBLEM	COMMENTS/CORRECTIVE ACTION	INITIAL
12/14/2011 12:59:5	B. Collom	OUT	MW-64BR-UPR-150-0 should end with -007 as observed in sample label.	Client confirmed.	marlonc 12/14/11

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 **N007014-001C,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(15.9950-15.8901)*1000000}{10}$$

$$= 10490 \text{ mg/L}$$

Reporting result in two significant figures,

$$\text{TDS} = 10000 \text{ mg/L}$$

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: Water

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N007014-001C,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4698-1.4680)*1000000}{1000}$$

$$= 1.8$$

Reporting result in two significant figures,

TSS = 1.8 mg/L

Since reporting limit is 1.0 mg/L, therefore:

TSS = ND

m 1/9/12

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:

$$Cr^{+6}, \mu g/L = A * DF$$

where:

A = ug/L, IC Cr^{+6} calculated concentration
DF = dilution factor

For N007014-004G, concentration in µg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 1.357047 * 5$$

$$= 6.785235 \mu g/L$$

Reporting results in two significant figures,

$$Cr^{+6}, \mu g/L = 6.8$$

Sample ID: **N007014-001C @ pH 10.69**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.25mL)

= **0.02041 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (2.45) (0.02041N) (1) * 1000

= **50.0 mg/L**

Reporting results in two significant figures,

= **50 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (1.50) (0.02041N) (1) * 1000

= **30.615**

Reporting results in two significant figures,

= **31 mg/L** as CaCO3

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (2.45mL) (0.02041) (1) * 1000

= **50.0 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	OH Alkalinity as $CaCO_3$	CO_3 Alkalinity as $CaCO_3$	HCO_3 Alkalinity as $CaCO_3$
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ =11.23

CO_3 Alkalinity as $CaCO_3$ = **38.77**

HCO_3 Alkalinity as $CaCO_3$ = **50.0 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **11**

CO_3 Alkalinity as $CaCO_3$ = **39**

HCO_3 Alkalinity as $CaCO_3$ = **50 mg/L**

ns fw
11/7/12

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 **N007014-001C**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	5.550 * 1000
	=	5550 mg/L

Reporting **N007014-001C**, results in two significant figures,

Chloride, mg/L	**=**	**5600 mg/L**

mx 1/9/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007014-001D,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 0.114 *1

= 0.114 mg/L

Reporting result in two significant figures,

Ammonia as N = 0.11 mg/L

NS fc
1/7/12

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 N007014-001B, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.01508 \frac{mg/L * 0.025\ L * 1000}{0.025\ L} \times 2$$

Fe = 15.08 ug/L x 2 = 30.2 ug/L

NS for 1/10/12

Reporting result in two significant figures,
Result is below the reporting limit therefore,

Fe =ND

for 1/10/2012

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/5/2012**	**Units:**	**ug/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007014-002B**
Batch # : **38650**

Analyte	A	B	Difference	% D
Barium	67.1	44.736	22.36400	33.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @2x dilution
B= ug/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/5/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007014-002B**
Batch # : **38650**

Analyte	A	B	Difference	% D
Calcium	757.9	740.671	17.22900	2.3
Magnesium	1.453	1.447	0.00600	0.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @2x dilution
B= mg/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/7/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007014-002B**
Batch # : **38650**

Analyte	A	B	Difference	% D
Sodium	3147	2730.168	416.83200	13.2

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002BDT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	44.736	30						67.10	40.0	10	R

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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1345110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	740.671	5.0						757.9	2.29	10	
Magnesium	1.447	1.0						1.453	0.424	10	

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012	SeqNo: 1346136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2730.168	250						3147	14.2	10	R

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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 5**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	51559.791	250	50000	0	103	75	125				
Antimony	2550.950	50	2500	0	102	75	125				
Barium	2545.360	15	2500	67.10	99.1	75	125				
Beryllium	2559.986	5.0	2500	0	102	75	125				
Cadmium	2500.481	15	2500	0	100	75	125				
Cobalt	2455.434	15	2500	0	98.2	75	125				
Copper	2557.588	25	2500	1.181	102	75	125				
Iron	48655.281	100	50000	0	97.3	75	125				
Lead	2426.578	50	2500	0	97.1	75	125				
Manganese	4807.678	50	5000	7.732	96.0	75	125				
Molybdenum	2557.925	25	2500	40.97	101	75	125				
Nickel	2571.813	25	2500	0	103	75	125				
Vanadium	2546.522	15	2500	19.02	101	75	125				
Zinc	2536.715	50	2500	0	101	75	125				

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	1047.188	6.0	1000	13.86	103	75	125				

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20475.809	100	20000	0	102	75	125				
Antimony	1025.724	20	1000	0	103	75	125				
Barium	1023.568	6.0	1000	0	102	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		

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	984.980	2.0	1000	0	98.5	75	125				
Cadmium	951.398	6.0	1000	0	95.1	75	125				
Cobalt	930.015	6.0	1000	0	93.0	75	125				
Copper	1021.894	10	1000	0	102	75	125				
Iron	18371.607	40	20000	0	91.9	75	125				
Lead	909.673	20	1000	0	91.0	75	125				
Manganese	1859.287	20	2000	3.845	92.8	75	125				
Molybdenum	1008.322	10	1000	1.607	101	75	125				
Nickel	964.968	10	1000	0	96.5	75	125				
Selenium	998.746	20	1000	0	99.9	75	125				
Vanadium	998.188	6.0	1000	0	99.8	75	125				
Zinc	968.760	20	1000	0	96.9	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: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007014-002B-PS 5	SampType: PS	TestCode: 6010_WDPGE	Units: mg/L	Prep Date:			RunNo: 82791			
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012			SeqNo: 1345115			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	805.510	2.5	50.00	757.9	95.3	75	125				
Magnesium	49.243	0.50	50.00	1.453	95.6	75	125				

Sample ID: N007014-002B-PS 1	SampType: PS	TestCode: 6010_WDPGE	Units: mg/L	Prep Date:			RunNo: 82791			
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012			SeqNo: 1346161			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	310.200	50	250.0	51.20	104	75	125				

Sample ID: N007014-002B-PS 5	SampType: PS	TestCode: 6010_WDPGE	Units: mg/L	Prep Date:			RunNo: 82791			
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012			SeqNo: 1346162			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	13707.320	250	12500	3147	84.5	75	125				

Sample ID: N007014-002B-PS 2	SampType: PS	TestCode: 6010_WDPGE	Units: mg/L	Prep Date:			RunNo: 82791			
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/9/2012			SeqNo: 1346727			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	815.182	1.0	20.00	757.9	287	75	125				S
Magnesium	19.030	0.20	20.00	1.453	87.9	75	125				

DTofCa @ 10x in within acceptance criteria

NS for 1/10/12

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 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 **N007012-001B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 0.669 * 5 * (25/25)

= 3.345. ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 3.3

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007014
Test Method: EPA 6020
Analysis Date: 01/03/12

Matrix: Water
Batch No.: 38609

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to As,Se & Tl. The calc. Values were < 25X the RL. PS @ 2x & 5x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007014-004B DT 5X	Chromium	µg/L	7.236309025	PASS	6.645276212	-8.89%	10
N007014-004B DT 5X	Arsenic	µg/L	1.775450326	NA	1.593677686	-11.41%	10
N007014-004B DT 25X	Selenium	µg/L	8.47262997	NA	7.643825978	-10.84%	10
N007014-004B DT 25X	Thallium	µg/L	0	NA	0.53654532	100.00%	10

1/9/12

CLIENT: CH2M HILL
Work Order: N007014
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N007014-004B-PS 5	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82808
Client ID: ZZZZZZ	Batch ID: 38609	TestNo: EPA 6020	EPA 3010A	Analysis Date: 1/3/2012	SeqNo: 1346002

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	53.372	2.5	50.00	7.644	91.5	75	125				
Thallium	55.643	2.5	50.00	0.5365	110	75	125				

Sample ID: N007014-004B-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82808
Client ID: ZZZZZZ	Batch ID: 38609	TestNo: EPA 6020	EPA 3010A	Analysis Date: 1/3/2012	SeqNo: 1346003

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.011	0.20	20.00	1.594	97.1	75	125				
Chromium	25.521	1.0	20.00	6.645	94.4	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 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 **N007014-001B**, 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	=	**0.0**

Mercury, ug/L	=	**ND**

M 1/4/12

SAMPLE CALCULATION

METHOD: EPA 8015B
TEST NAME: Diesel Range Organics by GC/FID
MATRIX: Water

FORMULA:

Calculate the TPH-Diesel concentration, in ug/L, in the original sample as follows:

$$\text{TPH-Diesel, ug/mL} = \frac{A * 1mL * DF}{B}$$

Where:

A = ug/mL, GC TPH-Diesel calculated concentration
B = volume of sample in L
DF = Dilution factor

For **N007014-005F,** concentration in ug/L is calculated as follows:

$$\text{TPH-Diesel, ug/L} = \frac{27.729 ug/mL * 1mL * 1}{0.97\ L}$$

$$= 28.5865\ ug/L$$

Reporting result in two significant figures,

TPH-Diesel, ug/L = 29 ug/L = ND

Note: The calculated value is below PQL, thus it was reported as ND (none detected)

NS for
1/10/12

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

N007014-004F

For 1,2-Dichloroethane-d4 the corresponding Internal Standard is Pentafluorobenzene

Ave RF	0.339
Area of 1,2-Dichloroethane-d4	107720
Area of Internal Standard	384129
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of 1,2-Dichloroethane-d4 (ug/L)} = \frac{107720 * 25.00 ug/L}{0.339 * 384129}$$

Conc of 1,2-Dichloroethane-d4 (ug/L)= 20.68042976

Reporting result in three significant figures,

Concentration of 1,2-Dichloroethane-d4 = 20.7 ug/L

MS 12/27/11

January 11, 2012

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.: N007015

RE: PG&E Topock, 423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 14, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

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 were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium and Sodium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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Advanced Technology Laboratories, Inc.

Date: *11-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock, 423575.MP.02.GM.0
Lab Order: N007015
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007015-001A	MW-100-183	Water	12/12/2011 2:53:00 PM	12/14/2011	
N007015-001B	MW-100-183	Water	12/12/2011 2:53:00 PM	12/14/2011	
N007015-001C	MW-100-183	Water	12/12/2011 2:53:00 PM	12/14/2011	
N007015-002A	MW-28-025-183	Water	12/12/2011 1:14:00 PM	12/14/2011	
N007015-002B	MW-28-025-183	Water	12/12/2011 1:14:00 PM	12/14/2011	
N007015-002C	MW-28-025-183	Water	12/12/2011 1:14:00 PM	12/14/2011	
N007015-002D	MW-28-025-183	Water	12/12/2011 1:14:00 PM	12/14/2011	
N007015-003A	MW-28-090-183	Water	12/12/2011 2:22:00 PM	12/14/2011	
N007015-003B	MW-28-090-183	Water	12/12/2011 2:22:00 PM	12/14/2011	
N007015-003C	MW-28-090-183	Water	12/12/2011 2:22:00 PM	12/14/2011	
N007015-003D	MW-28-090-183	Water	12/12/2011 2:22:00 PM	12/14/2011	
N007015-004A	MW-33-040-183	Water	12/12/2011 3:38:00 PM	12/14/2011	
N007015-004B	MW-33-040-183	Water	12/12/2011 3:38:00 PM	12/14/2011	
N007015-004C	MW-33-040-183	Water	12/12/2011 3:38:00 PM	12/14/2011	
N007015-004D	MW-33-040-183	Water	12/12/2011 3:38:00 PM	12/14/2011	
N007015-005A	PM-03-183	Water	12/12/2011 1:19:00 PM	12/14/2011	
N007015-005B	PM-03-183	Water	12/12/2011 1:19:00 PM	12/14/2011	
N007015-005C	PM-03-183	Water	12/12/2011 1:19:00 PM	12/14/2011	
N007015-005D	PM-03-183	Water	12/12/2011 1:19:00 PM	12/14/2011	
N007015-006A	PM-04-183	Water	12/12/2011 1:57:00 PM	12/14/2011	
N007015-006B	PM-04-183	Water	12/12/2011 1:57:00 PM	12/14/2011	
N007015-006C	PM-04-183	Water	12/12/2011 1:57:00 PM	12/14/2011	
N007015-006D	PM-04-183	Water	12/12/2011 1:57:00 PM	12/14/2011	
N007015-007A	TW-02D-183	Water	12/12/2011 3:26:00 PM	12/14/2011	
N007015-007B	TW-02D-183	Water	12/12/2011 3:26:00 PM	12/14/2011	
N007015-007C	TW-02D-183	Water	12/12/2011 3:26:00 PM	12/14/2011	
N007015-008A	TW-02S-183	Water	12/12/2011 2:53:00 PM	12/14/2011	
N007015-008B	TW-02S-183	Water	12/12/2011 2:53:00 PM	12/14/2011	
N007015-008C	TW-02S-183	Water	12/12/2011 2:53:00 PM	12/14/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock, 423575.MP.02.GM.0
Lab Order: N007015
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007015-009A	MW-33-090-183	Water	12/13/2011 12:06:00 PM	12/14/2011	
N007015-009B	MW-33-090-183	Water	12/13/2011 12:06:00 PM	12/14/2011	
N007015-009C	MW-33-090-183	Water	12/13/2011 12:06:00 PM	12/14/2011	
N007015-009D	MW-33-090-183	Water	12/13/2011 12:06:00 PM	12/14/2011	
N007015-010A	MW-33-150-183	Water	12/13/2011 9:05:00 AM	12/14/2011	
N007015-010B	MW-33-150-183	Water	12/13/2011 9:05:00 AM	12/14/2011	
N007015-010C	MW-33-150-183	Water	12/13/2011 9:05:00 AM	12/14/2011	
N007015-010D	MW-33-150-183	Water	12/13/2011 9:05:00 AM	12/14/2011	
N007015-011A	MW-33-210-183	Water	12/13/2011 10:14:00 AM	12/14/2011	
N007015-011B	MW-33-210-183	Water	12/13/2011 10:14:00 AM	12/14/2011	
N007015-011C	MW-33-210-183	Water	12/13/2011 10:14:00 AM	12/14/2011	
N007015-011D	MW-33-210-183	Water	12/13/2011 10:14:00 AM	12/14/2011	
N007015-012A	MW-46-175-183	Water	12/13/2011 4:02:00 PM	12/14/2011	
N007015-012B	MW-46-175-183	Water	12/13/2011 4:02:00 PM	12/14/2011	
N007015-012C	MW-46-175-183	Water	12/13/2011 4:02:00 PM	12/14/2011	
N007015-012D	MW-46-175-183	Water	12/13/2011 4:02:00 PM	12/14/2011	
N007015-013A	MW-46-205-183	Water	12/13/2011 2:16:00 PM	12/14/2011	
N007015-013B	MW-46-205-183	Water	12/13/2011 2:16:00 PM	12/14/2011	
N007015-013C	MW-46-205-183	Water	12/13/2011 2:16:00 PM	12/14/2011	
N007015-013D	MW-46-205-183	Water	12/13/2011 2:16:00 PM	12/14/2011	

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-100-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:53:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	2300	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-025-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:14:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	1200	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-090-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:22:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214D**	QC Batch: **R82783**			PrepDate:			Analyst: **CEI**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-040-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:38:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	9900	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-03-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:19:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	1400	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-04-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:57:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	1800	0.10	0.10		umhos/cm	1	12/14/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02D-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:26:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	9000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02S-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:53:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	2400	0.10	0.10		umhos/cm	1	12/14/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-090-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 12:06:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	10000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-150-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 9:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-210-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 10:14:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-175-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 4:02:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-205-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 2:16:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214E**	QC Batch: **R82784**			PrepDate:			Analyst: **CEI**
Specific Conductance	19000	0.10	0.10		umhos/cm	1	12/14/2011

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		

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82783**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82783**			
Client ID: **LCSW**	Batch ID: **R82783**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1344988**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9760.000	0.10	9986	0	97.7	85	115				

Sample ID: **N007015-003CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82783**			
Client ID: **ZZZZZZ**	Batch ID: **R82783**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1344999**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7370.000	0.10						7350	0.272	10	

Sample ID: **N007015-003CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82783**			
Client ID: **ZZZZZZ**	Batch ID: **R82783**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345000**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17500.000	0.20	9986	7350	102	75	125				

Sample ID: **N007015-003CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82783**			
Client ID: **ZZZZZZ**	Batch ID: **R82783**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345001**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17500.000	0.20	9986	7350	102	75	125	17500	0	10	

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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82784**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82784**
Client ID: **LCSW**	Batch ID: **R82784**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**	SeqNo: **1345002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9720.000	0.10	9986	0	97.3	85	115				

Sample ID: **N007015-013CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82784**
Client ID: **ZZZZZZ**	Batch ID: **R82784**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**	SeqNo: **1345013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	18910.000	0.10						18890	0.106	10	

Sample ID: **N007015-013CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82784**
Client ID: **ZZZZZZ**	Batch ID: **R82784**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**	SeqNo: **1345014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	30380.000	0.20	9986	18890	115	75	125				

Sample ID: **N007015-013CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82784**
Client ID: **ZZZZZZ**	Batch ID: **R82784**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**	SeqNo: **1345015**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	30400.000	0.20	9986	18890	115	75	125	30380	0.0658	10	

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

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-100-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:53:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	81	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	81	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-025-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:14:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-090-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:22:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	220	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	220	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-040-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:38:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	370	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	370	1.2	5.0		mg/L	1	12/14/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-03-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:19:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	89	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	89	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-04-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:57:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02D-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:26:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02S-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:53:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-090-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 12:06:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	67	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	67	1.2	5.0		mg/L	1	12/14/2011

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
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-010

Client Sample ID: MW-33-150-183
Collection Date: 12/13/2011 9:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	50	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	50	1.2	5.0		mg/L	1	12/14/2011

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	**Client Sample ID:**	MW-33-210-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 10:14:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	58	1.2	5.0		mg/L	1	12/14/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-175-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 4:02:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	48	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	48	1.2	5.0		mg/L	1	12/14/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-205-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 2:16:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111214C**	QC Batch: **R82759**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	47	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/14/2011
Alkalinity, Total (As CaCO3)	47	1.2	5.0		mg/L	1	12/14/2011

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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82759** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **LCSW** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.020	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	101.020	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82759** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **LCSS02** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.020	5.0	100.0	0	101	85	115	101.0	0	20	
Alkalinity, Total (As CaCO3)	101.020	5.0	100.0	0	101	85	115	101.0	0	20	

Sample ID: **MB-R82759** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **PBW** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007015-013C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82759**
Client ID: **ZZZZZZ** Batch ID: **R82759** TestNo: **SM 2320 B** Analysis Date: **12/14/2011** SeqNo: **1346119**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	45.918	5.0						46.94	2.20	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	45.918	5.0						46.94	2.20	30	

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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007015-013C-MS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82759**
Client ID: **ZZZZZZ**	Batch ID: **R82759**	TestNo: **SM 2320 B**		Analysis Date: **12/14/2011**	SeqNo: **1346120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	140.816	5.0	100.0	46.94	93.9	75	125				
Alkalinity, Total (As CaCO3)	142.857	5.0	100.0	46.94	95.9	75	125				

Sample ID: **N007015-013C-MSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82759**
Client ID: **ZZZZZZ**	Batch ID: **R82759**	TestNo: **SM 2320 B**		Analysis Date: **12/14/2011**	SeqNo: **1346121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	139.796	5.0	100.0	46.94	92.9	75	125	140.8	0.727	20	
Alkalinity, Total (As CaCO3)	141.837	5.0	100.0	46.94	94.9	75	125	142.9	0.717	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

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-001

Client Sample ID: MW-100-183
Collection Date: 12/12/2011 2:53:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	560	1.4	50		mg/L	100	12/14/2011 11:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	190	0.31	10		mg/L	10	12/15/2011 12:01 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.4	0.012	0.50		mg/L	1	12/14/2011 01:10 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-002

Client Sample ID: MW-28-025-183
Collection Date: 12/12/2011 1:14:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	97	0.28	10		mg/L	20	12/14/2011 03:22 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	260	0.62	20		mg/L	20	12/14/2011 03:22 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/14/2011 12:23 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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-003

Client Sample ID: MW-28-090-183
Collection Date: 12/12/2011 2:22:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	2100	7.0	250		mg/L	500	12/15/2011 12:12 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	2.6	0.020	2.5		mg/L	5	12/15/2011 12:35 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	630	1.6	50		mg/L	50	12/15/2011 12:24 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/14/2011 12:58 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

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-004

Client Sample ID: MW-33-040-183
Collection Date: 12/12/2011 3:38:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	2700	7.0	250		mg/L	500	12/15/2011 12:47 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	14	0.020	2.5		mg/L	5	12/15/2011 01:10 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	940	1.6	50		mg/L	50	12/15/2011 12:59 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/14/2011 02:08 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, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-005

Client Sample ID: PM-03-183
Collection Date: 12/12/2011 1:19:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	340	0.70	25		mg/L	50	12/15/2011 01:22 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	59	0.31	10		mg/L	10	12/15/2011 01:34 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.1	0.012	0.50		mg/L	1	12/14/2011 12:35 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		

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-006

Client Sample ID: PM-04-183
Collection Date: 12/12/2011 1:57:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	490	1.4	50		mg/L	100	12/15/2011 02:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	91	0.31	10		mg/L	10	12/15/2011 02:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	2.2	0.012	0.50		mg/L	1	12/14/2011 12:46 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

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-007

Client Sample ID: TW-02D-183
Collection Date: 12/12/2011 3:26:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	2800	7.0	250		mg/L	500	12/15/2011 02:32 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	560	1.6	50		mg/L	50	12/15/2011 02:44 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	1.5	0.024	1.0		mg/L	2	12/14/2011 01:56 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		

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-008

Client Sample ID: TW-02S-183
Collection Date: 12/12/2011 2:53:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	570	1.4	50		mg/L	100	12/15/2011 02:55 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	180	0.62	20		mg/L	20	12/15/2011 03:07 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.4	0.012	0.50		mg/L	1	12/14/2011 01:21 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		

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-009

Client Sample ID: MW-33-090-183
Collection Date: 12/13/2011 12:06:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	3100	14	500		mg/L	1000	12/15/2011 03:19 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	4.2	0.020	2.5		mg/L	5	12/14/2011 07:21 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	700	3.1	100		mg/L	100	12/15/2011 03:30 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/14/2011 07:21 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
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-010

Client Sample ID: MW-33-150-183
Collection Date: 12/13/2011 9:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	6000	14	500		mg/L	1000	12/15/2011 04:17 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/15/2011 04:40 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	890	3.1	100		mg/L	100	12/15/2011 04:29 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/14/2011 07:33 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
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-011

Client Sample ID: MW-33-210-183
Collection Date: 12/13/2011 10:14:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	6600	14	500		mg/L	1000	12/15/2011 04:52 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/15/2011 05:15 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	1200	3.1	100		mg/L	100	12/15/2011 05:03 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/14/2011 07:44 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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-175-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 4:02:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B**	QC Batch: **R82779**			PrepDate:			Analyst: **QBM**
Chloride	6100	14	500		mg/L	1000	12/15/2011 05:27 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B**	QC Batch: **R82779**			PrepDate:			Analyst: **QBM**
Sulfate	760	3.1	100		mg/L	100	12/15/2011 05:38 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214B**	QC Batch: **R82779**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/14/2011 07:56 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-013

Client Sample ID: MW-46-205-183
Collection Date: 12/13/2011 2:16:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Chloride	7700	14	500		mg/L	1000	12/15/2011 05:50 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Sulfate	900	3.1	100		mg/L	100	12/15/2011 06:02 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111214B** QC Batch: **R82779**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/14/2011 08:08 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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82779_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82779**		
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**				SeqNo: **1344575**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82779_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82779**		
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**				SeqNo: **1344576**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.359	0.50	2.500	0	94.4	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82779**		
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**				SeqNo: **1344583**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	94.780	10						97.42	2.75	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82779**		
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**				SeqNo: **1344584**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	146.600	10	50.00	97.42	98.4	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82779**		
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**				SeqNo: **1344587**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8067.000	500	2500	5710	94.3	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

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8045.000	500	2500	5710	93.4	80	120	8067	0.273	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82779_F** SampType: **MBLK** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **PBW** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82779_F** SampType: **LCS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **LCSW** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.398	0.50	2.500	0	95.9	90	110				

Sample ID: **N007015-002CDUP** SampType: **DUP** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.488	0.50						0.5210	0	20	

Sample ID: **N007015-002CMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.982	0.50	2.500	0.5210	98.4	80	120				

Sample ID: **N007014-006CMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	26.930	5.0	25.00	0	108	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	27.750	5.0	25.00	0	111	80	120	26.93	3.00	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82779_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82779_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.709	1.0	5.000	0	94.2	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	252.160	20						255.6	1.34	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	362.820	20	100.0	255.6	107	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1140.100	100	500.0	643.3	99.4	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1130.200	100	500.0	643.3	97.4	80	120	1140	0.872	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82779_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **PBW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82779_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **LCSW**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.385	0.50	2.500	0	95.4	90	110				

Sample ID: **N007015-002CDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Sample ID: **N007015-002CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.327	0.50	2.500	0	93.1	80	120				

Sample ID: **N007014-006CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82779**
Client ID: **ZZZZZZ**	Batch ID: **R82779**	TestNo: **EPA 300.0**		Analysis Date: **12/14/2011**	SeqNo: **1344718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.380	2.5	12.50	5.015	98.9	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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N007014-006CMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82779**
Client ID: **ZZZZZZ** Batch ID: **R82779** TestNo: **EPA 300.0** Analysis Date: **12/14/2011** SeqNo: **1344719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.385	2.5	12.50	5.015	99.0	80	120	17.38	0.0288	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-025-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:14:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.12	0.030	0.10		mg/L	1	12/30/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-090-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:22:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-040-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:38:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-03-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:19:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-04-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:57:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-090-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 12:06:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-150-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 9:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-210-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 10:14:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-175-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 4:02:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-205-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 2:16:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38641**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **LCSW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.064	0.10	1.000	0	106	85	115				

Sample ID: **MB-38641**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **PBW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007014-001D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.177	0.10	2.000	0.1140	103	75	125				

Sample ID: **N007014-001D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.176	0.10	2.000	0.1140	103	75	125	2.177	0.0459	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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-001

Client Sample ID: MW-100-183
Collection Date: 12/12/2011 2:53:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	180	14	20		ug/L	1	1/5/2012 09:12 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:12 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	88	0.12	0.50		mg/L	1	1/5/2012 09:12 PM
Magnesium	21	0.0063	0.10		mg/L	1	1/5/2012 09:12 PM
Sodium	360	1.2	5.0		mg/L	10	1/7/2012 03:38 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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-025-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:14:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	48	14	20		ug/L	1	1/5/2012 09:16 PM
Manganese	40	1.7	10		ug/L	1	1/5/2012 09:16 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	110	0.12	0.50		mg/L	1	1/5/2012 09:16 PM
Magnesium	33	0.0063	0.10		mg/L	1	1/5/2012 09:16 PM
Sodium	96	0.60	2.5		mg/L	5	1/7/2012 03:41 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-003

Client Sample ID: MW-28-090-183
Collection Date: 12/12/2011 2:22:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	800	14	20		ug/L	1	1/5/2012 09:21 PM
Manganese	180	1.7	10		ug/L	1	1/5/2012 09:21 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	250	0.12	0.50		mg/L	1	1/5/2012 09:21 PM
Magnesium	45	0.0063	0.10		mg/L	1	1/5/2012 09:21 PM
Sodium	1400	6.0	25		mg/L	50	1/7/2012 03:44 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		

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CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-004

Client Sample ID: MW-33-040-183
Collection Date: 12/12/2011 3:38:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	28	14	20		ug/L	1	1/5/2012 09:25 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:25 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	33	0.12	0.50		mg/L	1	1/5/2012 09:25 PM
Magnesium	41	0.0063	0.10		mg/L	1	1/5/2012 09:25 PM
Sodium	2100	6.0	25		mg/L	50	1/7/2012 03:48 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-03-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:19:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	50	14	20		ug/L	1	1/5/2012 09:31 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:31 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	90	0.12	0.50		mg/L	1	1/5/2012 09:31 PM
Magnesium	17	0.0063	0.10		mg/L	1	1/5/2012 09:31 PM
Sodium	160	0.60	2.5		mg/L	5	1/7/2012 03:51 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	PM-04-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:57:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	60	14	20		ug/L	1	1/5/2012 09:35 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:35 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	91	0.12	0.50		mg/L	1	1/5/2012 09:35 PM
Magnesium	15	0.0063	0.10		mg/L	1	1/5/2012 09:35 PM
Sodium	260	1.2	5.0		mg/L	10	1/7/2012 03:54 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02D-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:26:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/5/2012 09:40 PM
Manganese	16	1.7	10		ug/L	1	1/5/2012 09:40 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	260	0.12	0.50		mg/L	1	1/5/2012 09:40 PM
Magnesium	38	0.0063	0.10		mg/L	1	1/5/2012 09:40 PM
Sodium	1700	6.0	25		mg/L	50	1/7/2012 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-02S-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:53:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/5/2012 09:44 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:44 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	88	0.12	0.50		mg/L	1	1/5/2012 09:44 PM
Magnesium	21	0.0063	0.10		mg/L	1	1/5/2012 09:44 PM
Sodium	360	1.2	5.0		mg/L	10	1/7/2012 04:00 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-090-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 12:06:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/5/2012 09:49 PM
Manganese	ND	1.7	10		ug/L	1	1/5/2012 09:49 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	360	0.12	0.50		mg/L	1	1/5/2012 09:49 PM
Magnesium	33	0.0063	0.10		mg/L	1	1/5/2012 09:49 PM
Sodium	2000	6.0	25		mg/L	50	1/7/2012 04:08 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-150-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 9:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/5/2012 09:53 PM
Manganese	16	1.7	10		ug/L	1	1/5/2012 09:53 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	510	0.23	1.0		mg/L	2	1/5/2012 07:39 PM
Magnesium	54	0.0063	0.10		mg/L	1	1/5/2012 09:53 PM
Sodium	3400	12	50		mg/L	100	1/7/2012 04:11 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-210-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 10:14:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	29	40		ug/L	2	1/5/2012 08:04 PM
Manganese	ND	3.3	20		ug/L	2	1/5/2012 08:04 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	600	0.23	1.0		mg/L	2	1/5/2012 08:04 PM
Magnesium	72	0.013	0.20		mg/L	2	1/5/2012 08:04 PM
Sodium	3900	12	50		mg/L	100	1/7/2012 04:15 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-012

Client Sample ID: MW-46-175-183
Collection Date: 12/13/2011 4:02:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Iron	ND	29	40		ug/L	2	1/5/2012 08:09 PM
Manganese	ND	3.3	20		ug/L	2	1/5/2012 08:09 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:		**1/4/2012**	Analyst: **KAB**
Calcium	95	0.23	1.0		mg/L	2	1/5/2012 08:09 PM
Magnesium	2.6	0.013	0.20		mg/L	2	1/5/2012 08:09 PM
Sodium	4100	12	50		mg/L	100	1/7/2012 04:18 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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007015-013

Client Sample ID: MW-46-205-183
Collection Date: 12/13/2011 2:16:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:	**1/4/2012**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	1/5/2012 08:24 PM
Manganese	42	3.3	20		ug/L	2	1/5/2012 08:24 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105B**	QC Batch: **38742**			PrepDate:	**1/4/2012**		Analyst: **KAB**
Calcium	110	0.23	1.0		mg/L	2	1/5/2012 08:24 PM
Magnesium	2.9	0.013	0.20		mg/L	2	1/5/2012 08:24 PM
Sodium	4700	12	50		mg/L	100	1/7/2012 04:27 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38742** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **PBW** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									
Manganese	3.850	10									

Sample ID: **LCS-38742** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **LCSW** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	51.134	20	50.00	0	102	85	115				
Manganese	46.778	10	50.00	0	93.6	85	115				

Sample ID: **N007015-013B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **ZZZZZZ** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	55.934	40	50.00	0	112	75	125				
Manganese	85.090	20	50.00	42.12	85.9	75	125				

Sample ID: **N007015-013B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **ZZZZZZ** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	54.598	40	50.00	0	109	75	125	55.93	2.42	20	
Manganese	85.181	20	50.00	42.12	86.1	75	125	85.09	0.107	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

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38742** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **PBW** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38742** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **LCSW** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.006	0.50	1.000	0	101	85	115				
Magnesium	1.000	0.10	1.000	0	100	85	115				

Sample ID: **N007015-013B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **ZZZZZZ** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	114.036	1.0	1.000	110.6	349	75	125				S
Magnesium	3.830	0.20	1.000	2.872	95.8	75	125				

Sample ID: **N007015-013B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **ZZZZZZ** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	114.371	1.0	1.000	110.6	382	75	125	114.0	0.293	20	S
Magnesium	3.839	0.20	1.000	2.872	96.7	75	125	3.830	0.222	20	

Sample ID: **MB-38742** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **1/4/2012** RunNo: **82792**
Client ID: **PBW** Batch ID: **38742** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.249	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-38742**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **1/4/2012**	RunNo: **82792**
Client ID: **LCSW**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2.555	0.50	2.500	0	102	85	115				

Sample ID: **N007015-013B-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **1/4/2012**	RunNo: **82792**
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4423.783	50	15.00	4704	-1870	75	125				S

Sample ID: **N007015-013B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **1/4/2012**	RunNo: **82792**
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4647.848	50	15.00	4704	-374	75	125	4424	4.94	20	S

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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-025-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 1:14:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120104A**	QC Batch: **38691**			PrepDate:	**1/3/2012**		Analyst: **CEI**
Arsenic	1.5	0.0025	0.10		µg/L	1	1/4/2012 06:06 PM
Molybdenum	5.5	0.047	0.50		µg/L	1	1/4/2012 06:06 PM
Selenium	ND	0.29	0.50		µg/L	1	1/4/2012 06:06 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-28-090-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 2:22:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120104A**	QC Batch: **38691**			PrepDate:	**1/3/2012**		Analyst: **CEI**
Arsenic	1.9	0.0025	0.10		µg/L	1	1/4/2012 07:20 PM
Molybdenum	19	0.047	0.50		µg/L	1	1/4/2012 07:20 PM
Selenium	ND	0.29	0.50		µg/L	1	1/4/2012 07:20 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-040-183
Lab Order:	N007015	**Collection Date:**	12/12/2011 3:38:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_120105A**	QC Batch: **38691**				PrepDate:	**1/3/2012**	Analyst: **CEI**
Arsenic	13	0.0025	0.10		µg/L	1	1/5/2012 10:28 AM
Molybdenum	270	0.24	2.5		µg/L	5	1/5/2012 10:16 AM
Selenium	ND	0.29	0.50		µg/L	1	1/5/2012 10:28 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		

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-090-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 12:06:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120105A**	QC Batch: **38691**			PrepDate:		**1/3/2012**	Analyst: **CEI**
Arsenic	1.4	0.012	0.50		µg/L	5	1/5/2012 10:40 AM
Molybdenum	20	0.24	2.5		µg/L	5	1/5/2012 10:40 AM
Selenium	ND	1.4	2.5		µg/L	5	1/5/2012 10:40 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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-150-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 9:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120105A**	QC Batch: **38691**			PrepDate:		**1/3/2012**	Analyst: **CEI**
Arsenic	1.7	0.012	0.50		µg/L	5	1/5/2012 10:53 AM
Molybdenum	38	0.24	2.5		µg/L	5	1/5/2012 10:53 AM
Selenium	ND	1.4	2.5		µg/L	5	1/5/2012 10:53 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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-33-210-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 10:14:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120105A**	QC Batch: **38691**			PrepDate:	**1/3/2012**		Analyst: **CEI**
Arsenic	0.96	0.012	0.50		µg/L	5	1/5/2012 12:29 PM
Molybdenum	16	0.24	2.5		µg/L	5	1/5/2012 12:29 PM
Selenium	ND	1.4	2.5		µg/L	5	1/5/2012 12:29 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-46-175-183
Lab Order:	N007015	**Collection Date:**	12/13/2011 4:02:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007015-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Molybdenum	200	0.24	2.5		µg/L	5	1/9/2012 01:12 PM
Selenium	ND	1.4	2.5		µg/L	5	1/9/2012 01:12 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38690** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **PBW** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.017	0.10									
Molybdenum	0.048	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-38690** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **LCSW** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.139	0.10	10.00	0	101	85	115				
Molybdenum	10.564	0.50	10.00	0	106	85	115				
Selenium	10.279	0.50	10.00	0	103	85	115				

Sample ID: **N007032-002B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **ZZZZZZ** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.166	0.50	10.00	5.862	103	75	125	16.41	1.47	20	
Molybdenum	60.085	2.5	10.00	50.50	95.9	75	125	62.03	3.18	20	
Selenium	10.951	2.5	10.00	1.946	90.1	75	125	10.99	0.319	20	

Sample ID: **N007032-002B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **ZZZZZZ** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.406	0.50	10.00	5.862	105	75	125				
Molybdenum	62.030	2.5	10.00	50.50	115	75	125				
Selenium	10.986	2.5	10.00	1.946	90.4	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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38691** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/3/2012** RunNo: **82813**
Client ID: **PBW** Batch ID: **38691** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1346273**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.019	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-38691** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/3/2012** RunNo: **82813**
Client ID: **LCSW** Batch ID: **38691** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1346274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.484	0.10	10.00	0	94.8	85	115				
Molybdenum	10.390	0.50	10.00	0	104	85	115				
Selenium	8.733	0.50	10.00	0	87.3	85	115				

Sample ID: **N007015-002B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/3/2012** RunNo: **82813**
Client ID: **ZZZZZZ** Batch ID: **38691** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1346281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.453	0.10	10.00	1.530	99.2	75	125				
Molybdenum	17.057	0.50	10.00	5.473	116	75	125				
Selenium	9.795	0.50	10.00	0	97.9	75	125				

Sample ID: **N007015-002B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/3/2012** RunNo: **82813**
Client ID: **ZZZZZZ** Batch ID: **38691** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/4/2012** SeqNo: **1346282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.624	0.10	10.00	1.530	101	75	125	11.45	1.49	20	
Molybdenum	17.040	0.50	10.00	5.473	116	75	125	17.06	0.104	20	
Selenium	9.466	0.50	10.00	0	94.7	75	125	9.795	3.41	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.
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GMP-183 ATL #4

CH2MHILL **CHAIN OF CUSTODY RECORD** 12/13/2011 5:10:04 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 10

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	2	2	2	2	28			
		Extra (+)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-100-183	12/12/2011 14:53 Water	X		X		X	X		X		N00705-1	4	
MW-28-025-183	12/12/2011 13:14 Water	X	X	X	X	X	X		X	X	2	6	
MW-28-090-183	12/12/2011 14:22 Water	X	X	X	X	X		X	X	X	3	6	
MW-33-040-183	12/12/2011 15:38 Water	X	X	X	X	X		X	X	X	4	6	
PM-03-183	12/12/2011 13:19 Water	X		X		X	X		X	X	5	5	
PM-04-183	12/12/2011 13:57 Water	X		X		X	X		X	X	6	5	
TW-02D-183	12/12/2011 15:26 Water	X		X		X	X		X		7	4	
TW-02S-183	12/12/2011 14:53 Water	X		X		X	X		X		8	4	
MW-33-090-183	12/13/2011 12:06 Water	X	X	X	X	X		X	X	X	9	6	
MW-33-150-183	12/13/2011 9:05 Water	X	X	X	X	X		X	X	X	10	6	
MW-33-210-183	12/13/2011 10:14 Water	X	X	X	X	X		X	X	X	11	6	
MW-46-175-183	12/13/2011 16:02 Water	X		X	X	X	X		X	X	12	5	
MW-46-205-183	12/13/2011 14:16 Water	X		X		X	X		X	X	13	5	
											TOTAL NUMBER OF CONTAINERS	68	

	Signatures	Date/Time
Approved by		
Sampled by		12/13/11 1715
Relinquished by		
Received by	PMGalaz	12/13/11 1715
Relinquished by	PMGalaz	12/13/11 1933
Received by	MDCourtney	12/13/11 @ 1933

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ no 1.8°C/2.2°C/2.8°C/2.6°C
Airbill No: 3.4°C IR#2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

695

GMP-183 ATL #4

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:10:04 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 10

	DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate,Fluoride	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
Container:				1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly		
Preservatives:				4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
Filtered:				NA	Field	Field	Field	NA	NA	NA	NA	NA		
Holding Time:				30	180	180	180	2	2	2	2	28		
MW-100-183	12/12/2011	14:53	Water	X		X		X	X		X		4	
MW-28-025-183	12/12/2011	13:14	Water	X	X	X	X	X	X		X	X	6	
MW-28-090-183	12/12/2011	14:22	Water	X	X	X	X	X		X	X	X	6	
MW-33-040-183	12/12/2011	15:38	Water	X	X	X	X	X		X	X	X	6	
PM-03-183	12/12/2011	13:19	Water	X		X		X	X		X	X	5	
PM-04-183	12/12/2011	13:57	Water	X		X		X	X		X	X	5	
TW-02D-183	12/12/2011	15:26	Water	X		X		X	X		X		4	
TW-02S-183	12/12/2011	14:53	Water	X		X		X	X		X		4	
MW-33-090-183	12/13/2011	12:06	Water	X	X	X	X	X		X	X	X	6	
MW-33-150-183	12/13/2011	9:05	Water	X	X	X	X	X		X	X	X	6	
MW-33-210-183	12/13/2011	10:14	Water	X	X	X	X	X		X	X	X	6	
MW-46-175-183	12/13/2011	16:02	Water	X		X	X	X	X		X	X	5	
MW-46-205-183	12/13/2011	14:16	Water	X		X		X	X		X	X	5	
												TOTAL NUMBER OF CONTAINERS	68	

	Signatures	Date/Time
Approved by		12/13/11 1715
Sampled by		
Relinquished by	PWGalang	12/13/11 1715
Received by	PWGalang	12/13/11 1933
Relinquished by		
Received by		12/14/11 @ 1933

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ / no 1.8°C/2.2°C/2.8°C/2.6°C
Airbill No: 3.9°C 1842
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

96

Advanced Technology Laboratories, Inc.

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: 12/13/2011 Workorder: N007015

Rep sample Temp (Deg C): 1.8, 2.2, 2.8, 2.6, 3.4 IR Gun ID: 1/2

Temp Blank: ☐ Yes ☑ No

Carrier name: ATL

Last 4 digits of Tracking No.: na Packing Material Used: Bubble Wrap

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 B MBC 12/14/11 Reviewed By: 12/14/11

Sample ID: **N007015-001C @ pH 7.94**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.25mL)

= **0.02041 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (3.95) (0.02041N) (1) * 1000

= **80.6 mg/L**

Reporting results in two significant figures,

= **81 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02041N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (3.95mL) (0.02041) (1) * 1000

= **80.6 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **80.6 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **81 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 **N007015-001C**, concentration in mg/L are calculated as follows:

Chloride, mg/L = 5.606 * 100

= 560.6 mg/L

Reporting **N007015-001C**, results in two significant figures,

Chloride, mg/L = 560 mg/L

MS 1/9/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007015-002D,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 0.123 *1

= 0.123 mg/L

Reporting result in two significant figures,

Ammonia as N = 0.12 mg/L

hs fn
1/7/12

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 N007015-001B, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.18103\ mg/L * \frac{0.025\ L * 1 * 1000}{0.025\ L}$$

Fe = 181.03 ug/L

Reporting result in two significant figures,

Fe = 180 ug/L

K. 11/09/2012

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/5/2012**	**Units:**	**mg/L**
Digestion Date:	**1/4/2012**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007015-013B**
Batch # : **38742**

Analyte	A	B	Difference	% D
Calcium	110.6	114.445	-3.84500	-3.5
Magnesium	2.872	3.121	-0.24900	-8.7

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @2x dilution
B= mg/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/7/2012	**Units:**	mg/L
Digestion Date:	1/4/2012		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N007015-013B
Batch # : 38742

Analyte	A	B	Difference	% D
Sodium	4704	4070.147	633.85300	13.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007015-013BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 1/4/2012	RunNo: 82792
Client ID: ZZZZZZ	Batch ID: 38742	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1345230

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	114.445	5.0						110.6	3.46	10	
Magnesium	3.121	1.0						2.872	8.28	10	

Sample ID: N007015-013BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 1/4/2012	RunNo: 82792
Client ID: ZZZZZZ	Batch ID: 38742	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012	SeqNo: 1346252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4070.147	250						4704	14.4	10	R

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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007015-013B-PS 5**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82792**
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	48789.490	100	50000	0	97.6	75	125				
Manganese	4853.483	50	5000	42.12	96.2	75	125				

Sample ID: **N007015-013B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82792**
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346851**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18421.735	40	20000	0	92.1	75	125				
Manganese	1897.622	20	2000	0	94.9	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: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007015-013B-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82792**			
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**			SeqNo: **1345234**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	168.896	2.5	50.00	110.6	117	75	125				
Magnesium	50.863	0.50	50.00	2.872	96.0	75	125				

Sample ID: **N007015-013B-PS 1**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82792**			
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**			SeqNo: **1346218**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	7407.367	50	2500	4704	108	75	125				

Sample ID: **N007015-013B-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82792**			
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**			SeqNo: **1346219**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	16672.149	250	12500	4704	95.7	75	125				

Sample ID: **N007015-013B-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82792**			
Client ID: **ZZZZZZ**	Batch ID: **38742**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**			SeqNo: **1346865**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	133.594	1.0	20.00	110.6	115	75	125				
Magnesium	20.216	0.20	20.00	2.872	86.7	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 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 **N007015-002B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 1.5299 * 1 * (25/25)

= 1.5 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 1.5

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007015
Test Method: EPA 6020
Analysis Date: 01/04/12

Matrix: Water
Batch No.: 38691

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se. The calc. Values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007015-002B DT 5X	Arsenic	µg/L	1.658186384	NA	1.529873703	-8.39%	10
N007015-002B DT 5X	Molybdenum	µg/L	5.416490447	NA	5.473245229	1.04%	10
N007015-002B DT 5X	Selenium	µg/L	0	NA	0		10

NJS fn
1/10/12

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007015
Test Method: EPA 6020
Analysis Date: 01/09/12

Matrix: Water
Batch No.: 38690

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se. The calc. Values were < 25X the RL. PS @ 25x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007032-002B DT 25X	Arsenic	µg/L	5.470818626	PASS	5.86177729	6.67%	10
N007032-002B DT 25X	Molybdenum	µg/L	50.49995111	PASS	50.4969688	-0.01%	10
N007032-002B DT 25X	Selenium	µg/L	0	NA	1.946197368	100.00%	10

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N007015-002B-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82813
Client ID: ZZZZZZ	Batch ID: 38691	TestNo: EPA 6020	EPA 3010A	Analysis Date: 1/4/2012	SeqNo: 1346280

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.488	0.20	20.00	1.530	105	75	125				
Molybdenum	29.128	1.0	20.00	5.473	118	75	125				
Selenium	19.459	1.0	20.00	0	97.3	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

CLIENT: CH2M HILL
Work Order: N007015
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-002B-PS 5** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **82828**
Client ID: **ZZZZZZ** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	60.897	0.50	50.00	5.862	110	75	125				
Molybdenum	109.703	2.5	50.00	50.50	118	75	125				
Selenium	49.867	2.5	50.00	1.946	95.8	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

January 25, 2012

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.: N007016

RE: PG&E Topock, 417981.ER.02.DM

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 14, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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 gsgosmundo

Jose Tenorio Jr.
Laboratory Director

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 were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium, Potassium and Sodium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes 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 ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *11-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock, 417981.ER.02.DM
Lab Order: N007016
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007016-001A	MW-57-185-007	Water	12/13/2011 1:57:00 PM	12/14/2011	
N007016-001B	MW-57-185-007	Water	12/13/2011 1:57:00 PM	12/14/2011	
N007016-001C	MW-57-185-007	Water	12/13/2011 1:57:00 PM	12/14/2011	
N007016-001D	MW-57-185-007	Water	12/13/2011 1:57:00 PM	12/14/2011	
N007016-001E	MW-57-185-007	Water	12/13/2011 1:57:00 PM	12/14/2011	
N007016-002A	TB-03-007	Water	12/12/2011 2:30:00 PM	12/14/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-185-007
Lab Order:	N007016	**Collection Date:**	12/13/2011 1:57:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007016-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111214F**	QC Batch: **R82785**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/14/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82785**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82785**			
Client ID: **LCSW**	Batch ID: **R82785**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345020**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9710.000	0.10	9986	0	97.2	85	115				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82785**			
Client ID: **ZZZZZZ**	Batch ID: **R82785**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345022**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17610.000	0.10						17620	0.0568	10	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82785**			
Client ID: **ZZZZZZ**	Batch ID: **R82785**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345024**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	27840.000	0.20	9986	17620	102	75	125				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82785**			
Client ID: **ZZZZZZ**	Batch ID: **R82785**	TestNo: **EPA 120.1**		Analysis Date: **12/14/2011**			SeqNo: **1345025**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	27840.000	0.20	9986	17620	102	75	125	27840	0	10	

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.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-185-007
Lab Order:	N007016	**Collection Date:**	12/13/2011 1:57:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007016-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111215B**	QC Batch: **38560**			PrepDate:	**12/14/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	11000	100	100		mg/L	1	12/15/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38560**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **PBW**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342621**

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-38560**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **LCSW**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	997.000	10	1000	0	99.7	80	120				

Sample ID: **N007001-001D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/14/2011**	RunNo: **82737**
Client ID: **ZZZZZZ**	Batch ID: **38560**	TestNo: **SM2540C**		Analysis Date: **12/15/2011**	SeqNo: **1342624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	5900.000	100						5680	3.80	5	

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	**Client Sample ID:**	MW-57-185-007
Lab Order:	N007016	**Collection Date:**	12/13/2011 1:57:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007016-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111215A**	QC Batch: **38604**			PrepDate:	**12/15/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/15/2011

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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-38604**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/15/2011**	RunNo: **82713**
Client ID: **PBW**	Batch ID: **38604**	TestNo: **SM2540D**		Analysis Date: **12/15/2011**	SeqNo: **1342082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-38604**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/15/2011**	RunNo: **82713**
Client ID: **LCSW**	Batch ID: **38604**	TestNo: **SM2540D**		Analysis Date: **12/15/2011**	SeqNo: **1342083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	975.000	10	1000	0	97.5	80	120				

Sample ID: **N007013-001E-DUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/15/2011**	RunNo: **82713**
Client ID: **ZZZZZZ**	Batch ID: **38604**	TestNo: **SM2540D**		Analysis Date: **12/15/2011**	SeqNo: **1342085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	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.

ANALYTICAL RESULTS

Print Date: *25-Jan-12*

CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-001

Client Sample ID: MW-57-185-007
Collection Date: 12/13/2011 1:57:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	110	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/19/2011

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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82780** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **LCSW** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82780** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **LCSS02** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	99.593	5.0	100.0	0	99.6	85	115	100.6	1.02	20	
Alkalinity, Total (As CaCO3)	99.593	5.0	100.0	0	99.6	85	115	100.6	1.02	20	

Sample ID: **MB-R82780** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **PBW** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007016-001C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	112.805	5.0						113.8	0.897	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	114.837	5.0						115.9	0.881	30	

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007016-001C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	217.480	5.0	100.0	113.8	104	75	125				
Alkalinity, Total (As CaCO3)	229.675	5.0	100.0	115.9	114	75	125				

Sample ID: **N007016-001C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	217.480	5.0	100.0	113.8	104	75	125	217.5	0	20	
Alkalinity, Total (As CaCO3)	229.675	5.0	100.0	115.9	114	75	125	229.7	0	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-001

Client Sample ID: MW-57-185-007
Collection Date: 12/13/2011 1:57:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/15/2011 11:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Chloride	6400	14	500		mg/L	1000	12/15/2011 08:11 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/15/2011 10:13 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.60	50		mg/L	100	12/15/2011 09:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/15/2011 11:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Sulfate	730	3.1	100		mg/L	100	12/15/2011 09:23 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111214A** QC Batch: **R82720**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/15/2011 11:23 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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82720_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82720_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342195**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.593	0.50	2.500	0	104	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	2.5						0	0	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	6.145	2.5	6.250	0	98.3	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342203**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	6.265	2.5	6.250	0	100	80	120	6.145	1.93	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

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82720_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82720_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.479	0.50	2.500	0	99.2	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6442.000	500						6400	0.654	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8934.000	500	2500	6400	101	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8923.000	500	2500	6400	101	80	120	8934	0.123	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82720_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82720_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.546	0.50	2.500	0	102	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.100	10						7.920	0	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	55.000	10	50.00	7.920	94.2	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	55.360	10	50.00	7.920	94.9	80	120	55.00	0.652	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R82720_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R82720_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.497	0.50	2.500	0	99.9	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	50						0	0	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	292.500	50	250.0	0	117	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	293.700	50	250.0	0	117	80	120	292.5	0.409	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **MB-R82720_PO4** SampType: **MBLK** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82720**
Client ID: **PBW** Batch ID: **R82720** TestNo: **EPA 300.0** Analysis Date: **12/15/2011** SeqNo: **1342286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.10									

Sample ID: **LCS-R82720_PO4** SampType: **LCS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82720**
Client ID: **LCSW** Batch ID: **R82720** TestNo: **EPA 300.0** Analysis Date: **12/15/2011** SeqNo: **1342287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	2.640	0.10	2.500	0	106	90	110				

Sample ID: **N007016-001CDUP** SampType: **DUP** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82720**
Client ID: **ZZZZZZ** Batch ID: **R82720** TestNo: **EPA 300.0** Analysis Date: **12/15/2011** SeqNo: **1342293**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.50						0	0	20	

Sample ID: **N007016-001CMS** SampType: **MS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82720**
Client ID: **ZZZZZZ** Batch ID: **R82720** TestNo: **EPA 300.0** Analysis Date: **12/15/2011** SeqNo: **1342294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	7.060	0.50	6.250	0	113	80	120				

Sample ID: **N007016-001CMSD** SampType: **MSD** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82720**
Client ID: **ZZZZZZ** Batch ID: **R82720** TestNo: **EPA 300.0** Analysis Date: **12/15/2011** SeqNo: **1342295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	7.025	0.50	6.250	0	112	80	120	7.060	0.497	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82720_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82720_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.047	1.0	5.000	0	101	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	720.900	100						727.3	0.884	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1231.300	100	500.0	727.3	101	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1228.500	100	500.0	727.3	100	80	120	1231	0.228	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82720_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **PBW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82720_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **LCSW**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.512	0.50	2.500	0	100	90	110				

Sample ID: **N007016-001CDUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	2.5						0	0	20	

Sample ID: **N007016-001CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.715	2.5	6.250	0	91.4	80	120				

Sample ID: **N007016-001CMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82720**
Client ID: **ZZZZZZ**	Batch ID: **R82720**	TestNo: **EPA 300.0**		Analysis Date: **12/15/2011**	SeqNo: **1342279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.840	2.5	6.250	0	93.4	80	120	5.715	2.16	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

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ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-185-007
Lab Order:	N007016	**Collection Date:**	12/13/2011 1:57:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007016-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230A**	QC Batch: **38641**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38641**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **LCSW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.064	0.10	1.000	0	106	85	115				

Sample ID: **MB-38641**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **PBW**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007014-001D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.177	0.10	2.000	0.1140	103	75	125				

Sample ID: **N007014-001D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82732**
Client ID: **ZZZZZZ**	Batch ID: **38641**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.176	0.10	2.000	0.1140	103	75	125	2.177	0.0459	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.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-001

Client Sample ID: MW-57-185-007
Collection Date: 12/13/2011 1:57:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/5/2012 05:11 PM
Antimony	ND	11	20		ug/L	2	1/5/2012 05:11 PM
Barium	55	0.40	6.0		ug/L	2	1/5/2012 05:11 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/5/2012 05:11 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/5/2012 05:11 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/5/2012 05:11 PM
Copper	ND	1.1	10		ug/L	2	1/5/2012 05:11 PM
Iron	ND	29	40		ug/L	2	1/5/2012 05:11 PM
Lead	ND	2.9	20		ug/L	2	1/5/2012 05:11 PM
Manganese	550	3.3	20		ug/L	2	1/5/2012 05:11 PM
Molybdenum	78	0.98	10		ug/L	2	1/5/2012 05:11 PM
Nickel	ND	2.3	10		ug/L	2	1/5/2012 05:11 PM
Silver	ND	1.4	6.0		ug/L	2	1/9/2012 11:52 AM
Vanadium	ND	0.38	6.0		ug/L	2	1/5/2012 05:11 PM
Zinc	ND	9.2	20		ug/L	2	1/5/2012 05:11 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	330	0.23	1.0		mg/L	2	1/5/2012 05:11 PM
Magnesium	3.6	0.013	0.20		mg/L	2	1/5/2012 05:11 PM
Potassium	56	1.5	12		mg/L	25	1/7/2012 03:04 PM
Sodium	3800	12	50		mg/L	100	1/7/2012 01:35 PM

Qualifiers:

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- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Antimony	ND	10									
Barium	ND	3.0									
Beryllium	ND	1.0									
Cadmium	ND	3.0									
Cobalt	ND	3.0									
Copper	ND	5.0									
Iron	ND	20									
Lead	ND	10									
Manganese	3.845	10									
Molybdenum	1.607	5.0									
Nickel	ND	5.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1024.087	50	1000	0	102	85	115				
Antimony	50.353	10	50.00	0	101	85	115				
Barium	51.204	3.0	50.00	0	102	85	115				
Beryllium	9.766	1.0	10.00	0	97.7	85	115				
Cadmium	9.017	3.0	10.00	0	90.2	85	115				
Cobalt	9.922	3.0	10.00	0	99.2	85	115				
Copper	10.002	5.0	10.00	0	100	85	115				
Iron	56.492	20	50.00	0	113	85	115				
Lead	51.112	10	50.00	0	102	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

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	46.710	10	50.00	0	93.4	85	115				
Molybdenum	50.287	5.0	50.00	0	101	85	115				
Nickel	46.067	5.0	50.00	0	92.1	85	115				
Vanadium	9.605	3.0	10.00	0	96.1	85	115				
Zinc	51.788	10	50.00	0	104	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1116.714	100	1000	0	112	75	125				
Antimony	47.681	20	50.00	0	95.4	75	125				
Barium	123.049	6.0	50.00	67.10	112	75	125				
Beryllium	9.060	2.0	10.00	0	90.6	75	125				
Cadmium	2.961	6.0	10.00	0	29.6	75	125				S
Cobalt	4.393	6.0	10.00	0	43.9	75	125				S
Copper	11.723	10	10.00	1.181	105	75	125				
Iron	37.571	40	50.00	0	75.1	75	125				
Lead	35.828	20	50.00	0	71.7	75	125				S
Manganese	48.690	20	50.00	7.732	81.9	75	125				
Molybdenum	92.440	10	50.00	40.97	103	75	125				
Nickel	32.885	10	50.00	0	65.8	75	125				S
Vanadium	31.041	6.0	10.00	19.02	120	75	125				
Zinc	48.642	20	50.00	0	97.3	75	125				

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1115.869	100	1000	0	112	75	125	1117	0.0757	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	43.550	20	50.00	0	87.1	75	125	47.68	9.06	20	
Barium	122.772	6.0	50.00	67.10	111	75	125	123.0	0.225	20	
Beryllium	9.090	2.0	10.00	0	90.9	75	125	9.060	0.335	20	
Cadmium	2.717	6.0	10.00	0	27.2	75	125	2.961	0	20	S
Cobalt	4.422	6.0	10.00	0	44.2	75	125	4.393	0	20	S
Copper	11.726	10	10.00	1.181	105	75	125	11.72	0.0246	20	
Iron	36.869	40	50.00	0	73.7	75	125	37.57	0	20	S
Lead	36.305	20	50.00	0	72.6	75	125	35.83	1.32	20	S
Manganese	48.737	20	50.00	7.732	82.0	75	125	48.69	0.0959	20	
Molybdenum	92.160	10	50.00	40.97	102	75	125	92.44	0.304	20	
Nickel	31.944	10	50.00	0	63.9	75	125	32.88	2.90	20	S
Vanadium	31.047	6.0	10.00	19.02	120	75	125	31.04	0.0196	20	
Zinc	49.120	20	50.00	0	98.2	75	125	48.64	0.977	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	3.0									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	9.938	3.0	10.00	0	99.4	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	24.698	6.0	10.00	13.86	108	75	125				

Sample ID: **N007014-002B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	25.553	6.0	10.00	13.86	117	75	125	24.70	3.40	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.017	0.50	1.000	0	102	85	115				
Magnesium	1.008	0.10	1.000	0	101	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	795.029	1.0	1.000	757.9	3720	75	125				S
Magnesium	2.439	0.20	1.000	1.453	98.6	75	125				

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	799.140	1.0	1.000	757.9	4130	75	125	795.0	0.516	20	S
Magnesium	2.443	0.20	1.000	1.453	99.0	75	125	2.439	0.137	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.102	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.339	0.50									

Sample ID: **LCS2-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.508	0.50	2.500	0	100	85	115				
Sodium	2.601	0.50	2.500	0	104	85	115				

Sample ID: **N007014-002B-MS2** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	76.644	12	15.00	51.20	170	75	125				S

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	77.024	12	15.00	51.20	172	75	125	76.64	0.494	20	S

Sample ID: **N007014-002B-MS2** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3130.107	50	15.00	3147	-115	75	125				S

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3226.793	50	15.00	3147	529	75	125	3130	3.04	20	S

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		

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CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-001

Client Sample ID: MW-57-185-007
Collection Date: 12/13/2011 1:57:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120103A**	QC Batch: **38609**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Arsenic	12	0.012	0.50		µg/L	5	1/4/2012 05:17 AM
Chromium	5.2	0.80	2.5		µg/L	5	1/4/2012 05:17 AM
Selenium	ND	1.4	2.5		µg/L	5	1/4/2012 05:17 AM
Thallium	ND	0.076	2.5		µg/L	5	1/4/2012 05:17 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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38609** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82808**
Client ID: **PBW** Batch ID: **38609** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1345997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.008	0.10									
Chromium	0.217	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38609** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82808**
Client ID: **LCSW** Batch ID: **38609** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1345998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.261	0.10	10.00	0	92.6	85	115				
Chromium	10.487	0.50	10.00	0	105	85	115				
Selenium	8.867	0.50	10.00	0	88.7	85	115				
Thallium	10.563	0.50	10.00	0	106	85	115				

Sample ID: **N007014-004B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82808**
Client ID: **ZZZZZZ** Batch ID: **38609** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1346010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	11.693	2.5	10.00	0.5365	112	75	125				

Sample ID: **N007014-004B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **12/27/2011** RunNo: **82808**
Client ID: **ZZZZZZ** Batch ID: **38609** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/3/2012** SeqNo: **1346011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.989	0.10	10.00	1.594	93.9	75	125				
Chromium	14.590	0.50	10.00	6.645	79.4	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

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/3/2012**	SeqNo: **1346013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	11.751	2.5	10.00	0.5365	112	75	125	11.69	0.498	20	

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82808**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.798	0.10	10.00	1.594	92.0	75	125	10.99	1.75	20	
Chromium	14.610	0.50	10.00	6.645	79.7	75	125	14.59	0.140	20	

Sample ID: **N007014-004B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82813**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	16.424	2.5	10.00	7.644	87.8	75	125				

Sample ID: **N007014-004B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **12/27/2011**	RunNo: **82813**
Client ID: **ZZZZZZ**	Batch ID: **38609**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/4/2012**	SeqNo: **1346263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	16.683	2.5	10.00	7.644	90.4	75	125	16.42	1.56	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-185-007
Lab Order:	N007016	**Collection Date:**	12/13/2011 1:57:00 PM
Project:	PG&E Topock, 417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007016-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38592**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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, Inc.

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CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: **LCS-38592**	SampType: **LCS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **LCSW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.895	0.20	5.000	0	97.9	85	115				

Sample ID: **MB-38592**	SampType: **MBLK**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **PBW**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N006986-001B-MS**	SampType: **MS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.765	0.20	5.000	0	95.3	75	125				

Sample ID: **N006986-001B-MSD**	SampType: **MSD**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38592**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.896	0.20	5.000	0	97.9	75	125	4.765	2.70	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.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-002

Client Sample ID: TB-03-007
Collection Date: 12/12/2011 2:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_111217B**	QC Batch: **D11VW186**			PrepDate:			Analyst: **QBM**
1,1,1,2-Tetrachloroethane	ND	0.061	1.0		ug/L	1	12/17/2011 10:07 AM
1,1,1-Trichloroethane	ND	0.068	1.0		ug/L	1	12/17/2011 10:07 AM
1,1,2,2-Tetrachloroethane	ND	0.054	1.0		ug/L	1	12/17/2011 10:07 AM
1,1,2-Trichloroethane	ND	0.083	1.0		ug/L	1	12/17/2011 10:07 AM
1,1-Dichloroethane	ND	0.099	1.0		ug/L	1	12/17/2011 10:07 AM
1,1-Dichloroethene	ND	0.094	1.0		ug/L	1	12/17/2011 10:07 AM
1,1-Dichloropropene	ND	0.082	1.0		ug/L	1	12/17/2011 10:07 AM
1,2,3-Trichlorobenzene	ND	0.10	1.0		ug/L	1	12/17/2011 10:07 AM
1,2,3-Trichloropropane	ND	0.12	1.0		ug/L	1	12/17/2011 10:07 AM
1,2,4-Trichlorobenzene	ND	0.12	1.0		ug/L	1	12/17/2011 10:07 AM
1,2,4-Trimethylbenzene	ND	0.095	1.0		ug/L	1	12/17/2011 10:07 AM
1,2-Dibromo-3-chloropropane	ND	0.15	2.0		ug/L	1	12/17/2011 10:07 AM
1,2-Dibromoethane	ND	0.14	1.0		ug/L	1	12/17/2011 10:07 AM
1,2-Dichlorobenzene	ND	0.070	1.0		ug/L	1	12/17/2011 10:07 AM
1,2-Dichloroethane	ND	0.17	1.0		ug/L	1	12/17/2011 10:07 AM
1,2-Dichloropropane	ND	0.085	1.0		ug/L	1	12/17/2011 10:07 AM
1,3,5-Trimethylbenzene	ND	0.087	1.0		ug/L	1	12/17/2011 10:07 AM
1,3-Dichlorobenzene	ND	0.090	1.0		ug/L	1	12/17/2011 10:07 AM
1,3-Dichloropropane	ND	0.074	1.0		ug/L	1	12/17/2011 10:07 AM
1,4-Dichlorobenzene	ND	0.092	1.0		ug/L	1	12/17/2011 10:07 AM
2,2-Dichloropropane	ND	0.061	1.0		ug/L	1	12/17/2011 10:07 AM
2-Butanone	ND	1.0	10		ug/L	1	12/17/2011 10:07 AM
2-Chlorotoluene	ND	0.080	1.0		ug/L	1	12/17/2011 10:07 AM
4-Chlorotoluene	ND	0.10	1.0		ug/L	1	12/17/2011 10:07 AM
4-Isopropyltoluene	ND	0.080	1.0		ug/L	1	12/17/2011 10:07 AM
4-Methyl-2-pentanone	ND	0.76	10		ug/L	1	12/17/2011 10:07 AM
Acetone	ND	1.6	10		ug/L	1	12/17/2011 10:07 AM
Acrolein	ND	4.3	20		ug/L	1	12/17/2011 10:07 AM
Acrylonitrile	ND	0.61	20		ug/L	1	12/17/2011 10:07 AM
Benzene	ND	0.075	1.0		ug/L	1	12/17/2011 10:07 AM
Bromobenzene	ND	0.082	1.0		ug/L	1	12/17/2011 10:07 AM
Bromochloromethane	ND	0.15	1.0		ug/L	1	12/17/2011 10:07 AM
Bromodichloromethane	ND	0.063	1.0		ug/L	1	12/17/2011 10:07 AM
Bromoform	ND	0.086	1.0		ug/L	1	12/17/2011 10:07 AM
Bromomethane	ND	0.13	1.0		ug/L	1	12/17/2011 10:07 AM
Carbon disulfide	ND	0.054	1.0		ug/L	1	12/17/2011 10:07 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
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- S Spike/Surrogate outside of limits due to matrix interference
- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***11-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007016
Project: PG&E Topock, 417981.ER.02.DM
Lab ID: N007016-002

Client Sample ID: TB-03-007
Collection Date: 12/12/2011 2:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **MS1_111217B**	QC Batch: **D11VW186**			PrepDate:			Analyst: **QBM**
Carbon tetrachloride	ND	0.10	1.0		ug/L	1	12/17/2011 10:07 AM
Chlorobenzene	ND	0.092	1.0		ug/L	1	12/17/2011 10:07 AM
Chloroethane	ND	0.14	1.0		ug/L	1	12/17/2011 10:07 AM
Chloroform	ND	0.058	1.0		ug/L	1	12/17/2011 10:07 AM
Chloromethane	ND	0.054	1.0		ug/L	1	12/17/2011 10:07 AM
cis-1,2-Dichloroethene	ND	0.11	1.0		ug/L	1	12/17/2011 10:07 AM
cis-1,3-Dichloropropene	ND	0.10	1.0		ug/L	1	12/17/2011 10:07 AM
Dibromochloromethane	ND	0.061	1.0		ug/L	1	12/17/2011 10:07 AM
Dibromomethane	ND	0.15	1.0		ug/L	1	12/17/2011 10:07 AM
Dichlorodifluoromethane	ND	0.12	1.0		ug/L	1	12/17/2011 10:07 AM
Ethylbenzene	ND	0.051	1.0		ug/L	1	12/17/2011 10:07 AM
Freon-113	ND	0.080	1.0		ug/L	1	12/17/2011 10:07 AM
Hexachlorobutadiene	ND	0.17	1.0		ug/L	1	12/17/2011 10:07 AM
Isopropylbenzene	ND	0.057	1.0		ug/L	1	12/17/2011 10:07 AM
m,p-Xylene	ND	0.17	1.0		ug/L	1	12/17/2011 10:07 AM
Methylene chloride	ND	0.10	5.0		ug/L	1	12/17/2011 10:07 AM
MTBE	ND	0.089	1.0		ug/L	1	12/17/2011 10:07 AM
n-Butylbenzene	ND	0.082	1.0		ug/L	1	12/17/2011 10:07 AM
n-Propylbenzene	ND	0.087	1.0		ug/L	1	12/17/2011 10:07 AM
Naphthalene	ND	0.056	1.0		ug/L	1	12/17/2011 10:07 AM
o-Xylene	ND	0.077	1.0		ug/L	1	12/17/2011 10:07 AM
sec-Butylbenzene	ND	0.098	1.0		ug/L	1	12/17/2011 10:07 AM
Styrene	ND	0.072	1.0		ug/L	1	12/17/2011 10:07 AM
tert-Butylbenzene	ND	0.062	1.0		ug/L	1	12/17/2011 10:07 AM
Tetrachloroethene	ND	0.13	1.0		ug/L	1	12/17/2011 10:07 AM
Toluene	ND	0.12	2.5		ug/L	1	12/17/2011 10:07 AM
trans-1,2-Dichloroethene	ND	0.094	1.0		ug/L	1	12/17/2011 10:07 AM
trans-1,3-Dichloropropene	ND	0.10	1.0		ug/L	1	12/17/2011 10:07 AM
Trichloroethene	ND	0.060	1.0		ug/L	1	12/17/2011 10:07 AM
Trichlorofluoromethane	ND	0.097	1.0		ug/L	1	12/17/2011 10:07 AM
Vinyl chloride	ND	0.12	1.0		ug/L	1	12/17/2011 10:07 AM
Xylenes, Total	ND	1.5	2.0		ug/L	1	12/17/2011 10:07 AM
Surr: 1,2-Dichloroethane-d4	81.7	0	72-119		%REC	1	12/17/2011 10:07 AM
Surr: 4-Bromofluorobenzene	99.2	0	76-119		%REC	1	12/17/2011 10:07 AM
Surr: Dibromofluoromethane	90.1	0	85-115		%REC	1	12/17/2011 10:07 AM
Surr: Toluene-d8	105	0	81-120		%REC	1	12/17/2011 10:07 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, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.860	1.0	20.00	0	94.3	81	129				
1,1,1-Trichloroethane	16.820	1.0	20.00	0	84.1	67	132				
1,1,2,2-Tetrachloroethane	20.560	1.0	20.00	0	103	63	128				
1,1,2-Trichloroethane	19.210	1.0	20.00	0	96.0	75	125				
1,1-Dichloroethane	22.180	1.0	20.00	0	111	69	133				
1,1-Dichloroethene	22.140	1.0	20.00	0	111	68	130				
1,1-Dichloropropene	20.100	1.0	20.00	0	101	73	132				
1,2,3-Trichlorobenzene	20.180	1.0	20.00	0	101	67	137				
1,2,3-Trichloropropane	20.520	1.0	20.00	0	103	73	124				
1,2,4-Trichlorobenzene	20.530	1.0	20.00	0	103	66	134				
1,2,4-Trimethylbenzene	21.280	1.0	20.00	0	106	74	132				
1,2-Dibromo-3-chloropropane	18.790	2.0	20.00	0	94.0	50	132				
1,2-Dibromoethane	19.150	1.0	20.00	0	95.8	80	121				
1,2-Dichlorobenzene	19.800	1.0	20.00	0	99.0	71	122				
1,2-Dichloroethane	20.280	1.0	20.00	0	101	69	132				
1,2-Dichloropropane	18.950	1.0	20.00	0	94.8	75	125				
1,3,5-Trimethylbenzene	21.380	1.0	20.00	0	107	74	131				
1,3-Dichlorobenzene	20.210	1.0	20.00	0	101	75	124				
1,3-Dichloropropane	19.530	1.0	20.00	0	97.6	73	126				
1,4-Dichlorobenzene	19.880	1.0	20.00	0	99.4	74	123				
2,2-Dichloropropane	17.300	1.0	20.00	0	86.5	69	137				
2-Butanone	185.540	10	200.0	0	92.8	49	136				
2-Chlorotoluene	20.910	1.0	20.00	0	105	73	126				
4-Chlorotoluene	20.750	1.0	20.00	0	104	74	128				
4-Isopropyltoluene	21.310	1.0	20.00	0	107	73	130				
4-Methyl-2-pentanone	187.460	10	200.0	0	93.7	58	134				
Acetone	187.690	10	200.0	0	93.8	40	135				
Acrolein	181.760	20	200.0	0	90.9	75	125				
Acrylonitrile	183.060	20	200.0	0	91.5	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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.120	1.0	20.00	0	101	81	122				
Bromobenzene	19.740	1.0	20.00	0	98.7	76	124				
Bromochloromethane	20.710	1.0	20.00	0	104	65	129				
Bromodichloromethane	17.330	1.0	20.00	0	86.7	76	121				
Bromoform	18.350	1.0	20.00	0	91.8	69	128				
Bromomethane	19.650	1.0	20.00	0	98.2	53	141				
Carbon disulfide	21.140	1.0	20.00	0	106	75	125				
Carbon tetrachloride	22.810	1.0	20.00	0	114	66	138				
Chlorobenzene	20.010	1.0	20.00	0	100	81	122				
Chloroethane	21.070	1.0	20.00	0	105	58	133				
Chloroform	20.940	1.0	20.00	0	105	69	128				
Chloromethane	20.510	1.0	20.00	0	103	56	131				
cis-1,2-Dichloroethene	21.650	1.0	20.00	0	108	72	126				
cis-1,3-Dichloropropene	19.740	1.0	20.00	0	98.7	69	131				
Dibromochloromethane	18.120	1.0	20.00	0	90.6	66	133				
Dibromomethane	20.880	1.0	20.00	0	104	76	125				
Dichlorodifluoromethane	21.300	1.0	20.00	0	106	53	153				
Ethylbenzene	20.370	1.0	20.00	0	102	73	127				
Freon-113	18.730	1.0	20.00	0	93.6	75	125				
Hexachlorobutadiene	21.420	1.0	20.00	0	107	67	131				
Isopropylbenzene	21.140	1.0	20.00	0	106	75	127				
m,p-Xylene	41.270	1.0	40.00	0	103	76	128				
Methylene chloride	20.630	5.0	20.00	0	103	63	137				
MTBE	18.920	1.0	20.00	0	94.6	65	123				
n-Butylbenzene	21.490	1.0	20.00	0	107	69	137				
n-Propylbenzene	21.270	1.0	20.00	0	106	72	129				
Naphthalene	19.460	1.0	20.00	0	97.3	54	138				
o-Xylene	20.680	1.0	20.00	0	103	80	121				
sec-Butylbenzene	21.090	1.0	20.00	0	105	72	127				
Styrene	20.670	1.0	20.00	0	103	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217LCS** SampType: **LCS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **LCSW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	20.990	1.0	20.00	0	105	70	129				
Tetrachloroethene	21.300	1.0	20.00	0	106	66	128				
Toluene	19.640	2.5	20.00	0	98.2	77	122				
trans-1,2-Dichloroethene	21.890	1.0	20.00	0	109	63	137				
trans-1,3-Dichloropropene	20.420	1.0	20.00	0	102	59	135				
Trichloroethene	19.320	1.0	20.00	0	96.6	70	127				
Trichlorofluoromethane	22.460	1.0	20.00	0	112	57	129				
Vinyl chloride	20.620	1.0	20.00	0	103	50	134				
Xylenes, Total	61.950	2.0	60.00	0	103	75	125				
Surr: 1,2-Dichloroethane-d4	24.510		25.00		98.0	72	119				
Surr: 4-Bromofluorobenzene	23.270		25.00		93.1	76	119				
Surr: Dibromofluoromethane	26.320		25.00		105	85	115				
Surr: Toluene-d8	23.270		25.00		93.1	81	120				

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.320	1.0	20.00	0	91.6	81	129				
1,1,1-Trichloroethane	16.640	1.0	20.00	0	83.2	67	132				
1,1,2,2-Tetrachloroethane	18.160	1.0	20.00	0	90.8	63	128				
1,1,2-Trichloroethane	17.160	1.0	20.00	0	85.8	75	125				
1,1-Dichloroethane	21.470	1.0	20.00	0	107	69	133				
1,1-Dichloroethene	21.850	1.0	20.00	0	109	68	130				
1,1-Dichloropropene	19.680	1.0	20.00	0	98.4	73	132				
1,2,3-Trichlorobenzene	18.710	1.0	20.00	0	93.6	67	137				
1,2,3-Trichloropropane	15.520	1.0	20.00	0	77.6	73	124				
1,2,4-Trichlorobenzene	19.530	1.0	20.00	0	97.6	66	134				
1,2,4-Trimethylbenzene	19.520	1.0	20.00	0	97.6	74	132				
1,2-Dibromo-3-chloropropane	15.840	2.0	20.00	0	79.2	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	16.870	1.0	20.00	0	84.4	80	121				
1,2-Dichlorobenzene	19.490	1.0	20.00	0	97.5	71	122				
1,2-Dichloroethane	18.480	1.0	20.00	0	92.4	69	132				
1,2-Dichloropropane	18.750	1.0	20.00	0	93.8	75	125				
1,3,5-Trimethylbenzene	20.850	1.0	20.00	0	104	74	131				
1,3-Dichlorobenzene	20.070	1.0	20.00	0	100	75	124				
1,3-Dichloropropane	17.930	1.0	20.00	0	89.7	73	126				
1,4-Dichlorobenzene	19.520	1.0	20.00	0	97.6	74	123				
2,2-Dichloropropane	17.030	1.0	20.00	0	85.2	69	137				
2-Butanone	96.960	10	200.0	0	48.5	49	136				S
2-Chlorotoluene	20.710	1.0	20.00	0	104	73	126				
4-Chlorotoluene	20.660	1.0	20.00	0	103	74	128				
4-Isopropyltoluene	21.020	1.0	20.00	0	105	73	130				
4-Methyl-2-pentanone	155.670	10	200.0	0	77.8	58	134				
Acetone	67.590	10	200.0	0	33.8	40	135				S
Acrolein	149.700	20	200.0	0	74.8	75	125				S
Acrylonitrile	151.590	20	200.0	0	75.8	75	125				
Benzene	19.850	1.0	20.00	0	99.2	81	122				
Bromobenzene	19.060	1.0	20.00	0	95.3	76	124				
Bromochloromethane	19.060	1.0	20.00	0	95.3	65	129				
Bromodichloromethane	16.420	1.0	20.00	0	82.1	76	121				
Bromoform	16.560	1.0	20.00	0	82.8	69	128				
Bromomethane	19.000	1.0	20.00	0	95.0	53	141				
Carbon disulfide	20.360	1.0	20.00	0	102	75	125				
Carbon tetrachloride	22.540	1.0	20.00	0	113	66	138				
Chlorobenzene	19.910	1.0	20.00	0	99.6	81	122				
Chloroethane	20.310	1.0	20.00	0	102	58	133				
Chloroform	20.350	1.0	20.00	0	102	69	128				
Chloromethane	19.870	1.0	20.00	0	99.4	56	131				
cis-1,2-Dichloroethene	21.240	1.0	20.00	0	106	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMS** SampType: **MS** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	18.690	1.0	20.00	0	93.5	69	131				
Dibromochloromethane	16.780	1.0	20.00	0	83.9	66	133				
Dibromomethane	18.120	1.0	20.00	0	90.6	76	125				
Dichlorodifluoromethane	20.720	1.0	20.00	0	104	53	153				
Ethylbenzene	20.330	1.0	20.00	0	102	73	127				
Freon-113	18.090	1.0	20.00	0	90.4	75	125				
Hexachlorobutadiene	21.400	1.0	20.00	0	107	67	131				
Isopropylbenzene	21.070	1.0	20.00	0	105	75	127				
m,p-Xylene	40.850	1.0	40.00	0	102	76	128				
Methylene chloride	19.250	5.0	20.00	0	96.2	63	137				
MTBE	17.410	1.0	20.00	0	87.1	65	123				
n-Butylbenzene	21.380	1.0	20.00	0	107	69	137				
n-Propylbenzene	21.410	1.0	20.00	0	107	72	129				
Naphthalene	15.990	1.0	20.00	0	80.0	54	138				
o-Xylene	20.340	1.0	20.00	0	102	80	121				
sec-Butylbenzene	21.020	1.0	20.00	0	105	72	127				
Styrene	17.500	1.0	20.00	0	87.5	65	134				
tert-Butylbenzene	21.150	1.0	20.00	0	106	70	129				
Tetrachloroethene	21.440	1.0	20.00	0	107	66	128				
Toluene	19.140	2.5	20.00	0.5100	93.2	77	122				
trans-1,2-Dichloroethene	21.710	1.0	20.00	0	109	63	137				
trans-1,3-Dichloropropene	18.490	1.0	20.00	0	92.5	59	135				
Trichloroethene	18.940	1.0	20.00	0	94.7	70	127				
Trichlorofluoromethane	21.460	1.0	20.00	0	107	57	129				
Vinyl chloride	19.900	1.0	20.00	0	99.5	50	134				
Xylenes, Total	61.190	2.0	60.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	23.170		25.00		92.7	72	119				
Surr: 4-Bromofluorobenzene	24.490		25.00		98.0	76	119				
Surr: Dibromofluoromethane	27.070		25.00		108	85	115				
Surr: Toluene-d8	24.020		25.00		96.1	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	18.450	1.0	20.00	0	92.2	81	129	18.32	0.707	20	
1,1,1-Trichloroethane	16.740	1.0	20.00	0	83.7	67	132	16.64	0.599	20	
1,1,2,2-Tetrachloroethane	17.880	1.0	20.00	0	89.4	63	128	18.16	1.55	20	
1,1,2-Trichloroethane	16.760	1.0	20.00	0	83.8	75	125	17.16	2.36	20	
1,1-Dichloroethane	21.550	1.0	20.00	0	108	69	133	21.47	0.372	20	
1,1-Dichloroethene	21.530	1.0	20.00	0	108	68	130	21.85	1.48	20	
1,1-Dichloropropene	19.390	1.0	20.00	0	97.0	73	132	19.68	1.48	20	
1,2,3-Trichlorobenzene	19.130	1.0	20.00	0	95.7	67	137	18.71	2.22	20	
1,2,3-Trichloropropane	15.320	1.0	20.00	0	76.6	73	124	15.52	1.30	20	
1,2,4-Trichlorobenzene	20.040	1.0	20.00	0	100	66	134	19.53	2.58	20	
1,2,4-Trimethylbenzene	17.520	1.0	20.00	0	87.6	74	132	19.52	10.8	20	
1,2-Dibromo-3-chloropropane	15.700	2.0	20.00	0	78.5	50	132	15.84	0.888	20	
1,2-Dibromoethane	16.020	1.0	20.00	0	80.1	80	121	16.87	5.17	20	
1,2-Dichlorobenzene	19.770	1.0	20.00	0	98.8	71	122	19.49	1.43	20	
1,2-Dichloroethane	18.380	1.0	20.00	0	91.9	69	132	18.48	0.543	20	
1,2-Dichloropropane	18.870	1.0	20.00	0	94.4	75	125	18.75	0.638	20	
1,3,5-Trimethylbenzene	20.650	1.0	20.00	0	103	74	131	20.85	0.964	20	
1,3-Dichlorobenzene	20.730	1.0	20.00	0	104	75	124	20.07	3.24	20	
1,3-Dichloropropane	17.960	1.0	20.00	0	89.8	73	126	17.93	0.167	20	
1,4-Dichlorobenzene	19.890	1.0	20.00	0	99.4	74	123	19.52	1.88	20	
2,2-Dichloropropane	17.310	1.0	20.00	0	86.6	69	137	17.03	1.63	20	
2-Butanone	91.140	10	200.0	0	45.6	49	136	96.96	6.19	20	S
2-Chlorotoluene	21.110	1.0	20.00	0	106	73	126	20.71	1.91	20	
4-Chlorotoluene	21.110	1.0	20.00	0	106	74	128	20.66	2.15	20	
4-Isopropyltoluene	21.380	1.0	20.00	0	107	73	130	21.02	1.70	20	
4-Methyl-2-pentanone	147.930	10	200.0	0	74.0	58	134	155.7	5.10	20	
Acetone	63.860	10	200.0	0	31.9	40	135	67.59	5.68	20	S
Acrolein	140.630	20	200.0	0	70.3	75	125	149.7	6.25	20	S
Acrylonitrile	149.310	20	200.0	0	74.7	75	125	151.6	1.52	20	S
Benzene	19.750	1.0	20.00	0	98.8	81	122	19.85	0.505	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	19.770	1.0	20.00	0	98.8	76	124	19.06	3.66	20	
Bromochloromethane	19.070	1.0	20.00	0	95.4	65	129	19.06	0.0525	20	
Bromodichloromethane	16.730	1.0	20.00	0	83.6	76	121	16.42	1.87	20	
Bromoform	16.030	1.0	20.00	0	80.2	69	128	16.56	3.25	20	
Bromomethane	18.800	1.0	20.00	0	94.0	53	141	19.00	1.06	20	
Carbon disulfide	20.560	1.0	20.00	0	103	75	125	20.36	0.978	20	
Carbon tetrachloride	22.950	1.0	20.00	0	115	66	138	22.54	1.80	20	
Chlorobenzene	20.110	1.0	20.00	0	101	81	122	19.91	1.00	20	
Chloroethane	19.850	1.0	20.00	0	99.2	58	133	20.31	2.29	20	
Chloroform	20.500	1.0	20.00	0	103	69	128	20.35	0.734	20	
Chloromethane	19.750	1.0	20.00	0	98.8	56	131	19.87	0.606	20	
cis-1,2-Dichloroethene	21.440	1.0	20.00	0	107	72	126	21.24	0.937	20	
cis-1,3-Dichloropropene	18.630	1.0	20.00	0	93.2	69	131	18.69	0.322	20	
Dibromochloromethane	16.820	1.0	20.00	0	84.1	66	133	16.78	0.238	20	
Dibromomethane	18.300	1.0	20.00	0	91.5	76	125	18.12	0.988	20	
Dichlorodifluoromethane	20.350	1.0	20.00	0	102	53	153	20.72	1.80	20	
Ethylbenzene	20.280	1.0	20.00	0	101	73	127	20.33	0.246	20	
Freon-113	18.300	1.0	20.00	0	91.5	75	125	18.09	1.15	20	
Hexachlorobutadiene	21.630	1.0	20.00	0	108	67	131	21.40	1.07	20	
Isopropylbenzene	21.480	1.0	20.00	0	107	75	127	21.07	1.93	20	
m,p-Xylene	40.340	1.0	40.00	0	101	76	128	40.85	1.26	20	
Methylene chloride	19.480	5.0	20.00	0	97.4	63	137	19.25	1.19	20	
MTBE	17.000	1.0	20.00	0	85.0	65	123	17.41	2.38	20	
n-Butylbenzene	21.710	1.0	20.00	0	109	69	137	21.38	1.53	20	
n-Propylbenzene	21.580	1.0	20.00	0	108	72	129	21.41	0.791	20	
Naphthalene	15.210	1.0	20.00	0	76.1	54	138	15.99	5.00	20	
o-Xylene	20.350	1.0	20.00	0	102	80	121	20.34	0.0492	20	
sec-Butylbenzene	21.350	1.0	20.00	0	107	72	127	21.02	1.56	20	
Styrene	13.160	1.0	20.00	0	65.8	65	134	17.50	28.3	20	R
tert-Butylbenzene	21.470	1.0	20.00	0	107	70	129	21.15	1.50	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **N007014-004FMSD** SampType: **MSD** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **ZZZZZZ** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	21.620	1.0	20.00	0	108	66	128	21.44	0.836	20	
Toluene	19.040	2.5	20.00	0.5100	92.7	77	122	19.14	0.524	20	
trans-1,2-Dichloroethene	21.380	1.0	20.00	0	107	63	137	21.71	1.53	20	
trans-1,3-Dichloropropene	17.820	1.0	20.00	0	89.1	59	135	18.49	3.69	20	
Trichloroethene	19.120	1.0	20.00	0	95.6	70	127	18.94	0.946	20	
Trichlorofluoromethane	21.110	1.0	20.00	0	106	57	129	21.46	1.64	20	
Vinyl chloride	19.640	1.0	20.00	0	98.2	50	134	19.90	1.32	20	
Xylenes, Total	60.690	2.0	60.00	0	101	75	125	61.19	0.820	20	
Surr: 1,2-Dichloroethane-d4	23.230		25.00		92.9	72	119		0		
Surr: 4-Bromofluorobenzene	24.230		25.00		96.9	76	119		0		
Surr: Dibromofluoromethane	27.420		25.00		110	85	115		0		
Surr: Toluene-d8	23.910		25.00		95.6	81	120		0		

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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:

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3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: **D111217MB2** SampType: **MBLK** TestCode: **8260_WP_LL** Units: **ug/L** Prep Date: RunNo: **82609**
Client ID: **PBW** Batch ID: **D11VW186** TestNo: **EPA 8260B** Analysis Date: **12/17/2011** SeqNo: **1339528**

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	0.480	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	22.930		25.00		91.7	72	119				
Surr: 4-Bromofluorobenzene	24.710		25.00		98.8	76	119				
Surr: Dibromofluoromethane	23.690		25.00		94.8	85	115				
Surr: Toluene-d8	25.750		25.00		103	81	120				

Qualifiers:

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Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:23:32 PM Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 5

	Container:	1 Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	1x VOA			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	HCL			
	Filtered:	NA	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	2	2	2	2	2	28	28	28			
		Extra (*)	Metals (SW6010B/SW6020A/SW7470A dis) Field Filtered Title 22 metals	Metals (SW6010B/SW6020A dis) Field Filtered Al	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	VOC (8260)			
DATE	TIME	Matrix													Number of Containers	COMMENTS
MW-57-185-007	12/13/2011	13:57	Water	X	X	X	X	X	X	X	X	X	X		N007016 - 1	10	
TB-03-007 12/12/11 1430 Water													X		↓ - 2 TOTAL NUMBER OF CONTAINERS	11	

	Signatures	Date/Time
Approved by		12/13/11 1715
Sampled by		
Relinquished by	PMGalvan	12/13/11 1715
Received by	PMGalvan	12/13/11 1933
Relinquished by		
Received by	RUBCARTHY	12/13/11 1933

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ no 1.4°C
Airbill No: 12 # 2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

12/13/2011 5:23:32 PM

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/13/2011
COC Number: 5

	DATE	TIME	Matrix	Extra (*)	Metals (SW6010B/SW6020A/SW7470Ad is) Field Filtered Title 22 metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	VOC (8260)	Number of Containers	COMMENTS
Container:				1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	1xVOA		
Preservatives:				4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	HCL		
Filtered:				NA	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA		
Holding Time:				30	180	180	180	2	2	2	2	2	28	28	28		
MW-57-185-007	12/13/2011	13:57	Water	X	X	X	X	X	X	X	X	X	X	X		10	
TB-03-007 12/12/11 1430 water															X	11	

TOTAL NUMBER OF CONTAINERS

Signatures		Date/Time
Approved by		12/13/11
Sampled by		1915
Relinquished by		
Received by	PMGaby	12/13/11 1715
Relinquished by	PMGaby	12/13/11 1933
Received by	KMCARTHY	12/13/11 1933

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ no 1.4°C
Airbill No: IR # 2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Advanced Technology Laboratories, Inc.

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: 12/13/2011 Workorder: N007016

Rep sample Temp (Deg C): 1.4 IR Gun ID: 12

Temp Blank: ☐ Yes ☑ No

Carrier name: ATL

Last 4 digits of Tracking No.: na Packing Material Used: Bubble Wrap

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 B MBC 12/14/11 Reviewed By:

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 **N007016-001C,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(15.4352-15.3271)*1000000}{10}$$

$$= 10810 \text{ mg/L}$$

Reporting result in two significant figures,

$$\text{TDS} = 11000 \text{ mg/L}$$

1/9/12

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: Water

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N007016-001C,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4732-1.4703)*1000000}{1000}$$

mfn 11/9/12

$$= 2.7$$

Reporting result in two significant figures,

TSS = 2.7 mg/L

Since reporting limit is 1.0 mg/L, therefore:

TSS = ND

m 11/9/12

Sample ID: **N007016-001C @ Ph 8.37**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.30mL)

= **0.02033 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (5.7) (0.02033N) (1) * 1000

= **115.9 mg/L**

Reporting results in two significant figures,

= **120 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02033N) (1) * 1000

= 0

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (5.7mL) (0.02033) (1) * 1000

= **115.9 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	OH Alkalinity as $CaCO_3$	CO_3 Alkalinity as $CaCO_3$	HCO_3 Alkalinity as $CaCO_3$
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = 0

HCO_3 Alkalinity as $CaCO_3$ = **115.9 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = 0

HCO_3 Alkalinity as $CaCO_3$ = **120 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 **N007016-001C**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	6.400 * 1000
	=	6400 mg/L

Reporting **N007016-001C**, results in two significant figures,

Chloride, mg/L	**=**	**6400 mg/L**

MR 1/9/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

$$\text{Ammonia as N, mg/L} = A * DF$$

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007016-001D,** concentration in mg/L is calculated as follows:

$$\text{Ammonia as N, mg/L} = 0.065 * 1$$

$$= 0.065 \text{ mg/L}$$

Reporting result in two significant figures,

$$\text{Ammonia as N} = 0.065 \text{ mg/L}$$

Since the reporting limit is 0.1 mg/L therefore,

$$\text{Ammonia as N} = ND$$

NS for 1/7/12

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 N007016-001B, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.00463 \frac{mg/L * 0.025\ L * 1000}{0.025\ L}$$

Fe = 4.63 ug/L

Reporting result in two significant figures,
Result is below the reporting limit therefore,

Fe =ND

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/5/2012**	**Units:**	**ug/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007014-002B**
Batch # : **38650**

Analyte	A	B	Difference	% D
Barium	67.1	44.736	22.36400	33.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @2x dilution
B= ug/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/5/2012
Digestion Date: 12/19/2011
Instrument Name: ICP2
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: mg/L

Work Order # : N007014-002B
Batch # : 38650

Analyte	A	B	Difference	% D
Calcium	757.9	740.671	17.22900	2.3
Magnesium	1.453	1.447	0.00600	0.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @2x dilution
B= mg/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/7/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007014-002B**
Batch # : **38650**

Analyte	A	B	Difference	% D
Sodium	3147	2730.168	416.83200	13.2

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002BDT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	44.736	30						67.10	40.0	10	R

PS of Ba @ 2x is within acceptance criteria MS 1/10/12

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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1345110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	740.671	5.0						757.9	2.29	10	
Magnesium	1.447	1.0						1.453	0.424	10	

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012	SeqNo: 1346136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2730.168	250						3147	14.2	10	R

PS of Sodium is within acceptance criteria by 1/10/12

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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 5**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	51559.791	250	50000	0	103	75	125				
Antimony	2550.950	50	2500	0	102	75	125				
Barium	2545.360	15	2500	67.10	99.1	75	125				
Beryllium	2559.986	5.0	2500	0	102	75	125				
Cadmium	2500.481	15	2500	0	100	75	125				
Cobalt	2455.434	15	2500	0	98.2	75	125				
Copper	2557.588	25	2500	1.181	102	75	125				
Iron	48655.281	100	50000	0	97.3	75	125				
Lead	2426.578	50	2500	0	97.1	75	125				
Manganese	4807.678	50	5000	7.732	96.0	75	125				
Molybdenum	2557.925	25	2500	40.97	101	75	125				
Nickel	2571.813	25	2500	0	103	75	125				
Vanadium	2546.522	15	2500	19.02	101	75	125				
Zinc	2536.715	50	2500	0	101	75	125				

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	1047.188	6.0	1000	13.86	103	75	125				

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20475.809	100	20000	0	102	75	125				
Antimony	1025.724	20	1000	0	103	75	125				
Barium	1023.568	6.0	1000	0	102	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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	984.980	2.0	1000	0	98.5	75	125				
Cadmium	951.398	6.0	1000	0	95.1	75	125				
Cobalt	930.015	6.0	1000	0	93.0	75	125				
Copper	1021.894	10	1000	0	102	75	125				
Iron	18371.607	40	20000	0	91.9	75	125				
Lead	909.673	20	1000	0	91.0	75	125				
Manganese	1859.287	20	2000	3.845	92.8	75	125				
Molybdenum	1008.322	10	1000	1.607	101	75	125				
Nickel	964.968	10	1000	0	96.5	75	125				
Selenium	998.746	20	1000	0	99.9	75	125				
Vanadium	998.188	6.0	1000	0	99.8	75	125				
Zinc	968.760	20	1000	0	96.9	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: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007014-002B-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82791**			
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**			SeqNo: **1345115**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	805.510	2.5	50.00	757.9	95.3	75	125				
Magnesium	49.243	0.50	50.00	1.453	95.6	75	125				

Sample ID: **N007014-002B-PS 1**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82791**			
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**			SeqNo: **1346161**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	310.200	50	250.0	51.20	104	75	125				

Sample ID: **N007014-002B-PS 5**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82791**			
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**			SeqNo: **1346162**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	13707.320	250	12500	3147	84.5	75	125				

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82791**			
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**			SeqNo: **1346727**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	815.182	1.0	20.00	757.9	287	75	125				S
Magnesium	19.030	0.20	20.00	1.453	87.9	75	125				

DTof Ca @ 10x in within acceptance criteria

MS 1/10/12

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 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 **N007016-001B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 2.414 * 5 * (25/25)

= 12.07. ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 12

NS fa
11/10/12

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007016
Test Method: EPA 6020
Analysis Date: 01/03/12

Matrix: Water
Batch No.: 38609

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to As,Se & Tl. The calc. Values were < 25X the RL. PS @ 2x & 5x passes the criteria

Sample ID	Analyte	&Units	Calc Val	QQual	SAMPrefval	%DIFF	%DIFFlimit
N007014-004B DT 5X	Chromium	µg/L	7.236309025	PASS	6.645276212	-8.89%	10
N007014-004B DT 5X	Arsenic	µg/L	1.775450326	NA	1.593677686	-11.41%	10
N007014-004B DT 25X	Selenium	µg/L	8.47262997	NA	7.643825978	-10.84%	10
N007014-004B DT 25X	Thallium	µg/L	0	NA	0.53654532	100.00%	10

m 1/a/n

CLIENT: CH2M HILL
Work Order: N007016
Project: PG&E Topock, 417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N007014-004B-PS 5	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82808
Client ID: ZZZZZZ	Batch ID: 38609	TestNo: EPA 6020	EPA 3010A	Analysis Date: 1/3/2012	SeqNo: 1346002

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	53.372	2.5	50.00	7.644	91.5	75	125				
Thallium	55.643	2.5	50.00	0.5365	110	75	125				

Sample ID: N007014-004B-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 82808
Client ID: ZZZZZZ	Batch ID: 38609	TestNo: EPA 6020	EPA 3010A	Analysis Date: 1/3/2012	SeqNo: 1346003

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.011	0.20	20.00	1.594	97.1	75	125				
Chromium	25.521	1.0	20.00	6.645	94.4	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 **N007016-001B**, 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	=	**0.0**

Mercury, ug/L	=	**ND**

M 1/4/12

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

N007016-002A

For 1,2-Dichloroethane-d4 the corresponding Internal Standard is Pentafluorobenzene

Ave RF	0.339
Area of 1,2-Dichloroethane-d4	103649
Area of Internal Standard	374701
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of 1,2-Dichloroethane-d4 (ug/L)} = \frac{103649 * 25.00 ug/L}{0.339 * 374701}$$

Conc of 1,2-Dichloroethane-d4 (ug/L)= 20.39954941

Reporting result in three significant figures,

Concentration of 1,2-Dichloroethane-d4 = 20.4 ug/L

MS 12/27/11

January 13, 2012

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.: N007032

RE: PG&E Topock,417981.ER.02.DM

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 15, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

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 were analyzed within method holding time.

Subcontracted Analyses:

Herbicides by EPA 8151 was subcontracted to Test America- Fife,WA

Analytical Comments for EPA 300.0 :

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Orthophosphate possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium and Sodium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8081A:

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 for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8270C_SIM:

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. LCS/LCSD was used instead to measure precision.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *13-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-001A	MW-86-007	Water	12/13/2011 3:50:00 PM	12/15/2011	
N007032-002A	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002B	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002C	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002D	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002E	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002F	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002G	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-002H	MW-60BR-245-007	Water	12/14/2011 8:02:00 AM	12/15/2011	
N007032-003A	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003B	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003C	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003D	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003E	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003F	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-003G	MW-61-110-007	Water	12/14/2011 8:54:00 AM	12/15/2011	
N007032-004A	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004B	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004C	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004D	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004E	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004F	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-004G	MW-62-110-007	Water	12/14/2011 4:15:00 PM	12/15/2011	
N007032-005A	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-005B	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-005C	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-005D	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-005E	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-005F	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-005G	MW-62-190-007	Water	12/14/2011 4:30:00 PM	12/15/2011	
N007032-006A	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006B	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006C	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006D	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006E	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006F	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006G	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006H	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-006I	MW-67-185-007	Water	12/14/2011 2:17:00 PM	12/15/2011	
N007032-007A	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007B	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007C	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007D	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007E	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007F	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007G	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-007H	MW-67-225-007	Water	12/14/2011 4:46:00 PM	12/15/2011	
N007032-008A	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008B	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008C	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008D	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008E	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008F	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-008G	MW-67-260-007	Water	12/14/2011 3:31:00 PM	12/15/2011	
N007032-009A	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-009B	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-009C	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-009D	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-009E	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-009F	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-009G	MW-68-240-007	Water	12/14/2011 4:39:00 PM	12/15/2011	
N007032-010A	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010B	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010C	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010D	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010E	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010F	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-010G	MW-68BR-280-007	Water	12/14/2011 12:28:00 PM	12/15/2011	
N007032-011A	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011B	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011C	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011D	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011E	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011F	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011G	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011H	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-011I	MW-69-195-007	Water	12/14/2011 3:30:00 PM	12/15/2011	
N007032-012A	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012B	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012C	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012D	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012E	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012F	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-012G	MW-73-080-007	Water	12/14/2011 10:05:00 AM	12/15/2011	
N007032-013A	MW-82-007	Water	12/14/2011 9:56:00 AM	12/15/2011	
N007032-013B	MW-82-007	Water	12/14/2011 9:56:00 AM	12/15/2011	
N007032-013C	MW-82-007	Water	12/14/2011 9:56:00 AM	12/15/2011	
N007032-014A	MW-83-007	Water	12/14/2011 1:38:00 PM	12/15/2011	
N007032-014B	MW-83-007	Water	12/14/2011 1:38:00 PM	12/15/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-014C	MW-83-007	Water	12/14/2011 1:38:00 PM	12/15/2011	
N007032-015A	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-015B	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-015C	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-015D	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-015E	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-015F	MW-102-007	Water	12/15/2011 1:00:00 PM	12/15/2011	
N007032-016A	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-016B	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-016C	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-016D	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-016E	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-016F	MW-57-070-007	Water	12/15/2011 9:10:00 AM	12/15/2011	
N007032-017A	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-017B	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-017C	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-017D	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-017E	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-017F	MW-59-100-007	Water	12/15/2011 12:04:00 PM	12/15/2011	
N007032-018A	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-018B	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-018C	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-018D	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-018E	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-018F	MW-60-125-007	Water	12/14/2011 12:01:00 PM	12/15/2011	
N007032-019A	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019B	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019C	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019D	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019E	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-019F	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019G	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-019H	MW-64BR-LWR-150-007	Water	12/15/2011 11:05:00 AM	12/15/2011	
N007032-020A	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020B	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020C	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020D	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020E	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020F	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020G	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-020H	MW-65-160-007	Water	12/15/2011 8:33:00 AM	12/15/2011	
N007032-021A	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021B	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021C	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021D	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021E	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021F	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-021G	MW-65-225-007	Water	12/15/2011 1:40:00 PM	12/15/2011	
N007032-022A	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022B	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022C	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022D	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022E	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022F	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022G	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-022H	MW-66-165-007	Water	12/15/2011 10:43:00 AM	12/15/2011	
N007032-023A	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-023B	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-023C	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-023D	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	

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CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007032-023E	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-023F	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-023G	MW-66-230-007	Water	12/15/2011 1:18:00 PM	12/15/2011	
N007032-024A	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024B	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024C	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024D	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024E	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024F	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-024G	MW-68-180-007	Water	12/15/2011 2:30:00 PM	12/15/2011	
N007032-025A	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025B	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025C	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025D	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025E	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025F	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-025G	MW-70BR-225-007	Water	12/15/2011 3:14:00 PM	12/15/2011	
N007032-026A	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026B	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026C	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026D	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026E	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026F	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026G	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-026H	MW-72-080-007	Water	12/15/2011 12:30:00 AM	12/15/2011	
N007032-027A	MW-85-007	Water	12/15/2011 2:55:00 PM	12/15/2011	
N007032-028A	TB04-007	Water	12/14/2011 8:00:00 AM	12/15/2011	

Advanced Technology Laboratories, Inc.
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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *13-Jan-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock.417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216C**	QC Batch: **R82798**			PrepDate:			Analyst: **CEI**
Specific Conductance	15000	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Jan-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216C**	QC Batch: **R82798**				PrepDate:		Analyst: **CEI**
Specific Conductance	8400	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *13-Jan-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216C**	QC Batch: **R82798**				PrepDate:		Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/16/2011

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

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216B**	QC Batch: **R82799**			PrepDate:			Analyst: **CEI**
Specific Conductance	9100	0.10	0.10		umhos/cm	1	12/16/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216B**	QC Batch: **R82799**			PrepDate:			Analyst: **CEI**
Specific Conductance	2500	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216B**	QC Batch: **R82799**			PrepDate:			Analyst: **CEI**
Specific Conductance	9000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216B**	QC Batch: **R82799**			PrepDate:			Analyst: **CEI**
Specific Conductance	8100	0.10	0.10		umhos/cm	1	12/16/2011

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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82798**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82798**		
Client ID: **LCSW**	Batch ID: **R82798**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345675**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1422.000	0.10	1411	0	101	85	115				

Sample ID: **N007032-011DDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82798**		
Client ID: **ZZZZZZ**	Batch ID: **R82798**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345686**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3660.000	0.10						3680	0.545	10	

Sample ID: **N007032-011DMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82798**		
Client ID: **ZZZZZZ**	Batch ID: **R82798**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345687**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	5280.000	0.20	1411	3680	113	75	125				

Sample ID: **N007032-011DMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82798**		
Client ID: **ZZZZZZ**	Batch ID: **R82798**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345688**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	5280.000	0.20	1411	3680	113	75	125	5280	0	10	

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82799**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82799**
Client ID: **LCSW**	Batch ID: **R82799**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**	SeqNo: **1345689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9870.000	0.10	9986	0	98.8	85	115				

Sample ID: **N007032-023DDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82799**
Client ID: **ZZZZZZ**	Batch ID: **R82799**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**	SeqNo: **1345700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	16920.000	0.10						16890	0.177	10	

Sample ID: **N007032-023DMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82799**
Client ID: **ZZZZZZ**	Batch ID: **R82799**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**	SeqNo: **1345701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	28140.000	0.20	9986	16890	113	75	125				

Sample ID: **N007032-023DMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **82799**
Client ID: **ZZZZZZ**	Batch ID: **R82799**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**	SeqNo: **1345702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	28120.000	0.20	9986	16890	112	75	125	28140	0.0711	10	

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82800**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**
Client ID: **LCSW**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9810.000	0.10	9986	0	98.2	85	115				

Sample ID: **N007033-007BDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9030.000	0.10						9050	0.221	10	

Sample ID: **N007033-007BMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19740.000	0.20	9986	9050	107	75	125				

Sample ID: **N007033-007BMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19700.000	0.20	9986	9050	107	75	125	19740	0.203	10	

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

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220B**	QC Batch: **38634**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	8700	100	100		mg/L	1	12/20/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220B**	QC Batch: **38634**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	4900	50	50		mg/L	1	12/20/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220B**	QC Batch: **38634**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	9000	100	100		mg/L	1	12/20/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220C**	QC Batch: **38636**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	5800	100	100		mg/L	1	12/20/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220C**	QC Batch: **38636**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	2200	20	20		mg/L	1	12/20/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220C**	QC Batch: **38636**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	5800	100	100		mg/L	1	12/20/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220C**	QC Batch: **38636**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	5200	50	50		mg/L	1	12/20/2011

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38634**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82685**
Client ID: **PBW**	Batch ID: **38634**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1341306**

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-38634**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82685**
Client ID: **LCSW**	Batch ID: **38634**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1341307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	996.000	10	1000	0	99.6	80	120				

Sample ID: **N007032-010D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82685**
Client ID: **ZZZZZZ**	Batch ID: **38634**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1341309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	11800.000	100						11600	1.71	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38636**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82738**
Client ID: **PBW**	Batch ID: **38636**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342642**

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-38636**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82738**
Client ID: **LCSW**	Batch ID: **38636**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	971.000	10	1000	0	97.1	80	120				

Sample ID: **N007032-022D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82738**
Client ID: **ZZZZZZ**	Batch ID: **38636**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2770.000	33						2883	4.01	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38637**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **PBW**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342655**

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-38637**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **LCSW**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	958.000	10	1000	0	95.8	80	120				

Sample ID: **N007033-017D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **ZZZZZZ**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	883.000	10						889.0	0.677	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

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219G**	QC Batch: **38638**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	4.9	1.0	1.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219G**	QC Batch: **38638**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	ND	1.0	1.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219G**	QC Batch: **38638**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	1.9	1.0	1.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219H**	QC Batch: **38639**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	2.6	1.0	1.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219H**	QC Batch: **38639**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	27	2.0	2.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219H**	QC Batch: **38639**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	2.6	1.0	1.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL NON-FILTERABLE RESIDUE							
			SM2540D				
RunID: **WETCHEM_111219H**	QC Batch: **38639**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Suspended Solids (Residue, Non-Filterable)	5.4	1.0	1.0		mg/L	1	12/19/2011

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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-38638**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82805**
Client ID: **PBW**	Batch ID: **38638**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1345759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-38638**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82805**
Client ID: **LCSW**	Batch ID: **38638**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1345760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	1098.000	10	1000	0	110	80	120				

Sample ID: **N007032-002D-DUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82805**
Client ID: **ZZZZZZ**	Batch ID: **38638**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1345762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	35.000	10						36.00	2.82	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-38639**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82838**
Client ID: **PBW**	Batch ID: **38639**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-38639**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82838**
Client ID: **LCSW**	Batch ID: **38639**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347867**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	976.000	10	1000	0	97.6	80	120				

Sample ID: **N007032-016D-DUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82838**
Client ID: **ZZZZZZ**	Batch ID: **38639**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347871**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	27.200	2.0						26.80	1.48	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2_2540D_W

Sample ID: **MB-38640**	SampType: **MBLK**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82839**
Client ID: **PBW**	Batch ID: **38640**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: **LCS-38640**	SampType: **LCS**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82839**
Client ID: **LCSW**	Batch ID: **38640**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	985.000	10	1000	0	98.5	80	120				

Sample ID: **N007032-024D-DUP**	SampType: **DUP**	TestCode: **160.2_2540D_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82839**
Client ID: **ZZZZZZ**	Batch ID: **38640**	TestNo: **SM2540D**		Analysis Date: **12/19/2011**	SeqNo: **1347882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	57.000	2.0						56.80	0.351	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

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	13	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	14	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	27	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	45	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	45	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	46	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	46	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	110	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	59	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	59	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	56	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	56	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219D**	QC Batch: **R82780**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	80	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	80	1.2	5.0		mg/L	1	12/19/2011

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, Inc.

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82780** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **LCSW** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82780** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **LCSS02** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	99.593	5.0	100.0	0	99.6	85	115	100.6	1.02	20	
Alkalinity, Total (As CaCO3)	99.593	5.0	100.0	0	99.6	85	115	100.6	1.02	20	

Sample ID: **MB-R82780** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **PBW** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007016-001C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	112.805	5.0						113.8	0.897	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	114.837	5.0						115.9	0.881	30	

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007016-001C-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	217.480	5.0	100.0	113.8	104	75	125				
Alkalinity, Total (As CaCO3)	229.675	5.0	100.0	115.9	114	75	125				

Sample ID: **N007016-001C-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82780**
Client ID: **ZZZZZZ** Batch ID: **R82780** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	217.480	5.0	100.0	113.8	104	75	125	217.5	0	20	
Alkalinity, Total (As CaCO3)	229.675	5.0	100.0	115.9	114	75	125	229.7	0	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82781** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **LCSW** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.626	5.0	100.0	0	102	85	115				
Alkalinity, Total (As CaCO3)	101.626	5.0	100.0	0	102	85	115				

Sample ID: **LCSD-R82781** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **LCSS02** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115	101.6	1.01	20	
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115	101.6	1.01	20	

Sample ID: **MB-R82781** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **PBW** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007033-017B-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	170.732	5.0						170.7	0	30	
Alkalinity, Carbonate (As CaCO3)	2.033	5.0						2.033	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	172.764	5.0						172.8	0	30	

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007033-017B-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	260.163	5.0	100.0	170.7	89.4	75	125				
Alkalinity, Total (As CaCO3)	272.358	5.0	100.0	172.8	99.6	75	125				

Sample ID: **N007033-017B-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	259.146	5.0	100.0	170.7	88.4	75	125	260.2	0.391	20	
Alkalinity, Total (As CaCO3)	271.341	5.0	100.0	172.8	98.6	75	125	272.4	0.374	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

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CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-003

Client Sample ID: MW-61-110-007
Collection Date: 12/14/2011 8:54:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/16/2011 07:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	5300	14	500		mg/L	1000	12/22/2011 10:58 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.040	5.0		mg/L	10	12/22/2011 11:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.60	50		mg/L	100	12/16/2011 07:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/16/2011 07:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Sulfate	700	3.1	100		mg/L	100	12/16/2011 07:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/16/2011 07:20 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

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-004

Client Sample ID: MW-62-110-007
Collection Date: 12/14/2011 4:15:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/16/2011 12:46 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	2500	7.0	250		mg/L	500	12/22/2011 06:35 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Fluoride	4.3	0.020	2.5		mg/L	5	12/22/2011 07:10 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/16/2011 12:35 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.050	0.20		mg/L	2	12/16/2011 12:46 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Sulfate	520	1.6	50		mg/L	50	12/16/2011 12:35 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.7	0.024	1.0		mg/L	2	12/16/2011 12:46 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, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/16/2011 01:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	5900	14	500		mg/L	1000	12/22/2011 07:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Fluoride	6.8	0.040	5.0		mg/L	10	12/22/2011 07:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.60	50		mg/L	100	12/16/2011 01:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/16/2011 01:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Sulfate	700	3.1	100		mg/L	100	12/16/2011 01:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/16/2011 01:33 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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-015

Client Sample ID: MW-102-007
Collection Date: 12/15/2011 1:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/16/2011 10:05 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	2700	7.0	250		mg/L	500	12/21/2011 04:02 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.080	10		mg/L	20	12/21/2011 04:37 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/16/2011 09:53 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/16/2011 10:05 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Sulfate	700	1.6	50		mg/L	50	12/16/2011 09:53 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.4	0.060	2.5		mg/L	5	12/16/2011 10:05 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, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-016

Client Sample ID: MW-57-070-007
Collection Date: 12/15/2011 9:10:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.0070	0.50		mg/L	1	12/16/2011 05:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	700	1.4	50		mg/L	100	12/21/2011 10:31 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.0080	1.0		mg/L	2	12/16/2011 05:02 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.060	5.0		mg/L	10	12/16/2011 10:40 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.025	0.10		mg/L	1	12/16/2011 05:14 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Sulfate	98	0.62	20		mg/L	20	12/21/2011 10:42 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	7.4	0.024	1.0		mg/L	2	12/16/2011 05:02 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, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.035	2.5		mg/L	5	12/16/2011 07:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	2800	7.0	250		mg/L	500	12/21/2011 03:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.020	2.5		mg/L	5	12/16/2011 07:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/16/2011 07:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.12	0.50		mg/L	5	12/16/2011 07:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Sulfate	700	1.6	50		mg/L	50	12/16/2011 07:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	4.3	0.060	2.5		mg/L	5	12/16/2011 07:45 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

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CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-018

Client Sample ID: MW-60-125-007
Collection Date: 12/14/2011 12:01:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/16/2011 08:54 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	2600	7.0	250		mg/L	500	12/22/2011 01:10 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Fluoride	ND	0.020	2.5		mg/L	5	12/22/2011 01:21 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrogen, Nitrite	ND	0.30	25		mg/L	50	12/16/2011 08:42 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Orthophosphate as P	ND	0.050	0.20		mg/L	2	12/16/2011 08:54 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Sulfate	440	1.6	50		mg/L	50	12/16/2011 08:42 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	3.4	0.024	1.0		mg/L	2	12/16/2011 08:54 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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82795_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82795_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.537	0.50	2.500	0	101	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	2.5						0	0	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.580	1.0	5.000	0.5160	101	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.530	1.0	5.000	0.5160	100	80	120	5.580	0.900	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **LCS-R82796_BR** SampType: **LCS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **LCSW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.522	0.50	2.500	0	101	90	110				

Sample ID: **MB-R82796_BR** SampType: **MBLK** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **PBW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **N007032-019CMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.905	2.5	12.50	0	103	80	120				

Sample ID: **N007032-019CMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.525	2.5	12.50	0	100	80	120	12.90	2.99	20	

Sample ID: **N007032-023CMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	13.930	2.5	12.50	0.8300	105	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	1.498	1.0						1.526	1.85	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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82806_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **PBW** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82806_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **LCSW** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.349	0.50	2.500	0	94.0	90	110				

Sample ID: **N007033-011CDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **ZZZZZZ** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	214.700	25						215.0	0.140	20	

Sample ID: **N007033-011CMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **ZZZZZZ** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	338.550	25	125.0	215.0	98.8	80	120				

Sample ID: **N007033-011CMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **ZZZZZZ** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	339.200	25	125.0	215.0	99.4	80	120	338.6	0.192	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007032-024CMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **ZZZZZZ** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1273.600	100	500.0	774.4	99.8	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82807_CL** SampType: **MBLK** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **PBW** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82807_CL** SampType: **LCS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **LCSW** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345867**

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: **N007033-004CMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	154.320	10	50.00	103.0	103	80	120				

Sample ID: **N007033-004CMSD** SampType: **MSD** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	152.560	10	50.00	103.0	99.2	80	120	154.3	1.15	20	

Sample ID: **N007033-005CDUP** SampType: **DUP** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	104.740	10						105.6	0.837	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007033-005CMS** SampType: **MS** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	155.440	10	50.00	105.6	99.6	80	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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82795_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82795_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.421	0.50	2.500	0	96.8	90	110				

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	123.200	25	125.0	6.650	93.2	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	122.700	25	125.0	6.650	92.8	80	120	123.2	0.407	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **LCS-R82796_F** SampType: **LCS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **LCSW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.446	0.50	2.500	0	97.8	90	110				

Sample ID: **MB-R82796_F** SampType: **MBLK** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **PBW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **N007032-019CMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	249.100	50	250.0	13.60	94.2	80	120				

Sample ID: **N007032-019CMSD** SampType: **MSD** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	247.400	50	250.0	13.60	93.5	80	120	249.1	0.685	20	

Sample ID: **N007032-023CMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	258.300	50	250.0	20.00	95.3	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.704	1.0						1.690	0.825	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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82806_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **PBW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82806_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **LCSW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.385	0.50	2.500	0	95.4	90	110				

Sample ID: **N007032-022CDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	2.5						0	0	20	

Sample ID: **N007032-022CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	13.095	2.5	12.50	0	105	80	120				

Sample ID: **N007032-022CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	13.075	2.5	12.50	0	105	80	120	13.10	0.153	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R82807_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **PBW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.50									

Sample ID: **LCS-R82807_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **LCSW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.403	0.50	2.500	0	96.1	90	110				

Sample ID: **N007032-002CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	30.750	5.0	25.00	6.900	95.4	80	120				

Sample ID: **N007032-002CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	31.970	5.0	25.00	6.900	100	80	120	30.75	3.89	20	

Sample ID: **N007032-003CDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
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- 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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N007032-008CMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	32.450	5.0	25.00	7.090	101	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R82795_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R82795_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.431	0.50	2.500	0	97.2	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	50						0	0	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	147.600	25	125.0	0	118	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345389**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	146.300	25	125.0	0	117	80	120	147.6	0.885	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **LCS-R82796_NO2** SampType: **LCS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **LCSW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.469	0.50	2.500	0	98.8	90	110				

Sample ID: **MB-R82796_NO2** SampType: **MBLK** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **PBW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **N007032-019CMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	297.800	50	250.0	0	119	80	120				

Sample ID: **N007032-019CMSD** SampType: **MSD** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	293.300	50	250.0	0	117	80	120	297.8	1.52	20	

Sample ID: **N007032-023CMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	292.600	50	250.0	0	117	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **MB-R82795_PO4**	SampType: **MBLK**	TestCode: **300_W_PO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.10									

Sample ID: **LCS-R82795_PO4**	SampType: **LCS**	TestCode: **300_W_PO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	2.491	0.10	2.500	0	99.6	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_PO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.50						0	0	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_PO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	0.672	0.20	5.000	0	13.4	80	120				S

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_PO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	0.562	0.20	5.000	0	11.2	80	120	0.6720	17.8	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
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- R RPD outside accepted recovery limits

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- H Holding times for preparation or analysis exceeded
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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **LCS-R82796_PO4** SampType: **LCS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **LCSW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	2.450	0.10	2.500	0	98.0	90	110				

Sample ID: **MB-R82796_PO4** SampType: **MBLK** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **PBW** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.10									

Sample ID: **N007032-019CMS** SampType: **MS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	5.665	0.50	12.50	0	45.3	80	120				S

Sample ID: **N007032-019CMSD** SampType: **MSD** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	6.615	0.50	12.50	0	52.9	80	120	5.665	15.5	20	S

Sample ID: **N007032-023CMS** SampType: **MS** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	15.475	0.50	12.50	0	124	80	120				S

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_PO4PGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300_W_PO4P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Orthophosphate as P	ND	0.20						0	0	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		

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Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82795_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82795_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.917	1.0	5.000	0	98.3	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	711.500	100						698.7	1.82	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	695.350	50	250.0	436.2	104	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	697.500	50	250.0	436.2	104	80	120	695.4	0.309	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

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Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R82796_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **LCSW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.839	1.0	5.000	0	96.8	90	110				

Sample ID: **MB-R82796_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **PBW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **N007032-019CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1243.200	100	500.0	740.6	101	80	120				

Sample ID: **N007032-019CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1252.200	100	500.0	740.6	102	80	120	1243	0.721	20	

Sample ID: **N007032-023CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1669.400	100	500.0	1086	117	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

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- H Holding times for preparation or analysis exceeded
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Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82806_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **PBW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82806_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **LCSW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.775	1.0	5.000	0	95.5	90	110				

Sample ID: **N007033-011CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	229.000	50						231.9	1.26	20	

Sample ID: **N007033-011CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	476.600	50	250.0	231.9	97.9	80	120				

Sample ID: **N007033-011CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	475.700	50	250.0	231.9	97.5	80	120	476.6	0.189	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

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Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007032-024CMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82806**
Client ID: **ZZZZZZ** Batch ID: **R82806** TestNo: **EPA 300.0** Analysis Date: **12/21/2011** SeqNo: **1345861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1931.400	200	1000	930.4	100	80	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		

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Work Order: N007032
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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82807_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **PBW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82807_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **LCSW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.708	1.0	5.000	0	94.2	90	110				

Sample ID: **N007033-004CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	315.080	20	100.0	211.0	104	80	120				

Sample ID: **N007033-004CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	316.460	20	100.0	211.0	105	80	120	315.1	0.437	20	

Sample ID: **N007033-005CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	225.340	20						224.0	0.588	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

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007033-005CMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **82807**
Client ID: **ZZZZZZ** Batch ID: **R82807** TestNo: **EPA 300.0** Analysis Date: **12/22/2011** SeqNo: **1345951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	331.060	20	100.0	224.0	107	80	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		

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CLIENT: CH2M HILL
Work Order: N007032
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ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82795_NO3** SampType: **MBLK** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **PBW** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82795_NO3** SampType: **LCS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **LCSW** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.426	0.50	2.500	0	97.0	90	110				

Sample ID: **N007032-010CDUP** SampType: **DUP** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	2.5						0	0	20	

Sample ID: **N007032-018CMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.508	1.0	5.000	3.354	103	80	120				

Sample ID: **N007032-018CMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.506	1.0	5.000	3.354	103	80	120	8.508	0.0235	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **LCS-R82796_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **LCSW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.411	0.50	2.500	0	96.4	90	110				

Sample ID: **MB-R82796_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **PBW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **N007032-019CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.925	2.5	12.50	0.8150	96.9	80	120				

Sample ID: **N007032-019CMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.875	2.5	12.50	0.8150	96.5	80	120	12.92	0.388	20	

Sample ID: **N007032-023CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.955	2.5	12.50	7.785	105	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

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Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	32.820	5.0						32.75	0.214	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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.12	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38642**			PrepDate:	**12/27/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38642**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82733**
Client ID: **LCSW**	Batch ID: **38642**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.007	0.10	1.000	0	101	85	115				

Sample ID: **MB-38642**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82733**
Client ID: **PBW**	Batch ID: **38642**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007032-002E-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38642**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.998	0.10	2.000	0.03000	98.4	75	125				

Sample ID: **N007032-002E-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/27/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38642**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.990	0.10	2.000	0.03000	98.0	75	125	1.998	0.401	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38643**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **LCSW**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.037	0.10	1.000	0	104	85	115				

Sample ID: **MB-38643**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **PBW**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007032-024E-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.061	0.10	2.000	0	103	75	125				

Sample ID: **N007032-024E-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.063	0.10	2.000	0	103	75	125	2.061	0.0970	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

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ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-003

Client Sample ID: MW-61-110-007
Collection Date: 12/14/2011 8:54:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/9/2012 09:55 PM
Antimony	ND	11	20		ug/L	2	1/9/2012 09:55 PM
Barium	93	0.40	6.0		ug/L	2	1/9/2012 09:55 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/9/2012 09:55 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/9/2012 09:55 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/9/2012 09:55 PM
Copper	ND	1.1	10		ug/L	2	1/9/2012 09:55 PM
Lead	ND	2.9	20		ug/L	2	1/9/2012 09:55 PM
Manganese	260	3.3	20		ug/L	2	1/9/2012 09:55 PM
Molybdenum	17	0.98	10		ug/L	2	1/9/2012 09:55 PM
Nickel	ND	2.3	10		ug/L	2	1/9/2012 09:55 PM
Silver	9.7	1.4	6.0		ug/L	2	1/9/2012 09:55 PM
Vanadium	ND	0.38	6.0		ug/L	2	1/9/2012 09:55 PM
Zinc	ND	9.2	20		ug/L	2	1/9/2012 09:55 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	690	0.23	1.0		mg/L	2	1/9/2012 09:55 PM
Magnesium	22	0.013	0.20		mg/L	2	1/9/2012 09:55 PM
Potassium	53	6.2	50		mg/L	100	1/10/2012 07:12 PM
Sodium	4200	12	50		mg/L	100	1/10/2012 07:12 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-004

Client Sample ID: MW-62-110-007
Collection Date: 12/14/2011 4:15:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 06:50 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 06:50 PM
Barium	39	0.20	3.0		ug/L	1	1/9/2012 06:50 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 06:50 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 06:50 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 06:50 PM
Copper	ND	0.53	5.0		ug/L	1	1/9/2012 06:50 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 06:50 PM
Manganese	160	1.7	10		ug/L	1	1/9/2012 06:50 PM
Molybdenum	44	0.49	5.0		ug/L	1	1/9/2012 06:50 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 06:50 PM
Silver	ND	0.72	3.0		ug/L	1	1/9/2012 06:50 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 06:50 PM
Zinc	ND	4.6	10		ug/L	1	1/9/2012 06:50 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	180	0.12	0.50		mg/L	1	1/9/2012 06:50 PM
Magnesium	8.7	0.0063	0.10		mg/L	1	1/9/2012 06:50 PM
Potassium	24	1.2	10		mg/L	20	1/10/2012 11:56 PM
Sodium	1700	12	50		mg/L	100	1/10/2012 07:16 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-005

Client Sample ID: MW-62-190-007
Collection Date: 12/14/2011 4:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Aluminum	ND	17	100		ug/L	2	1/10/2012 09:11 AM
Antimony	ND	11	20		ug/L	2	1/10/2012 09:11 AM
Barium	63	0.40	6.0		ug/L	2	1/10/2012 09:11 AM
Beryllium	ND	0.18	2.0		ug/L	2	1/10/2012 09:11 AM
Cadmium	ND	0.46	6.0		ug/L	2	1/10/2012 09:11 AM
Cobalt	ND	0.62	6.0		ug/L	2	1/10/2012 09:11 AM
Copper	ND	1.1	10		ug/L	2	1/10/2012 09:11 AM
Lead	ND	2.9	20		ug/L	2	1/10/2012 09:11 AM
Manganese	920	3.3	20		ug/L	2	1/10/2012 09:11 AM
Molybdenum	76	0.98	10		ug/L	2	1/10/2012 09:11 AM
Nickel	ND	2.3	10		ug/L	2	1/10/2012 09:11 AM
Silver	ND	1.4	6.0		ug/L	2	1/10/2012 09:11 AM
Vanadium	ND	0.38	6.0		ug/L	2	1/10/2012 09:11 AM
Zinc	ND	9.2	20		ug/L	2	1/10/2012 09:11 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	310	0.23	1.0		mg/L	2	1/10/2012 09:11 AM
Magnesium	13	0.013	0.20		mg/L	2	1/10/2012 09:11 AM
Potassium	42	1.2	10		mg/L	20	1/11/2012 12:00 AM
Sodium	3500	12	50		mg/L	100	1/10/2012 07:19 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-015

Client Sample ID: MW-102-007
Collection Date: 12/15/2011 1:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 08:01 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 08:01 PM
Barium	66	0.20	3.0		ug/L	1	1/9/2012 08:01 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 08:01 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 08:01 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 08:01 PM
Copper	ND	0.53	5.0		ug/L	1	1/9/2012 08:01 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 08:01 PM
Manganese	ND	1.7	10		ug/L	1	1/9/2012 08:01 PM
Molybdenum	ND	0.49	5.0		ug/L	1	1/9/2012 08:01 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 08:01 PM
Silver	12	0.72	3.0		ug/L	1	1/9/2012 08:01 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 08:01 PM
Zinc	ND	4.6	10		ug/L	1	1/9/2012 08:01 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	690	0.23	1.0		mg/L	2	1/10/2012 09:29 AM
Magnesium	23	0.0063	0.10		mg/L	1	1/9/2012 08:01 PM
Potassium	31	1.2	10		mg/L	20	1/11/2012 12:47 AM
Sodium	1400	12	50		mg/L	100	1/10/2012 07:50 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-016

Client Sample ID: MW-57-070-007
Collection Date: 12/15/2011 9:10:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 08:26 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 08:26 PM
Barium	150	0.20	3.0		ug/L	1	1/9/2012 08:26 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 08:26 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 08:26 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 08:26 PM
Copper	ND	0.53	5.0		ug/L	1	1/9/2012 08:26 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 08:26 PM
Manganese	ND	1.7	10		ug/L	1	1/9/2012 08:26 PM
Molybdenum	ND	0.49	5.0		ug/L	1	1/9/2012 08:26 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 08:26 PM
Silver	5.8	0.72	3.0		ug/L	1	1/9/2012 08:26 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 08:26 PM
Zinc	69	4.6	10		ug/L	1	1/9/2012 08:26 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	370	0.12	0.50		mg/L	1	1/9/2012 08:26 PM
Magnesium	26	0.0063	0.10		mg/L	1	1/9/2012 08:26 PM
Potassium	10	0.62	5.0		mg/L	10	1/11/2012 02:26 PM
Sodium	100	1.2	5.0		mg/L	10	1/11/2012 02:26 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-017

Client Sample ID: MW-59-100-007
Collection Date: 12/15/2011 12:04:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 08:30 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 08:30 PM
Barium	66	0.20	3.0		ug/L	1	1/9/2012 08:30 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 08:30 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 08:30 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 08:30 PM
Copper	ND	0.53	5.0		ug/L	1	1/9/2012 08:30 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 08:30 PM
Manganese	ND	1.7	10		ug/L	1	1/9/2012 08:30 PM
Molybdenum	ND	0.49	5.0		ug/L	1	1/9/2012 08:30 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 08:30 PM
Silver	12	0.72	3.0		ug/L	1	1/9/2012 08:30 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 08:30 PM
Zinc	ND	4.6	10		ug/L	1	1/9/2012 08:30 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	690	0.23	1.0		mg/L	2	1/10/2012 09:33 AM
Magnesium	23	0.0063	0.10		mg/L	1	1/9/2012 08:30 PM
Potassium	33	1.2	10		mg/L	20	1/11/2012 12:55 AM
Sodium	1300	12	50		mg/L	100	1/10/2012 07:56 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, Inc.

ANALYTICAL RESULTS

Print Date: *13-Mar-12*

CLIENT: CH2M HILL
Lab Order: N007032
Project: PG&E Topock,417981.ER.02.DM
Lab ID: N007032-018

Client Sample ID: MW-60-125-007
Collection Date: 12/14/2011 12:01:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Aluminum	ND	8.4	50		ug/L	1	1/9/2012 08:35 PM
Antimony	ND	5.4	10		ug/L	1	1/9/2012 08:35 PM
Barium	41	0.20	3.0		ug/L	1	1/9/2012 08:35 PM
Beryllium	ND	0.090	1.0		ug/L	1	1/9/2012 08:35 PM
Cadmium	ND	0.23	3.0		ug/L	1	1/9/2012 08:35 PM
Cobalt	ND	0.31	3.0		ug/L	1	1/9/2012 08:35 PM
Copper	ND	0.53	5.0		ug/L	1	1/9/2012 08:35 PM
Lead	ND	1.5	10		ug/L	1	1/9/2012 08:35 PM
Manganese	13	1.7	10		ug/L	1	1/9/2012 08:35 PM
Molybdenum	15	0.49	5.0		ug/L	1	1/9/2012 08:35 PM
Nickel	ND	1.1	5.0		ug/L	1	1/9/2012 08:35 PM
Silver	7.2	0.72	3.0		ug/L	1	1/9/2012 08:35 PM
Vanadium	ND	0.19	3.0		ug/L	1	1/9/2012 08:35 PM
Zinc	ND	4.6	10		ug/L	1	1/9/2012 08:35 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109A**	QC Batch: **38651**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	480	0.12	0.50		mg/L	1	1/9/2012 08:35 PM
Magnesium	25	0.0063	0.10		mg/L	1	1/9/2012 08:35 PM
Potassium	26	1.2	10		mg/L	20	1/11/2012 01:00 AM
Sodium	1300	12	50		mg/L	100	1/10/2012 07:59 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- E Value above quantitation range
- ND Not Detected at the Reporting Limit

Results are wet unless otherwise specified

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38651** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **PBW** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
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									
Manganese	ND	10									
Molybdenum	1.206	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38651** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **LCSW** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	942.131	50	1000	0	94.2	85	115				
Antimony	49.471	10	50.00	0	98.9	85	115				
Barium	50.302	3.0	50.00	0	101	85	115				
Beryllium	9.325	1.0	10.00	0	93.3	85	115				
Cadmium	8.586	3.0	10.00	0	85.9	85	115				
Cobalt	10.627	3.0	10.00	0	106	85	115				
Copper	9.495	5.0	10.00	0	95.0	85	115				
Lead	48.629	10	50.00	0	97.3	85	115				
Manganese	53.294	10	50.00	0	107	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

Revision1, 03/13/12

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-38651** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **LCSW** Batch ID: **38651** TestNo: **EPA 6010B EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	48.193	5.0	50.00	0	96.4	85	115				
Nickel	47.127	5.0	50.00	0	94.3	85	115				
Silver	11.080	3.0	10.00	0	111	85	115				
Vanadium	9.566	3.0	10.00	0	95.7	85	115				
Zinc	52.930	10	50.00	0	106	85	115				

Sample ID: **N007032-003B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2097.707	100	2000	0	105	75	125				
Antimony	104.095	20	100.0	0	104	75	125				
Barium	206.447	6.0	100.0	92.64	114	75	125				
Beryllium	19.979	2.0	20.00	0	99.9	75	125				
Cadmium	14.462	6.0	20.00	0	72.3	75	125				S
Cobalt	18.546	6.0	20.00	0	92.7	75	125				
Copper	26.765	10	20.00	3.863	115	75	125				
Lead	92.504	20	100.0	0	92.5	75	125				
Manganese	354.381	20	100.0	256.1	98.3	75	125				
Molybdenum	124.168	10	100.0	17.17	107	75	125				
Nickel	99.089	10	100.0	0	99.1	75	125				
Silver	33.416	6.0	20.00	9.741	118	75	125				
Vanadium	20.800	6.0	20.00	0	104	75	125				
Zinc	109.437	20	100.0	0	109	75	125				

Sample ID: **N007032-003B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2103.868	100	2000	0	105	75	125	2098	0.293	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691*

Revision1, 03/13/12

00263

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007032-003B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	105.404	20	100.0	0	105	75	125	104.1	1.25	20	
Barium	206.431	6.0	100.0	92.64	114	75	125	206.4	0.00771	20	
Beryllium	20.200	2.0	20.00	0	101	75	125	19.98	1.10	20	
Cadmium	14.448	6.0	20.00	0	72.2	75	125	14.46	0.0916	20	S
Cobalt	18.368	6.0	20.00	0	91.8	75	125	18.55	0.964	20	
Copper	26.790	10	20.00	3.863	115	75	125	26.76	0.0931	20	
Lead	92.967	20	100.0	0	93.0	75	125	92.50	0.499	20	
Manganese	360.684	20	100.0	256.1	105	75	125	354.4	1.76	20	
Molybdenum	123.813	10	100.0	17.17	107	75	125	124.2	0.287	20	
Nickel	98.972	10	100.0	0	99.0	75	125	99.09	0.118	20	
Silver	34.357	6.0	20.00	9.741	123	75	125	33.42	2.78	20	
Vanadium	20.820	6.0	20.00	0	104	75	125	20.80	0.0995	20	
Zinc	109.861	20	100.0	0	110	75	125	109.4	0.387	20	

Revision1, 03/13/12

1926

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
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									
Manganese	ND	10									
Molybdenum	0.729	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38652** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **LCSW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	942.652	50	1000	0	94.3	85	115				
Antimony	48.378	10	50.00	0	96.8	85	115				
Barium	50.084	3.0	50.00	0	100	85	115				
Beryllium	9.319	1.0	10.00	0	93.2	85	115				
Cadmium	8.521	3.0	10.00	0	85.2	85	115				
Cobalt	10.582	3.0	10.00	0	106	85	115				
Copper	9.386	5.0	10.00	0	93.9	85	115				
Lead	49.365	10	50.00	0	98.7	85	115				
Manganese	53.476	10	50.00	0	107	85	115				
Molybdenum	47.769	5.0	50.00	0	95.5	85	115				
Nickel	47.073	5.0	50.00	0	94.1	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-38652** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **LCSW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	11.059	3.0	10.00	0	111	85	115				
Vanadium	9.448	3.0	10.00	0	94.5	85	115				
Zinc	53.024	10	50.00	0	106	85	115				

Sample ID: **N007033-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	910.513	50	1000	0	91.1	75	125				
Antimony	49.600	10	50.00	0	99.2	75	125				
Barium	118.239	3.0	50.00	65.32	106	75	125				
Beryllium	9.320	1.0	10.00	0	93.2	75	125				
Cadmium	7.409	3.0	10.00	0	74.1	75	125				S
Cobalt	7.442	3.0	10.00	0	74.4	75	125				S
Copper	12.033	5.0	10.00	1.856	102	75	125				
Lead	45.863	10	50.00	0	91.7	75	125				
Manganese	239.219	10	50.00	189.9	98.7	75	125				
Molybdenum	54.923	5.0	50.00	3.787	102	75	125				
Nickel	46.522	5.0	50.00	0	93.0	75	125				
Silver	8.941	3.0	10.00	0	89.4	75	125				
Vanadium	10.055	3.0	10.00	0	101	75	125				
Zinc	54.637	10	50.00	0	109	75	125				

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	908.360	50	1000	0	90.8	75	125	910.5	0.237	20	
Antimony	52.014	10	50.00	0	104	75	125	49.60	4.75	20	
Barium	118.633	3.0	50.00	65.32	107	75	125	118.2	0.333	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

Revision1, 03/13/12

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	9.308	1.0	10.00	0	93.1	75	125	9.320	0.130	20	
Cadmium	7.442	3.0	10.00	0	74.4	75	125	7.409	0.442	20	S
Cobalt	7.784	3.0	10.00	0	77.8	75	125	7.442	4.49	20	
Copper	12.125	5.0	10.00	1.856	103	75	125	12.03	0.762	20	
Lead	46.172	10	50.00	0	92.3	75	125	45.86	0.670	20	
Manganese	239.610	10	50.00	189.9	99.5	75	125	239.2	0.164	20	
Molybdenum	54.954	5.0	50.00	3.787	102	75	125	54.92	0.0564	20	
Nickel	46.590	5.0	50.00	0	93.2	75	125	46.52	0.146	20	
Silver	8.813	3.0	10.00	0	88.1	75	125	8.941	1.44	20	
Vanadium	9.953	3.0	10.00	0	99.5	75	125	10.06	1.03	20	
Zinc	54.408	10	50.00	0	109	75	125	54.64	0.420	20	

Revision1, 03/13/12

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38651** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **PBW** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38651** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **LCSW** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.871	0.50	1.000	0	87.1	85	115				
Magnesium	0.922	0.10	1.000	0	92.2	85	115				

Sample ID: **N007032-003B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	690.772	1.0	2.000	687.9	142	75	125				S
Magnesium	24.329	0.20	2.000	22.45	93.9	75	125				

Sample ID: **N007032-003B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	690.057	1.0	2.000	687.9	107	75	125	690.8	0.104	20	
Magnesium	24.397	0.20	2.000	22.45	97.3	75	125	24.33	0.279	20	

Sample ID: **MB-38651** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82844**
Client ID: **PBW** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1348056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38651**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **PBW**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348056**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.363	0.50									

Sample ID: **LCS2-38651**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **LCSW**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.585	0.50	2.500	0	103	85	115				
Sodium	24.482	0.50	25.00	0	97.9	85	115				

Sample ID: **N007032-003B-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **ZZZZZZ**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	62.984	50	5.000	52.74	205	75	125				S
Sodium	4543.661	50	100.0	4196	347	75	125				S

Sample ID: **N007032-003B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **ZZZZZZ**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	62.727	50	5.000	52.74	200	75	125	62.98	0.410	20	S
Sodium	4382.631	50	100.0	4196	186	75	125	4544	3.61	20	S

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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38652** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **LCSW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.915	0.50	1.000	0	91.5	85	115				
Magnesium	0.926	0.10	1.000	0	92.6	85	115				

Sample ID: **N007033-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.235	0.50	1.000	73.03	20.0	75	125				S
Magnesium	18.871	0.10	1.000	18.30	57.2	75	125				S

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.326	0.50	1.000	73.03	29.2	75	125	73.23	0.125	20	S
Magnesium	18.844	0.10	1.000	18.30	54.5	75	125	18.87	0.143	20	S

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82844**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1348084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
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- E Value above quantitation range
- R RPD outside accepted recovery limits

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- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38652**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **PBW**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.444	0.50									

Sample ID: **LCS2-38652**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **LCSW**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.548	0.50	2.500	0	102	85	115				
Sodium	24.232	0.50	25.00	0	96.9	85	115				

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	13.091	2.0	5.000	6.601	130	75	125				S

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	443.542	10	100.0	327.7	116	75	125				

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	12.450	2.0	5.000	6.601	117	75	125	13.09	5.01	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

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CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82845**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	446.815	10	100.0	327.7	119	75	125	443.5	0.735	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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	3.2	0.012	0.50		µg/L	5	1/9/2012 01:19 PM
Chromium	600	0.80	2.5		µg/L	5	1/9/2012 01:19 PM
Selenium	ND	1.4	2.5		µg/L	5	1/9/2012 01:19 PM
Thallium	ND	0.38	12		µg/L	25	1/9/2012 02:35 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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	10	0.012	0.50		µg/L	5	1/9/2012 02:42 PM
Chromium	1300	4.0	12		µg/L	25	1/9/2012 01:27 PM
Selenium	ND	7.2	12		µg/L	25	1/9/2012 01:27 PM
Thallium	ND	0.076	2.5		µg/L	5	1/9/2012 02:42 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

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	6.7	0.012	0.50		µg/L	5	1/9/2012 02:50 PM
Chromium	ND	0.80	2.5		µg/L	5	1/9/2012 02:50 PM
Selenium	ND	1.4	2.5		µg/L	5	1/9/2012 02:50 PM
Thallium	ND	0.38	12		µg/L	25	1/9/2012 07:18 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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	1.5	0.012	0.50		µg/L	5	1/9/2012 05:06 PM
Chromium	4500	4.0	12		µg/L	25	1/9/2012 04:58 PM
Selenium	3.7	1.4	2.5		µg/L	5	1/9/2012 05:06 PM
Thallium	ND	0.076	2.5		µg/L	5	1/9/2012 05:06 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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	ND	0.062	2.5		µg/L	25	1/9/2012 05:28 PM
Chromium	270	0.80	2.5		µg/L	5	1/9/2012 05:46 PM
Selenium	3.0	1.4	2.5		µg/L	5	1/9/2012 05:46 PM
Thallium	ND	0.076	2.5		µg/L	5	1/9/2012 05:46 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	2.0	0.012	0.50		µg/L	5	1/9/2012 05:54 PM
Chromium	4800	4.0	12		µg/L	25	1/9/2012 06:02 PM
Selenium	5.3	1.4	2.5		µg/L	5	1/9/2012 05:54 PM
Thallium	ND	0.076	2.5		µg/L	5	1/9/2012 05:54 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		

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ANALYTICAL RESULTS

Print Date: ***13-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120109A**	QC Batch: **38690**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	1.5	0.012	0.50		µg/L	5	1/9/2012 06:10 PM
Chromium	800	0.80	2.5		µg/L	5	1/9/2012 06:10 PM
Selenium	5.4	1.4	2.5		µg/L	5	1/9/2012 06:10 PM
Thallium	ND	0.076	2.5		µg/L	5	1/9/2012 06:10 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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38690**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **PBW**	Batch ID: **38690**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.017	0.10									
Chromium	ND	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38690**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **LCSW**	Batch ID: **38690**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.139	0.10	10.00	0	101	85	115				
Chromium	10.710	0.50	10.00	0	107	85	115				
Selenium	10.279	0.50	10.00	0	103	85	115				
Thallium	10.814	0.50	10.00	0	108	85	115				

Sample ID: **N007032-002B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **ZZZZZZ**	Batch ID: **38690**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.166	0.50	10.00	5.862	103	75	125	16.41	1.47	20	
Chromium	243.569	2.5	10.00	244.9	-13.1	75	125	254.3	4.32	20	S
Selenium	10.951	2.5	10.00	1.946	90.1	75	125	10.99	0.319	20	
Thallium	10.607	2.5	10.00	0.2046	104	75	125	10.73	1.13	20	

Sample ID: **N007032-002B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **ZZZZZZ**	Batch ID: **38690**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.406	0.50	10.00	5.862	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-002B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **ZZZZZZ**	Batch ID: **38690**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	254.313	2.5	10.00	244.9	94.3	75	125				
Selenium	10.986	2.5	10.00	1.946	90.4	75	125				
Thallium	10.727	2.5	10.00	0.2046	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.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38692** SampType: **MBLK** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **PBW** Batch ID: **38692** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Chromium	0.016	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38692** SampType: **LCS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82828**
Client ID: **LCSW** Batch ID: **38692** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.752	0.10	10.00	0	97.5	85	115				
Chromium	10.689	0.50	10.00	0	107	85	115				
Selenium	10.641	0.50	10.00	0	106	85	115				
Thallium	10.903	0.50	10.00	0	109	85	115				

Sample ID: **N007032-026B-MS** SampType: **MS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82843**
Client ID: **ZZZZZZ** Batch ID: **38692** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.660	2.5	10.00	9.272	114	75	125				
Chromium	146.971	12	10.00	127.7	193	75	125				S
Selenium	13.381	12	10.00	0	134	75	125				S
Thallium	10.646	12	10.00	0	106	75	125				

Sample ID: **N007032-026B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82843**
Client ID: **ZZZZZZ** Batch ID: **38692** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.797	2.5	10.00	9.272	125	75	125	20.66	5.36	20	S
Chromium	144.260	12	10.00	127.7	166	75	125	147.0	1.86	20	S

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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-026B-MSD** SampType: **MSD** TestCode: **6020_DIS** Units: **µg/L** Prep Date: **1/6/2012** RunNo: **82843**
Client ID: **ZZZZZZ** Batch ID: **38692** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.739	12	10.00	0	137	75	125	13.38	2.64	20	S
Thallium	10.753	12	10.00	0	108	75	125	10.65	0	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		

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3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CH2MHILL

CHAIN OF CUSTODY RECORD

12/15/2011 4:49:31 PM Page 1 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 6

	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470A dis) Field Filtered Title 22 Metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,FI,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	PAHs (SW8270-Sim)	Pesticides (SW8081A)	Herbicide (SW8151A)	VOCs (SW8260B)	Number of Containers	COMMENTS
Container:				1Liter Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	3-40ml vials		
Preservatives:				4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	4°C	4°C	4°C	4°C	HCL,4°C		
Filtered:				NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Holding Time:				30	28	180	180	180	180	2	2	2	2	2	28	28	7	7	7	7	14		
MW-86-007	12/13/2011	15:50	Water																	X		2	-1
MW-60BR-245-007	12/14/2011	8:02	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X		13	2
MW-61-110-007	12/14/2011	8:54	Water	X		X	X		X	X	X	X	X	X	X	X						10	3
MW-62-110-007	12/14/2011	16:10	Water	X		X	X		X	X	X	X	X	X	X	X						10	4
MW-62-190-007	12/14/2011	16:30	Water	X		X	X		X	X	X	X	X	X	X	X						10	5
MW-67-185-007	12/14/2011	14:17	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	16	6
MW-67-225-007	12/14/2011	16:46	Water	X	X	X	X	X	X	X	X	X	X	X	X	X					X	14	7
MW-67-260-007	12/14/2011	15:31	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	8
MW-68-240-007	12/14/2011	16:39	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	9
MW-68BR-280-007	12/14/2011	12:28	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X					13	10
MW-69-195-007	12/14/2011	15:30	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	16	11
MW-73-080-007	12/14/2011	10:05	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	12
MW-82-007	12/14/2011	9:56	Water														X			X	X	6	13
MW-83-007	12/14/2011	13:38	Water																X	X	X	6	14

N0071

COMMENTS

	Signatures	Date/Time
Approved by		
Sampled by		12/15/11 1650
Relinquished by		
Received by	PM Galang	12/15/11 1650
Relinquished by	PM Galang	12/15/11 1934
Received by		

Shipping Details

Method of Shipment: courier
On Ice: ~~yes~~ / no 3.2°C/3.2°C/1.2°C/3.4°C/3.4°C
Airbill No: 1R#2 3.8°C/2.6°C/4.2°C/1.2°C / 1.6°C/4.8°C/4.6°C/3.8°C/2.2°C
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/15/2011 4:49:31 PM* Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 6

	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470A dis) Field Filtered Title 22 Metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,FI,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	PAHs (SW8270-Sim)	Pesticides (SW8081A)	Herbicide (SW8151A)	VOCs (SW8260B)	Number of Containers	COMMENTS
				1Liter Poly 4°C	250 ml Poly (NH4)2SO4/NH4OH, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	2x1 Liter 4°C	2x1 Liter 4°C	2x1 Liter 4°C	2x1 Liter 4°C	2x1 Liter 4°C	1 Liter Poly H2SO4, pH<2, 4°C	3 x 40 ml VOA H2SO4, 4°C	5 X 1L Amber 4°C	5 X 1L Amber 4°C	5 X 1L Amber 4°C	5 X 1L Amber 4°C	3-40ml vials HCL,4°C		
				Filtered: NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
				Holding Time: 30	28	180	180	180	180	2	2	2	2	2	28	28	7	7	7	7	14		
MW-102-007	12/15/2011	13:00	Water	X		X	X		X	X	X	X	X	X	X	X						10	15
MW-57-070-007	12/15/2011	9:10	Water	X		X	X		X	X	X	X	X	X	X	X						10	16
MW-59-100-007	12/15/2011	12:04	Water	X		X	X		X	X	X	X	X	X	X	X						10	17
MW-60-125-007	12/15/2011	12:01	Water	X		X	X		X	X	X	X	X	X	X	X						10	18
MW-64BR-LWR-150-	12/15/2011	11:05	Water	X	X	X	X	X	X	X	X	X	X	X	X	X					X	14	19
MW-65-160-007	12/15/2011	8:33	Water	X	X	X	X	X	X	X	X	X	X	X	X	X			X			13	20
MW-65-225-007	12/15/2011	13:40	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	21
MW-66-165-007	12/15/2011	10:43	Water	X	X	X	X	X	X	X	X	X	X	X	X	X					X	14	22
MW-66-230-007	12/15/2011	13:18	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	23
MW-68-180-007	12/15/2011	14:30	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	24
MW-70BR-225-007	12/15/2011	15:14	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	25
MW-72-080-007	12/15/2011	12:30	Water	X	X	X	X	X	X	X	X	X	X	X	X	X		X				13	26
MW-85-007	12/15/2011	14:55	Water																		X	3	27
TB04-007	12/14/11	0800	Water																			TOTAL NUMBER OF CONTAINERS	28

N0007032

Signatures

Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Date/Time

12/15/11 1650
12/15/11 1658
12/15/11 1954

Shipping Details

Method of Shipment: courier
On Ice: ~~yes~~ / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

68

CH2MHILL

CHAIN OF CUSTODY RECORD

12/15/2011 4:49:31 PM Page 1 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 6

	DATE	TIME	Matrix	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470Ad is) Field Filtered Title 22 Metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	PAHs (SW8270-Sim)	Pesticides (SW8081A)	Herbicide (SW8151A)	VOCs (SW8260B)	Number of Containers	COMMENTS
	Container:			1Liter Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	3-40ml vials		
	Preservatives:			4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	4°C	4°C	4°C	4°C	HCL,4°C		
	Filtered:			NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	Holding Time:			30	28	180	180	180	180	2	2	2	2	2	28	28	7	7	7	7	14		
MW-86-007	12/13/2011	15:50	Water																	X		2	
MW-60BR-245-007	12/14/2011	8:02	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X		13	
MW-61-110-007	12/14/2011	8:54	Water	X		X	X		X	X	X	X	X	X	X	X						10	
MW-62-110-007	12/14/2011	16:10	Water	X		X	X		X	X	X	X	X	X	X	X						10	
MW-62-190-007	12/14/2011	16:30	Water	X		X	X		X	X	X	X	X	X	X	X						10	
MW-67-185-007	12/14/2011	14:17	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	16	
MW-67-225-007	12/14/2011	16:46	Water	X	X	X	X	X	X	X	X	X	X	X	X	X					X	14	
MW-67-260-007	12/14/2011	15:31	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	
MW-68-240-007	12/14/2011	16:39	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	
MW-68BR-280-007	12/14/2011	12:28	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X					13	
MW-69-195-007	12/14/2011	15:30	Water	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	16	
MW-73-080-007	12/14/2011	10:05	Water	X	X	X	X	X	X	X	X	X	X	X	X	X						11	
MW-82-007	12/14/2011	9:56	Water														X			X	X	6	
MW-83-007	12/14/2011	13:38	Water																X	X	X	6	

	Signatures	Date/Time
Approved by		
Sampled by		12/15/11 1650
Relinquished by		
Received by	P.M. Galang	12/15/11 1650
Relinquished by	P.M. Galang	12/15/11 1934
Received by		12/15/11 1934

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ / no 3.2°C/3.2°C/1.2°C/5.4°C/5.4°C 5.8°C/1.6°C/4.8°C/4.6°C/5.8°C/2.2°C
Airbill No: 1R#2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marion

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL

CHAIN OF CUSTODY RECORD

12/15/2011 4:49:31 PM Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Mike C.
Sample Manager Shawn Duffy
Project Number 417981.ER.02.DM
Task Order
Project 2011-EASTRAVINE-GWINV-007
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 6

Container:	1Liter Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	3 x 40 ml VOA	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	5 X 1L Amber	3-40ml vials		
Preservatives:	4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C	H2SO4, 4°C	4°C	4°C	4°C	4°C	HCL,4°C		
Filtered:	NA	Field	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Holding Time:	30	28	180	180	180	180	2	2	2	2	2	28	28	7	7	7	7	14		
	Extra (*)	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A/SW7470Ads) Field Filtered Title 22 Metals	Metals (SW6010B/SW6020Adis) Field Filtered Al	Metals (SW6010B/SW6020Adis) Field Filtered Chromium	Metals (6010BFF) Field Filtered Ca,Mg,Mn,K,Na,Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl,SO4,NO3,NO2,Fl,Br,PO4	TDS (SM2540C)	Alkalinity (SM2320B)	TSS (SM2540)	Ammonia (SM4500NH3)	TOC (SM5310C)	TPH-Extractable (SW8015B-E)	PAHs (SW8270-Sim)	Pesticides (SW8081A)	Herbicide (SW8151A)	VOCs (SW8260B)	Number of Containers	COMMENTS
MW-102-007	12/15/2011	13:00	Water	X		X	X	X	X	X	X	X	X	X	X					10	
MW-57-070-007	12/15/2011	9:10	Water	X		X	X	X	X	X	X	X	X	X	X					10	
MW-59-100-007	12/15/2011	12:04	Water	X		X	X	X	X	X	X	X	X	X	X					10	
MW-60-125-007	12/15/2011	12:01	Water	X		X	X	X	X	X	X	X	X	X	X					10	
MW-64BR-LWR-150-	12/15/2011	11:05	Water	X	X	X	X	X	X	X	X	X	X	X	X				X	14	
MW-65-160-007	12/15/2011	8:33	Water	X	X	X	X	X	X	X	X	X	X	X	X			X		13	
MW-65-225-007	12/15/2011	13:40	Water	X	X	X	X	X	X	X	X	X	X	X	X					11	
MW-66-165-007	12/15/2011	10:43	Water	X	X	X	X	X	X	X	X	X	X	X	X				X	14	
MW-66-230-007	12/15/2011	13:18	Water	X	X	X	X	X	X	X	X	X	X	X	X					11	
MW-68-180-007	12/15/2011	14:30	Water	X	X	X	X	X	X	X	X	X	X	X	X					11	
MW-70BR-225-007	12/15/2011	15:14	Water	X	X	X	X	X	X	X	X	X	X	X	X					11	
MW-72-080-007	12/15/2011	12:30	Water	X	X	X	X	X	X	X	X	X	X	X	X		X			13	
MW-85-007	12/15/2011	14:55	Water																X	3	
TB04-007	12/14/11	0800	Water																	~~2~~ 1	
																			TOTAL NUMBER OF CONTAINERS	~~290~~ 291	

	Signatures	Date/Time
Approved by		12/15/11
Sampled by		1650
Relinquished by		
Received by	P.M.Galang	12/15/11 1658
Relinquished by	P.M.Galang	12/15/11 1934
Received by		12/16/11 1934

Shipping Details

Method of Shipment: courier
On Ice: ~~yes~~ / no 3.2°C/3.2°C/12°C/3.4°C/3.4°C
1.6°C/4.8°C/4.6°C/3.8°C/2.2°C
Airbill No: 1RH
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
December, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

370

Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO 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.

Cooler Received/Opened On:	12/15/2011	Workorder:	N007032
Rep sample Temp (Deg C):	3.2,3.2,1.2,3.4,3.4,3.8,2.6,1	IR Gun ID:	2
Temp Blank:	☐ Yes ☑ No		
Carrier name:	ATL		
Last 4 digits of Tracking No.:		Packing Material Used:	Bubble Wrap
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

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: NS 12/16/11

Reviewed By:

Nancy Sibucao

From: Shawn.Duffy@CH2M.com
Sent: Wednesday, January 04, 2012 3:04 PM
To: reports@atl-labs.com
Cc: edata@CH2M.com
Subject: RE: PG&E Topock,417981.ER.02.DM (ATL No.N007032) samples received 12/15/2011

Thanks Nancy, The MW-64BR-LWR-150-007 ID is correct. The software isn't designed to expand the column to allow the longer sample ID.

Shawn

From: Advanced Technology Labs, Inc. [mailto:reports@atl-labs.com]
Sent: Wednesday, January 04, 2012 3:11 PM
To: Duffy, Shawn/RDD
Cc: SWR/RDD Electronic Data
Subject: PG&E Topock,417981.ER.02.DM (ATL No.N007032) samples received 12/15/2011

Please be informed that on the COC, sample #19 has a sample ID of MW-64BR-LWR-150- but on sample containers it was indicated as MW-64BR-LWR-150-007. We copied what was on the sample containers which is MW-64BR-LWR-150-007.

Please advise. Thanks.

Nancy Sibucao
Project Coordinator
Advanced Technology Laboratories, Inc.
www.atl-labs.com
Tel: (702) 307-3248 ext. 412
Fax: (702) 307-2691

March 12, 2012

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.: N007032

RE: PG&E Topock,417981.ER.02.DM

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 15, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

CLIENT: CH2M HILL
Project: PG&E Topock,417981.ER.02.DM
Lab Order: N007032

CASE NARRATIVE

Analytical Comments for EPA 6010B:

Matrix Spike (MS) is outside recovery criteria for Iron on QC sample N007033-002A-MS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-61-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 8:54:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120307B**	QC Batch: **39211**				PrepDate:	**3/7/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 08:23 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, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-110-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:15:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120307B**	QC Batch: **39211**				PrepDate:	**3/7/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 08:59 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, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-62-190-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 4:30:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120307B**	QC Batch: **39211**			PrepDate:	**3/7/2012**		Analyst: **JT**
Iron	35	14	20		ug/L	1	3/7/2012 09:04 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

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-102-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 1:00:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120307B**	QC Batch: **39211**			PrepDate:	**3/7/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 10:51 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, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-57-070-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 9:10:00 AM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120307B**	QC Batch: **39211**			PrepDate:	**3/7/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 10:56 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, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-59-100-007
Lab Order:	N007032	**Collection Date:**	12/15/2011 12:04:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120307B**	QC Batch: **39211**				PrepDate:	**3/7/2012**	Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 11:02 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, Inc.

ANALYTICAL RESULTS

Print Date: *12-Mar-12*

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-60-125-007
Lab Order:	N007032	**Collection Date:**	12/14/2011 12:01:00 PM
Project:	PG&E Topock,417981.ER.02.DM	**Matrix:**	WATER
Lab ID:	N007032-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120307B**	QC Batch: **39211**			PrepDate:	**3/7/2012**		Analyst: **JT**
Iron	ND	14	20		ug/L	1	3/7/2012 11:15 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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-39211** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **3/7/2012** RunNo: **83520**
Client ID: **PBW** Batch ID: **39211** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/7/2012** SeqNo: **1370525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-39211** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **3/7/2012** RunNo: **83520**
Client ID: **LCSW** Batch ID: **39211** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/7/2012** SeqNo: **1370526**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.316	20	100.0	0	110	85	115				

Sample ID: **N007032-003B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **3/7/2012** RunNo: **83520**
Client ID: **ZZZZZZ** Batch ID: **39211** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/7/2012** SeqNo: **1370530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.800	20	100.0	0	106	75	125				

Sample ID: **N007032-003B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **3/7/2012** RunNo: **83520**
Client ID: **ZZZZZZ** Batch ID: **39211** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **3/7/2012** SeqNo: **1370531**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	118.520	20	100.0	0	119	75	125	105.8	11.3	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-39212**	SampType: **MBLK**	TestCode: **6010_WDPGE** Units: **ug/L**	Prep Date: **3/7/2012**	RunNo: **83520**
Client ID: **PBW**	Batch ID: **39212**	TestNo: **EPA 6010B** **EPA 3010A**	Analysis Date: **3/7/2012**	SeqNo: **1370555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-39212**	SampType: **LCS**	TestCode: **6010_WDPGE** Units: **ug/L**	Prep Date: **3/7/2012**	RunNo: **83520**
Client ID: **LCSW**	Batch ID: **39212**	TestNo: **EPA 6010B** **EPA 3010A**	Analysis Date: **3/7/2012**	SeqNo: **1370556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.356	20	100.0	0	107	85	115				

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6010_WDPGE** Units: **ug/L**	Prep Date: **3/7/2012**	RunNo: **83521**
Client ID: **ZZZZZZ**	Batch ID: **39212**	TestNo: **EPA 6010B** **EPA 3010A**	Analysis Date: **3/8/2012**	SeqNo: **1370570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	854.552	20	100.0	724.1	130	75	125				S

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE** Units: **ug/L**	Prep Date: **3/7/2012**	RunNo: **83521**
Client ID: **ZZZZZZ**	Batch ID: **39212**	TestNo: **EPA 6010B** **EPA 3010A**	Analysis Date: **3/8/2012**	SeqNo: **1370571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	840.932	20	100.0	724.1	117	75	125	854.6	1.61	20	

02860

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 6010
TEST NAME: Heavy Metals by ICP
MATRIX: Water

FORMULA:

Calculate the Iron concentration, in ug/L, in the original sample as follows:

Iron, ug/L = A * DF * PF * CF

where:

A = ug/L, calculated concentration
DF = dilution factor
PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL
CF = Conversion Factor

For Sample **N007032-002B**, the concentration in ug/L is calculated as follows:

Iron, ug/L = 0.02481* 1* (25/25) * 1000

= 24.81 ug/L

Reporting results in two significant figures,

Iron, ug/L = 25

JT / ICP-02 3/9/2012 5:03:38 PM

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007032
Test Method: EPA 6010
Analysis Date: 03/07/12

Matrix: Water
Batch No.: 39211

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable for analytes with concentration < 25X the RL. However the PS @2X passes the criteria.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007032-003B-DT 5X	Iron	ug/L	0	NA	0	0.00%	10

Note: NA - Not Applicable

JT / ICP-02 3/9/2012 5:03:40 PM

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007032-003B-PS**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date:	RunNo: **83520**
Client ID: **ZZZZZZ**	Batch ID: **39211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **3/7/2012**	SeqNo: **1370529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5003.042	40	5000	0	100	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.: N007033
Test Method: EPA 6010
Analysis Date: 03/07/12

Matrix: Water
Batch No.: 39212

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable for analytes with concentration < 25X the RL. However the PS @2X passes the criteria.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007033-002A-DT 5X	Iron	ug/L	770.4603	PASS	724.084	-6.40%	10

Note: NA - Not Applicable

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002A-PS**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date:	RunNo: **83521**
Client ID: **ZZZZZZ**	Batch ID: **39212**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **3/8/2012**	SeqNo: **1370569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5860.395	40	5000	724.1	103	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: 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 **N007032-002D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(16.1415-16.0460)*1000000}{10}$$
$$= 9550 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 9600 mg/L

SAMPLE CALCULATION

METHOD: SM 2540D
TEST NAME: Total Non-Filterable Residue
MATRIX: Water

FORMULA:

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N007032-002D,** TSS concentration in mg/L is calculated as follows:

$$\text{TSS, mg/L} = \frac{(1.4735-1.4699)*1000000}{100}$$

$$= 36$$

Reporting result in two significant figures,

TSS = 36 mg/L

NS for Hunter

Sample ID: **N007032-002D @ Ph 8.08**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.30mL)

= **0.02033 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (1.8) (0.02033N) (1) * 1000

= **36.59 mg/L**

Reporting results in two significant figures,

= **37 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02033N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (1.8mL) (0.02033) (1) * 1000

= **36.59 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **36.59 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **37 mg/L**

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: WATER

FORMULA:

Calculate the Sulfate concentration, in mg/L, in the original sample as follows:

Sulfate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N007032-002C**, concentration in mg/L are calculated as follows:

Sulfate, mg/L = 7.384 * 100

= 738.4 mg/L

Reporting **N007032-002C**, results in two significant figures,

Sulfate, mg/L = 740 mg/L

MS 1/10/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

Ammonia as N, mg/L = A*DF

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007032-002E,** concentration in mg/L is calculated as follows:

Ammonia as N, mg/L = 0.030 *1

= 0.030 mg/L

Reporting result in two significant figures,

Ammonia as N = 0.030 mg/L

Since the reporting limit is 0.1 mg/L therefore,

Ammonia as N = ND

NS fn
1/7/12

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 N007032-001B, concentration in ug/L are calculated as follows:

$$Fe, ug/L = -0.06872 \frac{mg/L * 0.025\ L * 1000}{0.025\ L}$$

Fe = -68.72 ug/L x 2 = 0 ug/L

MS fa 11/2/12

Reporting result in two significant figures,
Result is below the reporting limit therefore,

Fe =ND

fa 11/2/2012

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/9/2012
Digestion Date: 12/19/2011
Instrument Name: ICP2
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: ug/L

Work Order # : N007032-003B
Batch # : 38651

Analyte	A	B	Difference	% D
Barium	92.64	77.57	15.07000	16.3
Manganese	256.1	225.037	31.06300	12.1

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @2X dilution
B= ug/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/10/2012**	**Units:**	**ug/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007033-002A**
Batch # : **38652**

Analyte	A	B	Difference	% D
Barium	65.32	49.133	16.18700	24.8
Iron	651.3	347.068	304.23200	46.7
Manganese	189.9	177.534	12.36600	6.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration of the original dilution
B= ug/L, ICP calculated concentration @5x dilution

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/10/2012
Digestion Date: 12/19/2011
Instrument Name: ICP2
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: mg/L

Work Order # : N007032-003B
Batch # : 38651

Analyte	A	B	Difference	% D
Calcium	687.9	671.586	16.31400	2.4
Magnesium	22.45	23.01	-0.56000	-2.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original dilution
B= mg/L, ICP calculated concentration @5x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/10/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP2**		
Analysts:	**KB**		

Work Order # : **N007033-002A**
Batch # : **38652**

Analyte	A	B	Difference	% D
Calcium	73.03	77.957	-4.92700	-6.7
Magnesium	18.3	18.091	0.20900	1.1

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original dilution
B= mg/L, ICP calculated concentration @5x dilution

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/10/2012
Digestion Date: 12/19/2011
Instrument Name: ICP1
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: mg/L

Work Order # : N007032-003B
Batch # : 38651

Analyte	A	B	Difference	% D
Sodium	4196	4470.635	-274.63500	-6.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/10/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP1**		
Analysts:	**KB**		

Work Order # : **N007033-002A**
Batch # : **38652**

Analyte	A	B	Difference	% D
Sodium	327.7	342.31	-14.61000	-4.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @20x dilution
B= mg/L, ICP calculated concentration @100x dilution

Advanced Technology Laboratories, Inc.

Date: *12-Jan-12*

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007032-003BDT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82834**
Client ID: **ZZZZZZ**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1347424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	77.570	30						92.64	17.7	10	R
Manganese	225.037	100						256.1	12.9	10	R

PS @ 2x is within acceptance criteria MS 1/13/12

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1347579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	49.133	15						65.32	28.3	10	R
Iron	347.068	100						651.3	60.9	10	R
Manganese	177.534	50						189.9	6.71	10	

PS @ 2x is within acceptance criteria ag 1/13/12

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007032-003BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 82834
Client ID: ZZZZZZ	Batch ID: 38651	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/9/2012	SeqNo: 1347488

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	671.586	5.0						687.9	2.40	10	
Magnesium	23.010	1.0						22.45	2.46	10	

Sample ID: N007032-003BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82844
Client ID: ZZZZZZ	Batch ID: 38651	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/10/2012	SeqNo: 1348126

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	4470.635	250						4196	6.33	10	

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1347732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	77.957	2.5						73.03	6.52	10	
Magnesium	18.091	0.50						18.30	1.14	10	

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	342.310	50						327.7	4.36	10	

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007032-003B-PS 2** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82834**
Client ID: **ZZZZZZ** Batch ID: **38651** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20872.557	100	20000	0	104	75	125				
Antimony	1038.371	20	1000	0	104	75	125				
Barium	1067.608	6.0	1000	92.64	97.5	75	125				
Beryllium	1013.578	2.0	1000	0	101	75	125				
Cadmium	971.803	6.0	1000	0	97.2	75	125				
Cobalt	960.903	6.0	1000	0	96.1	75	125				
Copper	1044.478	10	1000	3.863	104	75	125				
Iron	18999.471	40	20000	0	95.0	75	125				
Lead	942.470	20	1000	0	94.2	75	125				
Manganese	2199.274	20	2000	256.1	97.2	75	125				
Molybdenum	1001.629	10	1000	17.17	98.4	75	125				
Nickel	1007.222	10	1000	0	101	75	125				
Silver	1085.413	6.0	1000	9.741	108	75	125				
Vanadium	997.159	6.0	1000	0	99.7	75	125				
Zinc	989.413	20	1000	0	98.9	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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1347584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20148.838	100	20000	0	101	75	125				
Antimony	1074.458	20	1000	0	107	75	125				
Barium	1080.062	6.0	1000	65.32	101	75	125				
Beryllium	1046.838	2.0	1000	0	105	75	125				
Boron	10731.245	200	10000	327.0	104	75	125				
Cadmium	1033.093	6.0	1000	0	103	75	125				
Cobalt	1022.729	6.0	1000	0	102	75	125				
Copper	1043.852	10	1000	1.856	104	75	125				
Iron	20968.013	40	20000	651.3	102	75	125				
Lead	1024.554	20	1000	0	102	75	125				
Manganese	2195.208	20	2000	189.9	100	75	125				
Molybdenum	1029.488	10	1000	3.787	103	75	125				
Nickel	1070.293	10	1000	0	107	75	125				
Silver	1009.601	6.0	1000	0	101	75	125				
Vanadium	1024.144	6.0	1000	0	102	75	125				
Zinc	1046.070	20	1000	0	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

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007032-003B-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:	RunNo: **82834**
Client ID: **ZZZZZZ**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1347487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	728.716	1.0	20.00	687.9	204	75	125				S
Magnesium	41.329	0.20	20.00	22.45	94.4	75	125				

Sample ID: **N007032-003BPS 10**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:	RunNo: **82844**
Client ID: **ZZZZZZ**	Batch ID: **38651**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	343.031	50	250.0	52.74	116	75	125				
Sodium	9860.207	50	5000	4196	113	75	125				

DT of Ca @ 2x is within acceptance criteria hs 1/13/12

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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82835**			
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**			SeqNo: **1347737**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	100.776	1.0	20.00	73.03	139	75	125				S
Magnesium	38.613	0.20	20.00	18.30	102	75	125				

Sample ID: **N007033-002A-PS 4**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82845**			
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**			SeqNo: **1348218**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18.474	2.0	10.00	6.601	119	75	125				

Sample ID: **N007033-002A-PS 4**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82845**			
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**			SeqNo: **1348219**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1435.778	10	1000	327.7	111	75	125				

DT of Ca @ 2x is within acceptance criteria on 1/13/12

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 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Chromium concentration, in ug/L, in the original sample as follows:

Chromium, 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 **N007032-002B**, the concentration in ug/L is calculated as follows:

Chromium, ug/L = 48.9759 * 5 * (25/25)

= 244.88 ug/L

Reporting results in two significant figures,

Chromium, ug/L = 240

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007032
Test Method: EPA 6020
Analysis Date: 01/09/12

Matrix: Water
Batch No.: 38690

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se AND Tl. The calc. values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007032-002B DT 25X	Arsenic	µg/L	5.470818626	NA	5.86177729	6.67%	10
	Chromium	µg/L	256.5845292	NA	244.8796515	-4.78%	10
	Selenium	µg/L	0	NA	1.946197368	100.00%	10
	Thallium	µg/L	0	NA	0.204558045	100.00%	10

ICPMS-02 1/11/2012 5:35:08 PM

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007041 32 ns fr 1/12/12

Test Method: EPA 6020

Analysis Date: 01/09/12

Matrix: Water

Batch No.: 38692

Instrument ID: ICP-MS #2

Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se AND Tl. The calc. values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007032-026B DT 125X	Chromium	µg/L	137.3529307	NA	127.6779289	-7.58%	10
	Arsenic	µg/L	8.258040125	NA	9.271564422	10.93%	10
	Selenium	µg/L	0	NA	0	0.00%	10
	Thallium	µg/L	0	NA	0	0.00%	10

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-002B-PS 5** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **82828**
Client ID: **ZZZZZZ** Batch ID: **38690** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	60.897	0.50	50.00	5.862	110	75	125				
Chromium	299.062	2.5	50.00	244.9	108	75	125				
Selenium	49.867	2.5	50.00	1.946	95.8	75	125				
Thallium	53.710	2.5	50.00	0.2046	107	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: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-026B-PS 2**	SampType: **PS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **82828**
Client ID: **ZZZZZZ**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1347003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	252.700	2.5	250.0	9.272	97.4	75	125				
Chromium	345.943	12	250.0	127.7	87.3	75	125				
Selenium	267.275	12	250.0	0	107	75	125				
Thallium	267.024	12	250.0	0	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		

January 16, 2012

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.: N007033

RE: PG&E Topock,423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 15, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

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 were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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Advanced Technology Laboratories, Inc.

Date: *16-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N007033
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007033-001A	MW-36-020-183	Water	12/14/2011 12:20:00 PM	12/16/2011	1/16/2012
N007033-001B	MW-36-020-183	Water	12/14/2011 12:20:00 PM	12/16/2011	1/16/2012
N007033-001C	MW-36-020-183	Water	12/14/2011 12:20:00 PM	12/16/2011	1/16/2012
N007033-001D	MW-36-020-183	Water	12/14/2011 12:20:00 PM	12/16/2011	1/16/2012
N007033-001E	MW-36-020-183	Water	12/14/2011 12:20:00 PM	12/16/2011	1/16/2012
N007033-002A	MW-36-040-183	Water	12/14/2011 1:06:00 PM	12/16/2011	1/16/2012
N007033-002B	MW-36-040-183	Water	12/14/2011 1:06:00 PM	12/16/2011	1/16/2012
N007033-002C	MW-36-040-183	Water	12/14/2011 1:06:00 PM	12/16/2011	1/16/2012
N007033-002D	MW-36-040-183	Water	12/14/2011 1:06:00 PM	12/16/2011	1/16/2012
N007033-002E	MW-36-040-183	Water	12/14/2011 1:06:00 PM	12/16/2011	1/16/2012
N007033-003A	MW-36-050-183	Water	12/14/2011 2:08:00 PM	12/16/2011	1/16/2012
N007033-003B	MW-36-050-183	Water	12/14/2011 2:08:00 PM	12/16/2011	1/16/2012
N007033-003C	MW-36-050-183	Water	12/14/2011 2:08:00 PM	12/16/2011	1/16/2012
N007033-003D	MW-36-050-183	Water	12/14/2011 2:08:00 PM	12/16/2011	1/16/2012
N007033-003E	MW-36-050-183	Water	12/14/2011 2:08:00 PM	12/16/2011	1/16/2012
N007033-004A	MW-36-070-183	Water	12/14/2011 3:15:00 PM	12/16/2011	1/16/2012
N007033-004B	MW-36-070-183	Water	12/14/2011 3:15:00 PM	12/16/2011	1/16/2012
N007033-004C	MW-36-070-183	Water	12/14/2011 3:15:00 PM	12/16/2011	1/16/2012
N007033-004D	MW-36-070-183	Water	12/14/2011 3:15:00 PM	12/16/2011	1/16/2012
N007033-004E	MW-36-070-183	Water	12/14/2011 3:15:00 PM	12/16/2011	1/16/2012
N007033-005A	MW-36-090-183	Water	12/14/2011 4:16:00 PM	12/16/2011	1/16/2012
N007033-005B	MW-36-090-183	Water	12/14/2011 4:16:00 PM	12/16/2011	1/16/2012
N007033-005C	MW-36-090-183	Water	12/14/2011 4:16:00 PM	12/16/2011	1/16/2012
N007033-005D	MW-36-090-183	Water	12/14/2011 4:16:00 PM	12/16/2011	1/16/2012
N007033-005E	MW-36-090-183	Water	12/14/2011 4:16:00 PM	12/16/2011	1/16/2012
N007033-006A	MW-39-100-183	Water	12/14/2011 10:24:00 AM	12/16/2011	1/16/2012
N007033-006B	MW-39-100-183	Water	12/14/2011 10:24:00 AM	12/16/2011	1/16/2012
N007033-006C	MW-39-100-183	Water	12/14/2011 10:24:00 AM	12/16/2011	1/16/2012
N007033-006D	MW-39-100-183	Water	12/14/2011 10:24:00 AM	12/16/2011	1/16/2012

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N007033
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007033-006E	MW-39-100-183	Water	12/14/2011 10:24:00 AM	12/16/2011	1/16/2012
N007033-007A	MW-45-095a-183	Water	12/14/2011 9:06:00 AM	12/16/2011	1/16/2012
N007033-007B	MW-45-095a-183	Water	12/14/2011 9:06:00 AM	12/16/2011	1/16/2012
N007033-007C	MW-45-095a-183	Water	12/14/2011 9:06:00 AM	12/16/2011	1/16/2012
N007033-007D	MW-45-095a-183	Water	12/14/2011 9:06:00 AM	12/16/2011	1/16/2012
N007033-007E	MW-45-095a-183	Water	12/14/2011 9:06:00 AM	12/16/2011	1/16/2012
N007033-008A	MW-25-183	Water	12/15/2011 9:31:00 AM	12/16/2011	1/16/2012
N007033-008B	MW-25-183	Water	12/15/2011 9:31:00 AM	12/16/2011	1/16/2012
N007033-008C	MW-25-183	Water	12/15/2011 9:31:00 AM	12/16/2011	1/16/2012
N007033-008D	MW-25-183	Water	12/15/2011 9:31:00 AM	12/16/2011	1/16/2012
N007033-008E	MW-25-183	Water	12/15/2011 9:31:00 AM	12/16/2011	1/16/2012
N007033-009A	MW-39-040-183	Water	12/15/2011 8:28:00 AM	12/16/2011	1/16/2012
N007033-009B	MW-39-040-183	Water	12/15/2011 8:28:00 AM	12/16/2011	1/16/2012
N007033-010A	MW-39-050-183	Water	12/15/2011 9:12:00 AM	12/16/2011	1/16/2012
N007033-010B	MW-39-050-183	Water	12/15/2011 9:12:00 AM	12/16/2011	1/16/2012
N007033-010C	MW-39-050-183	Water	12/15/2011 9:12:00 AM	12/16/2011	1/16/2012
N007033-010D	MW-39-050-183	Water	12/15/2011 9:12:00 AM	12/16/2011	1/16/2012
N007033-010E	MW-39-050-183	Water	12/15/2011 9:12:00 AM	12/16/2011	1/16/2012
N007033-011A	MW-39-060-183	Water	12/15/2011 9:58:00 AM	12/16/2011	1/16/2012
N007033-011B	MW-39-060-183	Water	12/15/2011 9:58:00 AM	12/16/2011	1/16/2012
N007033-011C	MW-39-060-183	Water	12/15/2011 9:58:00 AM	12/16/2011	1/16/2012
N007033-011D	MW-39-060-183	Water	12/15/2011 9:58:00 AM	12/16/2011	1/16/2012
N007033-011E	MW-39-060-183	Water	12/15/2011 9:58:00 AM	12/16/2011	1/16/2012
N007033-012A	MW-39-070-183	Water	12/15/2011 10:51:00 AM	12/16/2011	1/16/2012
N007033-012B	MW-39-070-183	Water	12/15/2011 10:51:00 AM	12/16/2011	1/16/2012
N007033-012C	MW-39-070-183	Water	12/15/2011 10:51:00 AM	12/16/2011	1/16/2012
N007033-012D	MW-39-070-183	Water	12/15/2011 10:51:00 AM	12/16/2011	1/16/2012
N007033-012E	MW-39-070-183	Water	12/15/2011 10:51:00 AM	12/16/2011	1/16/2012
N007033-013A	MW-39-080-183	Water	12/15/2011 11:42:00 AM	12/16/2011	1/16/2012
N007033-013B	MW-39-080-183	Water	12/15/2011 11:42:00 AM	12/16/2011	1/16/2012

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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N007033
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007033-013C	MW-39-080-183	Water	12/15/2011 11:42:00 AM	12/16/2011	1/16/2012
N007033-013D	MW-39-080-183	Water	12/15/2011 11:42:00 AM	12/16/2011	1/16/2012
N007033-013E	MW-39-080-183	Water	12/15/2011 11:42:00 AM	12/16/2011	1/16/2012
N007033-014A	MW-52D-183	Water	12/15/2011 3:47:00 PM	12/16/2011	1/16/2012
N007033-014B	MW-52D-183	Water	12/15/2011 3:47:00 PM	12/16/2011	1/16/2012
N007033-014C	MW-52D-183	Water	12/15/2011 3:47:00 PM	12/16/2011	1/16/2012
N007033-014D	MW-52D-183	Water	12/15/2011 3:47:00 PM	12/16/2011	1/16/2012
N007033-014E	MW-52D-183	Water	12/15/2011 3:47:00 PM	12/16/2011	1/16/2012
N007033-015A	MW-52M-183	Water	12/15/2011 2:16:00 PM	12/16/2011	1/16/2012
N007033-015B	MW-52M-183	Water	12/15/2011 2:16:00 PM	12/16/2011	1/16/2012
N007033-015C	MW-52M-183	Water	12/15/2011 2:16:00 PM	12/16/2011	1/16/2012
N007033-015D	MW-52M-183	Water	12/15/2011 2:16:00 PM	12/16/2011	1/16/2012
N007033-015E	MW-52M-183	Water	12/15/2011 2:16:00 PM	12/16/2011	1/16/2012
N007033-016A	MW-52S-183	Water	12/15/2011 1:52:00 PM	12/16/2011	1/16/2012
N007033-016B	MW-52S-183	Water	12/15/2011 1:52:00 PM	12/16/2011	1/16/2012
N007033-016C	MW-52S-183	Water	12/15/2011 1:52:00 PM	12/16/2011	1/16/2012
N007033-016D	MW-52S-183	Water	12/15/2011 1:52:00 PM	12/16/2011	1/16/2012
N007033-016E	MW-52S-183	Water	12/15/2011 1:52:00 PM	12/16/2011	1/16/2012
N007033-017A	MW-92-183	Water	12/15/2011 9:40:00 AM	12/16/2011	1/16/2012
N007033-017B	MW-92-183	Water	12/15/2011 9:40:00 AM	12/16/2011	1/16/2012
N007033-017C	MW-92-183	Water	12/15/2011 9:40:00 AM	12/16/2011	1/16/2012
N007033-017D	MW-92-183	Water	12/15/2011 9:40:00 AM	12/16/2011	1/16/2012
N007033-017E	MW-92-183	Water	12/15/2011 9:40:00 AM	12/16/2011	1/16/2012
N007033-018A	MW-94-183	Water	12/15/2011 12:09:00 PM	12/16/2011	1/16/2012
N007033-018B	MW-94-183	Water	12/15/2011 12:09:00 PM	12/16/2011	1/16/2012
N007033-019A	MW-98-183	Water	12/14/2011 4:03:00 PM	12/16/2011	1/16/2012
N007033-019B	MW-98-183	Water	12/14/2011 4:03:00 PM	12/16/2011	1/16/2012
N007033-019C	MW-98-183	Water	12/14/2011 4:03:00 PM	12/16/2011	1/16/2012
N007033-019D	MW-98-183	Water	12/14/2011 4:03:00 PM	12/16/2011	1/16/2012
N007033-019E	MW-98-183	Water	12/14/2011 4:03:00 PM	12/16/2011	1/16/2012

Advanced Technology Laboratories, Inc.
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CLIENT: CH2M HILL
Project: PG&E Topock,423575.MP.02.GM.0
Lab Order: N007033
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007033-020A	TW-01-183	Water	12/15/2011 11:14:00 AM	12/16/2011	1/16/2012
N007033-020B	TW-01-183	Water	12/15/2011 11:14:00 AM	12/16/2011	1/16/2012
N007033-020C	TW-01-183	Water	12/15/2011 11:14:00 AM	12/16/2011	1/16/2012
N007033-020D	TW-01-183	Water	12/15/2011 11:14:00 AM	12/16/2011	1/16/2012

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-020-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 12:20:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	8100	0.10	0.10		umhos/cm	1	12/16/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-040-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 1:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	1300	0.10	0.10		umhos/cm	1	12/16/2011

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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-050-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 2:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	1400	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-070-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 3:15:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-090-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	1200	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-100-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 10:24:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	17000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216D**	QC Batch: **R82800**			PrepDate:			Analyst: **CEI**
Specific Conductance	9000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-25-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	1600	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-040-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-050-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-060-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:58:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	1700	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-070-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 10:51:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	3500	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-080-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:42:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	1100	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	16000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52M-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 2:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	11000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52S-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 1:52:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-92-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:40:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216E**	QC Batch: **R82801**			PrepDate:			Analyst: **CEI**
Specific Conductance	1500	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-94-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 12:09:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216F**	QC Batch: **R82802**			PrepDate:			Analyst: **CEI**
Specific Conductance	2000	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-98-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216F**	QC Batch: **R82802**			PrepDate:			Analyst: **CEI**
Specific Conductance	9400	0.10	0.10		umhos/cm	1	12/16/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-01-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:14:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216F**	QC Batch: **R82802**			PrepDate:			Analyst: **CEI**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	12/16/2011

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		

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82800**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**			
Client ID: **LCSW**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345703**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9810.000	0.10	9986	0	98.2	85	115				

Sample ID: **N007033-007BDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**			
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345742**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9030.000	0.10						9050	0.221	10	

Sample ID: **N007033-007BMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**			
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345743**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19740.000	0.20	9986	9050	107	75	125				

Sample ID: **N007033-007BMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **82800**			
Client ID: **ZZZZZZ**	Batch ID: **R82800**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**			SeqNo: **1345744**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19700.000	0.20	9986	9050	107	75	125	19740	0.203	10	

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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82801** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82801**
Client ID: **LCSW** Batch ID: **R82801** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1427.000	0.10	1411	0	101	85	115				

Sample ID: **N007033-017BDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82801**
Client ID: **ZZZZZZ** Batch ID: **R82801** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1545.000	0.10						1549	0.259	10	

Sample ID: **N007033-017BMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82801**
Client ID: **ZZZZZZ** Batch ID: **R82801** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2870.000	0.20	1411	1549	93.6	75	125				

Sample ID: **N007033-017BMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82801**
Client ID: **ZZZZZZ** Batch ID: **R82801** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2880.000	0.20	1411	1549	94.3	75	125	2870	0.348	10	

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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N007033-020BDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82802**		
Client ID: **ZZZZZZ**	Batch ID: **R82802**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345734**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7320.000	0.10						7350	0.409	10	

Sample ID: **N007033-020BMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82802**		
Client ID: **ZZZZZZ**	Batch ID: **R82802**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345735**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17000.000	0.20	9986	7350	96.6	75	125				

Sample ID: **N007033-020BMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82802**		
Client ID: **ZZZZZZ**	Batch ID: **R82802**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345736**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17040.000	0.20	9986	7350	97.0	75	125	17000	0.235	10	

Sample ID: **LCS-R82802**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82802**		
Client ID: **LCSW**	Batch ID: **R82802**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345745**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9800.000	0.10	9986	0	98.1	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

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-25-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220D**	QC Batch: **38637**				PrepDate: **12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	860	10	10		mg/L	1	12/20/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-92-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:40:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **WETCHEM_111220D**	QC Batch: **38637**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Total Dissolved Solids (Residue, Filterable)	890	10	10		mg/L	1	12/20/2011

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		

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **MB-38637**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **PBW**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342655**

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-38637**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **LCSW**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	958.000	10	1000	0	95.8	80	120				

Sample ID: **N007033-017D-DUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82739**
Client ID: **ZZZZZZ**	Batch ID: **38637**	TestNo: **SM2540C**		Analysis Date: **12/20/2011**	SeqNo: **1342663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	883.000	10						889.0	0.677	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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-020-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 12:20:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	930	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	930	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-040-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 1:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	280	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	280	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-050-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 2:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-070-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 3:15:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	190	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	190	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-090-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	200	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	200	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-100-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 10:24:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	300	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	300	1.2	5.0		mg/L	1	12/19/2011

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	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-25-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	170	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	170	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-050-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	220	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	220	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-060-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:58:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	240	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	240	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-070-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 10:51:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	290	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	290	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-080-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:42:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	340	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	340	1.2	5.0		mg/L	1	12/19/2011

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	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	34	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	34	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52M-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 2:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	80	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	80	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52S-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 1:52:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	930	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	930	1.2	5.0		mg/L	1	12/19/2011

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	**Client Sample ID:**	MW-92-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:40:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219E**	QC Batch: **R82781**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	170	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	170	1.2	5.0		mg/L	1	12/19/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-98-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	160	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	160	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	TW-01-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:14:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	95	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	95	1.2	5.0		mg/L	1	12/19/2011

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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82781** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **LCSW** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	101.626	5.0	100.0	0	102	85	115				
Alkalinity, Total (As CaCO3)	101.626	5.0	100.0	0	102	85	115				

Sample ID: **LCSD-R82781** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **LCSS02** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115	101.6	1.01	20	
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115	101.6	1.01	20	

Sample ID: **MB-R82781** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **PBW** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007033-017B-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	170.732	5.0						170.7	0	30	
Alkalinity, Carbonate (As CaCO3)	2.033	5.0						2.033	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	172.764	5.0						172.8	0	30	

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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007033-017B-MS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	260.163	5.0	100.0	170.7	89.4	75	125				
Alkalinity, Total (As CaCO3)	272.358	5.0	100.0	172.8	99.6	75	125				

Sample ID: **N007033-017B-MSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82781**
Client ID: **ZZZZZZ** Batch ID: **R82781** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	259.146	5.0	100.0	170.7	88.4	75	125	260.2	0.391	20	
Alkalinity, Total (As CaCO3)	271.341	5.0	100.0	172.8	98.6	75	125	272.4	0.374	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82782** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **LCSW** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82782** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **LCSS02** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115	100.6	0	20	
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115	100.6	0	20	

Sample ID: **MB-R82782** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **PBW** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344974**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007041-004C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **ZZZZZZ** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	39.634	5.0						38.62	2.60	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	39.634	5.0						38.62	2.60	30	

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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007041-004C-MS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82782**
Client ID: **ZZZZZZ**	Batch ID: **R82782**	TestNo: **SM 2320 B**		Analysis Date: **12/19/2011**	SeqNo: **1344982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	129.065	5.0	100.0	38.62	90.4	75	125				
Alkalinity, Total (As CaCO3)	129.065	5.0	100.0	38.62	90.4	75	125				

Sample ID: **N007041-004C-MSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82782**
Client ID: **ZZZZZZ**	Batch ID: **R82782**	TestNo: **SM 2320 B**		Analysis Date: **12/19/2011**	SeqNo: **1344983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	128.049	5.0	100.0	38.62	89.4	75	125	129.1	0.791	20	
Alkalinity, Total (As CaCO3)	128.049	5.0	100.0	38.62	89.4	75	125	129.1	0.791	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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-001

Client Sample ID: MW-36-020-183
Collection Date: 12/14/2011 12:20:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Chloride	1500	2.8	100		mg/L	200	12/22/2011 01:56 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Sulfate	1800	6.2	200		mg/L	200	12/22/2011 01:56 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A**	QC Batch: **R82795**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/16/2011 09:28 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-002

Client Sample ID: MW-36-040-183
Collection Date: 12/14/2011 1:06:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	160	0.28	10		mg/L	20	12/22/2011 02:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Sulfate	170	0.62	20		mg/L	20	12/22/2011 02:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 09:40 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-003

Client Sample ID: MW-36-050-183
Collection Date: 12/14/2011 2:08:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	200	0.70	25		mg/L	50	12/22/2011 03:18 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Sulfate	210	0.62	20		mg/L	20	12/22/2011 03:29 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 10:27 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-004

Client Sample ID: MW-36-070-183
Collection Date: 12/14/2011 3:15:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	100	0.28	10		mg/L	20	12/22/2011 03:41 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Sulfate	210	0.62	20		mg/L	20	12/22/2011 03:41 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 11:01 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-005

Client Sample ID: MW-36-090-183
Collection Date: 12/14/2011 4:16:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Chloride	110	0.28	10		mg/L	20	12/22/2011 03:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A** QC Batch: **R82807**				PrepDate:			Analyst: **QBM**
Sulfate	220	0.62	20		mg/L	20	12/22/2011 03:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A** QC Batch: **R82795**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 11:13 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-006

Client Sample ID: MW-39-100-183
Collection Date: 12/14/2011 10:24:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Chloride	5800	14	500		mg/L	1000	12/22/2011 12:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Sulfate	1500	6.2	200		mg/L	200	12/22/2011 12:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A**	QC Batch: **R82795**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/16/2011 08:07 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Chloride	2600	7.0	250		mg/L	500	12/22/2011 11:36 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Sulfate	690	3.1	100		mg/L	100	12/22/2011 12:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A**	QC Batch: **R82795**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/16/2011 07:32 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		

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-008

Client Sample ID: MW-25-183
Collection Date: 12/15/2011 9:31:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.014	1.0		mg/L	2	12/16/2011 06:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	270	1.4	50		mg/L	100	12/21/2011 11:17 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Sulfate	120	0.62	20		mg/L	20	12/21/2011 11:52 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	5.9	0.024	1.0		mg/L	2	12/16/2011 06:00 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-010

Client Sample ID: MW-39-050-183
Collection Date: 12/15/2011 9:12:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	170	0.70	25		mg/L	50	12/21/2011 10:54 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Sulfate	220	0.62	20		mg/L	20	12/21/2011 11:06 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 05:26 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-060-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:58:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Chloride	220	0.70	25		mg/L	50	12/21/2011 12:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Sulfate	230	1.6	50		mg/L	50	12/21/2011 12:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B**	QC Batch: **R82796**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 06:24 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-012

Client Sample ID: MW-39-070-183
Collection Date: 12/15/2011 10:51:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	660	2.8	100		mg/L	200	12/21/2011 01:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Sulfate	340	1.6	50		mg/L	50	12/21/2011 01:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.012	0.50		mg/L	1	12/16/2011 06:59 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-013

Client Sample ID: MW-39-080-183
Collection Date: 12/15/2011 11:42:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Chloride	2200	7.0	250		mg/L	500	12/21/2011 02:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Sulfate	710	3.1	100		mg/L	100	12/21/2011 03:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B**	QC Batch: **R82796**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/16/2011 07:22 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Chloride	7400	28	1000		mg/L	2000	12/21/2011 06:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Sulfate	830	3.1	100		mg/L	100	12/21/2011 06:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B**	QC Batch: **R82796**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/17/2011 02:21 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-015

Client Sample ID: MW-52M-183
Collection Date: 12/15/2011 2:16:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111219A** QC Batch: **R82771**				PrepDate:			Analyst: **QBM**
Chloride	5600	14	500		mg/L	1000	12/19/2011 08:11 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111217A** QC Batch: **R82772**				PrepDate:			Analyst: **QBM**
Sulfate	640	3.1	100		mg/L	100	12/17/2011 09:02 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111217A** QC Batch: **R82772**				PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/17/2011 09:14 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52S-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 1:52:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Chloride	2600	14	500		mg/L	1000	12/21/2011 05:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Sulfate	570	1.6	50		mg/L	50	12/21/2011 05:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B**	QC Batch: **R82796**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/17/2011 12:25 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		

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-017

Client Sample ID: MW-92-183
Collection Date: 12/15/2011 9:40:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Bromide	ND	0.0070	0.50		mg/L	1	12/16/2011 06:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Chloride	280	0.70	25		mg/L	50	12/21/2011 01:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A** QC Batch: **R82806**				PrepDate:			Analyst: **QBM**
Sulfate	120	0.62	20		mg/L	20	12/21/2011 12:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B** QC Batch: **R82796**				PrepDate:			Analyst: **QBM**
Nitrate as N	6.0	0.024	1.0		mg/L	2	12/16/2011 10:52 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-98-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Chloride	2600	7.0	250		mg/L	500	12/22/2011 06:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111222A**	QC Batch: **R82807**			PrepDate:			Analyst: **QBM**
Sulfate	700	3.1	100		mg/L	100	12/22/2011 06:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216A**	QC Batch: **R82795**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.024	1.0		mg/L	2	12/16/2011 12:23 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-020

Client Sample ID: TW-01-183
Collection Date: 12/15/2011 11:14:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Chloride	1700	7.0	250		mg/L	500	12/21/2011 02:25 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111221A**	QC Batch: **R82806**			PrepDate:			Analyst: **QBM**
Sulfate	860	3.1	100		mg/L	100	12/21/2011 02:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111216B**	QC Batch: **R82796**			PrepDate:			Analyst: **QBM**
Nitrate as N	25	0.24	10		mg/L	20	12/16/2011 11:03 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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82772_BR** SampType: **MBLK** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82772**
Client ID: **PBW** Batch ID: **R82772** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1344185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82772_BR** SampType: **LCS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82772**
Client ID: **LCSW** Batch ID: **R82772** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1344186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.440	0.50	2.500	0	97.6	90	110				

Sample ID: **N007042-003ADUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82772**
Client ID: **ZZZZZZ** Batch ID: **R82772** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1344192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.500	1.0						0.5060	0	20	

Sample ID: **N007042-003AMS** SampType: **MS** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82772**
Client ID: **ZZZZZZ** Batch ID: **R82772** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1344193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.186	1.0	5.000	0.5060	93.6	80	120				

Sample ID: **N007042-003AMSD** SampType: **MSD** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82772**
Client ID: **ZZZZZZ** Batch ID: **R82772** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1344194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.168	1.0	5.000	0.5060	93.2	80	120	5.186	0.348	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

CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R82795_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R82795_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.537	0.50	2.500	0	101	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	2.5						0	0	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.580	1.0	5.000	0.5160	101	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.530	1.0	5.000	0.5160	100	80	120	5.580	0.900	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **LCS-R82796_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **LCSW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.522	0.50	2.500	0	101	90	110				

Sample ID: **MB-R82796_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **PBW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **N007032-019CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.905	2.5	12.50	0	103	80	120				

Sample ID: **N007032-019CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.525	2.5	12.50	0	100	80	120	12.90	2.99	20	

Sample ID: **N007032-023CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	13.930	2.5	12.50	0.8300	105	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

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300_W_BRP** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	1.498	1.0						1.526	1.85	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		

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82771_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82771**
Client ID: **PBW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**	SeqNo: **1344124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82771_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82771**
Client ID: **LCSW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**	SeqNo: **1344125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.394	0.50	2.500	0	95.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82771**
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**	SeqNo: **1344129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2231.000	250						2239	0.358	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82771**
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**	SeqNo: **1344130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3545.500	250	1250	2239	105	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82771**
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**	SeqNo: **1344131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3563.000	250	1250	2239	106	80	120	3546	0.492	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

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82806_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **PBW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82806_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **LCSW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.349	0.50	2.500	0	94.0	90	110				

Sample ID: **N007033-011CDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	214.700	25						215.0	0.140	20	

Sample ID: **N007033-011CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	338.550	25	125.0	215.0	98.8	80	120				

Sample ID: **N007033-011CMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	339.200	25	125.0	215.0	99.4	80	120	338.6	0.192	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

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- H Holding times for preparation or analysis exceeded
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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007032-024CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1273.600	100	500.0	774.4	99.8	80	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		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82807_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **PBW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82807_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **LCSW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345867**

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: **N007033-004CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	154.320	10	50.00	103.0	103	80	120				

Sample ID: **N007033-004CMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	152.560	10	50.00	103.0	99.2	80	120	154.3	1.15	20	

Sample ID: **N007033-005CDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	104.740	10						105.6	0.837	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

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Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N007033-005CMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	155.440	10	50.00	105.6	99.6	80	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		

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82771_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **PBW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344161**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82771_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **LCSW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344162**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.976	1.0	5.000	0	99.5	90	110				

Sample ID: **N006984-003CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344165**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	226.120	20	100.0	119.8	106	80	120	227.2	0.468	20	

Sample ID: **N006984-003CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344178**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	123.660	20						119.8	3.20	20	

Sample ID: **N006984-003CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344179**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	227.180	20	100.0	119.8	107	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

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82772_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **PBW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344246**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82772_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **LCSW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344247**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.740	1.0	5.000	0	94.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344250**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	480.400	50						478.8	0.323	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344251**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	736.400	50	250.0	478.8	103	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344252**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	728.650	50	250.0	478.8	99.9	80	120	736.4	1.06	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

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82795_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **PBW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82795_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **LCSW**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.917	1.0	5.000	0	98.3	90	110				

Sample ID: **N007032-010CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	711.500	100						698.7	1.82	20	

Sample ID: **N007032-018CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	695.350	50	250.0	436.2	104	80	120				

Sample ID: **N007032-018CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82795**
Client ID: **ZZZZZZ**	Batch ID: **R82795**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	697.500	50	250.0	436.2	104	80	120	695.4	0.309	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R82796_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **LCSW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.839	1.0	5.000	0	96.8	90	110				

Sample ID: **MB-R82796_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **PBW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **N007032-019CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1243.200	100	500.0	740.6	101	80	120				

Sample ID: **N007032-019CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1252.200	100	500.0	740.6	102	80	120	1243	0.721	20	

Sample ID: **N007032-023CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1669.400	100	500.0	1086	117	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

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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82806_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **PBW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82806_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **LCSW**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.775	1.0	5.000	0	95.5	90	110				

Sample ID: **N007033-011CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	229.000	50						231.9	1.26	20	

Sample ID: **N007033-011CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	476.600	50	250.0	231.9	97.9	80	120				

Sample ID: **N007033-011CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	475.700	50	250.0	231.9	97.5	80	120	476.6	0.189	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

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Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007032-024CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82806**
Client ID: **ZZZZZZ**	Batch ID: **R82806**	TestNo: **EPA 300.0**		Analysis Date: **12/21/2011**	SeqNo: **1345861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1931.400	200	1000	930.4	100	80	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		

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Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82807_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **PBW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82807_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **LCSW**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.708	1.0	5.000	0	94.2	90	110				

Sample ID: **N007033-004CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	315.080	20	100.0	211.0	104	80	120				

Sample ID: **N007033-004CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	316.460	20	100.0	211.0	105	80	120	315.1	0.437	20	

Sample ID: **N007033-005CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	225.340	20						224.0	0.588	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N007033-005CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **82807**
Client ID: **ZZZZZZ**	Batch ID: **R82807**	TestNo: **EPA 300.0**		Analysis Date: **12/22/2011**	SeqNo: **1345951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	331.060	20	100.0	224.0	107	80	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		

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ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82772_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82772**
Client ID: **PBW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**	SeqNo: **1344213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82772_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82772**
Client ID: **LCSW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**	SeqNo: **1344214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.371	0.50	2.500	0	94.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82772**
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**	SeqNo: **1344222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.618	1.0						1.594	1.49	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82772**
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**	SeqNo: **1344223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.366	1.0	5.000	1.594	95.4	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82772**
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**	SeqNo: **1344224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.386	1.0	5.000	1.594	95.8	80	120	6.366	0.314	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
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Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82795_NO3** SampType: **MBLK** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **PBW** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82795_NO3** SampType: **LCS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **LCSW** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.426	0.50	2.500	0	97.0	90	110				

Sample ID: **N007032-010CDUP** SampType: **DUP** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	2.5						0	0	20	

Sample ID: **N007032-018CMS** SampType: **MS** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.508	1.0	5.000	3.354	103	80	120				

Sample ID: **N007032-018CMSD** SampType: **MSD** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82795**
Client ID: **ZZZZZZ** Batch ID: **R82795** TestNo: **EPA 300.0** Analysis Date: **12/16/2011** SeqNo: **1345429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.506	1.0	5.000	3.354	103	80	120	8.508	0.0235	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **LCS-R82796_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **LCSW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.411	0.50	2.500	0	96.4	90	110				

Sample ID: **MB-R82796_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **PBW**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **N007032-019CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.925	2.5	12.50	0.8150	96.9	80	120				

Sample ID: **N007032-019CMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.875	2.5	12.50	0.8150	96.5	80	120	12.92	0.388	20	

Sample ID: **N007032-023CMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:	RunNo: **82796**
Client ID: **ZZZZZZ**	Batch ID: **R82796**	TestNo: **EPA 300.0**		Analysis Date: **12/16/2011**	SeqNo: **1345607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.955	2.5	12.50	7.785	105	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

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- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **N007032-024CDUP** SampType: **DUP** TestCode: **300W_NO3P** Units: **mg/L** Prep Date: RunNo: **82796**
Client ID: **ZZZZZZ** Batch ID: **R82796** TestNo: **EPA 300.0** Analysis Date: **12/17/2011** SeqNo: **1345613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	32.820	5.0						32.75	0.214	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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-020-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 12:20:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.59	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-040-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 1:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.11	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-050-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 2:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-070-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 3:15:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-090-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-100-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 10:24:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-050-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.16	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-060-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:58:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-070-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 10:51:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-080-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:42:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52M-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 2:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52S-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 1:52:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.82	0.030	0.10		mg/L	1	12/30/2011

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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-98-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38643**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	0.11	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38643**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **LCSW**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.037	0.10	1.000	0	104	85	115				

Sample ID: **MB-38643**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **PBW**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007032-024E-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.061	0.10	2.000	0	103	75	125				

Sample ID: **N007032-024E-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38643**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.063	0.10	2.000	0	103	75	125	2.061	0.0970	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

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-001

Client Sample ID: MW-36-020-183
Collection Date: 12/14/2011 12:20:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	1400	29	40		ug/L	2	1/10/2012 01:37 PM
Manganese	200	3.3	20		ug/L	2	1/10/2012 01:37 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	89	0.23	1.0		mg/L	2	1/10/2012 01:37 PM
Magnesium	92	0.013	0.20		mg/L	2	1/10/2012 01:37 PM
Sodium	2700	12	50		mg/L	100	1/10/2012 08:47 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-040-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 1:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	650	14	20		ug/L	1	1/10/2012 10:33 AM
Manganese	190	1.7	10		ug/L	1	1/10/2012 10:33 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	73	0.12	0.50		mg/L	1	1/10/2012 10:33 AM
Magnesium	18	0.0063	0.10		mg/L	1	1/10/2012 10:33 AM
Sodium	330	2.4	10		mg/L	20	1/11/2012 11:51 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-050-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 2:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	49	14	20		ug/L	1	1/10/2012 10:38 AM
Manganese	220	1.7	10		ug/L	1	1/10/2012 10:38 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	83	0.12	0.50		mg/L	1	1/10/2012 10:38 AM
Magnesium	17	0.0063	0.10		mg/L	1	1/10/2012 10:38 AM
Sodium	210	1.2	5.0		mg/L	10	1/11/2012 12:24 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-070-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 3:15:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 10:42 AM
Manganese	73	1.7	10		ug/L	1	1/10/2012 10:42 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	33	0.12	0.50		mg/L	1	1/10/2012 10:42 AM
Magnesium	5.9	0.0063	0.10		mg/L	1	1/10/2012 10:42 AM
Sodium	220	1.2	5.0		mg/L	10	1/11/2012 12:27 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-090-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 10:48 AM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 10:48 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	8.2	0.12	0.50		mg/L	1	1/10/2012 10:48 AM
Magnesium	0.77	0.0063	0.10		mg/L	1	1/10/2012 10:48 AM
Sodium	300	1.2	5.0		mg/L	10	1/11/2012 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-100-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 10:24:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	29	40		ug/L	2	1/10/2012 01:42 PM
Manganese	21	3.3	20		ug/L	2	1/10/2012 01:42 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	660	0.23	1.0		mg/L	2	1/10/2012 01:42 PM
Magnesium	100	0.013	0.20		mg/L	2	1/10/2012 01:42 PM
Sodium	3600	12	50		mg/L	100	1/10/2012 09:09 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120109B**	QC Batch: **38652**				PrepDate: **12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 11:04 AM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 11:04 AM
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP2_120109B**	QC Batch: **38652**				PrepDate: **12/19/2011**		Analyst: **KAB**
Calcium	160	0.12	0.50		mg/L	1	1/10/2012 11:04 AM
Magnesium	21	0.0063	0.10		mg/L	1	1/10/2012 11:04 AM
Sodium	1900	12	50		mg/L	100	1/10/2012 09:12 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		

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-008

Client Sample ID: MW-25-183
Collection Date: 12/15/2011 9:31:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Boron	490	13	100		ug/L	1	1/10/2012 11:08 AM
Iron	ND	14	20		ug/L	1	1/10/2012 11:08 AM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 11:08 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	89	0.12	0.50		mg/L	1	1/10/2012 11:08 AM
Magnesium	19	0.0063	0.10		mg/L	1	1/10/2012 11:08 AM
Potassium	8.5	0.12	1.0		mg/L	2	1/11/2012 12:34 PM
Sodium	210	1.2	5.0		mg/L	10	1/11/2012 12:38 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-050-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 11:13 AM
Manganese	29	1.7	10		ug/L	1	1/10/2012 11:13 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	16	0.12	0.50		mg/L	1	1/10/2012 11:13 AM
Magnesium	5.5	0.0063	0.10		mg/L	1	1/10/2012 11:13 AM
Sodium	310	1.2	5.0		mg/L	10	1/11/2012 12:54 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-011

Client Sample ID: MW-39-060-183
Collection Date: 12/15/2011 9:58:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 11:39 AM
Manganese	16	1.7	10		ug/L	1	1/10/2012 11:39 AM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	20	0.12	0.50		mg/L	1	1/10/2012 11:39 AM
Magnesium	5.7	0.0063	0.10		mg/L	1	1/10/2012 11:39 AM
Sodium	350	1.2	5.0		mg/L	10	1/11/2012 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-012

Client Sample ID: MW-39-070-183
Collection Date: 12/15/2011 10:51:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 11:44 AM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 11:44 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	57	0.12	0.50		mg/L	1	1/10/2012 11:44 AM
Magnesium	12	0.0063	0.10		mg/L	1	1/10/2012 11:44 AM
Sodium	750	1.2	5.0		mg/L	10	1/11/2012 01:00 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-080-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:42:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 11:48 AM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 11:48 AM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	240	0.12	0.50		mg/L	1	1/10/2012 11:48 AM
Magnesium	54	0.0063	0.10		mg/L	1	1/10/2012 11:48 AM
Sodium	1700	12	50		mg/L	100	1/10/2012 09:28 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	360	29	40		ug/L	2	1/10/2012 01:46 PM
Manganese	280	3.3	20		ug/L	2	1/10/2012 01:46 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	290	0.23	1.0		mg/L	2	1/10/2012 01:46 PM
Magnesium	20	0.013	0.20		mg/L	2	1/10/2012 01:46 PM
Sodium	5000	12	50		mg/L	100	1/10/2012 09:31 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52M-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 2:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	970	29	40		ug/L	2	1/10/2012 01:50 PM
Manganese	180	3.3	20		ug/L	2	1/10/2012 01:50 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	370	0.23	1.0		mg/L	2	1/10/2012 01:50 PM
Magnesium	52	0.013	0.20		mg/L	2	1/10/2012 01:50 PM
Sodium	3200	12	50		mg/L	100	1/10/2012 09:47 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		

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-016

Client Sample ID: MW-52S-183
Collection Date: 12/15/2011 1:52:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	9700	14	20		ug/L	1	1/10/2012 12:09 PM
Manganese	850	1.7	10		ug/L	1	1/10/2012 12:09 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	360	0.12	0.50		mg/L	1	1/10/2012 12:09 PM
Magnesium	180	0.0063	0.10		mg/L	1	1/10/2012 12:09 PM
Sodium	1800	12	50		mg/L	100	1/10/2012 09:50 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-017

Client Sample ID: MW-92-183
Collection Date: 12/15/2011 9:40:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Boron	500	13	100		ug/L	1	1/10/2012 12:14 PM
Iron	ND	14	20		ug/L	1	1/10/2012 12:14 PM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 12:14 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	91	0.12	0.50		mg/L	1	1/10/2012 12:14 PM
Magnesium	19	0.0063	0.10		mg/L	1	1/10/2012 12:14 PM
Potassium	8.0	0.62	5.0		mg/L	10	1/11/2012 01:04 PM
Sodium	220	1.2	5.0		mg/L	10	1/11/2012 01:04 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

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CLIENT: CH2M HILL
Lab Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0
Lab ID: N007033-019

Client Sample ID: MW-98-183
Collection Date: 12/14/2011 4:03:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120110A**	QC Batch: **38689**			PrepDate:	**12/22/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 04:21 PM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 04:21 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120110A**	QC Batch: **38689**			PrepDate:	**12/22/2011**		Analyst: **KAB**
Calcium	160	0.12	0.50		mg/L	1	1/10/2012 04:21 PM
Magnesium	21	0.0063	0.10		mg/L	1	1/10/2012 04:21 PM
Sodium	1900	12	50		mg/L	100	1/10/2012 10:06 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-01-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:14:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	ND	14	20		ug/L	1	1/10/2012 12:18 PM
Manganese	ND	1.7	10		ug/L	1	1/10/2012 12:18 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120109B**	QC Batch: **38652**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	300	0.12	0.50		mg/L	1	1/10/2012 12:18 PM
Magnesium	23	0.0063	0.10		mg/L	1	1/10/2012 12:18 PM
Sodium	1300	12	50		mg/L	100	1/10/2012 09:56 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		

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	100									
Iron	ND	20									
Manganese	ND	10									

Sample ID: **LCS-38652** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **LCSW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	934.668	100	1000	0	93.5	85	115				
Iron	54.581	20	50.00	0	109	85	115				
Manganese	53.476	10	50.00	0	107	85	115				

Sample ID: **N007033-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1336.627	100	1000	327.0	101	75	125				
Iron	683.254	20	50.00	651.3	63.9	75	125				S
Manganese	239.219	10	50.00	189.9	98.7	75	125				

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1357.179	100	1000	327.0	103	75	125	1337	1.53	20	
Iron	685.295	20	50.00	651.3	68.0	75	125	683.3	0.298	20	S
Manganese	239.610	10	50.00	189.9	99.5	75	125	239.2	0.164	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

CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38689** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **PBW** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									
Manganese	ND	10									

Sample ID: **LCS-38689** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **LCSW** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	49.590	20	50.00	0	99.2	85	115				
Manganese	44.945	10	50.00	0	89.9	85	115				

Sample ID: **N007033-019A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	25.664	20	50.00	0	51.3	75	125				S
Manganese	51.787	10	50.00	0	104	75	125				

Sample ID: **N007033-019A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	26.347	20	50.00	0	52.7	75	125	25.66	2.63	20	S
Manganese	51.962	10	50.00	0	104	75	125	51.79	0.336	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38652** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **LCSW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1347695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.915	0.50	1.000	0	91.5	85	115				
Magnesium	0.926	0.10	1.000	0	92.6	85	115				

Sample ID: **N007033-002A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.235	0.50	1.000	73.03	20.0	75	125				S
Magnesium	18.871	0.10	1.000	18.30	57.2	75	125				S

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.326	0.50	1.000	73.03	29.2	75	125	73.23	0.125	20	S
Magnesium	18.844	0.10	1.000	18.30	54.5	75	125	18.87	0.143	20	S

Sample ID: **MB-38652** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82844**
Client ID: **PBW** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1348084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38652**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **PBW**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.444	0.50									

Sample ID: **LCS2-38652**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **LCSW**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	2.548	0.50	2.500	0	102	85	115				
Sodium	24.232	0.50	25.00	0	96.9	85	115				

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	13.091	2.0	5.000	6.601	130	75	125				S

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	443.542	10	100.0	327.7	116	75	125				

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	12.450	2.0	5.000	6.601	117	75	125	13.09	5.01	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82845**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	446.815	10	100.0	327.7	119	75	125	443.5	0.735	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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38689** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **PBW** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38689** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **LCSW** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.047	0.50	1.000	0	105	85	115				
Magnesium	0.915	0.10	1.000	0	91.5	85	115				

Sample ID: **N007033-019A-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	147.940	0.50	1.000	161.5	-1360	75	125				S
Magnesium	20.142	0.10	1.000	21.28	-114	75	125				S

Sample ID: **N007033-019A-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/22/2011** RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	147.995	0.50	1.000	161.5	-1350	75	125	147.9	0.0376	20	S
Magnesium	20.249	0.10	1.000	21.28	-103	75	125	20.14	0.531	20	S

Sample ID: **MB-38689** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/22/2011** RunNo: **82844**
Client ID: **PBW** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1348112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.492	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-38689**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/22/2011**	RunNo: **82844**
Client ID: **LCSW**	Batch ID: **38689**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	24.575	0.50	25.00	0	98.3	85	115				

Sample ID: **N007033-019A-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/22/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38689**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2047.429	50	100.0	1901	146	75	125				S

Sample ID: **N007033-019A-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/22/2011**	RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38689**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2075.340	50	100.0	1901	174	75	125	2047	1.35	20	S

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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-020-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 12:20:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	3.1	0.012	0.50		µg/L	5	1/12/2012 12:08 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-040-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 1:06:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	5.3	0.0025	0.10		µg/L	1	1/11/2012 08:33 PM
Molybdenum	5.8	0.047	0.50		µg/L	1	1/11/2012 08:33 PM
Selenium	ND	0.29	0.50		µg/L	1	1/11/2012 08:33 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-050-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 2:08:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	3.9	0.0025	0.10		µg/L	1	1/12/2012 09:03 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-070-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 3:15:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	6.7	0.0025	0.10		µg/L	1	1/12/2012 09:11 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-36-090-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	19	0.0025	0.10		µg/L	1	1/12/2012 09:18 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-100-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 10:24:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	3.2	0.012	0.50		µg/L	5	1/12/2012 12:22 PM
Molybdenum	8.4	0.24	2.5		µg/L	5	1/12/2012 03:51 AM
Selenium	ND	1.4	2.5		µg/L	5	1/12/2012 12:22 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-45-095a-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 9:06:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	ND	0.062	2.5		µg/L	25	1/12/2012 02:22 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-25-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:31:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	1.4	0.0025	0.10		µg/L	1	1/12/2012 09:32 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-040-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 8:28:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	19	0.0025	0.10		µg/L	1	1/12/2012 09:39 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-050-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:12:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **ICP7_120112A**	QC Batch: **38760**				PrepDate:	**1/9/2012**	Analyst: **CEI**
Arsenic	8.5	0.0025	0.10		µg/L	1	1/12/2012 09:46 AM
Molybdenum	7.8	0.047	0.50		µg/L	1	1/12/2012 12:05 AM
Selenium	ND	0.29	0.50		µg/L	1	1/12/2012 09:46 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-39-060-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:58:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	6.5	0.0025	0.10		µg/L	1	1/12/2012 09:53 AM
Molybdenum	19	0.047	0.50		µg/L	1	1/12/2012 12:20 AM
Selenium	ND	0.29	0.50		µg/L	1	1/12/2012 09:53 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52D-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 3:47:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:	**1/9/2012**		Analyst: **CEI**
Arsenic	24	0.062	2.5		µg/L	25	1/12/2012 01:32 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52M-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 2:16:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120112A**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	1.4	0.012	0.50		µg/L	5	1/12/2012 10:43 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-52S-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 1:52:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	0.60	0.0025	0.10		µg/L	1	1/12/2012 01:20 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-92-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 9:40:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	1.2	0.0025	0.10		µg/L	1	1/12/2012 01:35 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

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-94-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 12:09:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	18	0.0025	0.10		µg/L	1	1/12/2012 01:50 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-98-183
Lab Order:	N007033	**Collection Date:**	12/14/2011 4:03:00 PM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Arsenic	3.2	0.0025	0.10		µg/L	1	1/12/2012 02:05 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		

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ANALYTICAL RESULTS

Print Date: ***16-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	TW-01-183
Lab Order:	N007033	**Collection Date:**	12/15/2011 11:14:00 AM
Project:	PG&E Topock,423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007033-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111B**	QC Batch: **38760**			PrepDate:		**1/9/2012**	Analyst: **CEI**
Molybdenum	15	0.047	0.50		µg/L	1	1/12/2012 02:20 AM
Selenium	24	0.29	0.50		µg/L	1	1/12/2012 11:26 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

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38760**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **PBW**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.011	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-38760**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **LCSW**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.008	0.10	10.00	0	100	85	115				
Molybdenum	10.952	0.50	10.00	0	110	85	115				
Selenium	10.029	0.50	10.00	0	100	85	115				

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **ZZZZZZ**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.334	0.10	10.00	5.251	101	75	125				
Molybdenum	16.831	0.50	10.00	5.767	111	75	125				
Selenium	9.634	0.50	10.00	0.4205	92.1	75	125				

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **ZZZZZZ**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	16.768	0.50	10.00	5.767	110	75	125	16.83	0.374	20	
Selenium	9.768	0.50	10.00	0.4205	93.5	75	125	9.634	1.38	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

CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82862**
Client ID: **ZZZZZZ**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/12/2012**	SeqNo: **1348623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.195	0.10	10.00	5.251	99.4	75	125	15.33	0.915	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		

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CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: **MB-38760**	SampType: **MBLK**	TestCode: **6020_WD_As**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **PBW**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.011	0.10									

Sample ID: **LCS-38760**	SampType: **LCS**	TestCode: **6020_WD_As**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **LCSW**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.008	0.10	10.00	0	100	85	115				

Sample ID: **N007033-002A-MS**	SampType: **MS**	TestCode: **6020_WD_As**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82860**
Client ID: **ZZZZZZ**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.334	0.10	10.00	5.251	101	75	125				

Sample ID: **N007033-002A-MSD**	SampType: **MSD**	TestCode: **6020_WD_As**	Units: **µg/L**	Prep Date: **1/9/2012**	RunNo: **82862**
Client ID: **ZZZZZZ**	Batch ID: **38760**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/12/2012**	SeqNo: **1348963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	15.195	0.10	10.00	5.251	99.4	75	125	15.33	0.915	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CH2MHILL

CHAIN OF CUSTODY RECORD

12/15/2011 4:43:51 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 11

	DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
Container:				1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
Preservatives:				4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
Filtered:				NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA			
Holding Time:				30	180	180	180	180	2	2	2	2	2	28			
MW-36-020-183	12/14/2011	12:20	Water	X	X		X		X		X		X	X	NJ007033-1	5	
MW-36-040-183	12/14/2011	13:06	Water	X	X		X	X	X		X		X	X	2	6	
MW-36-050-183	12/14/2011	14:08	Water	X	X		X		X		X		X	X	3	5	
MW-36-070-183	12/14/2011	15:15	Water	X	X		X		X		X		X	X	4	5	
MW-36-090-183	12/14/2011	16:16	Water	X	X		X		X		X		X	X	5	5	
MW-39-100-183	12/14/2011	10:24	Water	X	X		X	X	X		X		X	X	6	6	
MW-45-095a-183	12/14/2011	9:06	Water	X	X		X		X		X		X	X	7	5	
MW-25-183	12/15/2011	9:31	Water	X	X	X			X	X		X	X		8	5	
MW-39-040-183	12/15/2011	8:28	Water		X				X						9	2	
MW-39-050-183	12/15/2011	9:12	Water	X	X		X	X	X		X		X	X	10	6	
MW-39-060-183	12/15/2011	9:58	Water	X	X		X	X	X		X		X	X	11	6	
MW-39-070-183	12/15/2011	10:51	Water	X			X		X		X		X	X	12	5	
MW-39-080-183	12/15/2011	11:42	Water	X			X		X		X		X	X	13	5	
MW-52D-183	12/15/2011	15:47	Water	X	X		X		X		X		X	X	14	5	

	Signatures	Date/Time
Approved by		12/15/11 1650
Sampled by		
Relinquished by		
Received by	DJM Galaway	12/15/11 1650
Relinquished by	DJM Galaway	12/15/11 1934
Received by		

Shipping Details

Method of Shipment: Courier 5.2°C/5.2°C
On Ice: yes / no 1.2°C/3.4°C/3.9°C/3.8°C 2.6°C/4.4°C/1.2°C/1.6°C 4.8°C/4.6°C/3.8°C/2.2°C
Airbill No: 1248 2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/15/2011 4:43:52 PM* Page 2 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 11

	Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
	Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
	Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA			
	Holding Time:	30	180	180	180	180	2	2	2	2	2	28			
DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-52M-183	12/15/2011	14:16	Water	X	X		X		X		X	X	X	N0070733-15	5	
MW-52S-183	12/15/2011	13:52	Water	X	X		X		X		X	X	X	16	5	
MW-92-183	12/15/2011	9:40	Water	X	X	X			X	X		X	X	17	5	
MW-94-183	12/15/2011	12:09	Water		X				X					18	2	
MW-98-183	12/15/2011	16:03	Water	X	X		X		X		X		X	X	19	5	
TW-01-183	12/15/2011	11:14	Water	X			X	X	X		X		X		20	4	
														TOTAL NUMBER OF CONTAINERS		97	

	Signatures	Date/Time
Approved by		
Sampled by		12/15/11 1650
Relinquished by		
Received by	PM Galaxy	12/15/11 1650
Relinquished by	PM Galaxy	12/15/11 1934
Received by		

Shipping Details
Method of Shipment: Courier
On Ice: ~~yes~~ / no
Airbill No: 1RA2TTCTT2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

3.2°C/3.2°C
1.2°C-3.4°C-3.4°C
3.8°C-2.6°C/1.6°C
1.2°C/1.6°C/4.8°C
4.6°C/2.2°C/2.2°C

ATTN: Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/15/2011 4:43:51 PM* Page 1 OF 2

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 11

				Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly		
				Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
				Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA		
				Holding Time:	30	180	180	180	180	2	2	2	2	2	28		
	DATE	TIME	Matrix		Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
MW-36-020-183	12/14/2011	12:20	Water		X	X		X		X		X		X	X	5	
MW-36-040-183	12/14/2011	13:06	Water		X	X		X	X	X		X		X	X	6	
MW-36-050-183	12/14/2011	14:08	Water		X	X		X		X		X		X	X	5	
MW-36-070-183	12/14/2011	15:15	Water		X	X		X		X		X		X	X	5	
MW-36-090-183	12/14/2011	16:16	Water		X	X		X		X		X		X	X	5	
MW-39-100-183	12/14/2011	10:24	Water		X	X		X	X	X		X		X	X	6	
MW-45-095a-183	12/14/2011	9:06	Water		X	X		X		X		X		X	X	5	
MW-25-183	12/15/2011	9:31	Water		X	X	X			X	X		X	X		5	
MW-39-040-183	12/15/2011	8:28	Water			X				X						2	
MW-39-050-183	12/15/2011	9:12	Water		X	X		X	X	X		X		X	X	6	
MW-39-060-183	12/15/2011	9:58	Water		X	X		X	X	X		X		X	X	6	
MW-39-070-183	12/15/2011	10:51	Water		X			X		X		X		X	X	5	
MW-39-080-183	12/15/2011	11:42	Water		X			X		X		X		X	X	5	
MW-52D-183	12/15/2011	15:47	Water		X	X		X		X		X		X	X	5	

	Signatures	Date/Time
Approved by		
Sampled by		12/15/11 1650
Relinquished by		
Received by	PJM Galaway	12/15/11 1650
Relinquished by	PJM Galaway	12/15/11 1934
Received by		12/15/11 1934

Shipping Details
Method of Shipment: Courier 5.2°C/5.2°C
On Ice: ~~yes~~ / no 1.2°C/3.4°C/3.9°C/3.8°C 2.6°C/4.4°C/1.2°C/1.6°C 4.8°C/4.6°C/3.8°C/2.2°C
Airbill No: 1244 2
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN: Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

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CH2MHILL CHAIN OF CUSTODY RECORD 12/15/2011 4:43:52 PM

	Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)
Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly
Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C
Filtered:	NA	Field	Field	Field	Field	NA	NA	NA	NA	NA	NA
Holding Time:	30	180	180	180	180	2	2	2	2	2	28

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy

Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/15/2011
COC Number: 11

Sample	DATE	TIME	Matrix	Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Ca,Mg,K,Na,B,Fe,Mn	Metals (6010BFF) Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Mo,Se	Specific Conductance (E120.1)	Anions (E300.0) Bromide,Chloride,Sulfate,Nitrate	Anions (E300.0) Chloride,Sulfate,Nitrate	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
MW-52M-183	12/15/2011	14:16	Water	X	X		X		X		X		X	X	5	
MW-52S-183	12/15/2011	13:52	Water	X	X		X		X		X		X	X	5	
MW-92-183	12/15/2011	9:40	Water	X	X	X			X	X		X	X		5	
MW-94-183	12/15/2011	12:09	Water		X				X						2	
MW-98-183	12/15/2011	16:03	Water	X	X		X		X		X		X	X	5	
TW-01-183	12/15/2011	11:14	Water	X			X	X	X		X		X		4	
														TOTAL NUMBER OF CONTAINERS	97	

	Signatures	Date/Time
Approved by		
Sampled by	[signature]	12/15/11 1650
Relinquished by	[signature]	
Received by	[signature] PM Galang	12/15/11 1650
Relinquished by	[signature] PM Galang	12/15/11 1934
Received by	[signature]	12/15/11 1934

Shipping Details

Method of Shipment: Courier
On Ice: ~~yes~~ / no
Airbill No:
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

3.2°C/3.2°C 1.2°C-3.4°C-3.4°C 3.8°C-2.6°C/1.6°C 1.2°C/1.6°C/4.8°C 4.6°C/3.8°C/2.2°C IRA2

ATTN: Sample Custody and Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

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Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO 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.

Cooler Received/Opened On:	12/15/2011	Workorder:	N007033
Rep sample Temp (Deg C):	3.2,3.2,1.2,3.4,3.4,3.8,2.6,1	IR Gun ID:	2
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		

Sample Receipt Checklist

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 NS 12/16

Reviewed By:

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 **N007033-008D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(61.8465-61.7605)*1000000}{100}$$
$$= 860 \text{ mg/L}$$

Reporting result in two significant figures,

TDS = 860 mg/L

Sample ID: **N007033-002B @ Ph 7.60**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.30mL)

= **0.02033 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (13.75) (0.02033N) (1) * 1000

= **279.5 mg/L**

Reporting results in two significant figures,

= **280 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02033N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (13.75mL) (0.02033) (1) * 1000

= **279.5 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **279.5 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **280 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 **N007033-001C**, concentration in mg/L are calculated as follows:

Chloride, mg/L = 7.634 * 200

= 1526.8 mg/L

Reporting **N007033-001C**, results in two significant figures,

Chloride, mg/L = 1500 mg/L

MS 1/10/12

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

$$\text{Ammonia as N, mg/L} = A * DF$$

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007033-001D,** concentration in mg/L is calculated as follows:

$$\text{Ammonia as N, mg/L} = 0.588 * 1$$

$$= 0.588 \text{ mg/L}$$

Reporting result in two significant figures,

$$\text{Ammonia as N} = 0.59 \text{ mg/L}$$

M for
1/7/12

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 mg/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N007033-002A, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 0.65129\ mg/L * \frac{0.025\ L * 1 * 1000}{0.025\ L}$$

Fe = 651.29 ug/L

Reporting result in two significant figures,

Fe = 650 ug/L fc 1/12/2012

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/10/2012
Digestion Date: 12/19/2011
Instrument Name: ICP2
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: ug/L

Work Order # : N007033-002A
Batch # : 38652

Analyte	A	B	Difference	% D
Barium	65.32	49.133	16.18700	24.8
Iron	651.3	347.068	304.23200	46.7
Manganese	189.9	177.534	12.36600	6.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration of the original dilution
B= ug/L, ICP calculated concentration @5x dilution

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
Digestion Method: EPA 3010A
Date of Analysis: 1/10/2012
Digestion Date: 12/19/2011
Instrument Name: ICP2
Analysts: KB

Matrix: Water
Amount of Sample: 25 mL
Units: mg/L

Work Order # : N007033-002A
Batch # : 38652

Analyte	A	B	Difference	% D
Calcium	73.03	77.957	-4.92700	-6.7
Magnesium	18.3	18.091	0.20900	1.1

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration of the original dilution
B= mg/L, ICP calculated concentration @5x dilution

DILUTION TEST

Analytical Method:	**EPA 6010B / 200.7**	**Matrix:**	**Water**
Digestion Method:	**EPA 3010A**	**Amount of Sample:**	**25 mL**
Date of Analysis:	**1/10/2012**	**Units:**	**mg/L**
Digestion Date:	**12/19/2011**		
Instrument Name:	**ICP1**		
Analysts:	**KB**		

Work Order # : **N007033-002A**
Batch # : **38652**

Analyte	A	B	Difference	% D
Sodium	327.7	342.31	-14.61000	-4.5

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @20x dilution
B= mg/L, ICP calculated concentration @100x dilution

CLIENT: CH2M HILL
Work Order: N007032
Project: PG&E Topock,417981.ER.02.DM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1347579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	49.133	15						65.32	28.3	10	R
Iron	347.068	100						651.3	60.9	10	R
Manganese	177.534	50						189.9	6.71	10	

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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1347732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	77.957	2.5						73.03	6.52	10	
Magnesium	18.091	0.50						18.30	1.14	10	

Sample ID: **N007033-002ADT**	SampType: **DT**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82844**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**	SeqNo: **1348090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	342.310	50						327.7	4.36	10	

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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-002A-PS 2** SampType: **PS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **82835**
Client ID: **ZZZZZZ** Batch ID: **38652** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10731.245	200	10000	327.0	104	75	125				
Iron	20968.013	40	20000	651.3	102	75	125				
Manganese	2195.208	20	2000	189.9	100	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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007033-019A-PS 2** SampType: **PS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19145.875	40	20000	0	95.7	75	125				
Manganese	1902.789	20	2000	0	95.1	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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-002A-PS 2**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82835**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/10/2012**			SeqNo: **1347737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	100.776	1.0	20.00	73.03	139	75	125				S
Magnesium	38.613	0.20	20.00	18.30	102	75	125				

Sample ID: **N007033-002A-PS 4**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**			SeqNo: **1348218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18.474	2.0	10.00	6.601	119	75	125				

Sample ID: **N007033-002A-PS 4**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date:			RunNo: **82845**
Client ID: **ZZZZZZ**	Batch ID: **38652**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/11/2012**			SeqNo: **1348219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1435.778	10	1000	327.7	111	75	125				

DT of Ca @ 2x is within acceptance criteria MS 1/13/12

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: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007033-019A-PS 2** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82840**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/10/2012** SeqNo: **1347925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	184.099	1.0	20.00	161.5	113	75	125				
Magnesium	38.610	0.20	20.00	21.28	86.6	75	125				

Sample ID: **N007033-019APS 10** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82845**
Client ID: **ZZZZZZ** Batch ID: **38689** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	7797.042	50	5000	1901	118	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 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Chromium concentration, in ug/L, in the original sample as follows:

Chromium, 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 **N007033-002A**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 5.2508 * 1 * (25/25)

= 5.2508 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 5.3

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007033
Test Method: EPA 6020
Analysis Date: 01/11/12

Matrix: Water
Batch No.: 38760

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se. The calc. values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007033-002A DT 5X	Arsenic	µg/L	5.530426481	NA	5.250762125	-5.33%	10
	Selenium	µg/L	0.128633422	NA	0.420549309	69.41%	10
	Molybdenum	µg/L	5.68910879	NA	5.766903957	1.35%	10

ICP MS-02 1/12/2012 3:24:52 PM

CLIENT: CH2M HILL
Work Order: N007033
Project: PG&E Topock,423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007033-002A-PS 2** SampType: **PS** TestCode: **6020_DIS** Units: **µg/L** Prep Date: RunNo: **82860**
Client ID: **ZZZZZZ** Batch ID: **38760** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **1/11/2012** SeqNo: **1348553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.001	0.20	20.00	5.251	104	75	125				
Molybdenum	28.553	1.0	20.00	5.767	114	75	125				
Selenium	19.989	1.0	20.00	0.4205	97.8	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

January 12, 2012

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.: N007041

RE: PG&E Topock, 423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on December 16, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Jose Tenorio Jr.
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, 423575.MP.02.GM.0
Lab Order: N007041

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 were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium and Sodium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Advanced Technology Laboratories, Inc.
3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: *12-Jan-12*

CLIENT: CH2M HILL
Project: PG&E Topock, 423575.MP.02.GM.0
Lab Order: N007041
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N007041-001A	MW-22-183	Water	12/16/2011 12:21:00 PM	12/16/2011	
N007041-001B	MW-22-183	Water	12/16/2011 12:21:00 PM	12/16/2011	
N007041-001C	MW-22-183	Water	12/16/2011 12:21:00 PM	12/16/2011	
N007041-002A	MW-53D-183	Water	12/16/2011 10:21:00 AM	12/16/2011	
N007041-002B	MW-53D-183	Water	12/16/2011 10:21:00 AM	12/16/2011	
N007041-002C	MW-53D-183	Water	12/16/2011 10:21:00 AM	12/16/2011	
N007041-002D	MW-53D-183	Water	12/16/2011 10:21:00 AM	12/16/2011	
N007041-003A	MW-53M-183	Water	12/16/2011 10:23:00 AM	12/16/2011	
N007041-003B	MW-53M-183	Water	12/16/2011 10:23:00 AM	12/16/2011	
N007041-003C	MW-53M-183	Water	12/16/2011 10:23:00 AM	12/16/2011	
N007041-003D	MW-53M-183	Water	12/16/2011 10:23:00 AM	12/16/2011	
N007041-004A	MW-99-183	Water	12/16/2011 7:05:00 AM	12/16/2011	
N007041-004B	MW-99-183	Water	12/16/2011 7:05:00 AM	12/16/2011	
N007041-004C	MW-99-183	Water	12/16/2011 7:05:00 AM	12/16/2011	
N007041-004D	MW-99-183	Water	12/16/2011 7:05:00 AM	12/16/2011	

Advanced Technology Laboratories, Inc.
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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-22-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 12:21:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216G**	QC Batch: **R82803**			PrepDate:			Analyst: **CEI**
Specific Conductance	32000	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53D-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:21:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216G**	QC Batch: **R82803**			PrepDate:			Analyst: **CEI**
Specific Conductance	28000	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53M-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:23:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216H**	QC Batch: **R82804**			PrepDate:			Analyst: **CEI**
Specific Conductance	18000	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-99-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 7:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **WETCHEM_111216G**	QC Batch: **R82803**			PrepDate:			Analyst: **CEI**
Specific Conductance	28000	0.10	0.10		umhos/cm	1	12/16/2011

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, Inc.

3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82803** SampType: **LCS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82803**
Client ID: **LCSW** Batch ID: **R82803** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	98200.000	0.10	99880	0	98.3	85	115				

Sample ID: **N007041-004CDUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82803**
Client ID: **ZZZZZZ** Batch ID: **R82803** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	28400.000	0.10						28400	0	10	

Sample ID: **N007041-004CMS** SampType: **MS** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82803**
Client ID: **ZZZZZZ** Batch ID: **R82803** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	130200.000	0.20	99880	28400	102	75	125				

Sample ID: **N007041-004CMSD** SampType: **MSD** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **82803**
Client ID: **ZZZZZZ** Batch ID: **R82803** TestNo: **EPA 120.1** Analysis Date: **12/16/2011** SeqNo: **1345752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	130000.000	0.20	99880	28400	102	75	125	130200	0.154	10	

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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **LCS-R82804**	SampType: **LCS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82804**		
Client ID: **LCSW**	Batch ID: **R82804**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345753**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9870.000	0.10	9986	0	98.8	85	115				

Sample ID: **N007042-001CDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82804**		
Client ID: **ZZZZZZ**	Batch ID: **R82804**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345756**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7900.000	0.10						7920	0.253	10	

Sample ID: **N007042-001CMS**	SampType: **MS**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82804**		
Client ID: **ZZZZZZ**	Batch ID: **R82804**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345757**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17740.000	0.20	9986	7920	98.3	75	125				

Sample ID: **N007042-001CMSD**	SampType: **MSD**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:				RunNo: **82804**		
Client ID: **ZZZZZZ**	Batch ID: **R82804**	TestNo: **EPA 120.1**		Analysis Date: **12/16/2011**				SeqNo: **1345758**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17760.000	0.20	9986	7920	98.5	75	125	17740	0.113	10	

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

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-22-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 12:21:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	120	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53D-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:21:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	46	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	46	1.2	5.0		mg/L	1	12/19/2011

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	**Client Sample ID:**	MW-53M-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:23:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	41	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	41	1.2	5.0		mg/L	1	12/19/2011

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, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-99-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 7:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **WETCHEM_111219F**	QC Batch: **R82782**			PrepDate:			Analyst: **CEI**
Alkalinity, Bicarbonate (As CaCO3)	39	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0		mg/L	1	12/19/2011
Alkalinity, Total (As CaCO3)	39	1.2	5.0		mg/L	1	12/19/2011

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		

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R82782** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **LCSW** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115				
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115				

Sample ID: **LCSD-R82782** SampType: **LCSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **LCSS02** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100.610	5.0	100.0	0	101	85	115	100.6	0	20	
Alkalinity, Total (As CaCO3)	100.610	5.0	100.0	0	101	85	115	100.6	0	20	

Sample ID: **MB-R82782** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **PBW** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344974**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N007041-004C-DUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **82782**
Client ID: **ZZZZZZ** Batch ID: **R82782** TestNo: **SM 2320 B** Analysis Date: **12/19/2011** SeqNo: **1344981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	39.634	5.0						38.62	2.60	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	39.634	5.0						38.62	2.60	30	

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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N007041-004C-MS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82782**
Client ID: **ZZZZZZ**	Batch ID: **R82782**	TestNo: **SM 2320 B**		Analysis Date: **12/19/2011**	SeqNo: **1344982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	129.065	5.0	100.0	38.62	90.4	75	125				
Alkalinity, Total (As CaCO3)	129.065	5.0	100.0	38.62	90.4	75	125				

Sample ID: **N007041-004C-MSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **82782**
Client ID: **ZZZZZZ**	Batch ID: **R82782**	TestNo: **SM 2320 B**		Analysis Date: **12/19/2011**	SeqNo: **1344983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	128.049	5.0	100.0	38.62	89.4	75	125	129.1	0.791	20	
Alkalinity, Total (As CaCO3)	128.049	5.0	100.0	38.62	89.4	75	125	129.1	0.791	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

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-22-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 12:21:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Chloride	11000	28	1000		mg/L	2000	12/19/2011 08:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Sulfate	2200	6.2	200		mg/L	200	12/19/2011 09:09 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111217A**	QC Batch: **R82772**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/17/2011 05:40 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		

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CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-002

Client Sample ID: MW-53D-183
Collection Date: 12/16/2011 10:21:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Chloride	9500	28	1000		mg/L	2000	12/19/2011 09:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Sulfate	1200	6.2	200		mg/L	200	12/19/2011 09:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111217A**	QC Batch: **R82772**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.12	5.0		mg/L	10	12/17/2011 05:52 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

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CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-003

Client Sample ID: MW-53M-183
Collection Date: 12/16/2011 10:23:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Chloride	7100	28	1000		mg/L	2000	12/19/2011 09:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Sulfate	820	3.1	100		mg/L	100	12/19/2011 09:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **IC2_111217A**	QC Batch: **R82772**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/17/2011 06:03 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

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-004

Client Sample ID: MW-99-183
Collection Date: 12/16/2011 7:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Chloride	9600	14	500		mg/L	1000	12/19/2011 10:08 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111219A**	QC Batch: **R82771**			PrepDate:			Analyst: **QBM**
Sulfate	1200	3.1	100		mg/L	100	12/19/2011 10:19 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **IC2_111217A**	QC Batch: **R82772**			PrepDate:			Analyst: **QBM**
Nitrate as N	ND	0.060	2.5		mg/L	5	12/17/2011 10:12 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		

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R82771_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **PBW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344124**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R82771_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **LCSW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344125**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.394	0.50	2.500	0	95.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344129**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2231.000	250						2239	0.358	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344130**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3545.500	250	1250	2239	105	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344131**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3563.000	250	1250	2239	106	80	120	3546	0.492	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

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82771_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **PBW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344161**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82771_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **LCSW**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344162**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.976	1.0	5.000	0	99.5	90	110				

Sample ID: **N006984-003CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344165**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	226.120	20	100.0	119.8	106	80	120	227.2	0.468	20	

Sample ID: **N006984-003CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344178**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	123.660	20						119.8	3.20	20	

Sample ID: **N006984-003CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82771**		
Client ID: **ZZZZZZ**	Batch ID: **R82771**	TestNo: **EPA 300.0**		Analysis Date: **12/19/2011**				SeqNo: **1344179**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	227.180	20	100.0	119.8	107	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R82772_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **PBW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344246**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Sample ID: **LCS-R82772_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **LCSW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344247**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.740	1.0	5.000	0	94.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344250**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	480.400	50						478.8	0.323	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344251**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	736.400	50	250.0	478.8	103	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344252**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	728.650	50	250.0	478.8	99.9	80	120	736.4	1.06	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

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3151 W. Post Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: **MB-R82772_NO3**	SampType: **MBLK**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **PBW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344213**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50									

Sample ID: **LCS-R82772_NO3**	SampType: **LCS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **LCSW**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344214**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.371	0.50	2.500	0	94.8	90	110				

Sample ID: **N007042-003ADUP**	SampType: **DUP**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344222**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.618	1.0						1.594	1.49	20	

Sample ID: **N007042-003AMS**	SampType: **MS**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344223**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.366	1.0	5.000	1.594	95.4	80	120				

Sample ID: **N007042-003AMSD**	SampType: **MSD**	TestCode: **300W_NO3P**	Units: **mg/L**	Prep Date:				RunNo: **82772**		
Client ID: **ZZZZZZ**	Batch ID: **R82772**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2011**				SeqNo: **1344224**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.386	1.0	5.000	1.594	95.8	80	120	6.366	0.314	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

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53D-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:21:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38644**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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, Inc.

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53M-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:23:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38644**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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		

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CLIENT:	CH2M HILL	**Client Sample ID:**	MW-99-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 7:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
AMMONIA-N							
			SM4500-NH3C				
RunID: **WETCHEM_111230B**	QC Batch: **38644**			PrepDate:	**12/28/2011**		Analyst: **CEI**
Nitrogen, Ammonia (As N)	ND	0.030	0.10		mg/L	1	12/30/2011

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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 350.2_4500NH3C_WPGE

Sample ID: **LCS-38644**	SampType: **LCS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **LCSW**	Batch ID: **38644**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.035	0.10	1.000	0	104	85	115				

Sample ID: **MB-38644**	SampType: **MBLK**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **PBW**	Batch ID: **38644**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.10									

Sample ID: **N007041-002D-MS**	SampType: **MS**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38644**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.025	0.10	2.000	0.03100	99.7	75	125				

Sample ID: **N007041-002D-MSD**	SampType: **MSD**	TestCode: **350.2_4500N**	Units: **mg/L**	Prep Date: **12/28/2011**	RunNo: **82733**
Client ID: **ZZZZZZ**	Batch ID: **38644**	TestNo: **SM4500-NH3**		Analysis Date: **12/30/2011**	SeqNo: **1342589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.976	0.10	2.000	0.03100	97.2	75	125	2.025	2.45	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

CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-001

Client Sample ID: MW-22-183
Collection Date: 12/16/2011 12:21:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Antimony	ND	11	20		ug/L	2	1/5/2012 05:15 PM
Barium	84	0.40	6.0		ug/L	2	1/5/2012 05:15 PM
Beryllium	ND	0.18	2.0		ug/L	2	1/5/2012 05:15 PM
Cadmium	ND	0.46	6.0		ug/L	2	1/5/2012 05:15 PM
Cobalt	ND	0.62	6.0		ug/L	2	1/5/2012 05:15 PM
Copper	14	1.1	10		ug/L	2	1/5/2012 05:15 PM
Iron	16000	29	40		ug/L	2	1/5/2012 05:15 PM
Lead	ND	2.9	20		ug/L	2	1/5/2012 05:15 PM
Manganese	6100	3.3	20		ug/L	2	1/5/2012 05:15 PM
Molybdenum	21	0.98	10		ug/L	2	1/5/2012 05:15 PM
Nickel	ND	2.3	10		ug/L	2	1/5/2012 05:15 PM
Silver	15	1.4	6.0		ug/L	2	1/9/2012 11:56 AM
Vanadium	ND	0.38	6.0		ug/L	2	1/5/2012 05:15 PM
Zinc	ND	9.2	20		ug/L	2	1/5/2012 05:15 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	990	0.23	1.0		mg/L	2	1/5/2012 05:15 PM
Magnesium	220	0.013	0.20		mg/L	2	1/5/2012 05:15 PM
Sodium	5400	30	120		mg/L	250	1/7/2012 03:07 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, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-002

Client Sample ID: MW-53D-183
Collection Date: 12/16/2011 10:21:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	250	29	40		ug/L	2	1/5/2012 05:41 PM
Manganese	1900	3.3	20		ug/L	2	1/5/2012 05:41 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	300	0.23	1.0		mg/L	2	1/5/2012 05:41 PM
Magnesium	14	0.013	0.20		mg/L	2	1/5/2012 05:41 PM
Sodium	4900	30	120		mg/L	250	1/7/2012 01:45 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		

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-003

Client Sample ID: MW-53M-183
Collection Date: 12/16/2011 10:23:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	340	72	100		ug/L	5	1/5/2012 06:04 PM
Manganese	460	8.3	50		ug/L	5	1/5/2012 06:04 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	410	0.58	2.5		mg/L	5	1/5/2012 06:04 PM
Magnesium	33	0.031	0.50		mg/L	5	1/5/2012 06:04 PM
Sodium	4300	12	50		mg/L	100	1/7/2012 01:46 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		

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CLIENT: CH2M HILL
Lab Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0
Lab ID: N007041-004

Client Sample ID: MW-99-183
Collection Date: 12/16/2011 7:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Iron	220	72	100		ug/L	5	1/5/2012 06:09 PM
Manganese	1900	8.3	50		ug/L	5	1/5/2012 06:09 PM
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **ICP2_120105A**	QC Batch: **38650**			PrepDate:	**12/19/2011**		Analyst: **KAB**
Calcium	290	0.58	2.5		mg/L	5	1/5/2012 06:09 PM
Magnesium	14	0.031	0.50		mg/L	5	1/5/2012 06:09 PM
Sodium	5700	30	120		mg/L	250	1/7/2012 03:11 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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345066**

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									
Iron	ND	20									
Lead	ND	10									
Manganese	3.845	10									
Molybdenum	1.607	5.0									
Nickel	ND	5.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.353	10	50.00	0	101	85	115				
Barium	51.204	3.0	50.00	0	102	85	115				
Beryllium	9.766	1.0	10.00	0	97.7	85	115				
Cadmium	9.017	3.0	10.00	0	90.2	85	115				
Cobalt	9.922	3.0	10.00	0	99.2	85	115				
Copper	10.002	5.0	10.00	0	100	85	115				
Iron	56.492	20	50.00	0	113	85	115				
Lead	51.112	10	50.00	0	102	85	115				
Manganese	46.710	10	50.00	0	93.4	85	115				
Molybdenum	50.287	5.0	50.00	0	101	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

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-38650**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **LCSW**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	46.067	5.0	50.00	0	92.1	85	115				
Vanadium	9.605	3.0	10.00	0	96.1	85	115				
Zinc	51.788	10	50.00	0	104	85	115				

Sample ID: **N007014-002B-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.681	20	50.00	0	95.4	75	125				
Barium	123.049	6.0	50.00	67.10	112	75	125				
Beryllium	9.060	2.0	10.00	0	90.6	75	125				
Cadmium	2.961	6.0	10.00	0	29.6	75	125				S
Cobalt	4.393	6.0	10.00	0	43.9	75	125				S
Copper	11.723	10	10.00	1.181	105	75	125				
Iron	37.571	40	50.00	0	75.1	75	125				
Lead	35.828	20	50.00	0	71.7	75	125				S
Manganese	48.690	20	50.00	7.732	81.9	75	125				
Molybdenum	92.440	10	50.00	40.97	103	75	125				
Nickel	32.885	10	50.00	0	65.8	75	125				S
Vanadium	31.041	6.0	10.00	19.02	120	75	125				
Zinc	48.642	20	50.00	0	97.3	75	125				

Sample ID: **N007014-002B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	43.550	20	50.00	0	87.1	75	125	47.68	9.06	20	
Barium	122.772	6.0	50.00	67.10	111	75	125	123.0	0.225	20	
Beryllium	9.090	2.0	10.00	0	90.9	75	125	9.060	0.335	20	
Cadmium	2.717	6.0	10.00	0	27.2	75	125	2.961	0	20	S

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

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	4.422	6.0	10.00	0	44.2	75	125	4.393	0	20	S
Copper	11.726	10	10.00	1.181	105	75	125	11.72	0.0246	20	
Iron	36.869	40	50.00	0	73.7	75	125	37.57	0	20	S
Lead	36.305	20	50.00	0	72.6	75	125	35.83	1.32	20	S
Manganese	48.737	20	50.00	7.732	82.0	75	125	48.69	0.0959	20	
Molybdenum	92.160	10	50.00	40.97	102	75	125	92.44	0.304	20	
Nickel	31.944	10	50.00	0	63.9	75	125	32.88	2.90	20	S
Vanadium	31.047	6.0	10.00	19.02	120	75	125	31.04	0.0196	20	
Zinc	49.120	20	50.00	0	98.2	75	125	48.64	0.977	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	3.0									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	9.938	3.0	10.00	0	99.4	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	24.698	6.0	10.00	13.86	108	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

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **ug/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	25.553	6.0	10.00	13.86	117	75	125	24.70	3.40	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

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-38650** SampType: **LCS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **LCSW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.017	0.50	1.000	0	102	85	115				
Magnesium	1.008	0.10	1.000	0	101	85	115				

Sample ID: **N007014-002B-MS** SampType: **MS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	795.029	1.0	1.000	757.9	3720	75	125				S
Magnesium	2.439	0.20	1.000	1.453	98.6	75	125				

Sample ID: **N007014-002B-MSD** SampType: **MSD** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	799.140	1.0	1.000	757.9	4130	75	125	795.0	0.516	20	S
Magnesium	2.443	0.20	1.000	1.453	99.0	75	125	2.439	0.137	20	

Sample ID: **MB-38650** SampType: **MBLK** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: **12/19/2011** RunNo: **82791**
Client ID: **PBW** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.339	0.50									

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

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-38650**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **LCSW**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2.601	0.50	2.500	0	104	85	115				

Sample ID: **N007014-002B-MS2**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3130.107	50	15.00	3147	-115	75	125				S

Sample ID: **N007014-002B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **mg/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/7/2012**	SeqNo: **1346159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3226.793	50	15.00	3147	529	75	125	3130	3.04	20	S

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

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-22-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 12:21:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111A**	QC Batch: **38692**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	14	0.012	0.50		µg/L	5	1/11/2012 09:28 AM
Selenium	ND	7.2	12		µg/L	25	1/11/2012 09:36 AM
Thallium	ND	0.38	12		µg/L	25	1/9/2012 11:52 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		

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53D-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:21:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111A**	QC Batch: **38692**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	3.3	0.062	2.5		µg/L	25	1/11/2012 10:06 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		

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-53M-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 10:23:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111A**	QC Batch: **38692**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	ND	0.062	2.5		µg/L	25	1/11/2012 10:13 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		

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-99-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 7:05:00 AM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **ICP7_120111A**	QC Batch: **38692**			PrepDate:	**1/6/2012**		Analyst: **CEI**
Arsenic	ND	0.062	2.5		µg/L	25	1/11/2012 10:36 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		

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **MB-38692**	SampType: **MBLK**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **PBW**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: **LCS-38692**	SampType: **LCS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82828**
Client ID: **LCSW**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1347000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.752	0.10	10.00	0	97.5	85	115				
Selenium	10.641	0.50	10.00	0	106	85	115				
Thallium	10.903	0.50	10.00	0	109	85	115				

Sample ID: **N007032-026B-MS**	SampType: **MS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82843**
Client ID: **ZZZZZZ**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.660	2.5	10.00	9.272	114	75	125				
Selenium	13.381	12	10.00	0	134	75	125				S
Thallium	10.646	12	10.00	0	106	75	125				

Sample ID: **N007032-026B-MSD**	SampType: **MSD**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date: **1/6/2012**	RunNo: **82843**
Client ID: **ZZZZZZ**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/11/2012**	SeqNo: **1348028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.797	2.5	10.00	9.272	125	75	125	20.66	5.36	20	S
Selenium	13.739	12	10.00	0	137	75	125	13.38	2.64	20	S
Thallium	10.753	12	10.00	0	108	75	125	10.65	0	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

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ANALYTICAL RESULTS

Print Date: ***12-Jan-12***

CLIENT:	CH2M HILL	**Client Sample ID:**	MW-22-183
Lab Order:	N007041	**Collection Date:**	12/16/2011 12:21:00 PM
Project:	PG&E Topock, 423575.MP.02.GM.0	**Matrix:**	WATER
Lab ID:	N007041-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 7470A				
RunID: **AA1_111221C**	QC Batch: **38648**			PrepDate:	**12/19/2011**		Analyst: **CEI**
Mercury	ND	0.028	0.20		µg/L	1	12/21/2011

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		

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CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: **LCS-38648**	SampType: **LCS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **LCSW**	Batch ID: **38648**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.551	0.20	5.000	0	111	85	115				

Sample ID: **MB-38648**	SampType: **MBLK**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **PBW**	Batch ID: **38648**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: **N007032-026B-MS**	SampType: **MS**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38648**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.317	0.20	5.000	0	106	75	125				

Sample ID: **N007032-026B-MSD**	SampType: **MSD**	TestCode: **7470_W_DIS**	Units: **µg/L**	Prep Date: **12/19/2011**	RunNo: **82629**
Client ID: **ZZZZZZ**	Batch ID: **38648**	TestNo: **EPA 7470A**		Analysis Date: **12/21/2011**	SeqNo: **1340194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.490	0.20	5.000	0	110	75	125	5.317	3.20	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 Rd Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

GMP-183 Q4 ATL 12-16-11

CH2MHILL

CHAIN OF CUSTODY RECORD

12/16/2011 1:08:15 PM

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Shawn Duffy
Project Number 423575.MP.02.GM.0
Task Order
Project 2011-GMP-183-Q4
Turnaround Time 10 Days
Shipping Date: 12/16/2011
COC Number: 15

	DATE	TIME	Matrix	Extra (+)	Arsenic (6020A) Field Filtered	Metals (6010BFF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered T22:SbAsBaBeCdCoCuPbHgMo	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
Container:				1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
Preservatives:				4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
Filtered:				NA	Field	Field	Field	NA	NA	NA	NA			
Holding Time:				30	180	180	180	2	2	2	28			
MW-22-183	12/16/2011	12:21	Water	X	X	X	X	X	X	X		N007041-1	5	
MW-53D-183	12/16/2011	10:21	Water	X	X	X		X	X	X	X	-2	5	
MW-53M-183	12/16/2011	10:23	Water	X	X	X		X	X	X	X	-3	5	
MW-99-183	12/16/2011	7:05	Water	X	X	X		X	X	X	X	-4	5	
												TOTAL NUMBER OF CONTAINERS	20	

	Signatures	Date/Time
Approved by		12-16-11 1330
Sampled by		
Relinquished by	PM Galang	12/16/11 1850
Received by		
Relinquished by	PM Galang	12/16/11 1645
Received by		

Shipping Details

Method of Shipment: courier
On Ice: yes / no 3.4°C/ 3.4°C
Airbill No: FedEx
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marion

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

GMP-183 Q4 ATL 12-16-11

CH2MHILL **CHAIN OF CUSTODY RECORD** *12/16/2011 1:08:15 PM* Page 1 OF 2

Project Name PG&E Topock
Location Topock
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Shipping Date: 12/16/2011
COC Number: 15

				Container:	1Liter Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
				Preservatives:	4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
				Filtered:	NA	Field	Field	Field	NA	NA	NA	NA			
				Holding Time:	30	180	180	180	2	2	2	28			
	DATE	TIME	Matrix		Extra (*)	Arsenic (6020A) Field Filtered	Metals (6010B/FF) Field Filtered Cations:Ca,Mg,Na,Fe,Mn	Metals (SW6010B/SW6020Adis) Field Filtered T22:SbAsBaBeCdCoCuPbHgMo	Specific Conductance (E120.1)	Anions (E300.0) Chloride,Sulfate,Nitrate	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
MW-22-183	12/16/2011	12:21	Water		X	X	X	X	X	X	X			5	
MW-53D-183	12/16/2011	10:21	Water		X	X	X		X	X	X	X		5	
MW-53M-183	12/16/2011	10:23	Water		X	X	X		X	X	X	X		5	
MW-99-183	12/16/2011	7:05	Water		X	X	X		X	X	X	X		5	
													TOTAL NUMBER OF CONTAINERS	20	

	Signatures	Date/Time
Approved by		12-16-11
Sampled by		1330
Relinquished by		
Received by	P M Galang	12/16/11 1850
Relinquished by	P M Galang	12/16/11 1645
Received by		

Shipping Details
Method of Shipment: courier
On Ice: ~~yes~~ / no 5.4°C / 3.8°C
Airbill No: IPHL
Lab Name: ADVANCED TECHNOLOGY LABORATO
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon

Special Instructions:
Dec 5-16, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Advanced Technology Laboratories, Inc.

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:	12/16/2011	Workorder:	N007041
Rep sample Temp (Deg C):	5.4, 3.8	IR Gun ID:	2
Temp Blank:	☐ Yes ☑ No		
Carrier name:	ATL		
Last 4 digits of Tracking No.:	na	Packing Material Used:	Bubble Wrap
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 B MBC 12/19/11 Reviewed By:

Sample ID: **N007041-002C @ Ph 8.05**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A)(B)/(53.00)(C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65g/L) (5mL) / (53.00) (12.30mL)

= **0.02033 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$, volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (2.25) (0.02033N) (1) * 1000

= **45.7 mg/L**

Reporting results in two significant figures,

= **46 mg/L** as CaCO3

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02033N) (1) * 1000

= **0**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (2.25mL) (0.02033) (1) * 1000

= **45.7 mg/L** as CaCO3

Where:

$P_{vol.}$ - volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **45.7 mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **46 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 **N007041-001C**, concentration in mg/L are calculated as follows:

Chloride, mg/L	=	5.396 * 2000
	=	10792 mg/L

Reporting **N007041-001C**, results in two significant figures,

Chloride, mg/L	**=**	**11000 mg/L**

MS 1/10/11

SAMPLE CALCULATION

METHOD: SM4500-NH3C
TEST NAME: Ammonia-Nitrogen
MATRIX: Water

FORMULA:

Calculate the Ammonia as N concentration, in mg/L , in the original sample as follows:

$$\text{Ammonia as N, mg/L} = A * DF$$

Where:

A= mg/L, UV-VIS NH3 as N calculated concentration
DF= dilution factor

For **N007041-002D,** concentration in mg/L is calculated as follows:

$$\text{Ammonia as N, mg/L} = 0.031 * 1$$

$$= 0.031 \text{ mg/L}$$

Reporting result in two significant figures,

$$\text{Ammonia as N} = 0.031 \text{ mg/L}$$

Since the reporting limit is 0.1 mg/L therefore,

$$\text{Ammonia as N} = ND$$

NS fr
1/7/12

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 N007041-001B, concentration in ug/L are calculated as follows:

$$Fe, ug/L = 7.86051\ mg/L * \frac{0.025\ L * 2*1000}{0.025\ L}$$

Fe = 15721.02 ug/L

Reporting result in two significant figures,

Fe = 16000 ug/L

fc · 1/10/2012

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/5/2012	**Units:**	ug/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N007014-002B
Batch # : 38650

Analyte	A	B	Difference	% D
Barium	67.1	44.736	22.36400	33.3

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= ug/L, ICP calculated concentration @2x dilution
B= ug/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/5/2012	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N007014-002B
Batch # : 38650

Analyte	A	B	Difference	% D
Calcium	757.9	740.671	17.22900	2.3
Magnesium	1.453	1.447	0.00600	0.4

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @2x dilution
B= mg/L, ICP calculated concentration @10x dilution

DILUTION TEST

Analytical Method:	EPA 6010B / 200.7	**Matrix:**	Water
Digestion Method:	EPA 3010A	**Amount of Sample:**	25 mL
Date of Analysis:	1/7/2012	**Units:**	mg/L
Digestion Date:	12/19/2011		
Instrument Name:	ICP2		
Analysts:	KB		

Work Order # : N007014-002B
Batch # : 38650

Analyte	A	B	Difference	% D
Sodium	3147	2730.168	416.83200	13.2

FORMULA:

$$\%D = \frac{(A-B)*100}{A}$$

where:

% D = % Difference
A= mg/L, ICP calculated concentration @100x dilution
B= mg/L, ICP calculated concentration @500x dilution

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002BDT**	SampType: **DT**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date: **12/19/2011**	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/5/2012**	SeqNo: **1345075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	44.736	30						67.10	40.0	10	R

PS of Ba @ 2x is within acceptance criteria NS 1/11/12

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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/5/2012	SeqNo: 1345110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	740.671	5.0						757.9	2.29	10	
Magnesium	1.447	1.0						1.453	0.424	10	

Sample ID: N007014-002BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 12/19/2011	RunNo: 82791
Client ID: ZZZZZZ	Batch ID: 38650	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 1/7/2012	SeqNo: 1346136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2730.168	250						3147	14.2	10	R

PS of Sodium is within acceptance criteria as noted

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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 5** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	51559.791	250	50000	0	103	75	125				
Antimony	2550.950	50	2500	0	102	75	125				
Barium	2545.360	15	2500	67.10	99.1	75	125				
Beryllium	2559.986	5.0	2500	0	102	75	125				
Cadmium	2500.481	15	2500	0	100	75	125				
Cobalt	2455.434	15	2500	0	98.2	75	125				
Copper	2557.588	25	2500	1.181	102	75	125				
Iron	48655.281	100	50000	0	97.3	75	125				
Lead	2426.578	50	2500	0	97.1	75	125				
Manganese	4807.678	50	5000	7.732	96.0	75	125				
Molybdenum	2557.925	25	2500	40.97	101	75	125				
Nickel	2571.813	25	2500	0	103	75	125				
Vanadium	2546.522	15	2500	19.02	101	75	125				
Zinc	2536.715	50	2500	0	101	75	125				

Sample ID: **N007014-002B-PS 2** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	1047.188	6.0	1000	13.86	103	75	125				

Sample ID: **N007014-002B-PS 2** SampType: **PS** TestCode: **6010_WDPG** Units: **ug/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20475.809	100	20000	0	102	75	125				
Antimony	1025.724	20	1000	0	103	75	125				
Barium	1023.568	6.0	1000	0	102	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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N007014-002B-PS 2**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **ug/L**	Prep Date:	RunNo: **82791**
Client ID: **ZZZZZZ**	Batch ID: **38650**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1346742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	984.980	2.0	1000	0	98.5	75	125				
Cadmium	951.398	6.0	1000	0	95.1	75	125				
Cobalt	930.015	6.0	1000	0	93.0	75	125				
Copper	1021.894	10	1000	0	102	75	125				
Iron	18371.607	40	20000	0	91.9	75	125				
Lead	909.673	20	1000	0	91.0	75	125				
Manganese	1859.287	20	2000	3.845	92.8	75	125				
Molybdenum	1008.322	10	1000	1.607	101	75	125				
Nickel	964.968	10	1000	0	96.5	75	125				
Selenium	998.746	20	1000	0	99.9	75	125				
Vanadium	998.188	6.0	1000	0	99.8	75	125				
Zinc	968.760	20	1000	0	96.9	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: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N007014-002B-PS 5** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/5/2012** SeqNo: **1345115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	805.510	2.5	50.00	757.9	95.3	75	125				
Magnesium	49.243	0.50	50.00	1.453	95.6	75	125				

Sample ID: **N007014-002B-PS 1** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346161**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	310.200	50	250.0	51.20	104	75	125				

Sample ID: **N007014-002B-PS 5** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/7/2012** SeqNo: **1346162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	13707.320	250	12500	3147	84.5	75	125				

Sample ID: **N007014-002B-PS 2** SampType: **PS** TestCode: **6010_WDPGE** Units: **mg/L** Prep Date: RunNo: **82791**
Client ID: **ZZZZZZ** Batch ID: **38650** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **1/9/2012** SeqNo: **1346727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	815.182	1.0	20.00	757.9	287	75	125				S
Magnesium	19.030	0.20	20.00	1.453	87.9	75	125				

DT of Ca @ 10X is within acceptance criteria
MS 1/11/12

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 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Aqueous

FORMULA:

Calculate the Chromium concentration, in ug/L, in the original sample as follows:

Chromium, 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 **N007041-001B**, the concentration in ug/L is calculated as follows:

Arsenic, ug/L = 2.8416 * 5 * (25/25)

= 14.2078 ug/L

Reporting results in two significant figures,

Arsenic, ug/L = 14

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N007041
Test Method: EPA 6020
Analysis Date: 01/09/12

Matrix: Water
Batch No.: 38692

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Claire Ignacio

Dilution Test is not applicable to Se AND Tl. The calc. values were < 25X the RL. PS @ 2x passes the criteria

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N007032-026B DT 125X	Chromium	µg/L	137.3529307	NA	127.6779289	-7.58%	10
	Arsenic	µg/L	8.258040125	NA	9.271564422	10.93%	10
	Selenium	µg/L	0	NA	0	0.00%	10
	Thallium	µg/L	0	NA	0	0.00%	10

CLIENT: CH2M HILL
Work Order: N007041
Project: PG&E Topock, 423575.MP.02.GM.0

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: **N007032-026B-PS 2**	SampType: **PS**	TestCode: **6020_DIS**	Units: **µg/L**	Prep Date:	RunNo: **82828**
Client ID: **ZZZZZZ**	Batch ID: **38692**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **1/9/2012**	SeqNo: **1347003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	252.700	2.5	250.0	9.272	97.4	75	125				
Selenium	267.275	12	250.0	0	107	75	125				
Thallium	267.024	12	250.0	0	107	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 **N007041-001B**, the concentration in ug/L is calculated as follows:

Mercury, ug/L	=	0 * 1 * (50/25) * 0.5
	=	0.0 ug/L

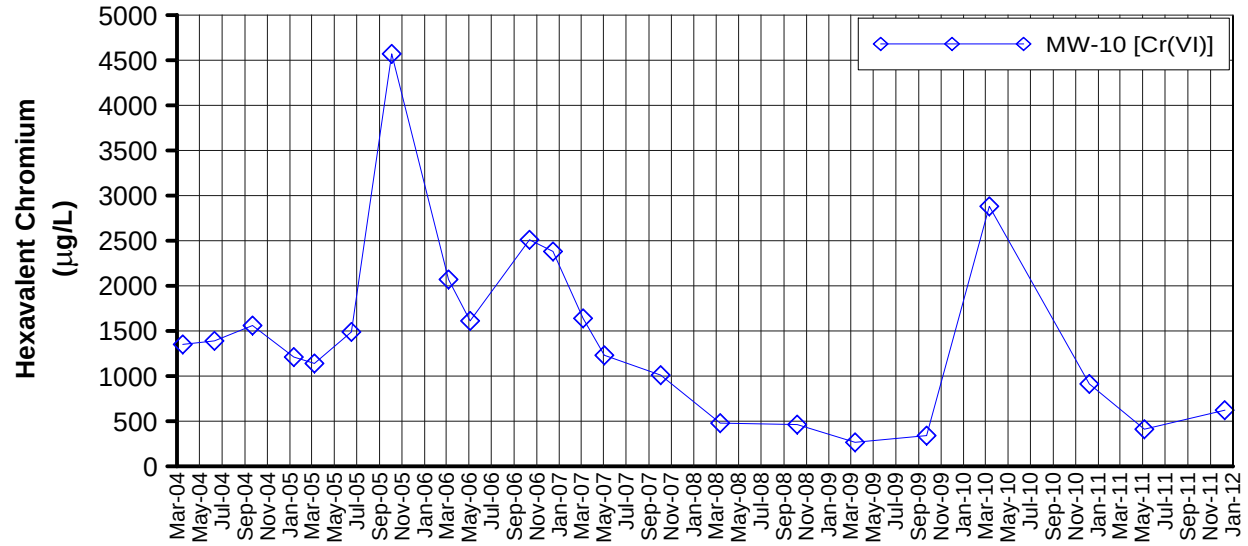
Reporting results in two significant figures,

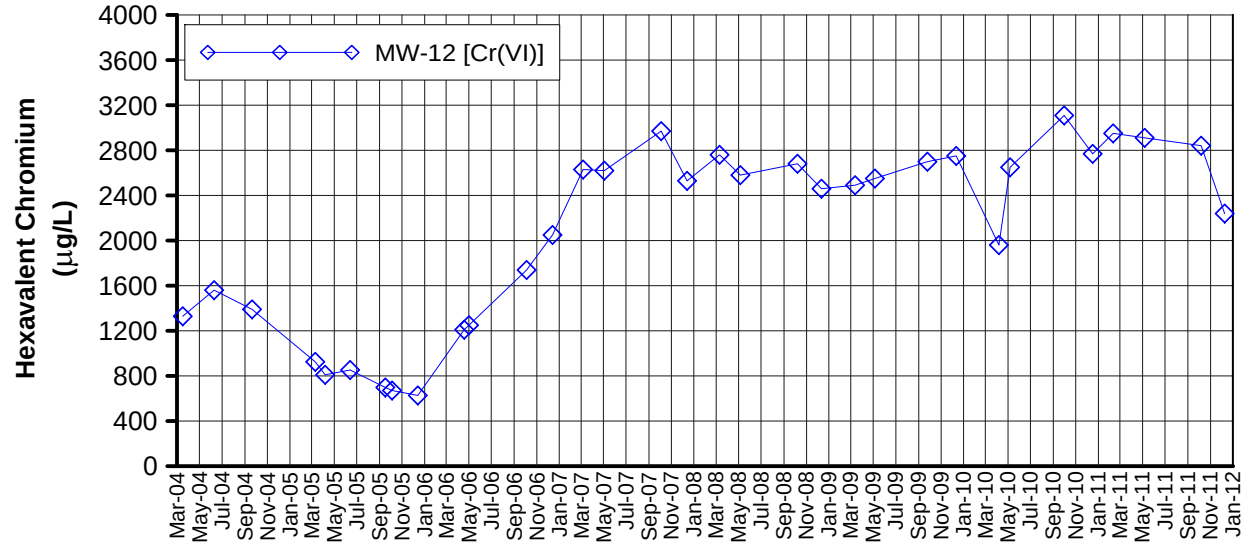
Mercury, ug/L	=	**0.0**

Mercury, ug/L	=	**ND**

1/14/12

Appendix C
Chromium Trend Graphs





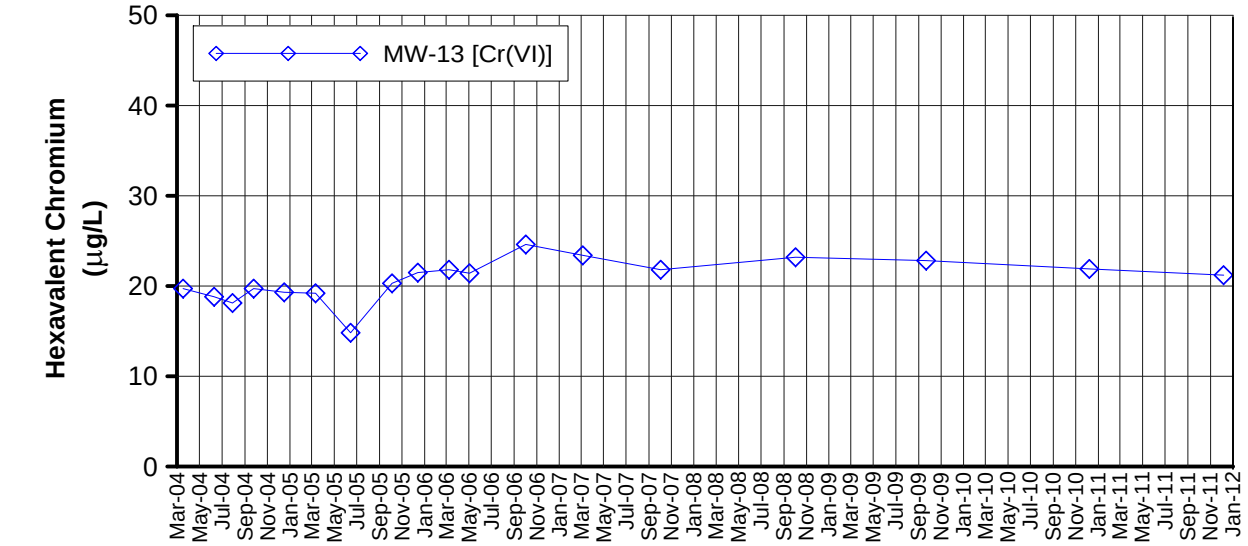


FIGURE C-1
HEXAVALENT CHROMIUM
IN MW-10, MW-12, AND MW-13
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

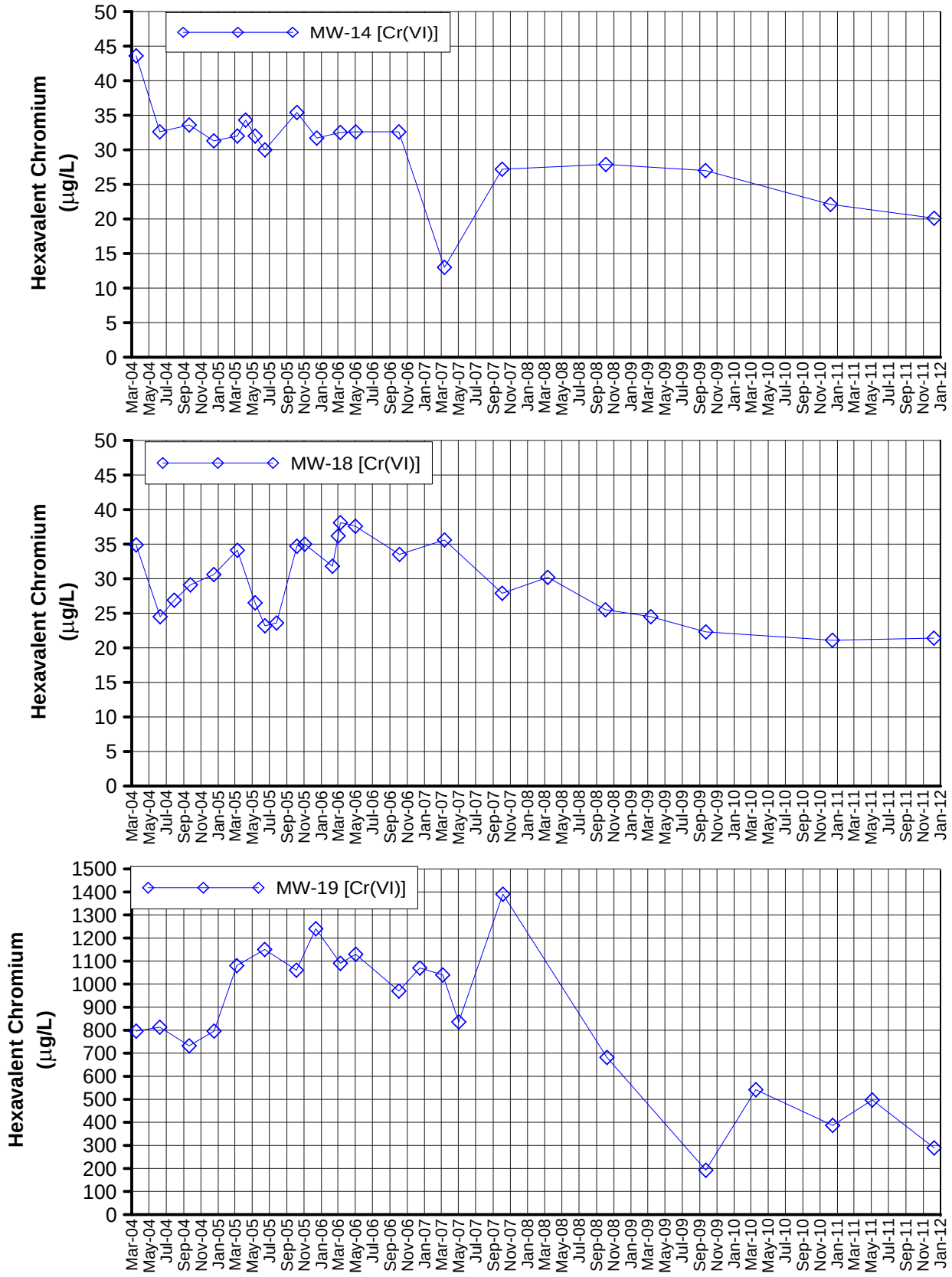
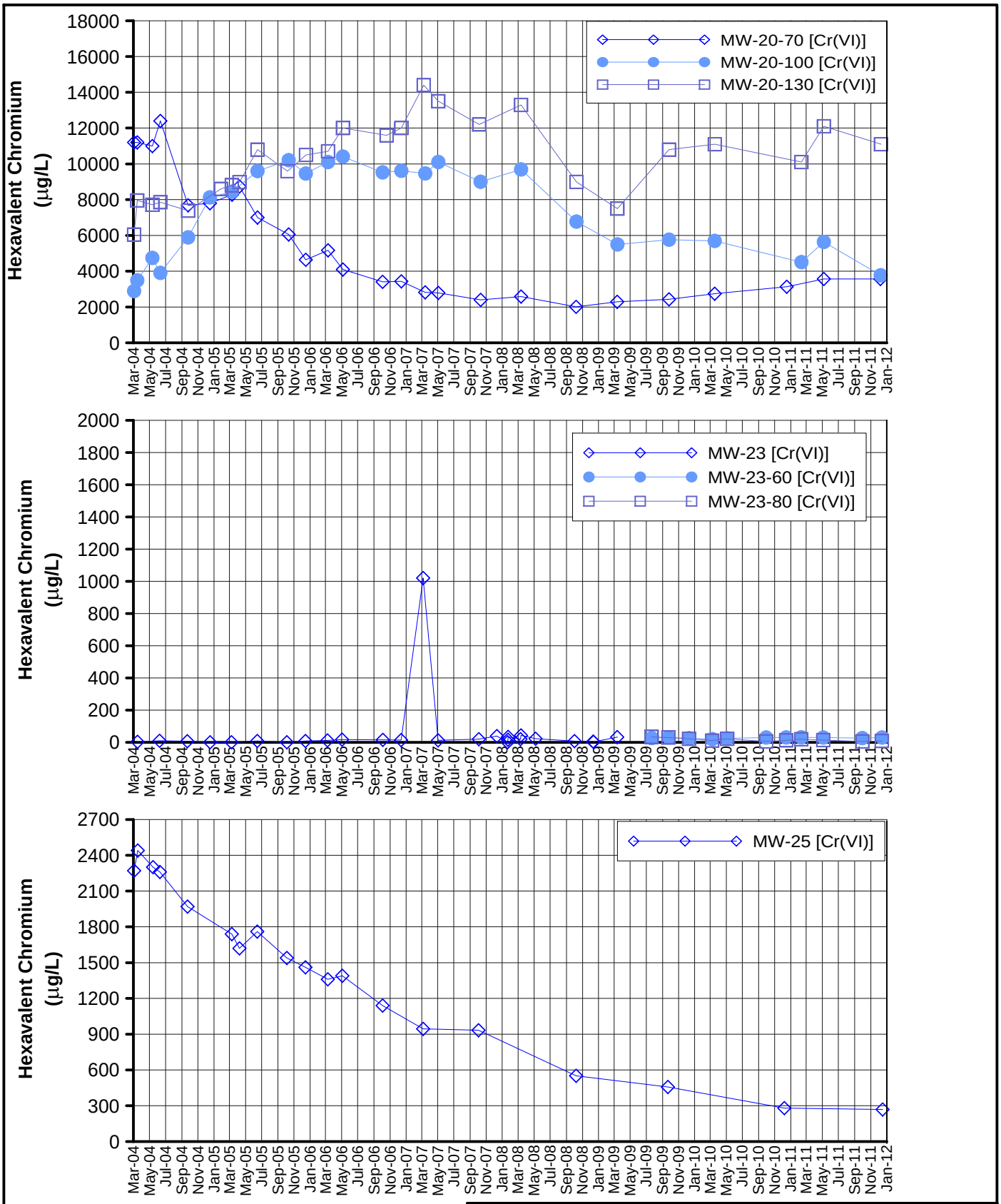


FIGURE C-2
HEXAVALENT CHROMIUM
IN MW-14, MW-18, AND MW-19
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

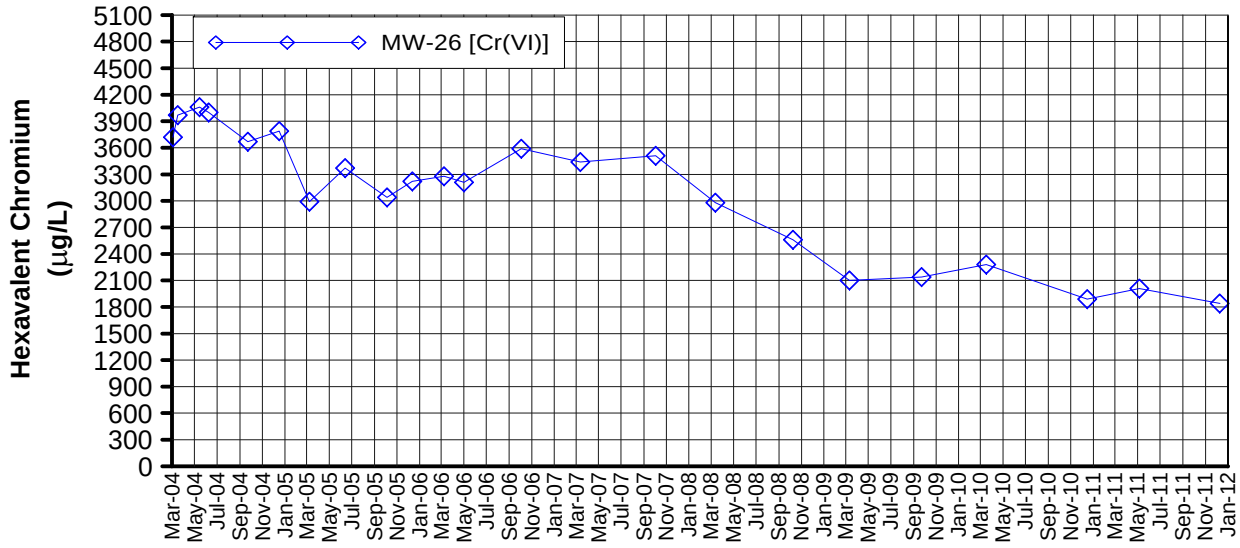
CH2MHILL

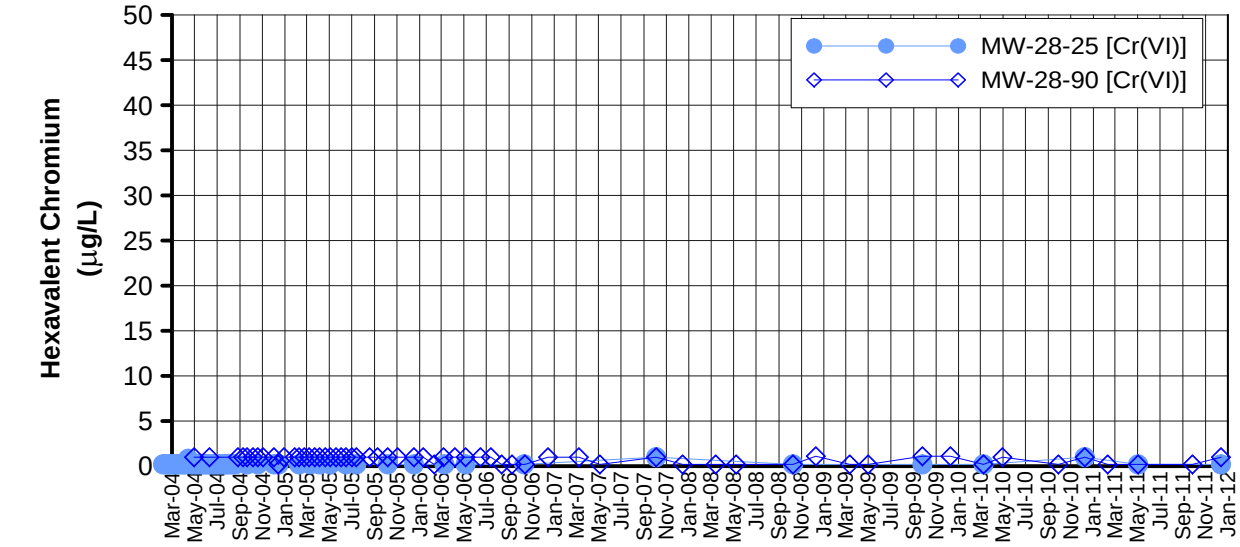


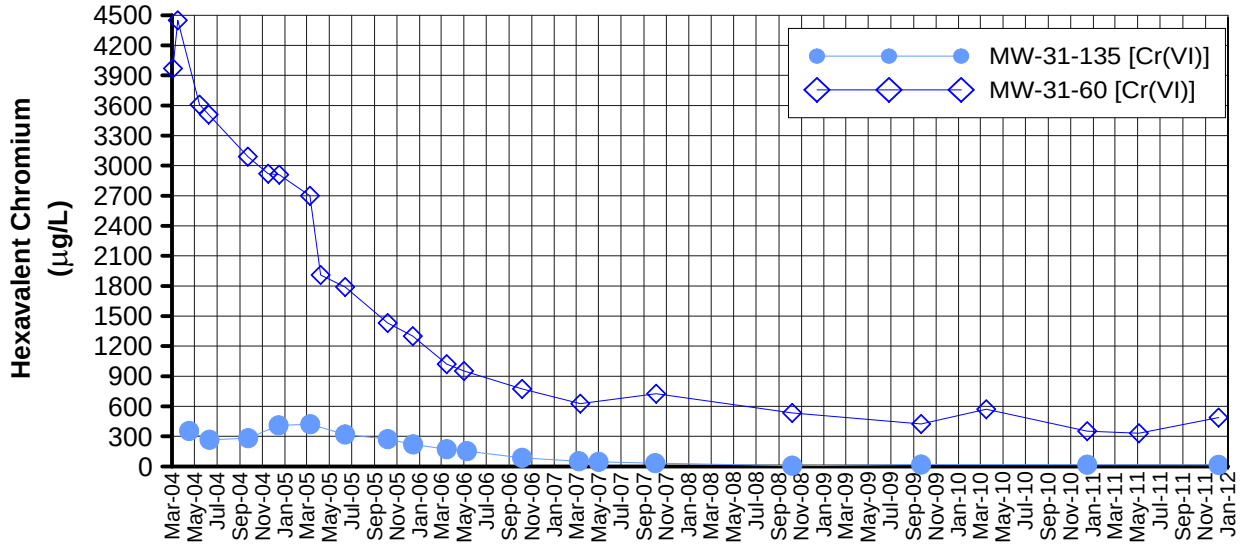
Notes:
1) Fourth Quarter 2010 data for MW-20-100 and MW-20-130 collected in February 2011 due to logistical issues.

FIGURE C-3
HEXAVALENT CHROMIUM
IN MW-20, MW-23, AND MW-25 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL 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.

FIGURE C-4
HEXAVALENT CHROMIUM
IN MW-26, MW-28, AND MW-31 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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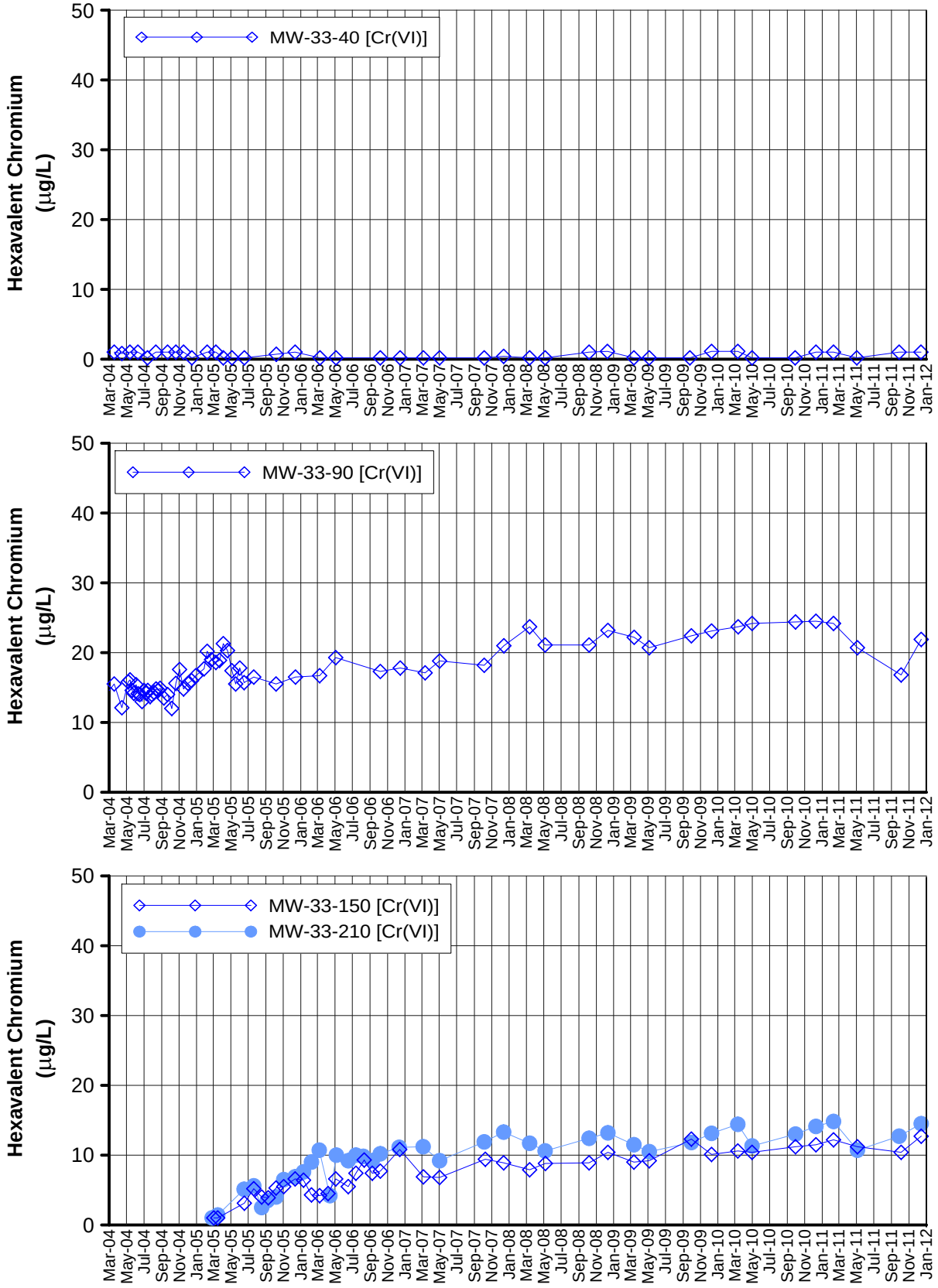

Notes:

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-5
HEXAVALENT CHROMIUM
IN MW-33 CLUSTER

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
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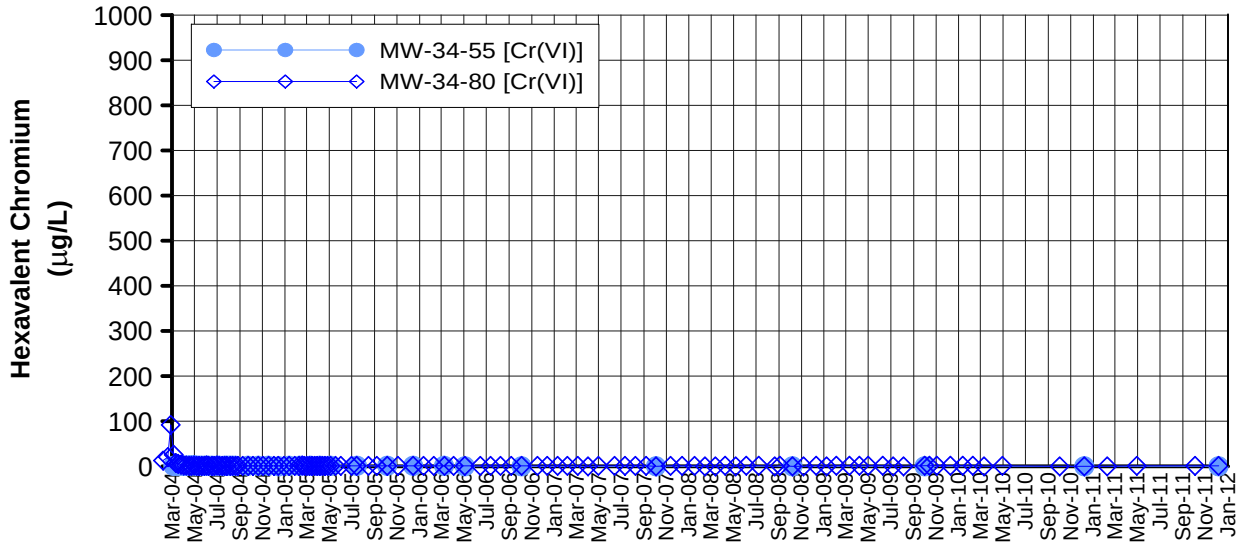
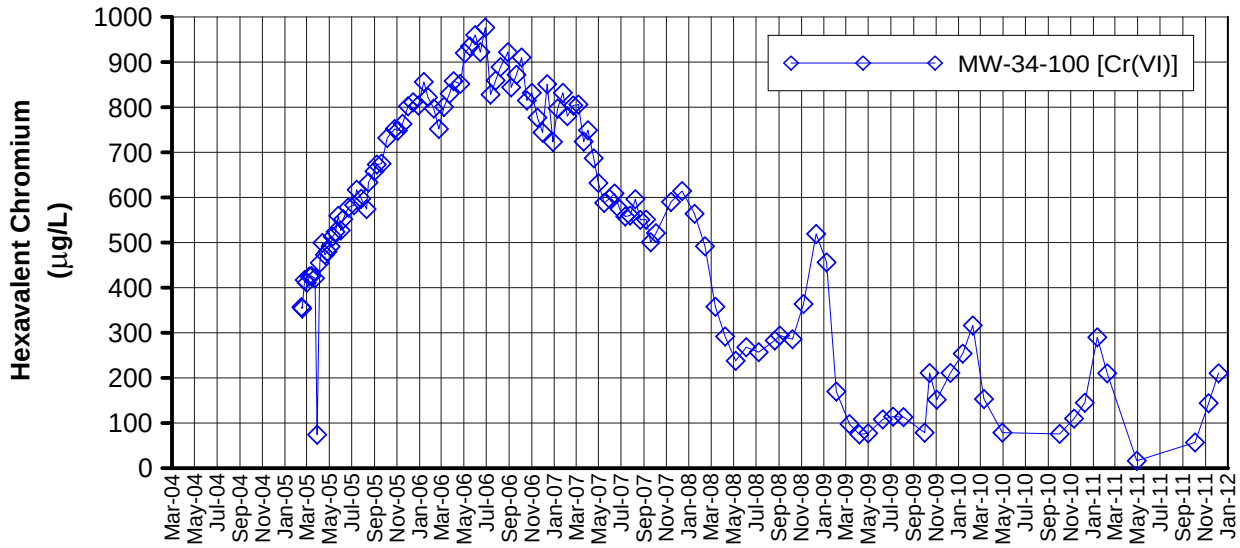
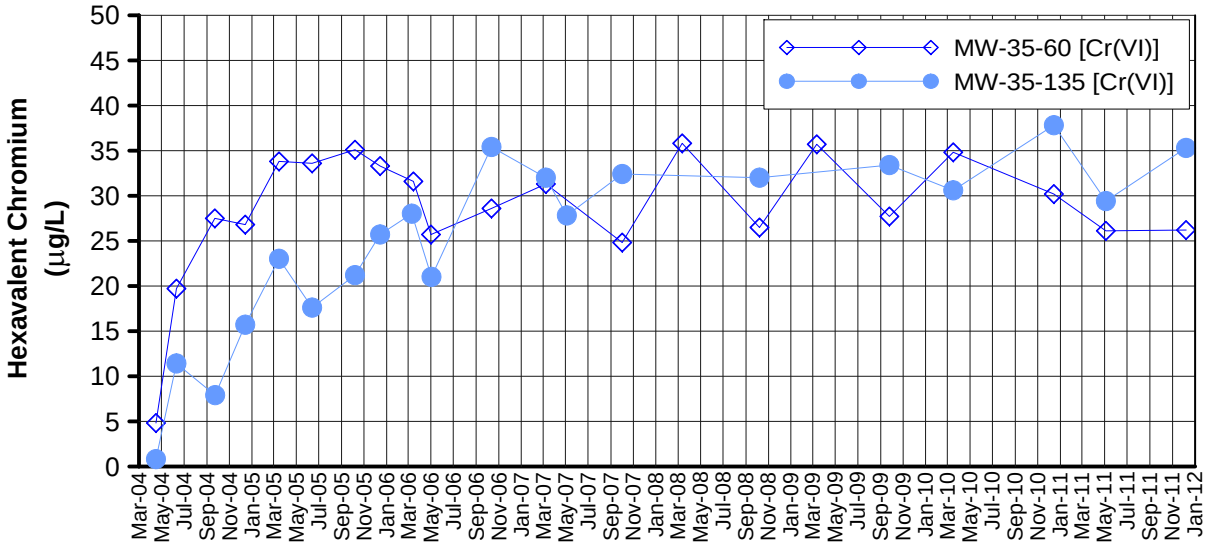
CH2MHILL



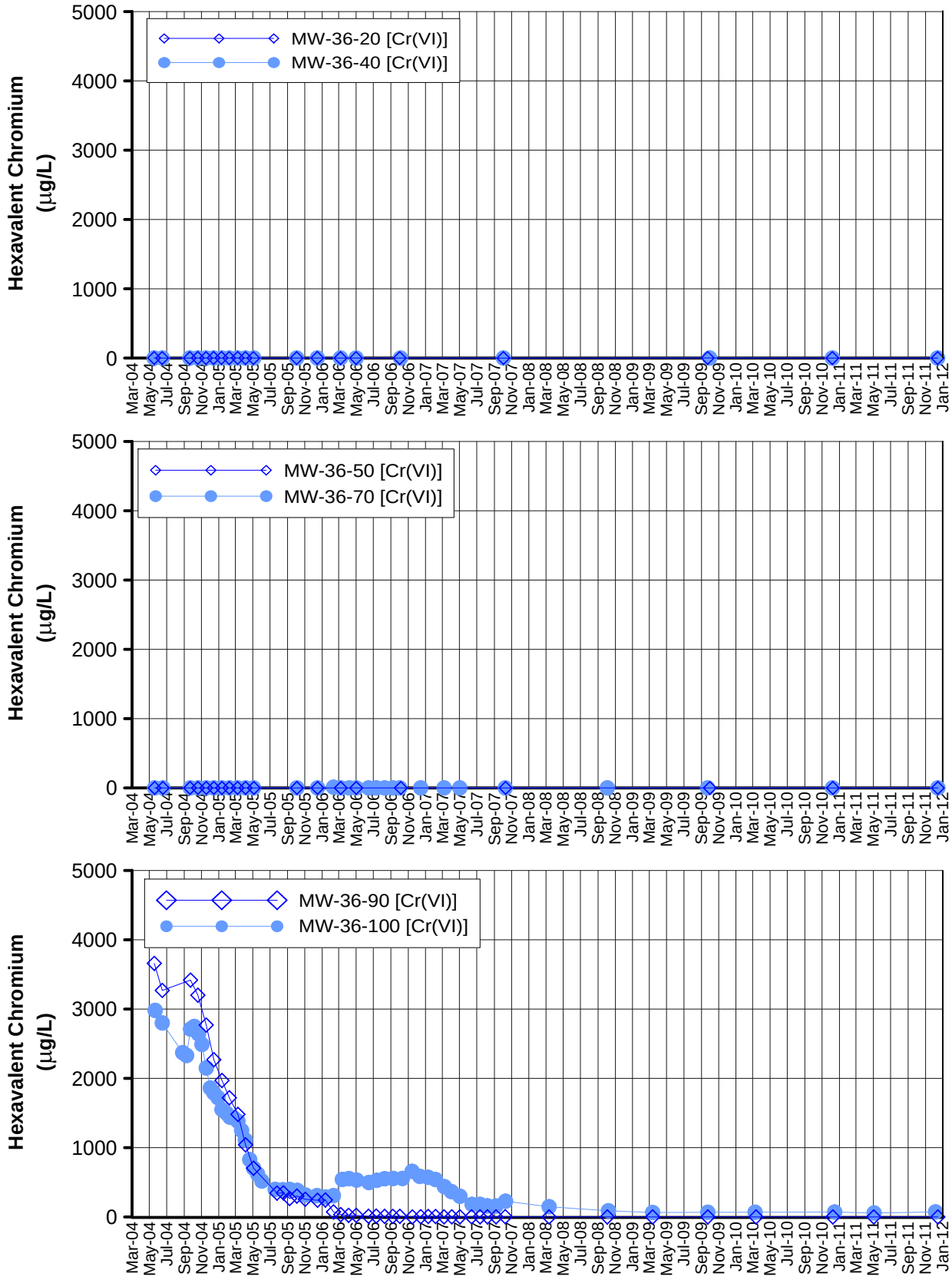




Notes:
1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
2) The trigger level for MW-34-80 is 20 µg/L.
3) The trigger level for MW-34-100 is 750 µg/L.

FIGURE C-6
HEXAVALENT CHROMIUM
IN MW-34 AND MW-35 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

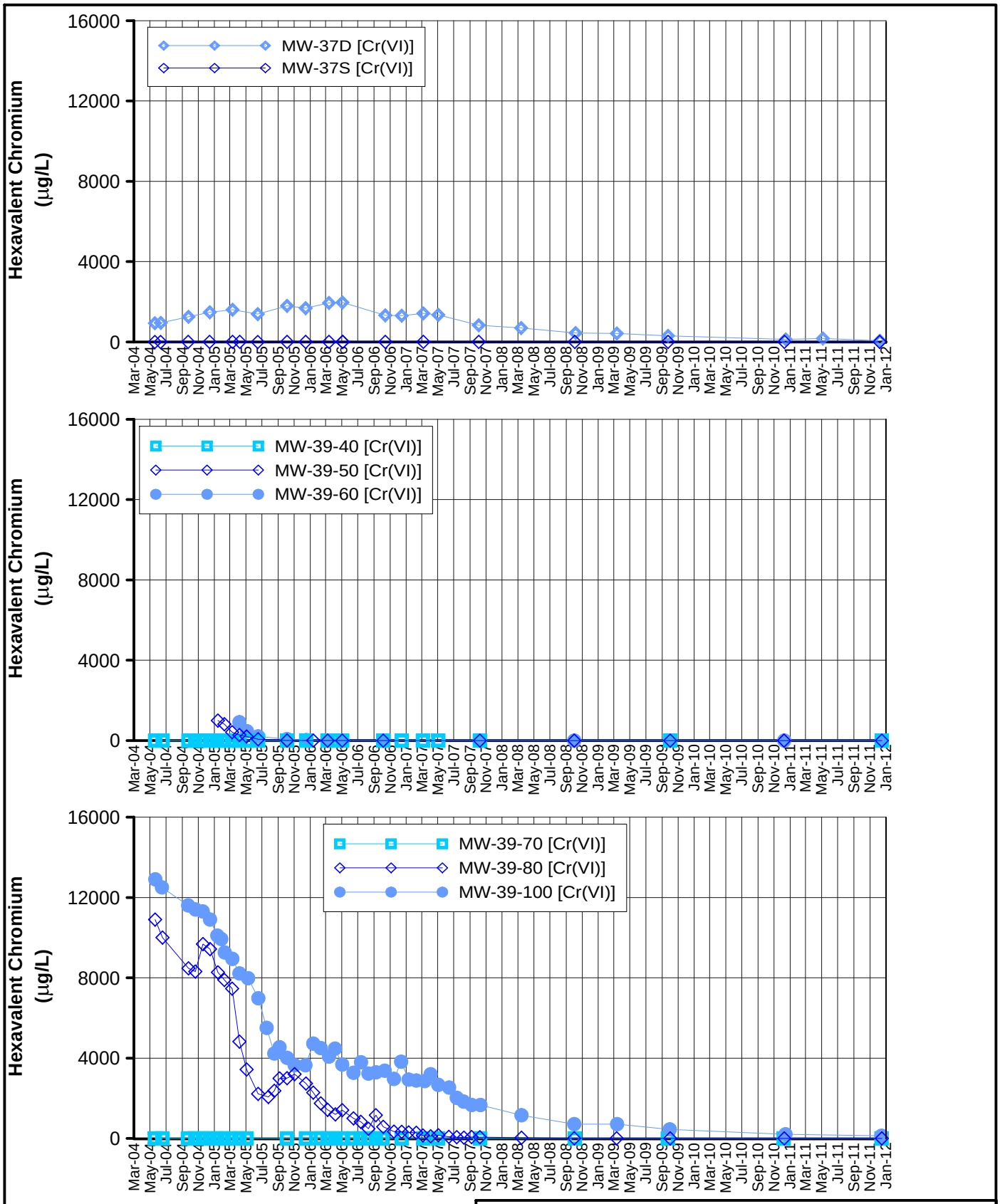
CH2MHILL



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-7
HEXAVALENT CHROMIUM
IN MW-36 CLUSTER
FOURTH QUARTER 2011 AND ANNUAL 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-8
HEXAVALENT CHROMIUM
IN MW-37 AND MW-39 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

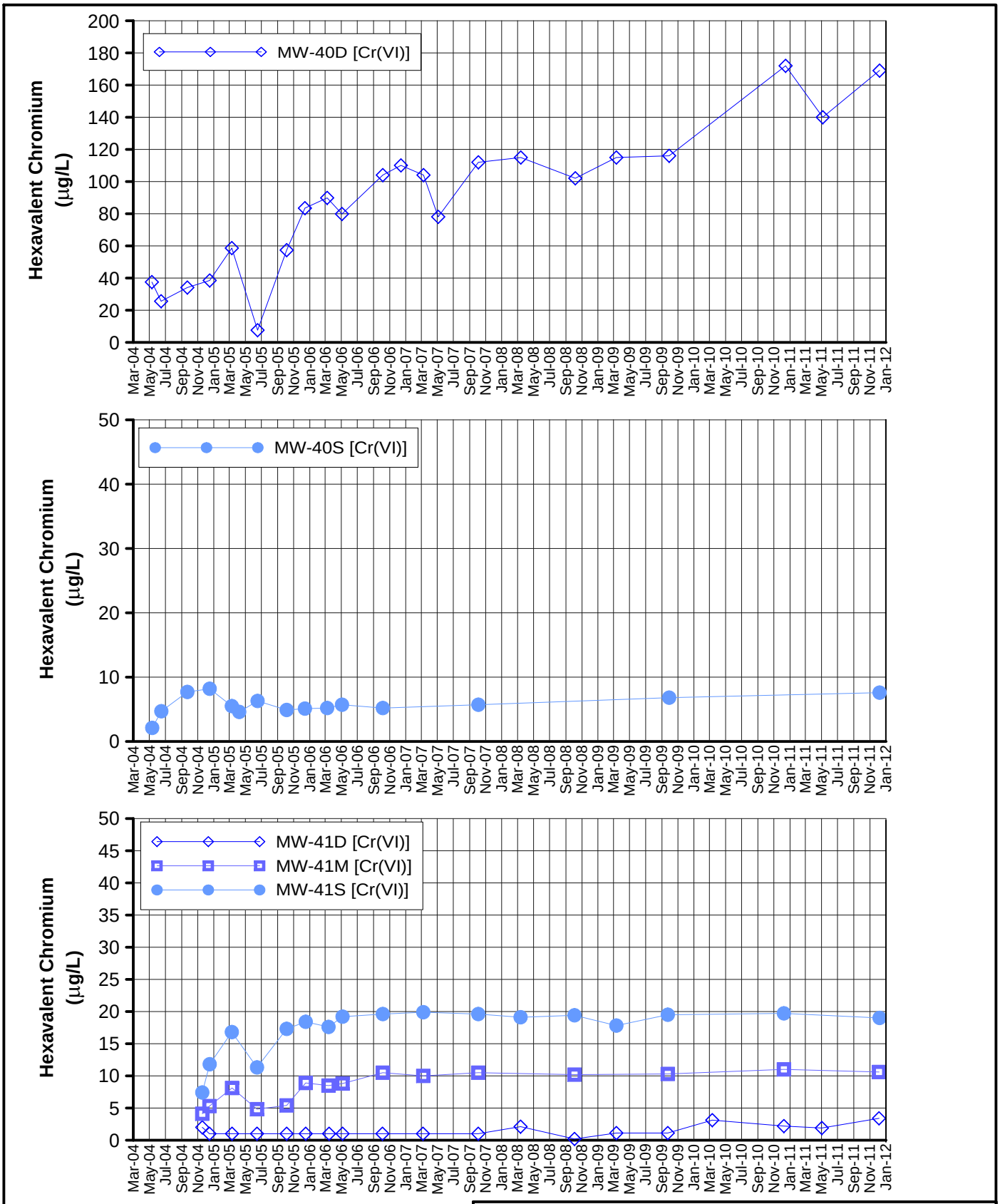
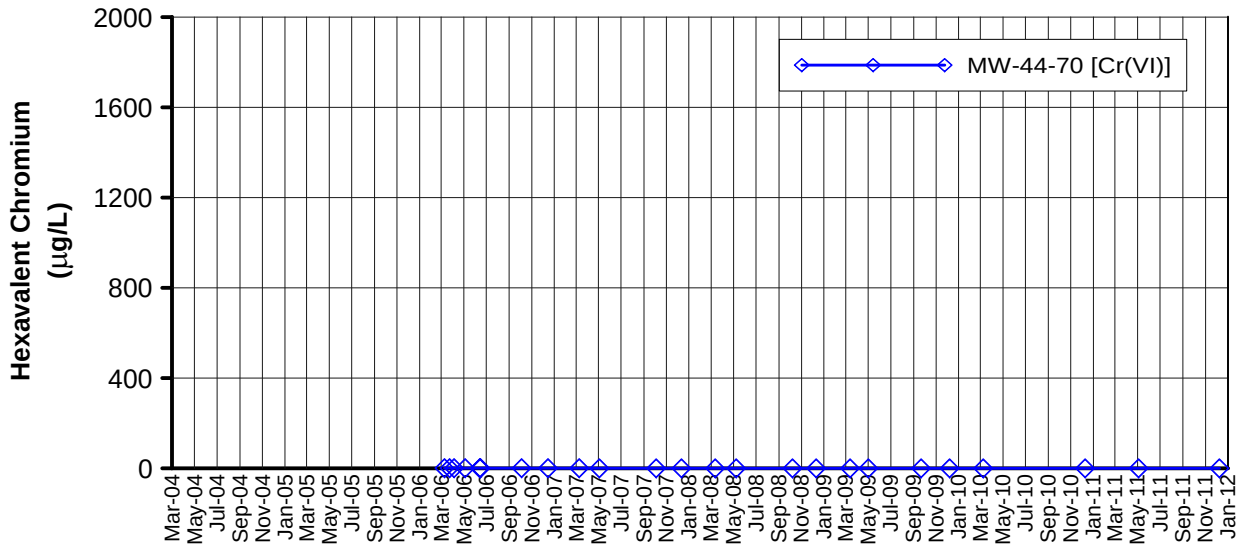
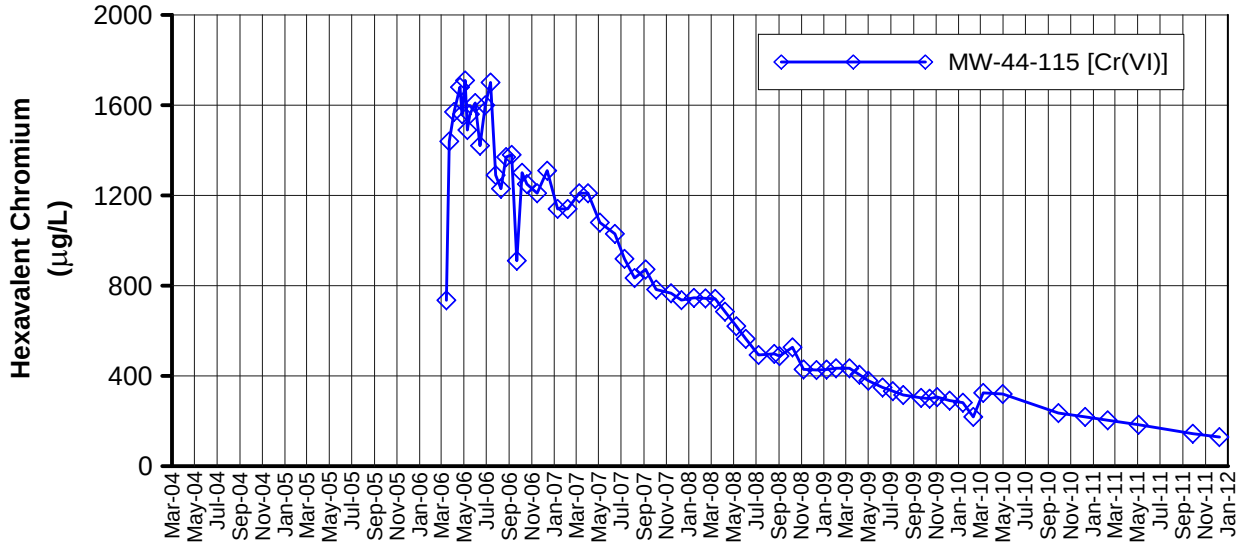
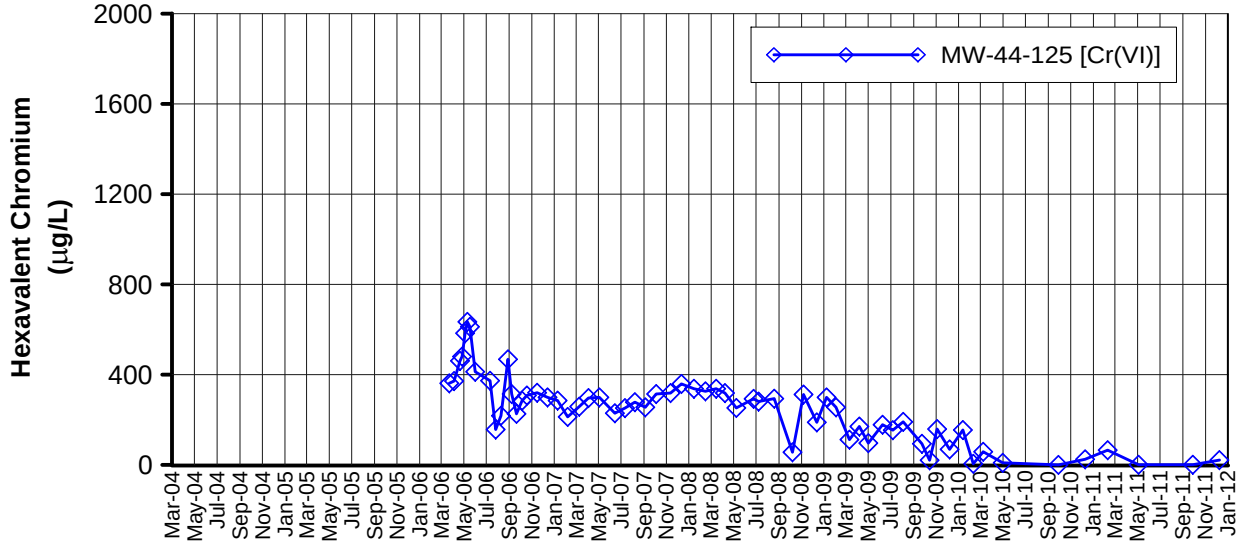


FIGURE C-9
HEXAVALENT CHROMIUM
IN MW-40 AND MW-41 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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-10
HEXAVALENT CHROMIUM
IN MW-44 CLUSTER
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
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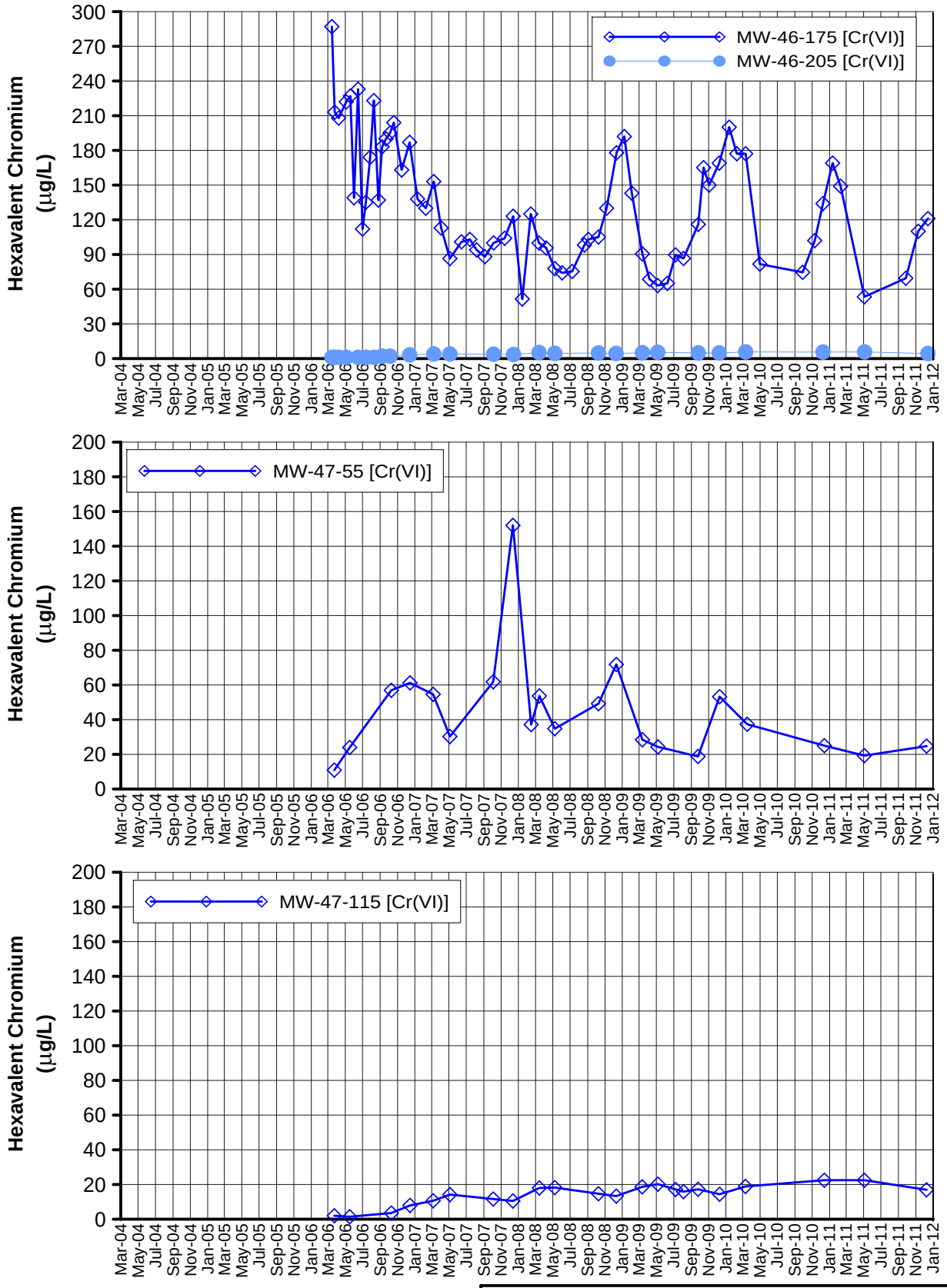

Notes:

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-46-175 is 225 µg/L.
3) The trigger level for MW-46-205 is 20 µg/L.
4) The trigger level for MW-47-55 is 475 µg/L.
5) The trigger level for MW-47-115 is 31 µg/L.

FIGURE C-11
HEXAVALENT CHROMIUM
IN MW-46 AND MW-47 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
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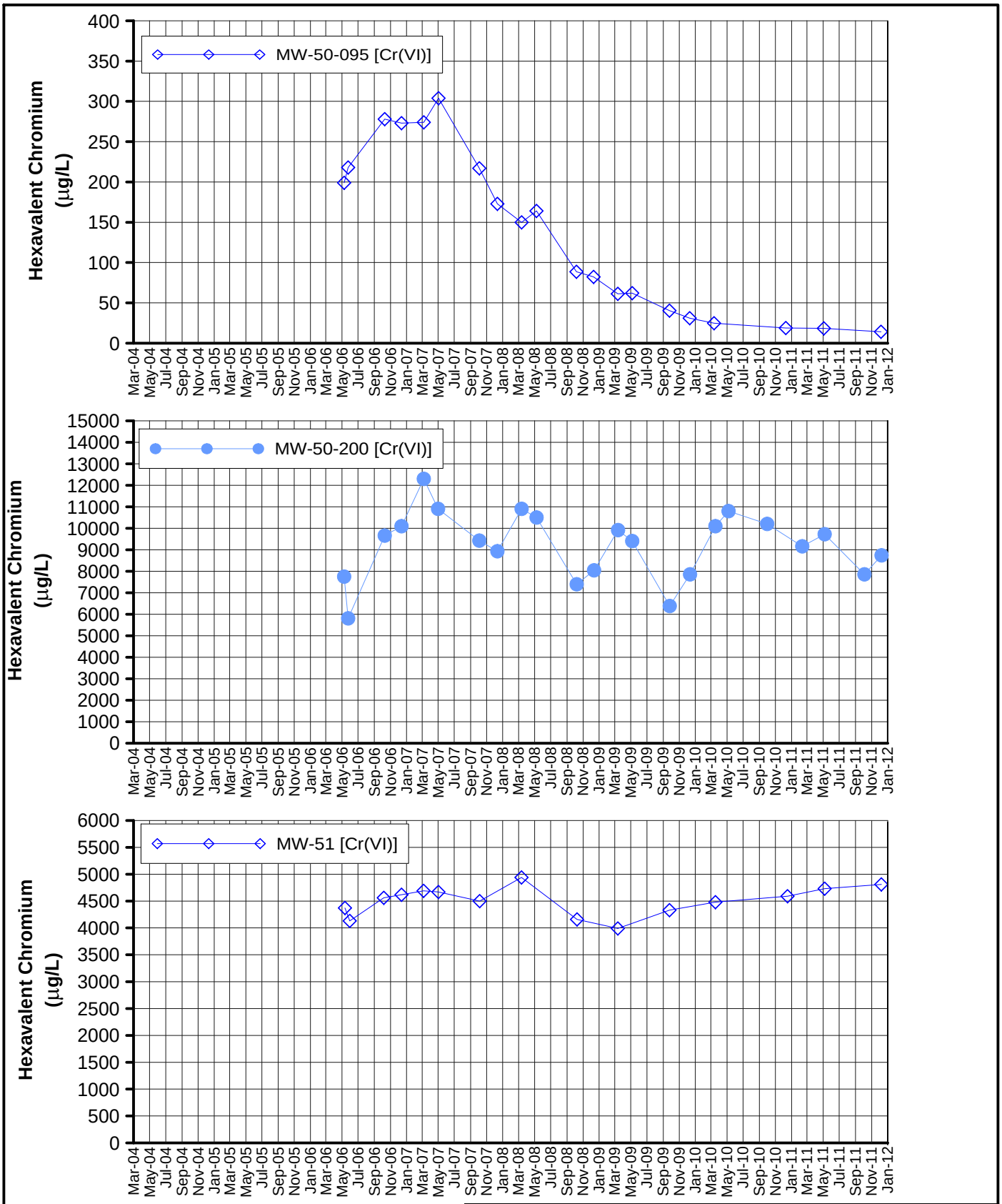
CH2MHILL



Notes:
1) Fourth Quarter 2010 data for MW-50-200 collected in February 2011 due to logistical issues.

FIGURE C-12
HEXAVALENT CHROMIUM
IN MW-50 AND MW-51 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

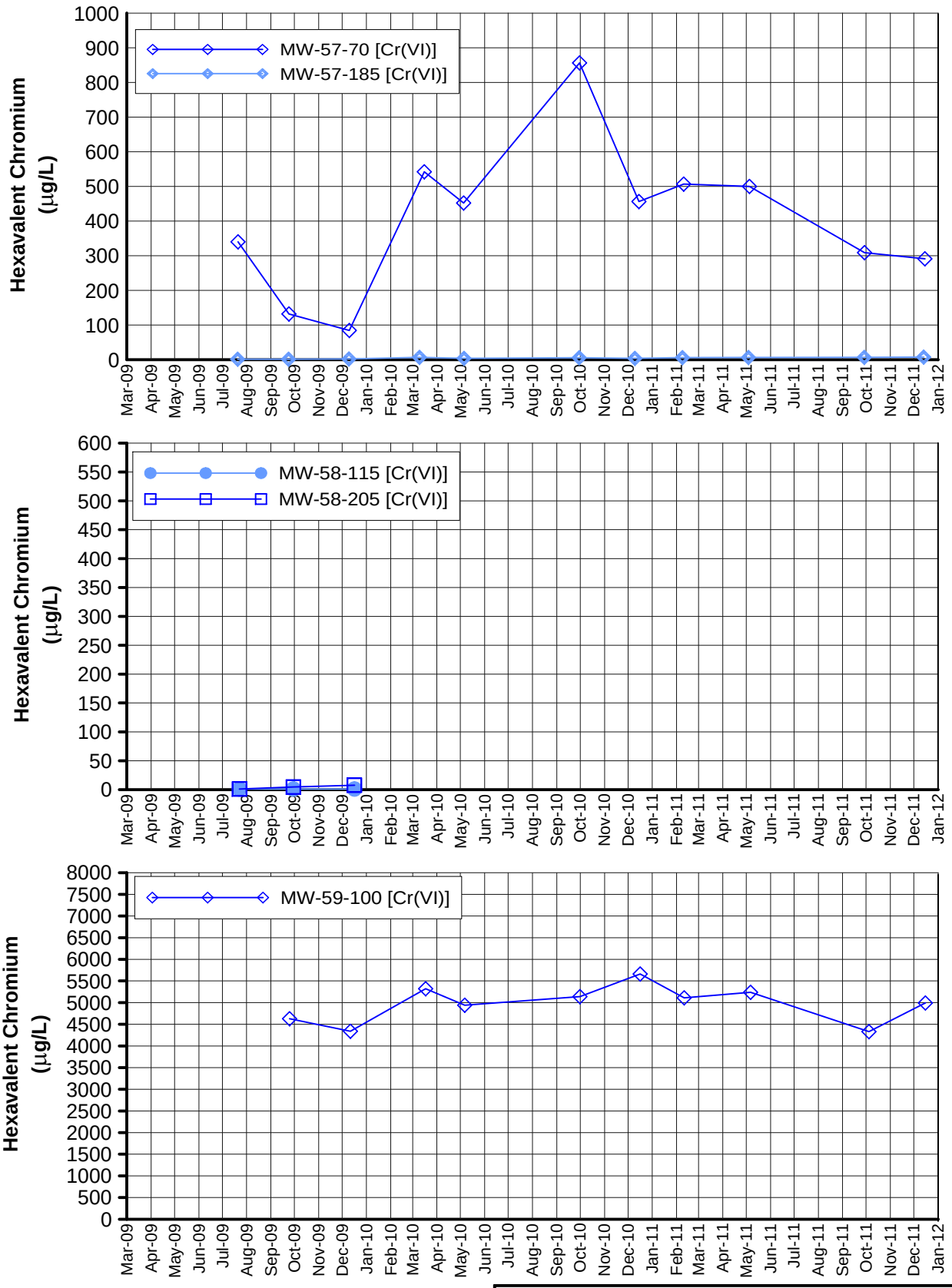


FIGURE C-13
HEXAVALENT CHROMIUM
IN MW-57, MW-58 and MW-59 CLUSTERS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

CH2MHILL

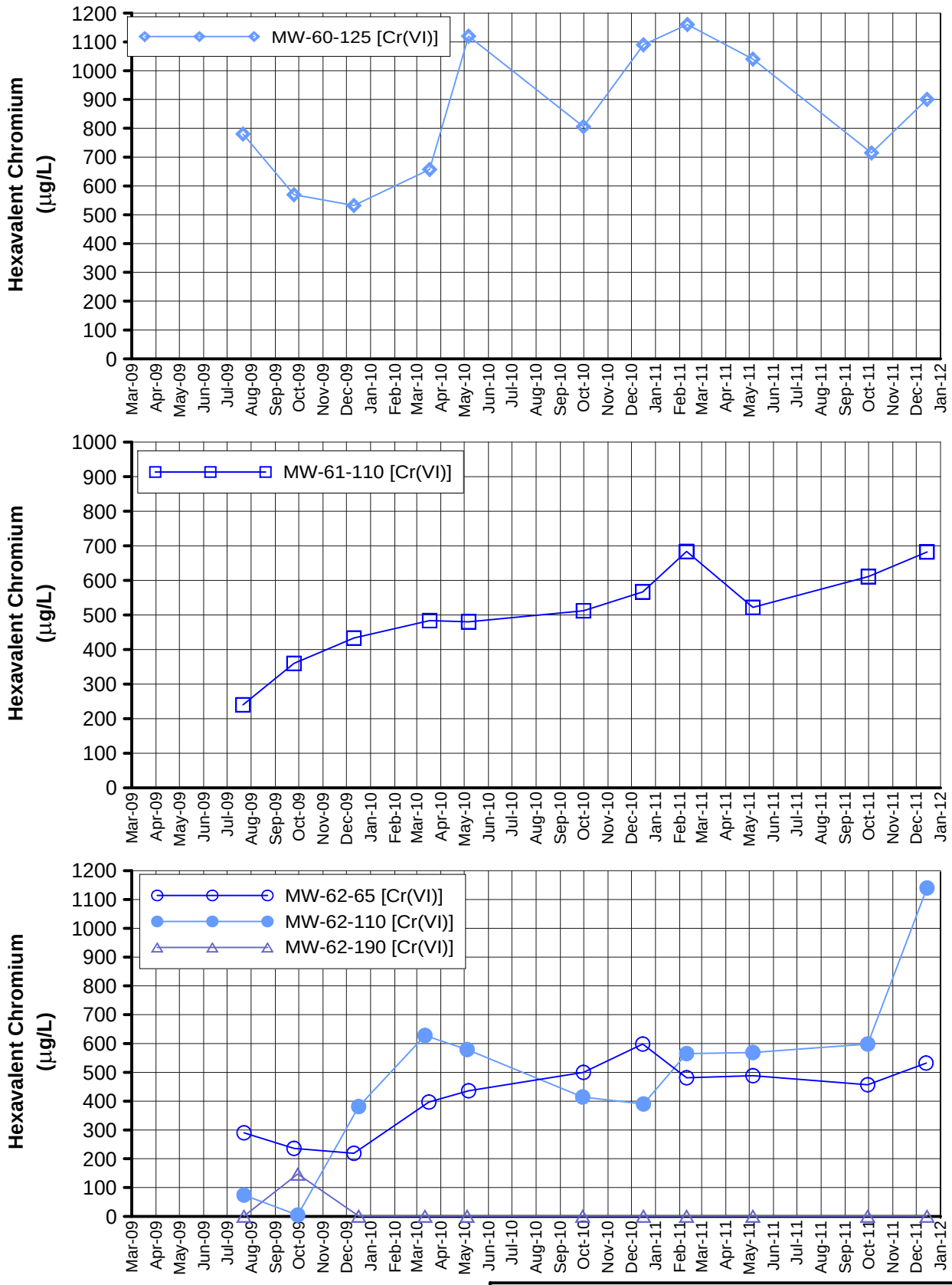


FIGURE C-14
HEXAVALENT CHROMIUM
IN MW-60-125, MW-61-110 AND THE MW-62 CLUSTER
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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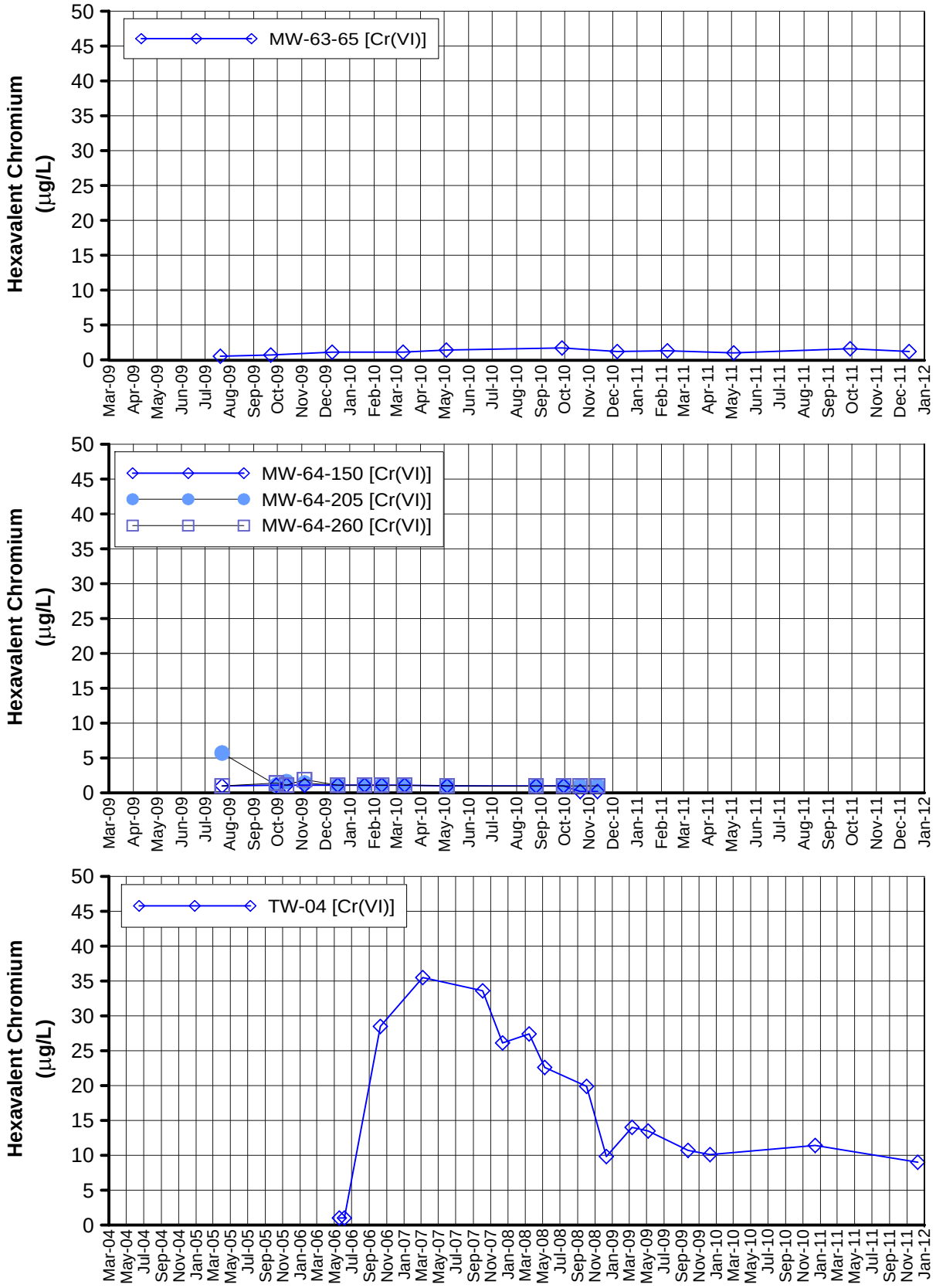

FIGURE C-15
HEXAVALENT CHROMIUM
IN MW-63-065, THE MW-64 CLUSTER, AND TW-04
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,
PG&E TOPOCK COMPRESSOR STATION,
NEEDLES, CALIFORNIA

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Appendix D
Other Groundwater Monitoring Results

Table D-1
In Situ Byproducts and Geochemical Indicator Parameter Analytical Results, Fourth Quarter 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Location ID	Sample Date	Arsenic Dissolved (µg/L)	Manganese Dissolved (µg/L)	Iron Dissolved (µg/L)	Ammonia (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Field ORP (mV)
MW-9	09-Dec-11	---	ND (10)	ND (20)	---	9.60	250	---	130
MW-10	09-Dec-11	6.3	ND (10)	ND (20)	---	11.0	280	7.40	62
MW-12	09-Dec-11	49.0	ND (10)	ND (20)	---	9.90	450	---	47
MW-13	06-Dec-11	2.0	ND (10)	ND (20)	---	4.40	150	---	67
MW-14	09-Dec-11	---	ND (10)	50.0	---	4.70	100	---	7.0
MW-15	07-Dec-11	---	ND (10)	20.0	---	4.70	110	---	54
MW-16	07-Dec-11	11.0	ND (10)	33.0 J	---	3.80 J	160	---	54
MW-17	07-Dec-11	1.5	ND (10)	27.0	---	4.60 J	450	---	60
MW-18	08-Dec-11	---	ND (10)	ND (20)	---	3.80	82.0	---	80
MW-19	09-Dec-11	---	ND (10)	ND (20)	---	4.20	170	---	110
MW-20-70	07-Dec-11	---	ND (10)	ND (20)	---	11.0	330	---	130
MW-20-100	08-Dec-11	---	ND (10)	ND (20)	---	13.0	380	---	80
MW-20-130	09-Dec-11	5.2	ND (20)	ND (20)	---	12.0	1200	---	82
MW-21	06-Dec-11	---	220	60.0	---	2.70	2400	---	200
MW-22	16-Dec-11	14.0	6100	16000	---	ND (5.0)	2200	---	-120
MW-23-060	13-Dec-11	2.2	ND (20)	ND (40)	ND (0.1)	5.00	640	ND (5.0)	110
MW-23-080	12-Dec-11	3.3	ND (20)	ND (40) J	0.18	4.90	940	ND (10)	-43
	12-Dec-11 FD	3.3	ND (20)	ND (40) J	0.11	4.80	960	ND (10)	FD
MW-24BR	09-Dec-11	---	390	24.0	---	ND (2.5)	470	---	-150
	09-Dec-11 FD	---	420	22.0	---	ND (2.5)	480	---	FD
MW-25	15-Dec-11	1.4	ND (10)	ND (20)	---	5.90	120	---	130
	15-Dec-11 FD	1.2	ND (10)	ND (20)	---	6.00	120	---	FD
MW-26	09-Dec-11	1.7	ND (10)	ND (20)	---	14.0	530	---	5.5
MW-27-20	05-Dec-11	2.4	120	670	0.10	ND (0.5)	220	---	-160
MW-27-60	05-Dec-11	10.0	38.0	49.0	0.12	ND (0.5)	170	1.20	-200
MW-27-85	05-Dec-11	1.7	130	180	0.26	ND (2.5)	1200	4.10	-87
MW-28-25	12-Dec-11	1.5	40.0	48.0	0.12	ND (0.5)	260	---	-29
MW-28-90	12-Dec-11	1.9	180	800	ND (0.1)	ND (1.0)	630	2.60	-120
MW-29	07-Dec-11	4.4	260	380	2.00	ND (0.5)	450	---	-110
MW-30-30	07-Dec-11	2.6	370	2300	---	ND (5.0)	3200	---	-190
MW-30-50	08-Dec-11	5.6	77.0	22.0	0.30	ND (0.5)	210	---	-190

Table D-1
In Situ Byproducts and Geochemical Indicator Parameter Analytical Results, Fourth Quarter 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California

Location ID	Sample Date	Arsenic Dissolved (µg/L)	Manganese Dissolved (µg/L)	Iron Dissolved (µg/L)	Ammonia (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Field ORP (mV)
MW-31-60	06-Dec-11	1.3	ND (10)	ND (20)	ND (0.1)	3.40	200	---	55
MW-31-135	06-Dec-11	4.0	ND (10)	ND (20)	ND (0.1)	ND (2.5)	490	---	1.9
MW-32-20	08-Dec-11	3.2	1100	17000	10.0	ND (5.0)	4400	---	-160
MW-32-35	09-Dec-11	25.0	2100	14000	7.80 J	ND (2.5)	1700	---	-170
MW-33-40	12-Dec-11	13.0	ND (10)	28.0	ND (0.1)	ND (1.0)	940	14.0	-45
MW-33-90	13-Dec-11	1.4	ND (10)	ND (20)	ND (0.1)	ND (2.5)	700	4.20	8.0
MW-33-150	13-Dec-11	1.7	16.0	ND (20)	ND (0.1)	ND (2.5)	890	ND (10)	42
MW-33-210	13-Dec-11	0.96	ND (20)	ND (40)	ND (0.1)	ND (2.5)	1200	ND (10)	9.9
MW-34-55	06-Dec-11	2.7	72.0	69.0	ND (0.1)	ND (0.5)	220	---	-160
MW-34-80	06-Dec-11	1.6	36.0	56.0	ND (0.1)	ND (1.0)	640	---	-83
MW-34-100	06-Dec-11	1.6	16.0	ND (20)	ND (0.1)	ND (2.5)	1300	---	-1
	06-Dec-11 FD	1.6	16.0	ND (20)	ND (0.1)	ND (2.5)	1200	---	FD
MW-35-60	07-Dec-11	1.2	ND (10)	23.0	ND (0.1)	1.90 J	340	---	100
MW-35-135	07-Dec-11	0.99	ND (10)	31.0	ND (0.1)	2.60 J	660	---	97
MW-36-20	14-Dec-11	3.1	200	1400	0.59	ND (1.0)	1800	---	-140
MW-36-40	14-Dec-11	5.3	190	650	0.11	ND (0.5)	170	---	-150
MW-36-50	14-Dec-11	3.9	220	49.0	ND (0.1)	ND (0.5)	210	---	-100
MW-36-70	14-Dec-11	6.7	73.0	ND (20)	ND (0.1)	ND (0.5)	210	---	-77
MW-36-90	14-Dec-11	19.0	ND (10)	ND (20)	ND (0.1)	ND (0.5)	220	---	-100
MW-36-100	06-Dec-11	6.6	84.0	30.0	ND (0.1)	ND (2.5)	900	---	-100
MW-37S	07-Dec-11	1.9	ND (10)	ND (20)	---	1.40 J	260	---	-16
MW-37D	08-Dec-11	---	ND (20)	ND (40)	---	ND (2.5)	630	---	-88
MW-39-40	15-Dec-11	19.0	---	---	---	---	---	---	-160
	15-Dec-11 FD	18.0	---	---	---	---	---	---	FD
MW-39-50	15-Dec-11	8.5	29.0	ND (20)	0.16	ND (0.5)	220	---	-97
MW-39-60	15-Dec-11	6.5	16.0	ND (20)	ND (0.1)	ND (0.5)	230	---	-60
MW-39-70	15-Dec-11	---	ND (10)	ND (20)	ND (0.1)	ND (0.5)	340	---	-4.2
MW-39-80	15-Dec-11	---	ND (10)	ND (20)	ND (0.1)	ND (1.0)	710	---	-4.5
MW-39-100	14-Dec-11	3.2	21.0	ND (40)	ND (0.1)	ND (2.5)	1500	---	18
MW-40S	07-Dec-11	1.2	ND (10)	---	---	3.70 J	---	---	93

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In Situ Byproducts and Geochemical Indicator Parameter Analytical Results, Fourth Quarter 2011
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Location ID	Sample Date	Arsenic Dissolved (µg/L)	Manganese Dissolved (µg/L)	Iron Dissolved (µg/L)	Ammonia (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Field ORP (mV)
MW-40D	07-Dec-11	4.6	12.0	27.0	---	ND (2.5)	730	---	9.0
MW-41S	07-Dec-11	2.1	ND (10)	28.0	---	1.20 J	250	---	-22
	07-Dec-11 FD	2.1	ND (10)	30.0	---	1.30 J	270	---	FD
MW-41M	05-Dec-11	2.2	ND (10)	ND (20)	---	ND (2.5)	530	---	160
MW-41D	05-Dec-11	2.8	72.0	45.0	---	ND (2.5)	760	---	-56
MW-42-30	06-Dec-11	2.2	---	---	---	ND (1.0)	---	---	-240
MW-42-55	06-Dec-11	14.0	330	560	0.82	ND (0.5)	440	---	-170
MW-42-65	06-Dec-11	2.4	1600	110	0.73	ND (2.5)	880	---	-99
MW-43-25	09-Dec-11	20.0	240	2900	1.80	ND (0.5)	250	---	-180
MW-43-75	09-Dec-11	12.0	240	1700	0.58	ND (2.5)	1500	---	-170
MW-43-90	09-Dec-11	3.5	1100	4200	0.37	ND (2.5)	2000	---	-100
MW-44-70	08-Dec-11	3.9	120	220	ND (0.1)	ND (0.5)	240	---	-160
MW-44-115	08-Dec-11	5.7	ND (10)	ND (20)	ND (0.1)	ND (2.5)	720	---	-160
	08-Dec-11 FD	5.4	ND (10)	ND (20)	ND (0.1)	ND (2.5)	730	---	FD
MW-44-125	08-Dec-11	4.9	550	ND (40)	0.14	ND (2.5)	660 J	---	-190
	08-Dec-11 FD	4.8	560	ND (40)	ND (0.1)	ND (1.0)	490 J	---	FD
MW-45-095a	14-Dec-11	ND (2.5)	ND (10)	ND (20)	ND (0.1)	ND (1.0)	690	---	65
	14-Dec-11 FD	3.2	ND (10)	ND (20) J	0.11	ND (1.0)	700	---	FD
MW-46-175	13-Dec-11	---	ND (20)	ND (40)	ND (0.1)	ND (2.5)	760	---	-130
MW-46-205	13-Dec-11	---	42.0	ND (40)	ND (0.1)	ND (2.5)	900	---	-67
MW-47-55	08-Dec-11	1.4	ND (10)	ND (20)	ND (0.1)	1.60	250	---	55
MW-47-115	08-Dec-11	---	ND (10)	ND (20)	ND (0.1)	ND (2.5)	720	---	18
MW-48	07-Dec-11	---	53.0	ND (20)	---	ND (2.5)	570	---	---
MW-49-135	07-Dec-11	1.9	440	640	ND (0.1)	ND (2.5) J	730	---	1.1
MW-49-275	07-Dec-11	---	450	98.0	ND (0.1)	ND (5.0)	1400	---	-200
MW-49-365	07-Dec-11	---	170	160	ND (0.1)	ND (5.0)	1100	---	-230
MW-50-095	06-Dec-11	---	ND (10)	ND (20)	0.17	1.50	270	---	42
MW-50-200	08-Dec-11	---	ND (20)	ND (40)	ND (0.1)	5.30	1000	---	76
MW-51	07-Dec-11	4.5	ND (10)	ND (20)	0.28	11.0	720	---	140
MW-52S	15-Dec-11	0.6	850	9700	0.82	ND (2.5)	570	---	-120
MW-52M	15-Dec-11	1.4	180	970	ND (0.1)	ND (2.5)	640	---	-140

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In Situ Byproducts and Geochemical Indicator Parameter Analytical Results, Fourth Quarter 2011
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Location ID	Sample Date	Arsenic Dissolved (µg/L)	Manganese Dissolved (µg/L)	Iron Dissolved (µg/L)	Ammonia (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Field ORP (mV)
MW-52D	15-Dec-11	24.0	280	360	ND (0.1)	ND (2.5)	830	---	-180
MW-53M	16-Dec-11	ND (2.5)	460	340	ND (0.1)	ND (2.5)	820	---	-180
MW-53D	16-Dec-11	3.3	1900	250	ND (0.1)	ND (5.0)	1200	---	-220
	16-Dec-11 FD	ND (2.5)	1900	220	ND (0.1)	ND (2.5)	1200	---	FD
MW-54-85	06-Dec-11	4.4	1090	993	ND (0.1)	ND (0.5)	589	---	-180
MW-54-140	06-Dec-11	3.1	167	ND (20)	ND (0.1)	0.847	518	---	46
MW-54-195	06-Dec-11	ND (5.0)	652	125	ND (0.1)	ND (0.5)	994	---	-220
MW-55-45	06-Dec-11	---	1080	68.6	---	ND (0.5)	55.1	---	-150
MW-55-120	06-Dec-11	---	15.2	ND (20)	---	1.40	341	---	5.0
	06-Dec-11 FD	---	13.6	ND (20)	---	1.41	336	---	FD
MW-56S	13-Dec-11	---	613	3130	ND (0.1)	ND (0.5)	444	---	-160
MW-56M	13-Dec-11	---	781	3470	0.51	ND (1.0)	1020	---	-150
MW-56D	13-Dec-11	---	702	830	0.10	ND (2.5)	1230	---	-170
MW-57-070	15-Dec-11	ND (2.5)	ND (10)	ND (20)	ND (0.1)	7.40	98.0	ND (1.0)	-21
MW-57-185	13-Dec-11	12.0	550	ND (40)	ND (0.1)	ND (2.5)	730	ND (10)	-130
MW-59-100	15-Dec-11	2.0	ND (10)	ND (20)	ND (0.1)	4.30	700	ND (2.5)	1.8
	15-Dec-11 FD	1.5	ND (10)	ND (20)	ND (0.1)	4.40	700	ND (10)	FD
MW-60-125	14-Dec-11	1.5	13.0	ND (20)	ND (0.1)	3.40	440	ND (2.5)	-53
MW-61-110	14-Dec-11	3.2	260	ND (20)	ND (0.1)	ND (2.5)	700	ND (5.0)	-46
MW-62-065	13-Dec-11	0.98	ND (10)	ND (20) J	ND (0.1)	3.60	400	3.40	30
MW-62-110	14-Dec-11	10.0	160	ND (20)	0.12	3.70	520	4.30	-87
MW-62-190	14-Dec-11	6.7	920	35.0	ND (0.1)	ND (2.5)	700	6.80	-110
MW-63-065	12-Dec-11	1.5	51.0	510	ND (0.1)	1.30	580	ND (2.5)	57
OW-3S	05-Dec-11	---	ND (10)	ND (20)	---	3.50	73.0	---	67
OW-3M	05-Dec-11	---	ND (10)	ND (20)	---	1.00	290	---	15
OW-3D	06-Dec-11	2.8	ND (10)	ND (20)	---	0.67	400	---	40
PGE-7BR	07-Dec-11	---	4300	94000	---	ND (10)	740	---	-310
PGE-8	08-Dec-11	---	610	180	---	ND (2.5)	1900	---	-320
Park Moabi-3	12-Dec-11	---	ND (10)	50.0	ND (0.1)	3.10	59.0	---	13
Park Moabi-4	12-Dec-11	---	ND (10)	60.0	ND (0.1)	2.20	91.0	---	---
TW-1	15-Dec-11	---	ND (10)	ND (20)	---	25.0	860	---	130

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Location ID	Sample Date	Arsenic Dissolved (µg/L)	Manganese Dissolved (µg/L)	Iron Dissolved (µg/L)	Ammonia (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Field ORP (mV)
TW-2S	12-Dec-11	---	ND (10)	ND (20) J	---	4.40	180	---	140
	12-Dec-11 FD	---	ND (10)	180 J	---	4.40	190	---	FD
TW-2D	12-Dec-11	---	16.0	ND (20)	---	1.50	560	---	190
TW-4	08-Dec-11	---	83.0	ND (40)	---	ND (2.5)	1000	---	29
TW-5	06-Dec-11	---	ND (10)	ND (20)	---	ND (2.5)	540	---	49

NOTES:
ND = not detected at listed reporting limit (RL).
FD = field duplicate sample.
J = concentration or RL estimated by laboratory or data validation.
(---) = data not collected, available, rejected, or field instrument malfunction.
µg/L= micrograms per liter.
mg/L = milligrams per liter.
mV = millivolts.
ORP = oxidation-reduction potential.

ORP is reported to two significant figures.

Table D-2
Arsenic Results in Monitoring Wells, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date		Dissolved Arsenic (µg/L)
MW-10	SA	09-Dec-11		6.3
MW-12	SA	10-Feb-11		48.0
		06-May-11		49.0
		06-Oct-11		47.0
		09-Dec-11		49.0
MW-13	SA	06-Dec-11		2.0
MW-16	SA	02-May-11		10.0
		07-Dec-11		11.0
MW-17	SA	03-May-11		1.3
		07-Dec-11		1.5
[a] MW-20-130	DA	10-Feb-11		4.9
		06-May-11		5.1
		09-Dec-11		5.2
MW-22	SA	03-May-11		12.0
		16-Dec-11		14.0
MW-23-060	BR	04-May-11		2.5
		29-Sep-11		2.1
		13-Dec-11		2.2
MW-23-080	BR	04-May-11		3.3
		04-May-11	FD	3.4
		29-Sep-11		3.5
		12-Dec-11		3.3
		12-Dec-11	FD	3.3
MW-25	SA	15-Dec-11		1.4
		15-Dec-11	FD	1.2
MW-26	SA	05-May-11		1.4
		09-Dec-11		1.7
MW-27-20	SA	05-Dec-11		2.4
MW-27-60	MA	05-Dec-11		10.0
MW-27-85	DA	08-Feb-11		1.3
		08-Feb-11	FD	1.3
		28-Apr-11		1.4
		28-Apr-11	FD	1.4
		03-Oct-11		1.4
		03-Oct-11	FD	1.4
		05-Dec-11		1.7
MW-28-25	SA	02-May-11		2.0

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Well ID	Aquifer Zone	Sample Date		Dissolved Arsenic (µg/L)
MW-28-25	SA	12-Dec-11		1.5
MW-28-90	DA	08-Feb-11		1.7
		02-May-11		2.0
		26-Sep-11		2.0
		12-Dec-11		1.9
MW-29	SA	29-Apr-11		9.0
		07-Dec-11		4.4
MW-30-30	SA	07-Dec-11		2.6
MW-30-50	MA	08-Dec-11		5.6
MW-31-60	SA	06-Dec-11		1.3
MW-31-135	DA	06-Dec-11		4.0
MW-32-20	SA	08-Dec-11		3.2
MW-32-35	SA	02-May-11		26.0
		09-Dec-11		25.0
MW-33-40	SA	09-Feb-11		12.0
		02-May-11		19.0
		27-Sep-11		11.0
		12-Dec-11		13.0
MW-33-90	MA	13-Dec-11		1.4
MW-33-150	DA	13-Dec-11		1.7
MW-33-210	DA	13-Dec-11		0.96
MW-34-55	MA	06-Dec-11		2.7
MW-34-80	DA	07-Feb-11		1.3
		07-Feb-11	FD	1.2
		28-Apr-11		1.4
		03-Oct-11		1.5
		06-Dec-11		1.6
MW-34-100	DA	11-Jan-11		1.2
		07-Feb-11		1.5
		28-Apr-11		1.4
		28-Apr-11	FD	1.3
		03-Oct-11		1.3
		03-Oct-11	FD	1.4
		09-Nov-11		2.0
		06-Dec-11		1.6
		06-Dec-11	FD	1.6
MW-35-60	SA	07-Dec-11		1.2

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Well ID	Aquifer Zone	Sample Date		Dissolved Arsenic (µg/L)
MW-35-135	DA	07-Dec-11		0.99
MW-36-20	SA	14-Dec-11		3.1
MW-36-40	SA	14-Dec-11		5.3
MW-36-50	MA	14-Dec-11		3.9
MW-36-70	MA	14-Dec-11		6.7
MW-36-90	DA	02-May-11		19.0
		14-Dec-11		19.0
MW-36-100	DA	03-May-11		6.3
		06-Dec-11		6.6
MW-37S	MA	07-Dec-11		1.9
MW-39-40	SA	15-Dec-11		19.0
		15-Dec-11	FD	18.0
MW-39-50	MA	15-Dec-11		8.5
MW-39-60	MA	15-Dec-11		6.5
MW-39-100	DA	14-Dec-11		3.2
MW-40D	DA	05-May-11		4.3
		07-Dec-11		4.6
MW-40S	SA	07-Dec-11		1.2
MW-41D	DA	05-Dec-11		2.8
MW-41M	DA	05-Dec-11		2.2
MW-41S	SA	07-Dec-11		2.1
		07-Dec-11	FD	2.1
MW-42-30	SA	06-Dec-11		2.2
MW-42-55	MA	07-Feb-11		12.0
		29-Apr-11		13.0
		26-Sep-11		13.0
		06-Dec-11		14.0
MW-42-65	MA	07-Feb-11		1.9
		29-Apr-11		2.2
		26-Sep-11		2.3
		06-Dec-11		2.4
MW-43-25	SA	29-Apr-11		20.0
		09-Dec-11		20.0
MW-43-75	DA	09-Dec-11		12.0
MW-43-90	DA	29-Apr-11		3.3
		09-Dec-11		3.5

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PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date		Dissolved Arsenic (µg/L)
MW-44-70	MA	03-May-11		3.3
		08-Dec-11		3.9
MW-44-115	DA	03-May-11		5.6
		27-Sep-11		6.1
		08-Dec-11		5.7
		08-Dec-11	FD	5.4
MW-44-125	DA	03-May-11		3.7
		03-May-11	FD	3.4
		27-Sep-11		4.2
		27-Sep-11	FD	3.8
		08-Dec-11		4.9
		08-Dec-11	FD	4.8
MW-45-095a	DA	14-Dec-11		ND (2.5)
		14-Dec-11	FD	3.2
MW-47-55	SA	08-Dec-11		1.4
MW-49-135	DA	07-Dec-11		1.9
MW-51	MA	06-May-11		3.9
		07-Dec-11		4.5
MW-52D	DA	03-May-11		3.3
		15-Dec-11		24.0
MW-52M	DA	03-May-11		1.2
		15-Dec-11		1.4
MW-52S	MA	03-May-11		0.5
		15-Dec-11		0.6
MW-53D	DA	03-May-11		3.2 J
		03-Oct-11		3.0
		03-Oct-11	FD	2.9
		16-Dec-11		3.3
		16-Dec-11	FD	ND (2.5)
MW-53M	DA	03-May-11		0.96
		16-Dec-11		ND (2.5)
MW-54-85	DA	05-May-11		ND (5.0)
		06-Dec-11		4.4
MW-54-140	DA	05-May-11		ND (5.0)
		06-Dec-11		3.1
MW-54-195	DA	05-May-11		ND (5.0) J
		05-May-11	FD	ND (5.0) J

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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-54-195	DA	06-Dec-11	ND (5.0)
MW-57-070	BR	15-Dec-11	ND (2.5)
MW-57-185	BR	03-May-11	12.0
		28-Sep-11	13.0
		13-Dec-11	12.0
[b] MW-58BR-LWR-160	BR	10-Feb-11	1.6
		04-Apr-11	1.6
[b] MW-58BR-UPR-160	BR	01-Feb-11	1.9
		18-Mar-11	1.8
MW-59-100	SA	06-May-11	2.0
		04-Oct-11	2.0
		15-Dec-11	2.0
		15-Dec-11 FD	1.5
MW-60-125	BR	05-May-11	1.8
		04-Oct-11	1.7
		14-Dec-11	1.5
MW-61-110	BR	05-May-11	3.4
		30-Sep-11	3.3
		14-Dec-11	3.2
MW-62-065	BR	29-Sep-11	1.3
		13-Dec-11	0.98
MW-62-110	BR	09-Feb-11	14.0
		05-May-11	14.0
		29-Sep-11	11.0
		14-Dec-11	10.0
MW-62-190	BR	09-Feb-11	8.0
		05-May-11	6.5
		29-Sep-11	6.6
		14-Dec-11	6.7
MW-63-065	BR	03-May-11	1.6
		28-Sep-11	1.5
		12-Dec-11	1.5
[b] MW-64BR-LWR-150	BR	24-Feb-11	4.5
		20-Apr-11	3.9
[b] MW-64BR-UPR-150	BR	26-Jan-11	2.8
		12-Apr-11	3.1
OW-3D	DA	06-Dec-11	2.8

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NOTES:

µg/L = micrograms per liter.
FD = field duplicate.

[a] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

[b] One-time sample collected from an open 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 floodwater. 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 with a packer system installed. 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. In January 2011 the packer was moved to a new location at about 160 ft bgs. Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

In accordance with DTSC direction, the Flexible Liner Underground Technologies (FLUTe) multi-level monitoring system, which allowed discrete sampling at the 150, 205 and 260 ft bgs depth intervals, was removed from the MW-64BR borehole in December 2010. Following removal of the FLUTe system, the open borehole was developed and a sample of the open borehole was collected on December 20, 2010. At the direction of DTSC, a packer system was installed in January 2011 at about 150 ft bgs. Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover at the completion of the East Ravine/Topock Compressor Station groundwater investigation.

The California primary drinking water standards Maximum Contaminant Level (MCL) for Arsenic is 10 µg/L. The background level for Arsenic at the site is 24.3 µg/L.

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.
BR: well completed in bedrock (Miocene Conglomerate or pre-Tertiary crystalline rock).

Table D-3
Background Metals, Fourth Quarter 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

		Metals in µg/L																		General Metals in mg/L				
	California MCL:	6	10	200	1,000	4	5	NE	50	1,000*	15	2	NE	100	50	100*	2	NE	5,000*	NE	NE	0.3*	NE	0.05*
Well ID	**Sample Date**	**Antimony**	**Arsenic**	**Aluminum**	**Barium**	**Beryllium**	**Cadmium**	**Cobalt**	**Chromium**	**Copper**	**Lead**	**Mercury**	**Molybdenum**	**Nickel**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Zinc**	**Boron**	**Calcium**	**Iron**	**Magnesium**	**Manganese**
MW-16	12/07/2011	ND (10)	**11.0**	ND (50)	32.0	ND (1.0)	ND (3.0)	ND (3.0) J	11.3	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0) J	1.8	ND (3.0)	ND (0.5)	37.0	ND (10)	0.34	28.0	0.033 J	4.9	ND (10)
MW-17	12/07/2011	ND (10)	1.5	ND (50)	23.0	ND (1.0)	ND (3.0)	ND (3.0) J	14.5	ND (5.0)	ND (10)	ND (0.2)	20.0	ND (5.0) J	10.0	ND (3.0)	ND (0.5)	4.5	ND (10)	0.28	76.0	0.027	9.8	ND (10)

Notes:
µg/L micrograms per liter.
mg/L milligrams per liter.
ND not detected at listed reporting limit.
FD field duplicate sample.
NE not established.
* Secondary USEPA MCL.

J= concentration or reporting limit estimated by laboratory or data validation.

The maximum contaminant levels (MCLs) listed are the California primary drinking water standards, except where noted.

All results are dissolved metals from field-filtered samples.

Metals analyzed by Methods SW6010B or SW6020A or SW7470A.

Table D-4
Laboratory Specific Conductance Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date		Specific Conductance (µS/cm)
MW-9	12/09/2011		2,800
MW-10	05/05/2011		3,000
MW-10	05/05/2011	FD	3,000
MW-10	12/09/2011		2,600
MW-12	05/06/2011		6,400
MW-12	10/06/2011		6,700
MW-12	12/09/2011		6,400
MW-13	12/06/2011		1,900
MW-14	12/09/2011		1,500
MW-15	12/07/2011		1,500
MW-16	05/02/2011		1,100
MW-16	12/07/2011		1,100
MW-17	05/03/2011		1,500
MW-17	12/07/2011		1,400
MW-18	12/08/2011		1,300
MW-19	05/04/2011		2,200
MW-19	12/09/2011		2,000
MW-20-70	05/06/2011		2,700
MW-20-70	12/07/2011		2,600
MW-20-100 [a]	02/10/2011		2,800
MW-20-100	05/06/2011		3,100
MW-20-100	12/08/2011		2,800
MW-20-130 [a]	02/10/2011		10,000
MW-20-130	05/06/2011		12,000
MW-20-130	12/09/2011		11,000
MW-21	05/03/2011		9,000
MW-21	09/29/2011		13,000
MW-21	12/06/2011		11,000
MW-22	05/03/2011		14,000
MW-22	12/16/2011		32,000
MW-23-060	05/04/2011		15,000
MW-23-060	09/29/2011		16,000
MW-23-060	12/13/2011		16,000
MW-23-080	05/04/2011		15,000
MW-23-080	05/04/2011	FD	16,000
MW-23-080	09/29/2011		16,000
MW-23-080	12/12/2011		16,000
MW-23-080	12/12/2011	FD	16,000
MW-24BR	05/05/2011		14,000
MW-24BR	09/30/2011		14,000
MW-24BR	12/09/2011		14,000
MW-24BR	12/09/2011	FD	14,000
MW-25	12/15/2011		1,600
MW-25	12/15/2011	FD	1,500
MW-26	05/05/2011		4,000
MW-26	12/09/2011		4,000
MW-27-20	12/05/2011		1,000
MW-27-60	12/05/2011		1,100
MW-27-85	04/28/2011		13,000
MW-27-85	04/28/2011	FD	13,000
MW-27-85	10/03/2011		12,000
MW-27-85	10/03/2011	FD	12,000
MW-27-85	12/05/2011		13,000
MW-28-25	05/02/2011		1,000
MW-28-25	12/12/2011		1,200
MW-28-90	05/02/2011		7,100
MW-28-90	09/26/2011		7,200
MW-28-90	12/12/2011		7,400
MW-29	04/29/2011		2,200
MW-29	12/07/2011		2,400
MW-30-30	05/03/2011		12,000
MW-30-30	12/07/2011		33,000
MW-30-50	12/08/2011		1,200
MW-31-60	05/04/2011		3,800
MW-31-60	12/06/2011		3,200
MW-31-135	12/06/2011		11,000
MW-32-20	12/08/2011		52,000
MW-32-35	05/02/2011		17,000
MW-32-35	12/09/2011		16,000
MW-33-40	05/02/2011		5,900

Table D-4
Laboratory Specific Conductance Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date		Specific Conductance (µS/cm)
MW-33-40	09/27/2011		12,000
MW-33-40	12/12/2011		9,900
MW-33-90	05/04/2011		9,600
MW-33-90	10/04/2011		10,000
MW-33-90	12/13/2011		10,000
MW-33-150	05/04/2011		15,000
MW-33-150	10/04/2011		16,000
MW-33-150	12/13/2011		17,000
MW-33-210	05/04/2011		1,700
MW-33-210	09/27/2011		18,000
MW-33-210	12/13/2011		18,000
MW-34-55	12/06/2011		990
MW-34-80	04/28/2011		7,600
MW-34-80	10/03/2011		7,800
MW-34-80	12/06/2011		7,300
MW-34-100	04/28/2011		16,000
MW-34-100	04/28/2011	FD	16,000
MW-34-100	10/03/2011		17,000
MW-34-100	10/03/2011	FD	17,000
MW-34-100	12/06/2011		17,000
MW-34-100	12/06/2011	FD	17,000
MW-35-60	05/04/2011		6,700
MW-35-60	12/07/2011		6,700
MW-35-135	05/04/2011		9,800
MW-35-135	12/07/2011		9,600
MW-36-20	12/14/2011		8,100
MW-36-40	12/14/2011		1,300
MW-36-50	12/14/2011		1,400
MW-36-70	12/14/2011		1,100
MW-36-90	05/02/2011		1,300
MW-36-90	12/14/2011		1,200
MW-36-100	05/03/2011		9,700
MW-36-100	12/06/2011		10,000
MW-37S	12/07/2011		5,000
MW-37D	05/05/2011		15,000
MW-37D	12/08/2011		15,000
MW-39-40	12/15/2011		2,000
MW-39-40	12/15/2011	FD	2,000
MW-39-50	12/15/2011		1,500
MW-39-60	12/15/2011		1,700
MW-39-70	12/15/2011		3,500
MW-39-80	12/15/2011		1,100
MW-39-100	12/14/2011		17,000
MW-40S	12/07/2011		2,300
MW-40D	05/05/2011		14,000
MW-40D	12/07/2011		15,000
MW-41S	12/07/2011		5,000
MW-41S	12/07/2011	FD	5,000
MW-41M	12/05/2011		15,000
MW-41D	05/02/2011		18,000
MW-41D	12/05/2011		18,000
MW-42-55	04/29/2011		7,500
MW-42-55	09/26/2011		6,300
MW-42-55	12/06/2011		5,700
MW-42-65	04/29/2011		9,500
MW-42-65	09/26/2011		9,100
MW-42-65	12/06/2011		9,800
MW-43-25	04/29/2011		1,200
MW-43-25	12/09/2011		1,200
MW-43-75	12/09/2011		12,000 J
MW-43-90	04/29/2011		17,000
MW-43-90	12/09/2011		17,000
MW-44-70	05/03/2011		2,500
MW-44-70	12/08/2011		2,200
MW-44-115	05/03/2011		11,000
MW-44-115	09/27/2011		11,000
MW-44-115	12/08/2011		11,000
MW-44-115	12/08/2011	FD	11,000
MW-44-125	05/03/2011		11,000
MW-44-125	05/03/2011	FD	10,000

Table D-4
Laboratory Specific Conductance Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date		Specific Conductance (µS/cm)
MW-44-125	09/27/2011		11,000
MW-44-125	09/27/2011	FD	12,000
MW-44-125	12/08/2011		11,000
MW-44-125	12/08/2011	FD	9,800
MW-45-095a	12/14/2011		9,000
MW-45-095a	12/14/2011	FD	9,400
MW-46-175	05/03/2011		16,000
MW-46-175	05/03/2011	FD	16,000
MW-46-175	09/26/2011		17,000
MW-46-175	12/13/2011		17,000
MW-46-205	05/04/2011		18,000
MW-46-205	12/13/2011		19,000
MW-47-55	05/03/2011		4,300
MW-47-55	12/08/2011		4,600
MW-47-115	05/03/2011		12,000
MW-47-115	12/08/2011		14,000
MW-48	05/04/2011		16,000
MW-48	09/30/2011		17,000
MW-48	12/07/2011		17,000
MW-49-135	12/07/2011		13,000 J
MW-49-275	12/07/2011		28,000
MW-49-365	12/07/2011		42,000
MW-50-095	05/03/2011		5,000
MW-50-095	12/06/2011		5,100
MW-50-200 [a]	02/10/2011		17,000
MW-50-200 [a]	02/10/2011	FD	18,000
MW-50-200	05/06/2011		18,000
MW-50-200	10/04/2011		19,000
MW-50-200	12/08/2011		19,000
MW-51	05/06/2011		10,000
MW-51	12/07/2011		10,000
MW-52S	05/03/2011		10,000
MW-52S	12/15/2011		7,500
MW-52M	05/03/2011		15,000
MW-52M	12/15/2011		11,000
MW-52D	05/03/2011		18,000
MW-52D	12/15/2011		16,000
MW-53M	05/03/2011		18,000
MW-53M	12/16/2011		18,000
MW-53D	05/03/2011		32,000
MW-53D	10/03/2011		33,000
MW-53D	10/03/2011	FD	33,000
MW-53D	12/16/2011		28,000
MW-53D	12/16/2011	FD	28,000
MW-54-85	05/05/2011		10,100
MW-54-85	12/06/2011		10,100
MW-54-140	05/05/2011		13,000
MW-54-140	12/06/2011		12,300
MW-54-195	05/05/2011		20,000
MW-54-195	05/05/2011	FD	20,000
MW-54-195	12/06/2011		18,800
MW-55-45	12/06/2011		1,450
MW-55-120	12/06/2011		8,520
MW-55-120	12/06/2011	FD	8,580
MW-56S	05/04/2011		6,310
MW-56S	12/13/2011		5,980
MW-56M	05/04/2011		14,900
MW-56M	12/13/2011		14,600
MW-56D	05/04/2011		21,700
MW-56D	12/13/2011		21,000
MW-57-070	05/05/2011		2,400
MW-57-070	05/05/2011	FD	2,400
MW-57-070	09/29/2011		2,400
MW-57-070	12/15/2011		2,500
MW-57-185	05/03/2011		17,000
MW-57-185	09/28/2011		17,000
MW-57-185	12/13/2011		18,000
MW-59-100	05/06/2011		10,000
MW-59-100	10/04/2011		10,000
MW-59-100	12/15/2011		9,000

Table D-4
Laboratory Specific Conductance Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date		Specific Conductance (µS/cm)
MW-59-100	12/15/2011	FD	9,100
MW-60-125	05/05/2011		8,700
MW-60-125	10/04/2011		8,200
MW-60-125	12/14/2011		8,100
MW-61-110	05/05/2011		15,000
MW-61-110	09/30/2011		15,000
MW-61-110	12/14/2011		15,000
MW-62-065	05/05/2011		6,000
MW-62-065	09/29/2011		6,300
MW-62-065	12/13/2011		3,900
MW-62-110	05/05/2011		8,500
MW-62-110	09/29/2011		8,700
MW-62-110	12/14/2011		8,400
MW-62-190	05/05/2011		17,000
MW-62-190	09/29/2011		17,000
MW-62-190	12/14/2011		16,000
MW-63-065	05/03/2011		7,200
MW-63-065	09/28/2011		7,500
MW-63-065	12/12/2011		4,600
OW-3S	12/05/2011		1,500
OW-3M	12/05/2011		5,600
OW-3D	12/06/2011		8,900
PE-1	01/04/2011		5,330
PE-1	02/01/2011		5,240
PE-1	03/01/2011		5,080
PE-1	04/05/2011		5,180
PE-1	05/02/2011		5,240
PE-1	06/07/2011		5,180
PE-1	07/05/2011		5,140
PE-1	08/02/2011		5,090
PE-1	09/06/2011		5,040
PE-1	10/04/2011		4,930
PE-1	11/01/2011		4,960
PE-1	12/06/2011		4,900
PGE-7BR	12/07/2011		18,000
PGE-8 [a]	02/10/2011		16,000
PGE-8	12/08/2011		18,000
Park Moabi-3	12/12/2011		1,400
Park Moabi-4	12/12/2011		1,800
RRB	01/19/2011		1,100
RRB	03/10/2011		953
RRB	06/08/2011		947
RRB	08/24/2011		926
RRB	11/30/2011		1,410
TW-1	05/05/2011		6,900
TW-1	09/28/2011		7,000
TW-1	12/15/2011		7,400
TW-2S	12/12/2011		2,400
TW-2S	12/12/2011	FD	2,300
TW-2D	12/12/2011		9,000
TW-3D	01/04/2011		8,710
TW-3D	02/01/2011		8,720
TW-3D	03/01/2011		8,820
TW-3D	04/05/2011		8,710
TW-3D	05/02/2011		8,620
TW-3D	06/07/2011		8,530
TW-3D	07/05/2011		8,460
TW-3D	08/02/2011		8,440
TW-3D	09/06/2011		8,510
TW-3D	10/04/2011		8,420
TW-3D	11/01/2011		8,610
TW-3D	12/06/2011		8,430
TW-4	12/08/2011		19,000
TW-5	12/06/2011		15,000

Table D-4
Laboratory Specific Conductance Results, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

NOTES:

µS/cm microSiemens per centimeter.
FD field duplicate sample.
J concentration estimated by laboratory or data validation.

Specific conductance is reported to three significant figures.

[a] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

Table D-5

Manual Water Level Measurements, January 2011 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time		Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells							
MW-9	89	536.56	12/05/11	8:45 AM	80.78	0.20	455.76
			12/09/11	8:09 AM	80.61	0.20	455.93
MW-10	97	530.65	05/05/11	2:01 PM	73.61	0.20	456.98
			12/05/11	8:38 AM	75.05	0.20	455.54
			12/09/11	9:21 AM	75.05	0.20	455.54
MW-11	86	522.61	12/05/11	8:51 AM	67.18	0.16	455.37
MW-12	50	484.01	02/10/11	11:36 AM	29.34	0.40	454.65
			05/06/11	6:54 AM	27.71	0.40	456.28
			10/06/11	2:14 PM	28.13	0.40	455.86
			12/05/11	9:14 AM	29.26	0.40	454.73
			12/09/11	11:42 AM	29.31	0.40	454.68
MW-13	52	488.64	12/05/11	9:05 AM	32.49	0.12	456.09
			12/06/11	1:40 PM	32.40	0.12	456.18
MW-14	134	570.99	12/05/11	9:24 AM	115.48	0.10	455.45
			12/09/11	10:15 AM	115.55	0.10	455.38
MW-15	203	641.52	12/05/11	9:48 AM	185.30	0.10	456.16
			12/07/11	10:40 AM	185.10	0.10	456.36
MW-16	218	657.31	05/02/11	1:25 PM	200.02	0.10	457.23
			12/05/11	8:57 AM	203.20	0.10	454.06
			12/07/11	12:19 PM	200.10	0.10	457.15
MW-17	154	589.96	05/03/11	11:45 PM	132.38	0.11	457.50
			12/05/11	8:46 AM	132.23	0.11	457.65
			12/07/11	12:55 PM	133.00	0.11	456.88
			12/07/11	1:15 PM	133.00	0.11	456.88
MW-18	107	545.32	12/05/11	9:55 AM	89.24	0.08	456.02
			12/08/11	1:53 PM	89.15	0.08	456.11
MW-19	66	499.92	05/04/11	1:19 PM	43.45	0.15	456.41
			12/05/11	9:06 AM	45.95	0.15	453.91
			12/09/11	9:10 AM	46.00	0.15	453.86
MW-20-70	70	500.15	05/06/11	7:46 AM	44.81	0.21	455.28
			12/07/11	1:10 PM	47.36	0.21	452.74
MW-20-100 [a]	101	500.58	02/10/11	1:47 PM	47.98	0.22	452.48
			02/10/11	1:52 PM	47.98	0.22	452.48
			05/06/11	8:35 AM	45.64	0.22	454.81
			12/08/11	2:48 PM	48.25	0.22	452.23
MW-20-130 [a]	132	500.66	02/10/11	4:18 PM	48.69	0.80	452.12
			02/10/11	4:10 PM	48.69	0.80	452.12
			05/06/11	9:40 AM	46.40	0.80	454.41
			12/09/11	10:53 AM	49.15	0.80	451.67
MW-21	58	505.55	02/08/11	11:05 AM	56.31	0.71	449.24
			05/02/11	12:17 PM	49.66	0.71	455.90
			09/28/11	9:47 AM	49.80	0.71	455.76

Table D-5
Manual Water Level Measurements, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time	Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells						
MW-21	58	505.55	12/05/11 12:53 PM	50.85	0.71	454.71
			12/05/11 9:28 AM	50.85	0.71	454.71
MW-22	12	460.72	05/03/11 1:51 PM	4.84	1.80	455.96
			12/16/11 11:51 AM	7.16	1.80	453.61
MW-23-060	60	504.08	02/09/11 9:55 AM	49.64	1.09	454.48
			05/04/11 6:57 AM	48.22	1.09	455.91
			09/29/11 10:39 AM	48.54	1.09	455.57
			12/13/11 7:43 AM	52.25	1.09	451.85
MW-23-080	81	504.13	02/09/11 10:50 AM	52.47	1.10	451.78
			05/04/11 9:32 AM	53.14	1.10	451.10
			09/29/11 12:10 PM	53.01	1.10	451.20
			12/12/11 2:06 PM	49.51	1.10	454.71
MW-24A	127	567.16	12/05/11 8:57 AM	111.81	0.68	455.36
MW-24BR	441	563.95	02/07/11 2:38 PM	108.24	1.03	456.50
			05/04/11 2:06 PM	106.88	1.03	457.87
			09/29/11 7:08 AM	107.05	1.03	457.70
			12/09/11 3:58 PM	108.12	1.03	456.63
MW-25	107	542.90	12/05/11 8:53 AM	88.34	0.08	454.50
			12/15/11 9:11 AM	83.49	0.08	459.33
MW-26	70	502.22	05/05/11 2:59 PM	46.00	0.26	456.16
			12/09/11 10:42 AM	48.00	0.26	454.17
MW-27-20	14	460.56	12/05/11 12:46 PM	7.11	0.07	453.44
MW-27-60	59	461.38	12/05/11 2:54 PM	8.38	0.20	452.95
			12/05/11 4:08 PM	8.38	0.20	452.95
MW-27-85	80	460.99	02/08/11 11:12 AM	7.41	0.86	453.94
			04/28/11 11:01 AM	5.06	0.85	456.29
			10/03/11 10:12 AM	6.63	0.85	454.67
			12/05/11 1:46 PM	8.20	0.85	453.11
MW-28-25	21	466.77	05/02/11 10:15 AM	10.50	0.08	456.25
			12/12/11 11:41 AM	13.85	0.08	452.90
MW-28-90	98	467.53	02/08/11 9:00 AM	13.43	0.50	454.24
			05/02/11 10:48 AM	11.58	0.50	456.10
			09/26/11 2:19 PM	13.02	0.50	454.63
			12/12/11 1:30 PM	14.80	0.50	452.85
MW-29	42	485.21	04/29/11 11:22 PM	28.55	0.18	456.64
			12/07/11 8:48 AM	31.20	0.18	453.99
MW-30-30	27	468.12	05/03/11 12:00 PM	12.33	2.50	456.00
			12/07/11 3:32 PM	14.79	2.50	453.50
MW-30-50	53	468.81	12/08/11 8:43 AM	15.33	0.40	453.46
MW-31-60	64	496.81	05/04/11 2:52 PM	40.86	0.21	455.90
			12/06/11 12:47 PM	43.25	0.21	453.51
MW-31-135	135	498.11	12/06/11 11:57 AM	45.35	0.65	452.80

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Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time	Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells						
MW-32-20	20	461.51	12/08/11 3:51 PM	8.36	3.00	453.35
MW-32-35	37	461.63	05/02/11 12:11 PM	5.77	1.20	456.05
			12/09/11 10:52 AM	8.47	1.20	453.32
MW-33-40	42	487.38	02/09/11 1:04 PM	33.56	0.51	453.82
			05/02/11 1:26 PM	31.26	0.51	456.12
			09/27/11 12:13 PM	32.20	0.51	455.18
			12/12/11 2:44 PM	34.02	0.51	453.36
MW-33-90	88	487.55	02/09/11 11:16 AM	33.78	0.69	453.87
			05/04/11 11:59 PM	31.25	0.69	456.40
			10/04/11 7:48 AM	32.42	0.69	455.20
			12/13/11 11:04 AM	33.90	0.69	453.72
MW-33-150	155	487.77	02/09/11 9:09 AM	31.24	0.95	457.01
			05/04/11 9:11 AM	31.80	0.97	456.46
			10/04/11 6:57 AM	32.91	0.97	455.35
			12/09/11 8:18 AM	34.45	0.97	453.81
MW-33-210	223	487.25	02/09/11 9:56 AM	33.99	1.20	454.15
			05/04/11 10:21 AM	31.74	1.20	456.41
			09/27/11 1:31 PM	32.86	1.20	455.29
			12/13/11 9:25 AM	34.50	1.20	453.64
MW-34-55	57	460.95	12/06/11 11:40 AM	7.55	0.08	453.31
			12/06/11 11:11 AM	7.55	0.08	453.31
MW-34-80	84	461.20	02/07/11 11:57 AM	6.79	0.50	454.56
			04/28/11 12:29 PM	4.93	0.50	456.43
			10/03/11 11:43 AM	6.95	0.50	454.34
			12/06/11 8:20 AM	7.63	0.50	453.66
			12/06/11 8:53 AM	7.63	0.50	453.66
MW-34-100	117	460.96	01/11/11 11:11 AM	8.70	1.06	452.91
			02/07/11 1:31 PM	7.40	1.06	454.23
			04/28/11 12:47 PM	5.79	1.20	455.98
			10/03/11 1:12 PM	7.59	1.20	454.13
			11/09/11 10:02 AM	8.07	1.20	453.63
			12/06/11 10:01 AM	8.40	1.20	453.30
MW-35-60	57	484.33	05/04/11 11:18 PM	27.37	0.45	456.95
			12/07/11 9:21 AM	30.15	0.45	454.16
MW-35-135	159	484.24	05/04/11 11:58 PM	27.34	0.64	457.07
			12/07/11 9:40 AM	29.70	0.64	454.65
MW-36-20	20	469.33	12/14/11 11:55 AM	16.40	1.30	452.95
MW-36-40	40	469.59	12/14/11 12:38 PM	16.50	0.40	453.09
MW-36-50	108	469.62	12/14/11 1:30 PM	16.56	0.23	452.95
MW-36-70	70	469.27	12/14/11 2:35 PM	16.17	0.10	452.97
MW-36-90	90	469.64	05/02/11 12:46 PM	14.62	0.10	454.91
			12/14/11 3:37 PM	17.32	0.10	452.16

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Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time	Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells						
MW-36-100	108	469.65	05/03/11 12:35 PM	14.67	0.80	455.33
			12/06/11 4:02 PM	17.58	0.80	452.30
MW-37D	227	486.19	05/05/11 7:17 AM	30.31	1.05	456.47
			12/08/11 3:15 PM	31.80	1.05	454.98
MW-37S	85	485.97	12/07/11 9:19 AM	31.75	0.32	454.12
MW-39-40	42	468.02	12/15/11 8:04 AM	15.33	0.50	452.70
MW-39-50	55	467.93	12/15/11 8:43 AM	15.31	0.16	452.54
MW-39-60	66	468.00	12/15/11 9:28 AM	15.53	0.21	452.38
MW-39-70	72	468.02	12/15/11 10:15 AM	15.90	0.29	452.05
MW-39-80	83	467.92	12/15/11 11:06 AM	15.80	0.74	452.25
MW-39-100	118	468.12	12/14/11 9:46 AM	15.70	1.31	453.02
MW-40D	266	566.08	05/05/11 8:37 AM	109.86	1.11	456.69
			12/07/11 11:30 AM	110.15	1.11	456.40
MW-40S	134	566.04	12/05/11 9:41 AM	110.78	0.13	455.17
			12/07/11 10:54 AM	110.65	0.13	455.30
MW-41D	312	479.42	05/02/11 10:55 AM	23.41	1.38	457.55
			12/05/11 2:11 PM	24.85	1.38	456.09
MW-41M	190	479.83	12/05/11 3:17 PM	24.90	1.03	455.45
MW-41S	60	480.07	12/05/11 9:14 AM	25.35	0.32	454.66
			12/07/11 3:58 PM	25.30	0.32	454.71
MW-42-30	30	463.74	12/06/11 1:18 PM	10.82	1.10	453.00
MW-42-55	53	463.85	02/07/11 2:37 PM	9.82	0.90	454.19
			04/29/11 7:03 AM	7.04	0.90	456.99
			09/26/11 10:43 AM	9.02	0.90	454.99
			12/06/11 2:06 PM	10.81	0.90	453.19
MW-42-65	80	463.37	02/07/11 3:19 PM	9.34	1.10	454.42
			04/29/11 7:48 AM	6.80	1.10	456.99
			09/26/11 11:43 AM	8.67	1.10	455.06
			12/06/11 2:48 PM	10.61	1.10	453.11
MW-43-25	25	462.54	04/29/11 8:48 AM	5.65	0.09	456.87
			12/09/11 8:18 AM	9.14	0.09	453.38
MW-43-75	75	462.71	12/09/11 8:46 AM	9.41	0.90	453.57
MW-43-90	97	462.76	04/29/11 9:27 AM	6.25	1.20	457.17
			12/09/11 10:01 AM	9.69	1.20	453.60
MW-44-70	70	471.90	05/03/11 7:45 AM	15.41	0.20	456.47
			12/08/11 9:46 AM	18.29	0.20	453.57
MW-44-115	114	472.01	02/08/11 2:56 PM	18.94	0.80	453.41
			05/03/11 8:38 AM	16.52	0.80	455.86
			09/27/11 10:53 AM	17.76	0.80	454.54
			12/08/11 10:37 AM	19.11	0.80	453.19
MW-44-125	129	472.04	02/08/11 12:12 PM	18.64	0.89	453.86
			05/03/11 9:07 AM	16.35	0.89	456.18

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Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time		Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells							
MW-44-125	129	472.04	09/27/11	7:08 AM	16.94	0.89	455.49
			12/08/11	12:12 PM	18.97	0.89	453.46
MW-45-095a	97	470.03	12/14/11	8:13 AM	17.90	0.49	452.26
MW-46-175	176	482.16	01/11/11	1:38 PM	30.15	1.09	452.87
			02/08/11	9:18 AM	28.78	1.09	454.25
			05/03/11	1:51 PM	26.82	1.09	456.24
			09/26/11	12:48 PM	28.09	1.09	454.78
			11/09/11	1:00 PM	28.76	1.09	454.25
			12/13/11	2:53 PM	29.51	1.09	453.36
MW-46-205	207	482.23	05/04/11	7:23 AM	26.86	1.30	456.58
			12/13/11	1:21 PM	29.52	1.30	453.79
MW-47-55	55	484.04	05/03/11	3:26 PM	27.41	0.28	456.59
			12/08/11	11:08 AM	30.00	0.28	454.00
MW-47-115	115	484.17	05/03/11	1:45 PM	27.93	0.83	456.43
			12/08/11	11:50 AM	30.30	0.83	454.04
MW-48	138	486.22	02/07/11	12:39 PM	31.36	1.14	455.33
			05/02/11	2:49 PM	30.34	1.14	456.35
			09/28/11	10:37 AM	30.60	1.14	455.98
			12/05/11	4:54 PM	31.64	1.14	454.94
MW-49-135	135	484.02	12/07/11	9:58 AM	30.15	0.81	454.16
MW-49-275	275	483.95	12/07/11	11:41 AM	30.90	1.52	454.78
MW-49-365	367	484.01	12/07/11	1:26 PM	32.46	2.50	456.18
MW-50-095	95	496.49	05/03/11	12:48 PM	40.24	0.33	456.16
			12/06/11	12:36 PM	42.55	0.33	453.84
MW-50-200 [a]	205	496.35	02/10/11	3:10 PM	42.74	1.30	454.39
			02/10/11	3:05 PM	42.74	1.30	454.39
			05/06/11	10:04 AM	40.79	1.30	456.35
			10/04/11	1:48 PM	41.90	1.30	455.24
			12/08/11	3:18 PM	43.04	1.30	454.09
MW-51	113	501.56	05/06/11	7:46 AM	45.58	0.73	456.07
			12/07/11	1:49 PM	47.41	0.73	454.19
MW-52D	90	462.16	12/15/11	2:47 PM	12.93	1.41	449.84
MW-52M	71	462.16	12/15/11	1:13 PM	12.80	1.12	449.71
MW-52S	52	462.16	12/15/11	2:37 PM	12.85	0.82	449.46
MW-54-85	93	466.10	05/05/11	7:20 AM	8.99	0.68	457.22
			12/06/11	9:20 AM	12.30	0.68	453.93
MW-54-140	138	465.98	05/05/11	7:15 AM	9.09	0.85	457.22
			12/06/11	8:24 AM	12.10	0.85	454.26
MW-54-195	195	466.32	05/05/11	9:06 AM	10.37	1.29	457.03
			12/06/11	10:02 AM	12.95	1.29	454.49
MW-55-45	52	463.41	12/06/11	1:43 PM	8.20	0.10	455.08
MW-55-120	118	463.21	12/06/11	1:00 PM	7.90	0.60	455.35

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Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time	Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells						
MW-57-070	70	509.37	02/10/11 9:53 AM	53.59	0.12	455.72
			05/05/11 10:51 AM	52.56	0.12	456.74
			09/29/11 3:14 PM	52.44	0.12	456.86
			12/15/11 8:07 AM	57.60	0.12	451.72
MW-57-185	185	508.97	02/08/11 11:43 AM	53.10	1.20	456.43
			05/03/11 8:56 AM	52.04	1.20	457.49
			09/28/11 1:51 PM	52.10	1.20	457.43
			12/13/11 12:04 PM	53.25	1.20	456.28
MW-59-100	101	541.61	02/10/11 12:54 PM	86.06	0.70	455.56
			05/06/11 9:09 AM	84.61	0.70	457.01
			10/04/11 12:55 PM	84.93	0.70	456.69
			12/05/11 9:19 AM	85.96	0.70	455.66
			12/15/11 11:20 AM	86.00	0.70	455.62
MW-60-125	123	555.47	02/10/11 8:05 AM	99.86	0.60	455.60
			05/05/11 1:25 PM	98.44	0.60	457.02
			10/04/11 10:36 AM	98.72	0.60	456.74
			12/14/11 10:52 AM	100.00	0.60	455.46
MW-61-110	113	544.03	02/09/11 2:41 PM	88.51	1.06	455.60
			05/05/11 12:16 PM	87.04	1.06	457.07
			09/30/11 9:42 AM	87.37	1.06	456.74
			12/14/11 8:14 AM	87.70	1.06	456.41
MW-62-065	67	503.56	02/09/11 1:21 PM	48.91	0.40	454.62
			05/05/11 9:43 AM	47.10	0.40	456.43
			09/29/11 1:30 PM	47.72	0.40	455.81
			12/13/11 10:40 AM	49.10	0.40	454.43
MW-62-110	110	504.05	12/14/11 11:03 AM	35.80	0.57	468.27
MW-62-190	190	504.05	12/14/11 11:03 AM	35.80	1.26	469.05
MW-63-065	66	504.47	02/08/11 2:41 PM	50.31	0.47	454.15
			05/03/11 7:19 AM	47.71	0.47	456.75
			09/28/11 11:59 AM	49.02	0.47	455.44
			12/12/11 12:30 PM	51.36	0.47	453.10
OW-3D	273	558.63	12/06/11 3:01 PM	102.59	0.51	455.88
OW-3M	200	558.90	12/05/11 9:16 PM	102.71	0.32	455.98
OW-3S	116	558.58	12/05/11 5:08 PM	103.44	0.08	455.09
			12/05/11 8:37 AM	102.53	0.08	456.00
PGE-7BR	300	---	12/07/11 2:35 PM	110.30	---	---
PGE-8 [a]	564	596.01	02/10/11 7:51 AM	140.94	1.21	456.72
			02/10/11 8:48 AM	140.94	1.21	456.72
			12/08/11 12:26 PM	140.60	1.21	457.04
TW-1	271	620.55	02/09/11 2:14 PM	165.19	0.44	455.28
			05/05/11 2:35 PM	163.60	0.44	456.87
			09/28/11 6:52 AM	164.02	0.44	456.42

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Location	Well Depth (feet BMP)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time	Water Level Measurement (feet BMP)	Salinity (percent)	Groundwater Elevation Adjusted for Salinity (feet AMSL)
Monitoring Wells						
TW-1	271	620.55	12/15/11 10:33 AM	165.20	0.44	455.24
TW-4	255	484.11	12/08/11 8:26 AM	30.45	1.27	454.71

Notes:

AMSL above mean sea level.
BMP below well measure point.
(---) data not collected or available.
T Results from transducers presented to fill water level data gaps.

[a] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

Well depths rounded off to whole foot.

Salinity used to adjust water level to freshwater equivalent. Salinity values have been averaged in accordance with the Performance Monitoring Program.

Table D-6
Field Water Quality Measurements, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date	Specific Conductance (µS/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)
Monitoring Wells						
MW-12	02/10/2011	6,245	28.42	8.44	177	7.23
	10/06/2011	7,318	28.01	8.29	73	5.48
MW-20-100 [a]	02/10/2011	3,085	29.32	7.53	215	3.56
MW-20-130 [a]	02/10/2011	12,190	29.42	7.63	218	2.03
MW-21	02/08/2011	8,450	29.29	7.43	193	3.76
	09/29/2011	14,600	28.70	7.13	23	1.21
MW-23-060	02/09/2011	16,890	30.73	---	93	3.29
	09/29/2011	17,670	33.35	8.95	-29	2.85
MW-23-080	02/09/2011	17,420	31.97	---	63	2.37
	09/29/2011	17,820	31.50	10.46	-66	0.54
MW-24BR	02/08/2011	14,910	32.40	8.14	-170	0.16
	09/30/2011	15,420	31.77	8.33	-134	1.08
MW-27-85	02/08/2011	14,359	20.03	7.16	-53	0.34
	10/03/2011	13,060	20.00	7.19	-83	0.09
MW-28-90	02/08/2011	7,730	19.43	7.16	-79	0.46
	09/26/2011	7,630	19.58	7.25	-139	0.66
MW-33-40	02/09/2011	10,544	26.17	7.73	22	1.37
	09/27/2011	13,370	31.07	7.76	-66	0.69
MW-33-90	02/09/2011	10,582	26.71	7.39	8	0.17
	10/04/2011	10,930	26.59	7.30	63	0.06
MW-33-150	02/09/2011	17,657	27.10	7.46	---	0.30
	10/04/2011	18,100	27.17	7.36	112	0.09
MW-33-210	02/09/2011	19,996	27.53	7.32	61	0.18
	09/27/2011	21,020	27.61	7.34	-84	0.17
MW-34-80	02/07/2011	7,658	19.12	7.39	4	2.02
	10/03/2011	7,992	19.11	7.30	-92	0.11
MW-34-100	02/07/2011	18,420	20.24	7.54	28	1.74
	10/03/2011	18,550	20.28	7.44	6	0.06
MW-42-55	02/07/2011	8,652	22.87	7.36	-107	1.75
	09/26/2011	6,667	22.47	7.39	-116	1.03
MW-42-65	02/07/2011	11,507	23.05	7.14	-59	1.39
	09/26/2011	9,670	22.81	7.15	-41	0.82
MW-44-115	02/08/2011	9,990	21.46	7.80	-165	0.29
	09/27/2011	12,100	21.31	7.92	-152	0.22
MW-44-125	02/08/2011	13,264	21.85	7.83	-232	0.38
	09/27/2011	13,090	22.23	7.77	-172	0.27
MW-46-175	02/08/2011	18,095	23.31	8.27	-65	0.26
	09/26/2011	18,590	23.48	8.30	-181	0.34

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Field Water Quality Measurements, January 2011 through December 2011
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Location	Sampling Date	Specific Conductance (µS/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)
Monitoring Wells						
MW-48	02/09/2011	18,310	30.55	6.99	164	1.10
	09/30/2011	18,640	31.75	7.23	31	2.88
MW-50-200 [a]	02/10/2011	21,840	30.16	7.86	229	3.59
	10/04/2011	22,710	29.85	7.65	70	2.65
MW-53D	10/03/2011	26,840	23.68	8.30	-217	0.10
MW-57-070	02/10/2011	2,509	31.93	7.27	128	3.54
	09/29/2011	2,710	31.52	6.93	56	2.27
MW-57-185	02/08/2011	19,180	29.86	8.60	-20	0.09
	09/28/2011	19,740	29.93	8.47	-128	0.09
MW-59-100	02/10/2011	10,150	30.41	7.15	206	7.38
	10/04/2011	10,920	30.28	6.82	118	6.31
MW-60-125	02/10/2011	9,332	31.92	7.53	168	2.96
	10/04/2011	8,876	31.62	7.28	-27	2.69
MW-61-110	02/09/2011	16,270	30.36	7.45	60	0.35
	09/30/2011	17,110	30.49	7.34	-30	0.45
MW-62-065	02/09/2011	6,428	31.13	7.39	108	2.45
	09/29/2011	6,522	32.15	7.40	44	2.31
MW-62-110	02/09/2011	8,852	27.28	7.64	190	0.88
	09/29/2011	9,229	28.26	7.69	-60	0.48
MW-62-190	02/09/2011	18,060	27.45	7.80	135	0.44
	09/29/2011	18,850	28.27	7.73	-88	0.25
MW-63-065	02/08/2011	7,528	28.01	7.22	61	1.50
	09/28/2011	7,880	28.39	7.14	5	1.67
PGE-8 [a]	02/10/2011	20,847	30.93	8.02	-333	0.18
TW-1	02/09/2011	7,436	29.69	7.21	32	1.55
	09/28/2011	7,140	29.95	7.30	166	1.45
Shoreline Surface Water Station						
R-28	01/18/2011	951	12.51	8.17	225	11.03
	03/09/2011	917	12.40	7.86	135	---
	06/08/2011	917	18.50	8.03	93	9.27
	08/23/2011	954	23.56	8.15	73	7.34
	11/30/2011	923	14.63	7.83	243	10.93
R63	01/18/2011	952	11.51	8.12	213	10.73
	03/09/2011	917	12.00	8.50	83	---
	06/07/2011	918	19.23	8.48	36	9.32
	08/23/2011	956	22.33	8.23	87	9.77
	11/29/2011	924	15.38	8.19	102	9.35
RRB	01/19/2011	1,132	10.14	7.24	212	10.01

Table D-6
Field Water Quality Measurements, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sampling Date	Specific Conductance (µS/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)
Shoreline Surface Water Station						
RRB	03/10/2011	947	12.20	8.68	45	---
	06/08/2011	922	19.20	8.57	52	8.00
	08/24/2011	972	21.95	8.13	156	7.10
	11/30/2011	1,661	11.17	7.88	58	7.92
Other Surface Water Monitoring Locations						
SW1	01/18/2011	1,085	12.60	8.05	296	9.51
	03/09/2011	952	13.70	8.33	58	9.89
	06/07/2011	945	19.70	6.89	85	4.14
	08/23/2011	978	23.40	7.15	197	4.82
	11/30/2011	999	11.84	8.00	88	9.11
SW2	01/19/2011	1,079	9.20	7.55	237	7.61
	03/09/2011	958	13.50	8.14	56	11.00
	06/07/2011	940	19.60	6.93	106	6.93
	08/23/2011	979	23.10	7.54	195	5.37
	11/30/2011	976	9.79	7.80	96	7.50
In-Channel Surface Water Station						
C-BNS-D	01/18/2011	954	12.74	8.01	222	11.04
	03/09/2011	923	13.10	8.50	78	---
	06/07/2011	932	19.00	8.47	35	8.50
	08/23/2011	967	22.59	8.17	89	7.84
	11/29/2011	907	16.32	8.24	90	9.42
C-CON-D	01/19/2011	949	11.70	7.97	239	10.81
C-CON-S	01/19/2011	952	11.40	7.82	260	10.98
C-CON-D	03/10/2011	941	12.80	8.71	43	11.60
C-CON-S	03/10/2011	947	12.60	8.46	54	11.80
C-CON-D	06/08/2011	926	---	8.46	65	8.55
C-CON-S	06/08/2011	915	18.60	8.44	55	8.55
C-CON-D	08/24/2011	984	21.67	8.18	143	7.78
C-CON-S	08/24/2011	972	21.63	8.10	124	7.90
C-CON-D	11/30/2011	920	15.35	8.29	120	10.85
C-CON-S	11/30/2011	912	15.70	8.34	115	10.31
C-I-3-D	01/18/2011	953	12.50	8.42	207	10.91
C-I-3-S	01/18/2011	955	12.27	8.31	208	11.14
C-I-3-D	03/09/2011	915	12.70	8.48	89	---
C-I-3-S	03/09/2011	918	12.20	8.49	84	---
C-I-3-D	06/07/2011	883	18.60	8.29	51	8.54
C-I-3-S	06/07/2011	919	18.40	8.30	42	8.31
C-I-3-D	08/23/2011	972	22.07	8.09	103	8.43

Table D-6
Field Water Quality Measurements, January 2011 through December 2011
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PG&E Topock Compressor Station, Needles, California

Location	Sampling Date	Specific Conductance (µS/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)
In-Channel Surface Water Station						
C-I-3-S	08/23/2011	961	21.54	8.08	104	7.56
C-I-3-D	11/29/2011	911	15.63	8.13	102	9.53
C-I-3-S	11/29/2011	911	15.78	8.22	102	8.84
C-MAR-D	01/18/2011	1,383	14.13	7.95	225	8.98
	03/09/2011	989	14.00	8.46	80	11.80
C-MAR-S	03/09/2011	985	14.00	8.26	82	---
C-MAR-D	06/07/2011	943	21.20	8.34	38	7.42
C-MAR-S	06/07/2011	947	21.30	8.10	44	7.30
C-MAR-D	08/23/2011	981	25.65	8.04	74	7.48
C-MAR-S	08/23/2011	990	26.12	7.97	75	7.82
C-MAR-D	11/29/2011	1,518	14.92	8.00	97	10.25
C-NR1-D	01/19/2011	950	11.60	8.09	248	10.65
C-NR1-S	01/19/2011	951	11.54	8.06	248	10.55
C-NR1-D	03/10/2011	948	12.70	8.38	61	11.60
C-NR1-S	03/10/2011	949	12.80	8.41	59	11.50
C-NR1-D	06/08/2011	919	18.50	8.44	56	8.33
C-NR1-S	06/08/2011	914	18.70	8.43	55	8.37
C-NR1-D	08/24/2011	984	22.03	8.15	136	7.91
C-NR1-S	08/24/2011	978	21.91	8.10	121	7.60
C-NR1-D	11/30/2011	918	15.53	8.37	114	10.37
C-NR1-S	11/30/2011	916	15.75	8.37	103	10.52
C-NR3-D	01/19/2011	953	11.50	7.95	246	10.62
C-NR3-S	01/19/2011	954	11.34	8.04	247	10.55
C-NR3-D	03/10/2011	955	12.80	8.39	59	11.60
C-NR3-S	03/10/2011	946	12.70	8.39	59	11.30
C-NR3-D	06/08/2011	930	19.00	8.47	51	8.43
C-NR3-S	06/08/2011	917	18.90	8.43	51	8.43
C-NR3-D	08/24/2011	973	22.23	8.11	93	7.67
C-NR3-S	08/24/2011	975	22.30	8.07	92	7.20
C-NR3-D	11/30/2011	919	15.73	8.38	99	9.89
C-NR3-S	11/30/2011	918	15.75	8.37	94	10.16
C-NR4-D	01/19/2011	957	11.57	7.94	248	10.36
C-NR4-S	01/19/2011	952	11.50	7.95	249	10.47
C-NR4-D	03/10/2011	947	12.90	8.37	57	11.50
C-NR4-S	03/10/2011	942	12.90	8.36	57	11.30
C-NR4-D	06/08/2011	937	19.20	8.45	45	8.07
C-NR4-S	06/08/2011	925	19.10	8.42	44	8.16
C-NR4-D	08/24/2011	985	22.75	8.10	78	7.80

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Location	Sampling Date	Specific Conductance (µS/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)
In-Channel Surface Water Station						
C-NR4-S	08/24/2011	982	22.53	8.06	82	7.08
C-NR4-D	11/30/2011	919	15.51	8.34	89	9.92
C-NR4-S	11/30/2011	918	15.30	8.34	94	9.87
C-R22A-D	01/18/2011	949	12.84	8.29	224	10.74
C-R22A-S	01/18/2011	951	12.38	8.23	220	11.25
C-R22A-D	03/09/2011	918	12.80	8.61	80	---
C-R22A-S	03/09/2011	924	12.60	8.55	80	---
C-R22A-D	06/07/2011	943	19.80	8.48	39	8.70
C-R22A-S	06/07/2011	920	19.40	8.43	33	8.75
C-R22A-D	08/23/2011	973	23.37	8.24	68	8.77
C-R22A-S	08/23/2011	963	22.81	8.13	78	8.68
C-R22A-D	11/29/2011	913	16.74	8.27	101	9.16
C-R22A-S	11/29/2011	917	16.04	8.29	92	10.00
C-R27-D	01/18/2011	949	12.55	8.17	224	11.17
C-R27-S	01/18/2011	950	13.15	8.25	223	10.82
C-R27-D	03/09/2011	921	12.70	8.50	76	---
C-R27-S	03/09/2011	915	12.80	8.51	76	---
C-R27-D	06/07/2011	923	19.40	8.43	33	8.32
C-R27-S	06/07/2011	920	19.40	8.42	31	8.39
C-R27-D	08/23/2011	962	22.73	8.14	75	8.45
C-R27-S	08/23/2011	963	22.61	8.08	78	8.01
C-R27-D	11/29/2011	913	16.22	8.18	96	9.00
C-R27-S	11/29/2011	909	16.20	8.27	91	9.56
C-TAZ-D	01/18/2011	957	12.46	7.66	244	10.80
C-TAZ-S	01/18/2011	950	12.18	7.64	242	11.09
C-TAZ-D	03/09/2011	966	12.60	8.50	85	---
C-TAZ-S	03/09/2011	919	12.10	8.46	87	---
C-TAZ-D	06/07/2011	926	18.60	7.50	67	8.87
C-TAZ-S	06/07/2011	919	18.41	8.06	54	8.81
C-TAZ-D	08/23/2011	988	21.90	7.35	170	8.68
C-TAZ-S	08/23/2011	961	21.93	7.96	124	8.06
C-TAZ-D	11/29/2011	915	15.58	7.29	140	9.30
C-TAZ-S	11/29/2011	915	15.42	7.94	119	9.60

Table D-6
Field Water Quality Measurements, January 2011 through December 2011
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NOTES:

µS/cm	microSiemens per centimeter.
°C	degree celsius.
ORP	oxidation reduction potential, results rounded off to whole point.
mV	millivolts.
mg/L	milligrams per liter.
(---)	data not collected, not available, or rejected.

[a] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

All field measurements were collected during groundwater and surface water sampling using a YSI multi-parameter water quality meter, or an In-Situ multi-parameter water quality meter.

Table D-7

Additional Water Quality Characterization, December 2010 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,

PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-9	15-Dec-10	---	---	770	---	120	---	160	38.0	---	410	---
	09-Dec-11	---	---	690	---	110	---	160	40.0	---	430	---
MW-10	07-Dec-10 FD	---	---	480	---	190	---	63.0	9.1	---	470	---
	07-Dec-10	---	---	510	---	190	---	66.0	8.9 J	---	480	---
	09-Dec-11	---	---	530	---	160	---	84.0	12.0	---	490	---
MW-12	16-Dec-10	---	---	1600	---	120	---	24.0	5.0	---	1200	---
	09-Dec-11	---	---	1700	---	110	---	38.0	6.7	---	1400	---
MW-13	07-Dec-10	---	---	480	---	140	---	100	12.0	---	270	---
	06-Dec-11	---	---	480	---	73.0	---	100	14.0	---	280	---
MW-14	07-Dec-10	---	---	370	---	81.0	---	69.0	9.1	---	200	---
	09-Dec-11	---	---	350	---	79.0	---	77.0	10.0	---	230	---
MW-15	14-Dec-10	---	---	420	---	79.0	---	110	25.0	---	170	---
	07-Dec-11	---	---	340 J	---	82.0	---	90.0	20.0	---	180	---
MW-16	10-Dec-10	---	---	190	---	99.0	---	26.0	4.7	---	180	0.31
	02-May-11	---	---	---	---	---	---	28.0	5.0	---	---	0.31
	07-Dec-11	---	---	170	---	91.0	---	28.0	4.9	---	200	0.34
MW-17	14-Dec-10	---	---	120	---	57.0	---	83.0	11.0	---	210	0.2
	03-May-11	---	---	---	---	---	---	89.0	12.0	---	---	0.23
	07-Dec-11	---	---	120	---	59.0	---	76.0	9.8	---	210	0.28
MW-18	14-Dec-10	---	---	300	---	85.0	---	79.0	11.0	---	150	---
	08-Dec-11	---	---	280	---	86.0	---	77.0	12.0	---	150	---
MW-19	15-Dec-10	---	---	550	---	90.0	---	120	17.0	---	300	---
	09-Dec-11	---	---	520	---	67.0	---	110	16.0	---	330	---
MW-20-70	16-Dec-10	-7.5	-62.3	680	0.51	79.0	1700	130	33.0	12.0	400	0.51

Table D-7

Additional Water Quality Characterization, December 2010 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
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Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-20-70	07-Dec-11	-7.9	-61.9	540	ND (0.5)	71.0	1400	100	25.0	---	380	---
MW-20-100 [a]	10-Feb-11	-7	-58.8	610	0.57	120	1800	180	28.0	14.0	400	0.81
	08-Dec-11	-6.7	-55.6	580	ND (0.5)	120	1700	170	25.0	---	390	---
MW-20-130 [a]	10-Feb-11	-6.6	-59.0	3100	1.0	80.0	5900	310	18.0	50.0	2100	2.2
	09-Dec-11	-6.6	-57.2	3300	ND (2.5)	74.0	6200	340	22.0	33.0	2400	2.4
MW-21	07-Dec-10	---	---	2500	---	490	---	240	66.0	---	2100	---
	06-Dec-11	---	---	2400	---	510	---	260	72.0	---	2500	---
MW-22	07-Dec-10	---	---	8400	---	620	---	860	200	---	5400	---
	16-Dec-11	---	---	11000	---	120	---	990	220	---	5400	---
MW-23-060	14-Dec-10	---	---	5200	---	43.0	---	760	11.0	---	2600	---
	13-Dec-11	-8.3	-71.0	5700	ND (2.5)	36.0	10000	830	28.0	57.0	2900	---
MW-23-080	14-Dec-10	---	---	5600	---	70.0	---	750	7.1	---	2900	---
	12-Dec-11 FD	-8.4	-71.8	5600	ND (2.5)	50.0	10000	780	1.8	52.0 J	3100	---
	12-Dec-11	-8.4	-71.8	5700	ND (2.5)	41.0	9900	760	1.5	51.0 J	3100 J	---
MW-24BR	08-Dec-10	---	---	4800	---	45.0	---	140	3.7	---	2900	---
	09-Dec-11 FD	---	---	4800	---	47.0	---	150	4.1	---	3100 J	---
	09-Dec-11	---	---	4600	---	48.0	---	130	3.6	---	3100	---
MW-25	07-Dec-10	-9.4	-68.9	220	ND (1.0)	180	780	74.0	15.0	10.0	180	0.43
	15-Dec-11 FD	-8.9	-66.7	280	ND (0.5)	170	890	91.0	19.0	8.0	220	0.5
	15-Dec-11	-9.2	-68.6	270	ND (1.0)	170	860	89.0	19.0	8.5	210	0.49
MW-26	15-Dec-10	---	---	900	---	100	---	180	40.0	---	560	---
	09-Dec-11	-8.1	-65.2	930	1.2	94.0	2300	210	47.0	15.0	690	0.89
MW-27-20	07-Dec-10	---	---	86.0	---	200	---	87.0	29.0	---	93.0	---
	05-Dec-11	---	---	83.0	---	150	---	83.0	25.0	---	83.0	---

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Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-27-60	07-Dec-10	---	---	100	---	250	---	11.0	2.1	---	250	---
	05-Dec-11	---	---	88.0	---	230	---	15.0	2.8	---	230	---
MW-27-85	07-Dec-10	---	---	4300	---	210	---	410	85.0	---	2700	---
	05-Dec-11	---	---	3700	---	200	---	330	61.0	---	2500	---
MW-28-25	08-Dec-10	---	---	90.0	---	190	---	110	31.0	---	95.0	---
	12-Dec-11	---	---	97.0	---	200	---	110	33.0	---	96.0	---
MW-28-90	08-Dec-10	---	---	2100	---	230	---	240	41.0	---	1300	---
	12-Dec-11	---	---	2100	---	220	---	250	45.0	---	1400	---
MW-29	14-Dec-10	---	---	240	---	410	---	160	76.0	---	580	---
	07-Dec-11	---	---	280	---	430	---	150	56.0	---	280	---
MW-30-30	07-Dec-10	---	---	7200	---	790	---	390	290	---	4800	---
	07-Dec-11	---	---	10000	---	910	---	340	290	---	6300	---
MW-30-50	07-Dec-10	-12	-97.5	140	---	200	---	15.0	4.2	---	260	---
	08-Dec-11	-12	-98.2	130	---	200	---	34.0	9.4	---	240	---
MW-31-60	15-Dec-10	-9	-69.3	840	ND (0.5)	78.0	2000	170	27.0	12.0	440	0.43
	06-Dec-11	-8.8	-67.9	790	ND (1.0)	76.0	1800	150	24.0	7.6	450	0.54
MW-31-135	15-Dec-10	-9.7	-77.3	3600	---	110	---	310	19.0	---	2000	---
	06-Dec-11	-10	-76.7	3700	---	35.0	---	340	20.0	---	2200	---
MW-32-20	08-Dec-10	---	---	17000	---	830	---	1600	720	---	11000	---
	08-Dec-11	---	---	17000	---	1000	---	1400	670	---	11000	---
MW-32-35	09-Dec-10	-10	-84.2	5500	ND (2.5)	590	11000	750	390 J	51.0 J	3000	1.7 J
	09-Dec-11	-11	-84.2	5000	ND (2.5)	640	8500	680	310	34.0	3100	1.7
MW-33-40	10-Dec-10	---	---	3500	---	500	---	69.0	82.0	---	2800	---
	12-Dec-11	---	---	2700	---	370	---	33.0	41.0	---	2100	---

Table D-7

Additional Water Quality Characterization, December 2010 through December 2011

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Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-33-90	10-Dec-10	-10	-79.2	3200	---	67.0	---	350	33.0	---	1800	---
	13-Dec-11	-10	-77.1	3100	---	67.0	---	360	33.0	---	2000	---
MW-33-150	10-Dec-10	-10	-80.8	5600	---	51.0	---	510	54.0	---	3300	---
	13-Dec-11	-10	-78.9	6000	---	50.0	---	510	54.0	---	3400	---
MW-33-210	10-Dec-10	-11	-84.2	6500	---	59.0	---	620	72.0	---	3700	---
	13-Dec-11	-11	-80.8	6600	---	58.0	---	600	72.0	---	3900	---
MW-34-55	07-Dec-10	-12	-98.8	87.0	ND (0.5)	140	590	81.0	19.0	5.1	100	0.1
	06-Dec-11	-12	-101	83.0	ND (0.5)	160	630	81.0	19.0	4.6	100	0.19
MW-34-80	07-Dec-10	-11	-87.3	2300	ND (1.0)	220	4600	240	47.0	24.0	1300	1.0
	06-Dec-11	-11	-88.1	1900	ND (1.0)	230	3900	220	43.0	16.0	1300	1.1
MW-34-100	08-Dec-10 FD	-10	-80.4	5700	ND (1.0)	89.0 J	9900	180	9.8	60.0 J	4000	2.5
	08-Dec-10	-9.8	-79.5	5800	ND (2.5)	140 J	10000	190	9.6	52.0 J	4100	2.6
	06-Dec-11 FD	-10	-79.5	5600	ND (2.5)	120	9400	160	7.4	43.0 J	3900	2.7
	06-Dec-11	-10	-79.2	5700	ND (2.5)	120	10000	170	7.6	43.0	4000	2.7
MW-35-60	14-Dec-10	-9.3	-73.8	2200	---	73.0	---	290	33.0	---	1100	---
	07-Dec-11	-9.4	-72.5	2100	---	72.0	---	290	31.0	---	1200	---
MW-35-135	14-Dec-10	-10	-80.3	3000	---	46.0	---	230	26.0	---	1700	---
	07-Dec-11	-11	-80.4	3000	---	49.0	---	250	25.0	---	1800	---
MW-36-20	07-Dec-10	---	---	1200	---	680	---	51.0	46.0	---	1600	---
	14-Dec-11	---	---	1500	---	930	---	89.0	92.0	---	2700	---
MW-36-40	07-Dec-10	---	---	330	---	170	---	43.0	15.0	---	340	---
	14-Dec-11	---	---	160	---	280	---	73.0	18.0	---	330	---
MW-36-50	08-Dec-10	---	---	260	---	200	---	100	18.0	---	240	---
	14-Dec-11	---	---	200	---	200	---	83.0	17.0	---	210	---

Table D-7

Additional Water Quality Characterization, December 2010 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-36-70	07-Dec-10	---	---	100	---	180	---	21.0	3.9	---	220	---
	14-Dec-11	---	---	100	---	190	---	33.0	5.9	---	220	---
MW-36-90	08-Dec-10 FD	-12	-98.4	120	---	200	---	8.5	0.94	---	280	---
	08-Dec-10	-12	-98.6	120	---	200	---	8.8	0.93	---	280	---
	14-Dec-11	-12	-97.8	110	---	200	---	8.2	0.77	---	300	---
MW-36-100	15-Dec-10	-11	-86.3	3000	---	270	---	340	38.0	---	1400	---
	06-Dec-11	-11	-84.8	2900	---	240	---	290	35.0	---	1900	---
MW-37D	15-Dec-10	---	---	5200	---	33.0	---	430	23.0	---	2700	---
	08-Dec-11	---	---	5100	---	31.0	---	480	25.0	---	3000	---
MW-37S	10-Dec-10	---	---	1500	---	56.0	---	150	19.0	---	860	---
	07-Dec-11	---	---	1400	---	54.0	---	160	18.0	---	830	---
MW-39-50	08-Dec-10	---	---	200	---	220	---	16.0	5.1	---	320	---
	15-Dec-11	---	---	170	---	220	---	16.0	5.5	---	310	---
MW-39-60	09-Dec-10	---	---	310	---	240	---	22.0	6.3	---	410	---
	15-Dec-11	---	---	220	---	240	---	20.0	5.7	---	350	---
MW-39-70	08-Dec-10	-12	-95.0	750	---	59.0	---	65.0	13.0	---	700	---
	15-Dec-11	-12	-94.1	660	---	290	---	57.0	12.0	---	750	---
MW-39-80	09-Dec-10	-11	-86.6	2700	---	300	---	300	57.0	---	1800	---
	15-Dec-11	-11	-89.2	2200	---	340	---	240	54.0	---	1700	---
MW-39-100	14-Dec-10	-9.1	-74.9	6000	---	260	---	760	89.0	---	3500	---
	14-Dec-11	-9.9	-78.2	5800	---	300	---	660	100	---	3600	---
MW-40D	15-Dec-10	---	---	5200	---	48.0	---	420	42.0	---	2800	---
	07-Dec-11	---	---	5300	---	---	---	410	40.0	---	3000	---

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Additional Water Quality Characterization, December 2010 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,

PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-41D	08-Dec-10	---	---	6900	---	39.0	---	470	34.0	---	4500	---
	05-Dec-11	---	---	7300	---	79.0	---	450	30.0	---	4400	---
MW-41M	08-Dec-10	---	---	5000	---	35.0	---	450	34.0	---	2800	---
	05-Dec-11	---	---	5000	---	36.0	---	430	31.0	---	2800	---
MW-41S	08-Dec-10 FD	---	---	1500	---	56.0	---	100	13.0	---	870	---
	08-Dec-10	---	---	1400	---	58.0	---	100	13.0	---	860	---
	07-Dec-11 FD	---	---	1400	---	57.0	---	110	13.0	---	860	---
	07-Dec-11	---	---	1400	---	56.0	---	110	13.0	---	890	---
MW-42-30	06-Dec-10	-12	-95.1	---	---	---	---	---	---	---	---	---
	06-Dec-11	-12	-96.1	---	---	---	---	---	---	---	---	---
MW-42-55	06-Dec-10	-11	-87.2	2400	---	270	---	220	58.0	---	1600	---
	06-Dec-11	-12	-92.5	1300	---	370	---	100	29.0	---	1100	---
MW-42-65	06-Dec-10	-11	-86.8	3100	---	270	---	310	75.0	---	2000	---
	06-Dec-11	-12	-90.6	2800	---	260	---	250	60.0	---	2000	---
MW-43-25	09-Dec-10	---	---	100	---	210	---	93.0	43.0	---	110	---
	09-Dec-11	---	---	92.0	---	210	---	84.0	41.0	---	110	---
MW-43-75	09-Dec-10	---	---	2600	---	550	---	320	31.0	---	2400	---
	09-Dec-11	---	---	2900	---	58.0	---	270	27.0	---	2600	---
MW-43-90	09-Dec-10	---	---	5300	---	410	---	660	250	---	3100	---
	09-Dec-11	---	---	5200	---	420	---	670	240	---	3500	---
MW-44-70	09-Dec-10	-12	-96.9	510	---	290	---	50.0	8.0	---	520	---
	08-Dec-11	-12	-97.2	370	---	300	---	48.0	7.5	---	490	---
MW-44-115	09-Dec-10 FD	-10	-80.3	3500	---	74.0	---	130	7.0	---	2400	---
	09-Dec-10	-10	-80.1	3500	---	72.0	---	130	6.8	---	2300	---

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Additional Water Quality Characterization, December 2010 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-44-115	08-Dec-11 FD	-10	-79.0	3300	---	74.0	---	130	7.3	---	2500	---
	08-Dec-11	-10	-80.0	3300	---	80.0	---	130	6.9	---	2400	---
MW-44-125	09-Dec-10 FD	-10	-80.9	3800	---	83.0	---	120	7.2	---	2500	---
	09-Dec-10	-10	-81.5	3400	---	99.0	---	120	7.1	---	2500	---
	08-Dec-11 FD	-10	-79.1	2500 J	---	130 J	---	120	6.9	---	2900	---
	08-Dec-11	-10	-79.5	4000 J	---	100 J	---	120	6.8	---	2700	---
MW-45-095a	14-Dec-10	---	---	2600	---	53.0	---	160	18.0	---	1700	---
	14-Dec-11 FD	---	---	2600	---	160	---	160	21.0	---	1900	---
	14-Dec-11	---	---	2600	---	160	---	160	21.0	---	1900	---
MW-46-175	08-Dec-10 FD	-9.6	-79.3	5700	---	41.0	---	100	2.5	---	4000	---
	08-Dec-10	-10	-80.5	5800	---	41.0	---	100	2.4	---	3900	---
	13-Dec-11	-10	-79.5	6100	---	48.0	---	95.0	2.6	---	4100	---
MW-46-205	08-Dec-10	---	---	6800	---	44.0	---	120	2.9	---	4700	---
	13-Dec-11	---	---	7700	---	47.0	---	110	2.9	---	4700	---
MW-47-55	13-Dec-10 FD	-9.2	-71.9	1300	---	65.0	---	190	26.0	---	650	---
	13-Dec-10	-9.1	-72.0	1300	---	65.0	---	190	27.0	---	680	---
	08-Dec-11	-9.2	-71.0	1300	---	70.0	---	200	28.0	---	770	---
MW-47-115	13-Dec-10	-10	-81.1	4400	---	48.0	---	390	31.0	---	2500	---
	08-Dec-11	-10	-79.5	4500	---	50.0	---	410	34.0	---	2800	---
MW-48	08-Dec-10	---	---	6200	---	30.0	---	390	33.0	---	3700	---
	07-Dec-11	---	---	6300	---	29.0	---	410	37.0	---	4000	---
MW-49-135	13-Dec-10	-10	-82.1	4200	---	60.0	---	340	31.0	---	2500	---
	07-Dec-11	-10	-79.3	4500	---	80.0	---	350	30.0	---	2500	---
MW-49-275	13-Dec-10	-10	-81.4	7800	---	33.0	---	230	6.4	---	5200	---

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Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-49-275	07-Dec-11	-11	-82.1	9000	---	40.0	---	230	6.2	---	4700	---
MW-49-365	13-Dec-10	-10	-81.9	13000	---	39.0	---	360	9.2	---	7700	---
	07-Dec-11	-11	-81.2	15000	---	33.0	---	390	9.5	---	8300	---
MW-50-095	10-Dec-10	---	---	1500	---	58.0	---	120	12.0	---	890	---
	06-Dec-11	---	---	1400	---	56.0	---	120	11.0	---	930	---
MW-50-200 [a]	10-Feb-11 FD	---	---	7000	---	39.0	---	570	31.0	73.0	4000	---
	10-Feb-11	---	---	6900	---	39.0	---	590	32.0	75.0	4100	---
	08-Dec-11	---	---	7100	---	40.0	---	600	33.0	---	4500	---
MW-51	16-Dec-10	---	---	3100	---	100	---	260	17.0	---	2100	---
	07-Dec-11	---	---	3100	---	100	---	250	15.0	---	2000	---
MW-52D	09-Dec-10	---	---	7100	---	43.0	---	330	20.0	---	4800	---
	15-Dec-11	---	---	7400	---	34.0	---	290	20.0	---	5000	---
MW-52M	09-Dec-10	---	---	5700	---	78.0	---	420	50.0	---	3200	---
	15-Dec-11	---	---	5600	---	80.0	---	370	52.0	---	3200	---
MW-52S	09-Dec-10	---	---	3300	---	500	---	360	75.0	---	1900	---
	15-Dec-11	---	---	2600	---	930	---	360	180	---	1800	---
MW-53D	09-Dec-10	---	---	8700	---	33.0	---	310	13.0	---	5500	---
	16-Dec-11 FD	---	---	9600	---	39.0	---	290	14.0	---	5700	---
	16-Dec-11	---	---	9500	---	46.0	---	300	14.0	---	4900	---
MW-53M	10-Dec-10	---	---	7100	---	41.0	---	430	31.0	---	4000	---
	16-Dec-11	---	---	7100	---	41.0	---	410	33.0	---	4300	---
MW-54-85	14-Dec-10	---	---	3170	---	201	---	166	101	---	2010	---
	06-Dec-11	---	---	3630	---	172	---	182	97.1	---	1890	---
MW-54-140	14-Dec-10	---	---	4090	---	102	---	134	8.8	---	2790	---

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Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-54-140	06-Dec-11	---	---	4670	---	102	---	145	10.9	---	2560	---
MW-54-195	14-Dec-10	---	---	6220	---	59.3	---	111	4.0	---	4340	---
	06-Dec-11	---	---	7040	---	60.7	---	126	4.5	---	4310	---
MW-55-45	09-Dec-10	---	---	321	---	202	---	37.3	9.4	---	239	---
	06-Dec-11	---	---	364	---	195	---	41.5	9.3	---	245	---
MW-55-120	09-Dec-10 FD	---	---	2760	---	60.7	---	111	2.6	---	1820	---
	09-Dec-10	---	---	2770	---	60.8	---	109	2.6	---	1800	---
	06-Dec-11 FD	---	---	3120	---	58.5	---	116	2.7	---	1760	---
	06-Dec-11	---	---	3150	---	59.3	---	115	2.6	---	1740	---
MW-56D	14-Dec-10	---	---	6980	---	115	---	353	62.2	---	4500	---
	13-Dec-11	---	---	7740	---	116	---	376	75.4	---	4030	---
MW-56M	14-Dec-10	---	---	4240	---	514	---	334	83.3	---	2910	---
	13-Dec-11	---	---	4730	---	502	---	371	102	---	2700	---
MW-56S	14-Dec-10	---	---	1460	---	526	---	63.7	21.0	---	1290	---
	13-Dec-11	---	---	1570	---	494	---	70.2	24.2	---	1140	---
MW-57-070	15-Dec-10 FD	---	---	520	---	100	1600	260	18.0	11.0	95.0	0.13
	15-Dec-10	---	---	520	---	100	1600	260	18.0	11.0	92.0	0.13
	15-Dec-11	-8.5	-62.7	700	ND (0.5)	59.0	2200	370	26.0	10.0	100	---
MW-57-185	09-Dec-10	---	---	6400	---	22.0	11000	350	3.1	66.0	3700	2.5
	13-Dec-11	-10	-75.6	6400	ND (2.5)	110	11000	330	3.6	56.0	3800	---
MW-59-100	16-Dec-10	---	---	2800	---	330	6700	760	24.0	44.0	1300	1.4
	15-Dec-11 FD	-7.6	-60.0	2700	ND (2.5)	110 J	5800	690	23.0	31.0	1400	---
	15-Dec-11	-7.9	-59.8	2800	ND (2.5)	56.0 J	5800	690	23.0	33.0	1300	---
MW-60-125	16-Dec-10 FD	-8.9	-72.4	2700	---	52.0	5800	550	29.0	40.0 J	1300	0.82

Table D-7

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PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
MW-60-125	16-Dec-10	-9.3	-71.8	2700	---	51.0	6100	540	29.0	43.0 J	1300	0.81
	14-Dec-11	-9	-70.2	2600	ND (1.0)	80.0	5200	480	25.0	26.0	1300	---
MW-61-110	15-Dec-10	---	---	5400	---	43.0	9200	670	20.0	58.0	2600	1.7
	14-Dec-11	-9.4	-72.2	5300	ND (2.5)	27.0	8700	690 J	22.0	53.0	4200	---
MW-62-065	15-Dec-10	-8.7	-68.7	1700	---	110	3400	220	24.0	28.0	980	0.68
	13-Dec-11	-8.8	-66.6	1800	ND (1.0)	100	2900	230	27.0	25.0	1100	---
MW-62-110	16-Dec-10	-8.1	-65.8	2500	---	77.0	4800	170	8.4	37.0	1600	1.2
	14-Dec-11	-8.1	-63.8	2500	ND (1.0)	45.0	4900	180	8.7	24.0	1700	---
MW-62-190	16-Dec-10	-10	-78.4	6000	---	41.0	10000	370	14.0	69.0	3300	2.3
	14-Dec-11	-10	-75.8	5900	ND (2.5)	46.0	9000	310	13.0	42.0	3500	---
MW-63-065	06-Dec-10	---	---	2000	---	190	4400	230	23.0	27.0	1300	0.73
	12-Dec-11	-13	-97.6	1800	ND (1.0)	210	4000	180	20.0	17.0	1100	---
OW-3D	08-Dec-10	---	---	2600	---	35.0	---	170	13.0	---	1600	---
	06-Dec-11	---	---	2600	---	39.0	---	170	13.0	---	1600	---
OW-3M	08-Dec-10	---	---	1700	---	50.0	---	89.0	7.4	---	1000	---
	05-Dec-11	---	---	1500	---	51.0	---	89.0	7.3	---	1100	---
OW-3S	08-Dec-10	---	---	380	---	65.0	---	91.0	13.0	---	190	---
	05-Dec-11	---	---	340	---	70.0	---	78.0	11.0	---	180	---
PE-1	07-Dec-10	---	---	---	---	---	3160	---	---	---	---	---
	04-Jan-11	---	---	---	---	---	3110	---	---	---	---	---
	01-Feb-11	---	---	---	---	---	3120	---	---	---	---	---
	01-Mar-11	---	---	---	---	---	3200	---	---	---	---	---
	05-Apr-11	---	---	---	---	---	2920	---	---	---	---	---
	02-May-11	---	---	---	---	---	3100	---	---	---	---	---

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PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
PE-1	07-Jun-11	---	---	---	---	---	3190	---	---	---	---	---
	05-Jul-11	---	---	---	---	---	3120	---	---	---	---	---
	02-Aug-11	---	---	---	---	---	3060	---	---	---	---	---
	06-Sep-11	---	---	---	---	---	2860	---	---	---	---	---
	04-Oct-11	---	---	---	---	---	2900	---	---	---	---	---
	01-Nov-11	---	---	---	---	---	2790	---	---	---	---	---
	06-Dec-11	---	---	---	---	---	2930	---	---	---	---	---
PGE-7BR	09-Dec-10	---	---	6600	---	10.0	---	400	12.0	---	3800	---
	07-Dec-11	---	---	6600	---	10.0	---	390	12.0	---	3800	---
PGE-8 [a]	10-Feb-11	---	---	6100	---	53.0	---	870	20.0	96.0 J	3800	---
	08-Dec-11	---	---	6400	---	50.0	---	870	20.0	---	3900	---
Park Moabi-3	10-Dec-10	---	---	270	---	89.0	---	78.0	14.0	---	130	---
	12-Dec-11	---	---	340	---	89.0	---	90.0	17.0	---	160	---
Park Moabi-4	10-Dec-10	---	---	480	---	61.0	---	93.0	15.0	---	230	---
	12-Dec-11	---	---	490	---	58.0	---	91.0	15.0	---	260	---
TW-1	09-Dec-10	---	---	1600	---	110	---	300	21.0	---	1200	---
	15-Dec-11	---	---	1700	---	95.0	---	300	23.0	---	1300	---
TW-2D	15-Dec-10	---	---	2600	---	160	---	250	34.0	---	1500	---
	12-Dec-11	---	---	2800	---	160	---	260	38.0	---	1700	---
TW-2S	15-Dec-10	---	---	560	---	69.0	---	96.0	20.0	---	350	---
	12-Dec-11 FD	---	---	560	---	81.0 J	---	88.0	21.0	---	360	---
	12-Dec-11	---	---	570	---	160 J	---	88.0	21.0	---	360	---
TW-3D	07-Dec-10	---	---	---	---	---	5530	---	---	---	---	---
	04-Jan-11	---	---	---	---	---	5550	---	---	---	---	---

Table D-7
Additional Water Quality Characterization, December 2010 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Oxygen-18	Deuterium	Chloride	Bromide	Alkalinity (total)	Total Dissolved Solids	Dissolved Metals				
								Calcium	Magnesium	Potassium	Sodium	Boron
TW-3D	01-Feb-11	---	---	---	---	---	4700	---	---	---	---	---
	01-Mar-11	---	---	---	---	---	5380	---	---	---	---	---
	05-Apr-11	---	---	---	---	---	5120	---	---	---	---	---
	02-May-11	---	---	---	---	---	5080	---	---	---	---	---
	07-Jun-11	---	---	---	---	---	5120	---	---	---	---	---
	05-Jul-11	---	---	---	---	---	5020	---	---	---	---	---
	02-Aug-11	---	---	---	---	---	5120	---	---	---	---	---
	06-Sep-11	---	---	---	---	---	5140	---	---	---	---	---
	04-Oct-11	---	---	---	---	---	5040	---	---	---	---	---
	01-Nov-11	---	---	---	---	---	4880	---	---	---	---	---
	06-Dec-11	---	---	---	---	---	4650	---	---	---	---	---
TW-4	13-Dec-10	---	---	6600	---	52.0	---	200	28.0	---	4200	---
	08-Dec-11	---	---	7100	---	50.0	---	420	41.0	---	4900	---
TW-5	10-Dec-10	---	---	4600	---	34.0	---	380	24.0	---	2400	---
	06-Dec-11	---	---	5200	---	36.0	---	420	24.0	---	2900	---

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.
--- = data not collected or available.

[a] Fourth Quarter 2010 data collected February 2011 due to field logistical issues.

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.

Appendix E
Hydraulic Data for Interim Measures Reporting Period

Table E-1

Average Monthly and Quarterly Groundwater Elevations, Fourth Quarter 2011

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	November 2011	December 2011	Quarter Average	Days in Quarter Average
I-3	River Station	453.61	452.49	453.04	61
MW-20-070	Shallow Zone	453.05	452.32	452.68	61
MW-20-100	Middle Zone	452.54	451.77	452.15	61
MW-20-130	Deep Zone	452.11	451.32	451.71	61
MW-22	Shallow Zone	454.20	453.59	453.89	61
MW-25	Shallow Zone	454.94	454.32	454.62	61
MW-26	Shallow Zone	454.59	453.97	454.27	61
MW-27-020	Shallow Zone	453.58	452.59	453.08	61
MW-27-060	Middle Zone	453.48	452.49	452.97	61
MW-27-085	Deep Zone	453.59	452.65	453.11	61
MW-28-025	Shallow Zone	453.56	452.56	453.05	61
MW-28-090	Deep Zone	453.66	452.64	453.14	61
MW-30-050	Middle Zone	453.40	452.50	452.94	61
MW-31-060	Shallow Zone	453.86	453.09	453.47	61
MW-31-135	Deep Zone	453.19	INC	452.75	53
MW-32-035	Shallow Zone	453.59	452.71	453.14	61
MW-33-040	Shallow Zone	453.75	452.91	453.32	61
MW-33-090	Middle Zone	454.02	453.12	453.56	61
MW-33-150	Deep Zone	454.02	453.12	453.56	61
MW-34-055	Middle Zone	453.57	452.56	453.06	61
MW-34-080	Deep Zone	453.62	452.60	453.10	61
MW-34-100	Deep Zone	453.43	452.47	452.94	61
MW-35-060	Shallow Zone	454.17	453.27	453.72	61
MW-35-135	Deep Zone	454.76	454.00	454.37	61
MW-36-020	Shallow Zone	453.61	452.71	453.16	61
MW-36-040	Shallow Zone	453.48	452.54	453.00	61
MW-36-050	Middle Zone	453.42	452.47	452.94	61
MW-36-070	Middle Zone	453.36	452.43	452.89	61
MW-36-090	Deep Zone	452.68	451.79	452.23	61
MW-36-100	Deep Zone	453.02	452.05	452.52	61
MW-39-040	Shallow Zone	453.39	452.48	452.93	61
MW-39-050	Middle Zone	453.24	452.32	452.77	61
MW-39-060	Middle Zone	453.10	452.21	452.65	61
MW-39-070	Middle Zone	452.76	451.92	452.33	61
MW-39-080	Deep Zone	452.96	452.13	452.54	61
MW-39-100	Deep Zone	453.42	452.34	452.87	61
MW-42-030	Shallow Zone	453.38	452.46	452.91	61
MW-42-065	Middle Zone	453.61	452.71	453.15	61
MW-43-025	Shallow Zone	453.54	452.54	453.03	61
MW-43-090	Deep Zone	453.84	452.84	453.34	61
MW-44-070	Middle Zone	453.50	452.55	453.02	61
MW-44-115	Deep Zone	453.29	452.37	452.82	61
MW-44-125	Deep Zone	453.72	452.71	453.21	61
MW-45-095a	Deep Zone	452.66	451.68	452.16	61
MW-46-175	Deep Zone	453.78	453.00	453.39	61
MW-47-055	Shallow Zone	454.29	453.42	453.85	61
MW-47-115	Deep Zone	454.32	453.50	453.91	61
MW-49-135	Deep Zone	454.21	453.37	453.78	61

Table E-1

Average Monthly and Quarterly Groundwater Elevations, Fourth Quarter 2011

Fourth Quarter 2011 and Annual Interim Measure Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	November 2011	December 2011	Quarter Average	Days in Quarter Average
MW-50-095	Middle Zone	454.09	453.36	453.72	61
MW-51	Middle Zone	454.55	453.94	454.24	61
MW-54-085	Deep Zone	453.93	452.95	453.43	61
MW-54-140	Deep Zone	454.30	453.52	453.91	61
MW-54-195	Deep Zone	454.65	453.90	454.27	61
MW-55-045	Middle Zone	455.30	454.90	455.09	61
MW-55-120	Deep Zone	455.61	455.22	455.41	61
PT2D	Deep Zone	452.47	451.61	452.03	61
PT5D	Deep Zone	452.79	451.91	452.34	61
PT6D	Deep Zone	INC	452.18	INC	31
RRB	River Station	INC	INC	INC	22

NOTES:

Averages reported in feet above mean sea level (ft AMSL).

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.

Table E-2
Average, Minimum, and Maximum Groundwater Elevations, January 2011 through December 2011
Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Minimum[a] (ft AMSL)	Maximum[a] (ft AMSL)	Average[a] (ft AMSL)	Number of Days Reporting Data
I-3	River Station	451.51	457.44	455.14	365
MW-20-070	Shallow Zone	451.78	456.31	454.07	365
MW-20-100	Middle Zone	451.17	456.39	453.58	365
MW-20-130	Deep Zone	450.68	456.67	453.21	365
MW-22	Shallow Zone	453.12	456.20	455.02	365
MW-25	Shallow Zone	453.89	456.70	455.60	365
MW-26	Shallow Zone	453.53	659.21	456.21	290
MW-27-020	Shallow Zone	451.64	457.26	454.92	318
MW-27-060	Middle Zone	451.57	457.10	454.93	365
MW-27-085	Deep Zone	451.75	457.22	455.03	365
MW-28-025	Shallow Zone	451.63	457.18	455.04	365
MW-28-090	Deep Zone	451.76	457.20	455.09	365
MW-30-050	Middle Zone	451.69	456.89	454.74	365
MW-31-060	Shallow Zone	452.49	456.51	454.89	365
MW-31-135	Deep Zone	451.70	456.70	454.28	358
MW-32-035	Shallow Zone	451.94	456.79	454.88	365
MW-33-040	Shallow Zone	452.20	456.70	455.03	360
MW-33-090	Middle Zone	452.38	457.12	455.24	360
MW-33-150	Deep Zone	452.43	456.92	455.18	365
MW-34-055	Middle Zone	451.65	457.20	455.04	365
MW-34-080	Deep Zone	451.73	457.38	455.09	325
MW-34-100	Deep Zone	451.60	457.29	454.87	365
MW-35-060	Shallow Zone	452.47	457.38	455.67	319
MW-35-135	Deep Zone	453.38	457.25	455.83	365
MW-36-020	Shallow Zone	451.89	456.93	454.94	365
MW-36-040	Shallow Zone	451.70	456.94	454.85	365
MW-36-050	Middle Zone	451.63	456.96	454.83	365
MW-36-070	Middle Zone	451.61	456.91	454.76	365
MW-36-090	Deep Zone	451.01	456.83	454.00	365
MW-36-100	Deep Zone	451.29	457.20	454.32	365
MW-39-040	Shallow Zone	451.68	456.89	454.70	365
MW-39-050	Middle Zone	451.54	456.79	454.53	365
MW-39-060	Middle Zone	451.44	456.74	454.36	365
MW-39-070	Middle Zone	451.20	456.70	453.98	327
MW-39-080	Deep Zone	451.43	456.89	454.17	365
MW-39-100	Deep Zone	451.50	457.32	454.73	335
MW-42-030	Shallow Zone	451.66	456.59	454.64	365
MW-42-065	Middle Zone	451.92	456.88	454.91	365
MW-43-025	Shallow Zone	451.59	457.23	455.03	365
MW-43-090	Deep Zone	451.92	457.64	455.38	365
MW-44-070	Middle Zone	451.68	457.06	454.93	365
MW-44-115	Deep Zone	451.58	456.96	454.60	365
MW-44-125	Deep Zone	451.95	457.48	455.05	365
MW-45-095a	Deep Zone	450.73	458.63	454.01	365
MW-46-175	Deep Zone	452.32	457.07	455.04	365
MW-47-055	Shallow Zone	452.74	456.94	455.42	365
MW-47-115	Deep Zone	452.88	456.86	455.40	365
MW-49-135	Deep Zone	452.64	457.17	455.45	365

Table E-2

Average, Minimum, and Maximum Groundwater Elevations, January 2011 through December 2011

Fourth Quarter 2011 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,
PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Minimum[a] (ft AMSL)	Maximum[a] (ft AMSL)	Average[a] (ft AMSL)	Number of Days Reporting Data
MW-50-095	Middle Zone	452.80	456.49	455.09	365
MW-51	Middle Zone	453.51	456.39	455.25	365
MW-54-085	Deep Zone	452.07	457.19	455.16	330
MW-54-140	Deep Zone	452.80	457.39	455.55	365
MW-54-195	Deep Zone	453.23	457.51	455.83	365
MW-55-045	Middle Zone	454.54	457.29	456.02	325
MW-55-120	Deep Zone	454.88	457.35	456.20	325
MW-59-100	Shallow Zone	455.60	455.96	INC	20
PT2D	Deep Zone	450.87	456.73	453.71	365
PT5D	Deep Zone	451.15	456.75	454.04	365
PT6D	Deep Zone	451.43	457.08	454.43	331
RRB	River Station	453.34	457.82	455.87	283

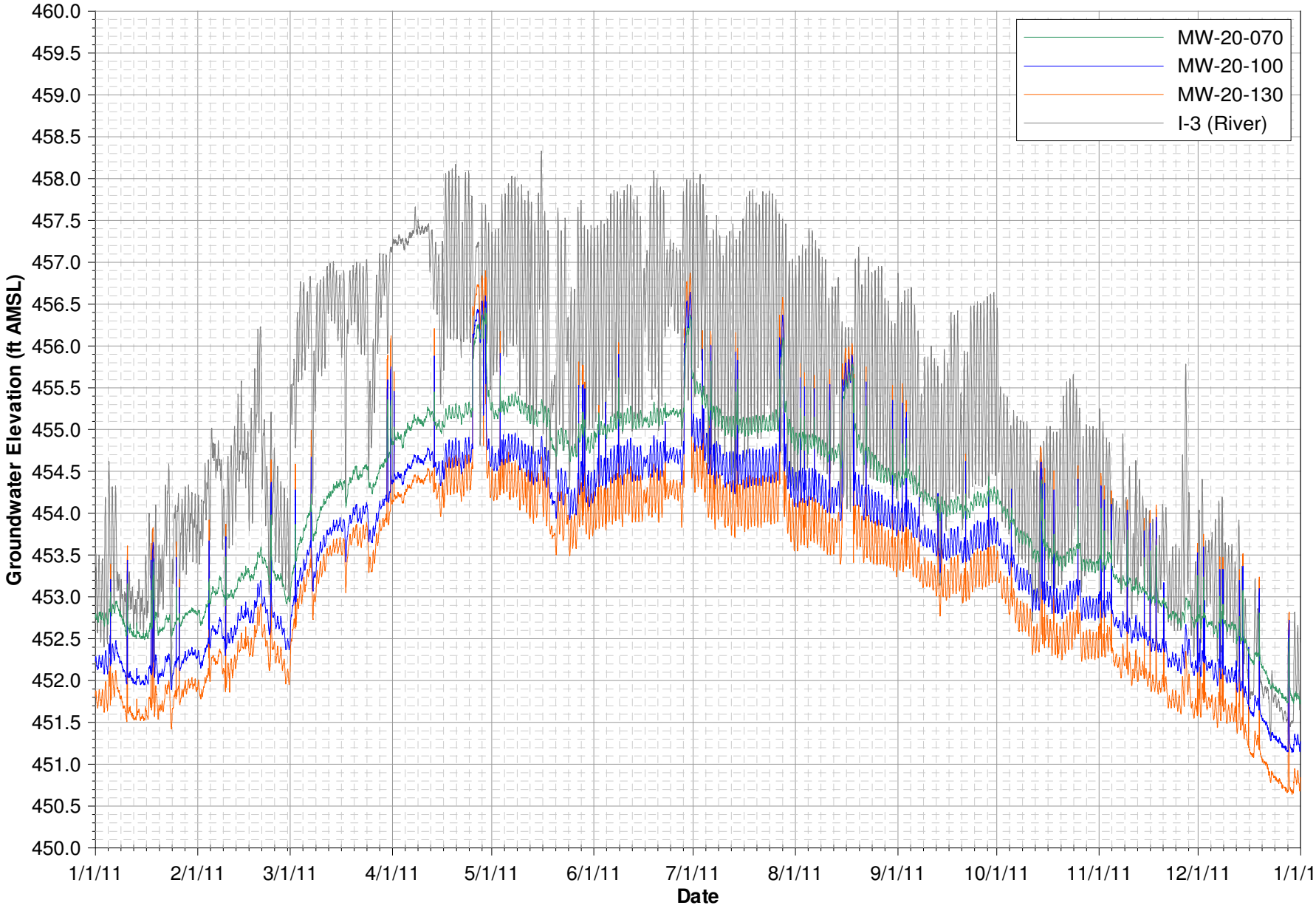
NOTES:

[a] minimium, maximum and average of daily groundwater elevation averages.

Averages include data collected from 1/1/2011 through 12/31/2011.

ft AMSL = feet above mean sea level.

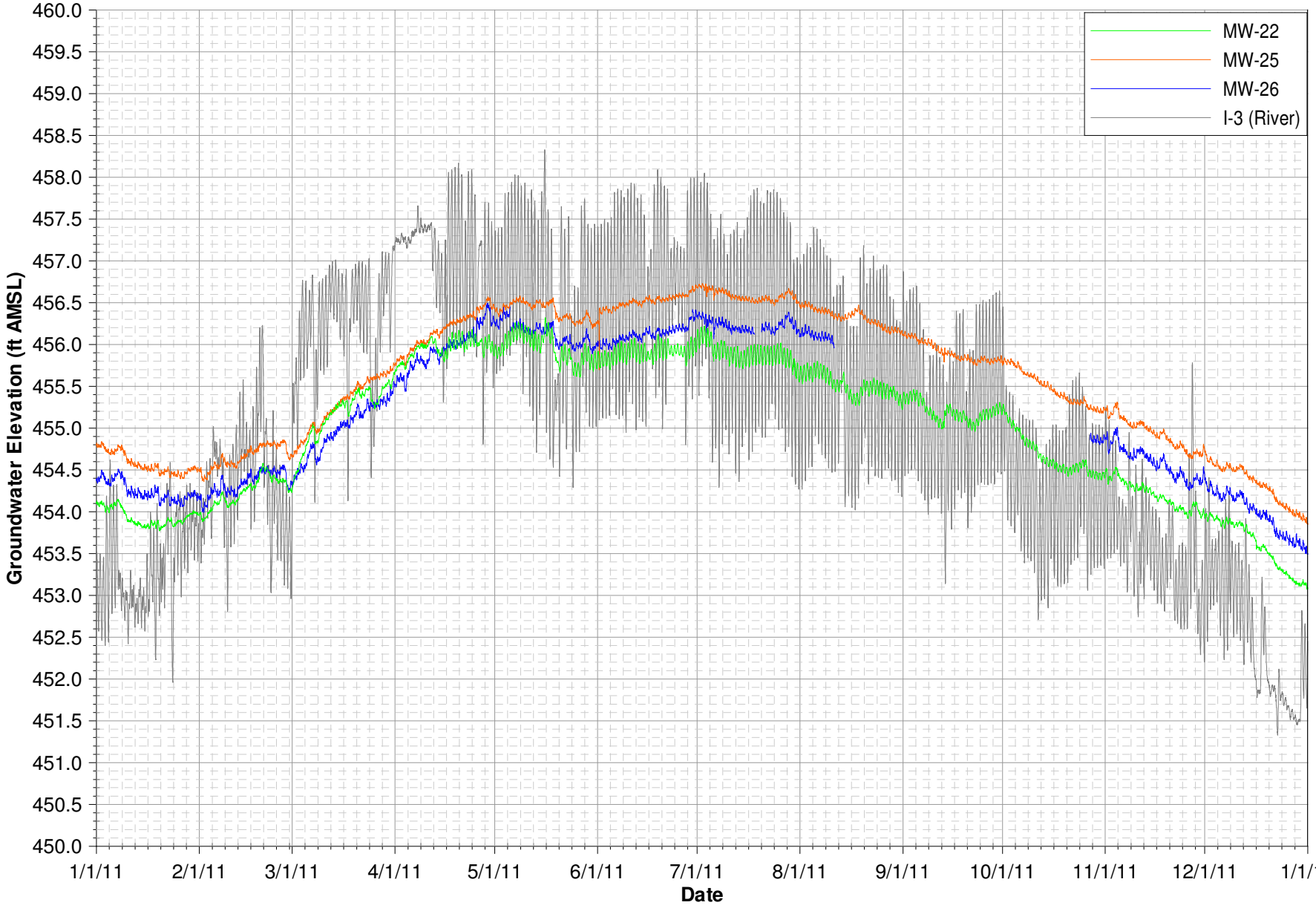
INC = Data incomplete, less than 75% of data available over reporting period due to rejection or field equipment malfunction.



Notes:
Data subject to review.

FIGURE E-1A
MW-20 CLUSTER HYDROGRAPHS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



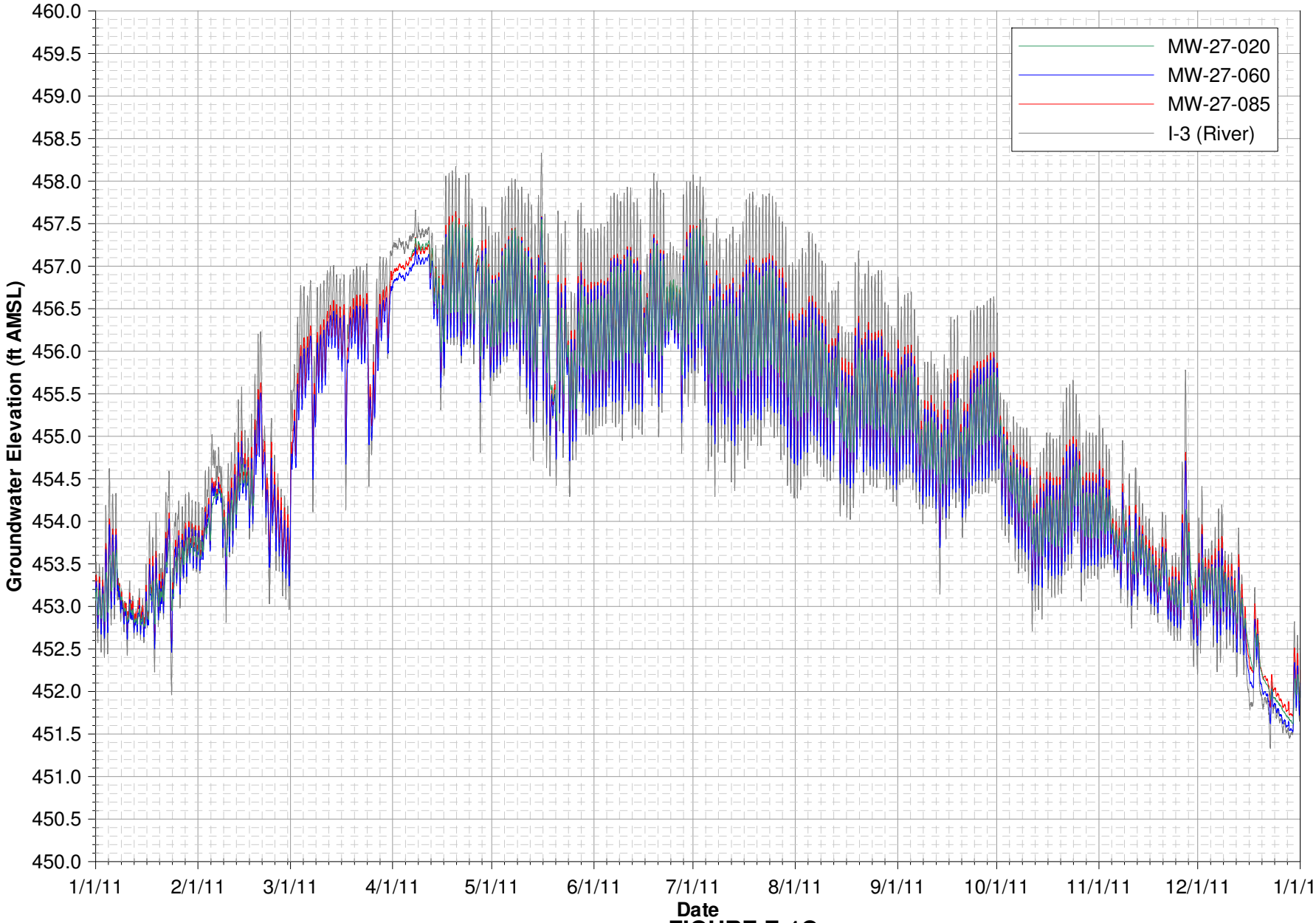
Notes:
Data subject to review.
MW-26 data unavailable from August 11, 2011until October 26, 2011 due to transducer failure.

FIGURE E-1B

MW-22, MW-25, AND MW-26 HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL 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-27-020 data unavailable from February 18, 2011 until April 6, 2011 due to transducer failure.

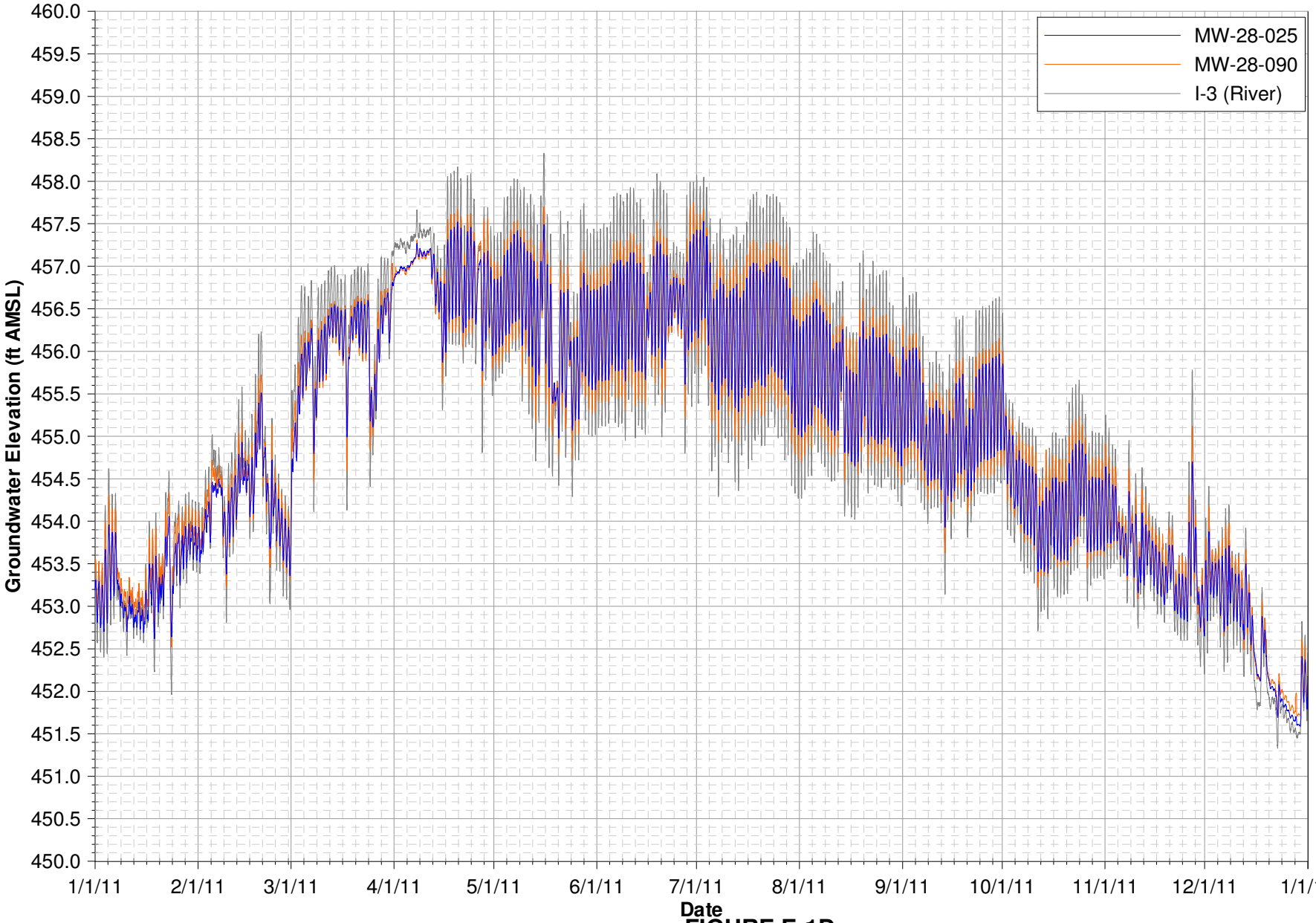
FIGURE E-1C

MW-27 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL 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_2011-2013_Combined_Monitoring\Reporting\GMP_PMP\2011_Q4\Draft_2011_Q4_GMP_PMP\Appendices\E_Hydrographs



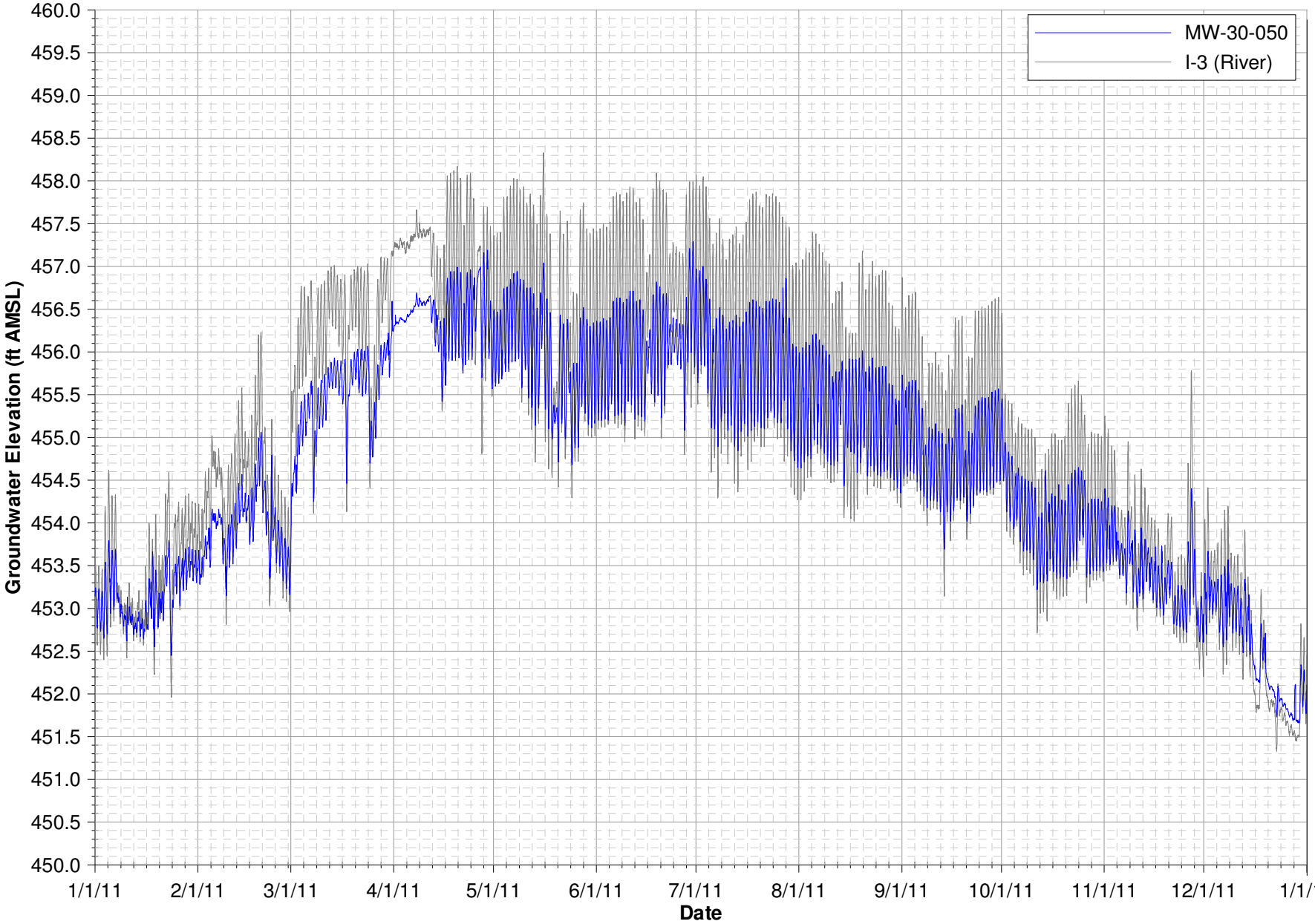
Notes:
Data subject to review.

FIGURE E-1D

MW-28 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

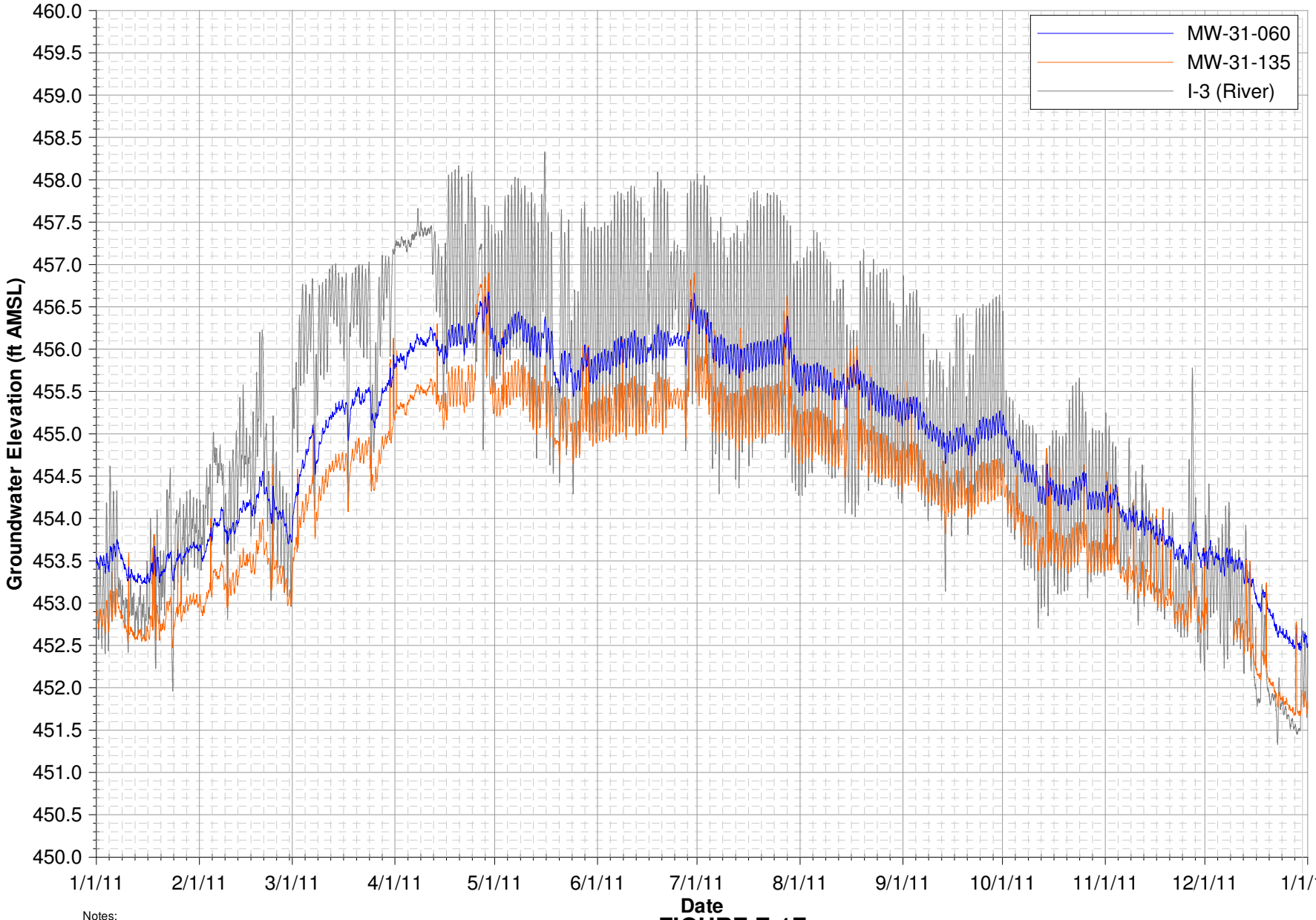
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1E
MW-30-50 HYDROGRAPH
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

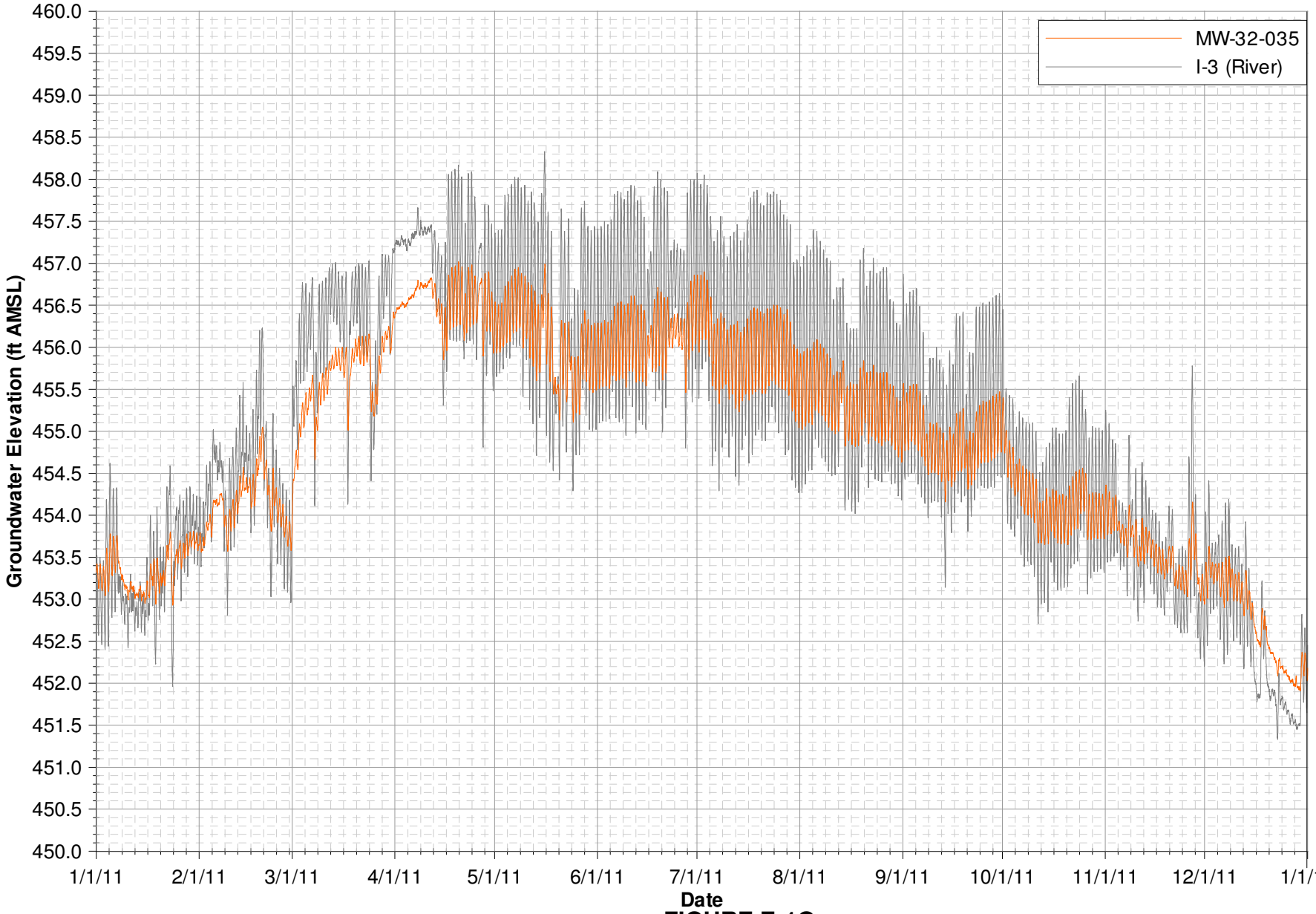


Notes:
Data subject to review.
MW-31-135 data unavailable from December 1, 2011until December 9, 2011 due to transducer failure.

FIGURE E-1F
MW-31 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



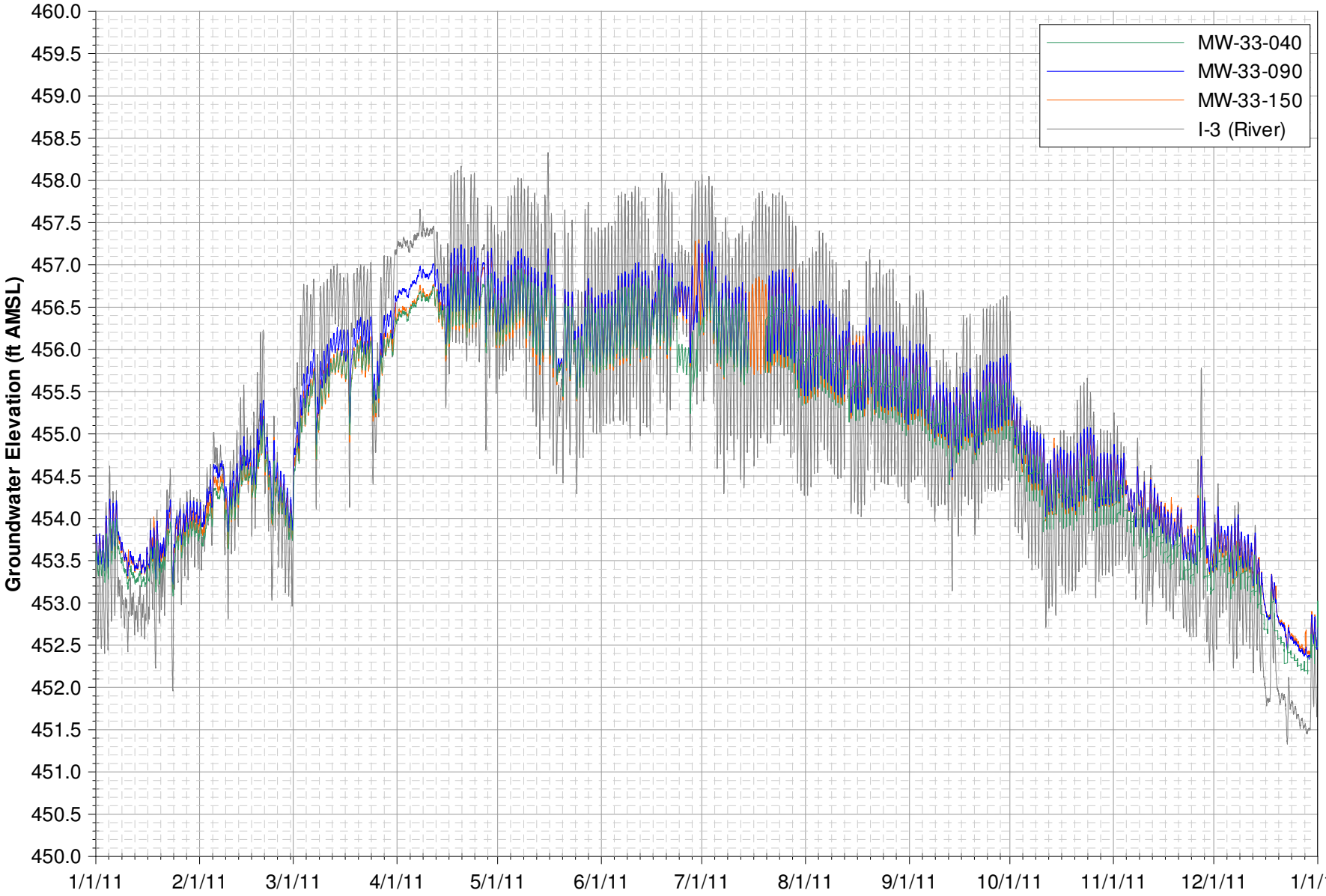
Notes:
Data subject to review.

FIGURE E-1G

MW-32 HYDROGRAPH

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



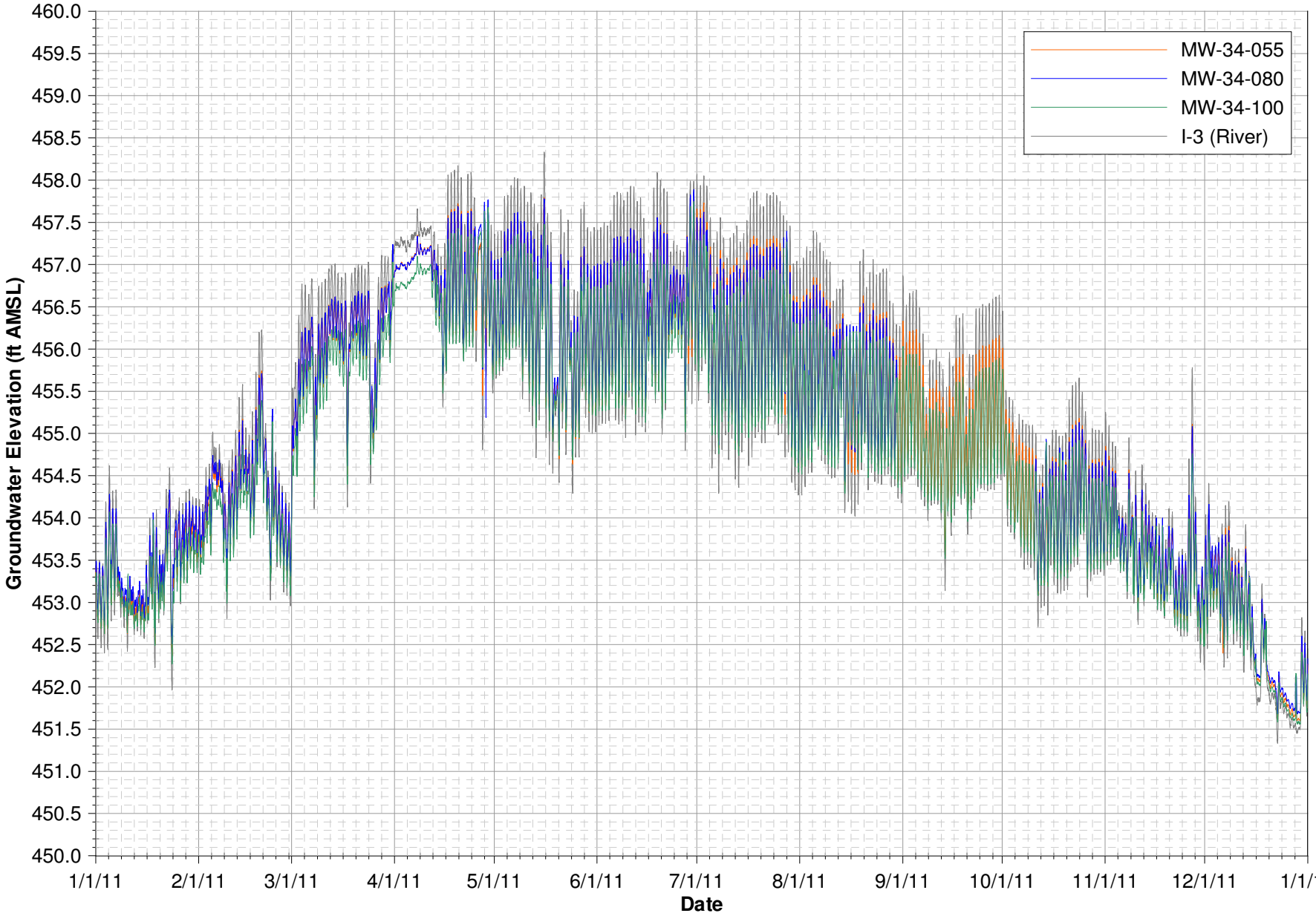
Notes:
Data subject to review.
MW-33-040 data unavailable from July 14, 2011until July 20, 2011 due to transducer failure.
MW-33-090 data unavailable from July 14, 2011until July 20, 2011 due to transducer failure.

FIGURE E-1H

MW-33 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



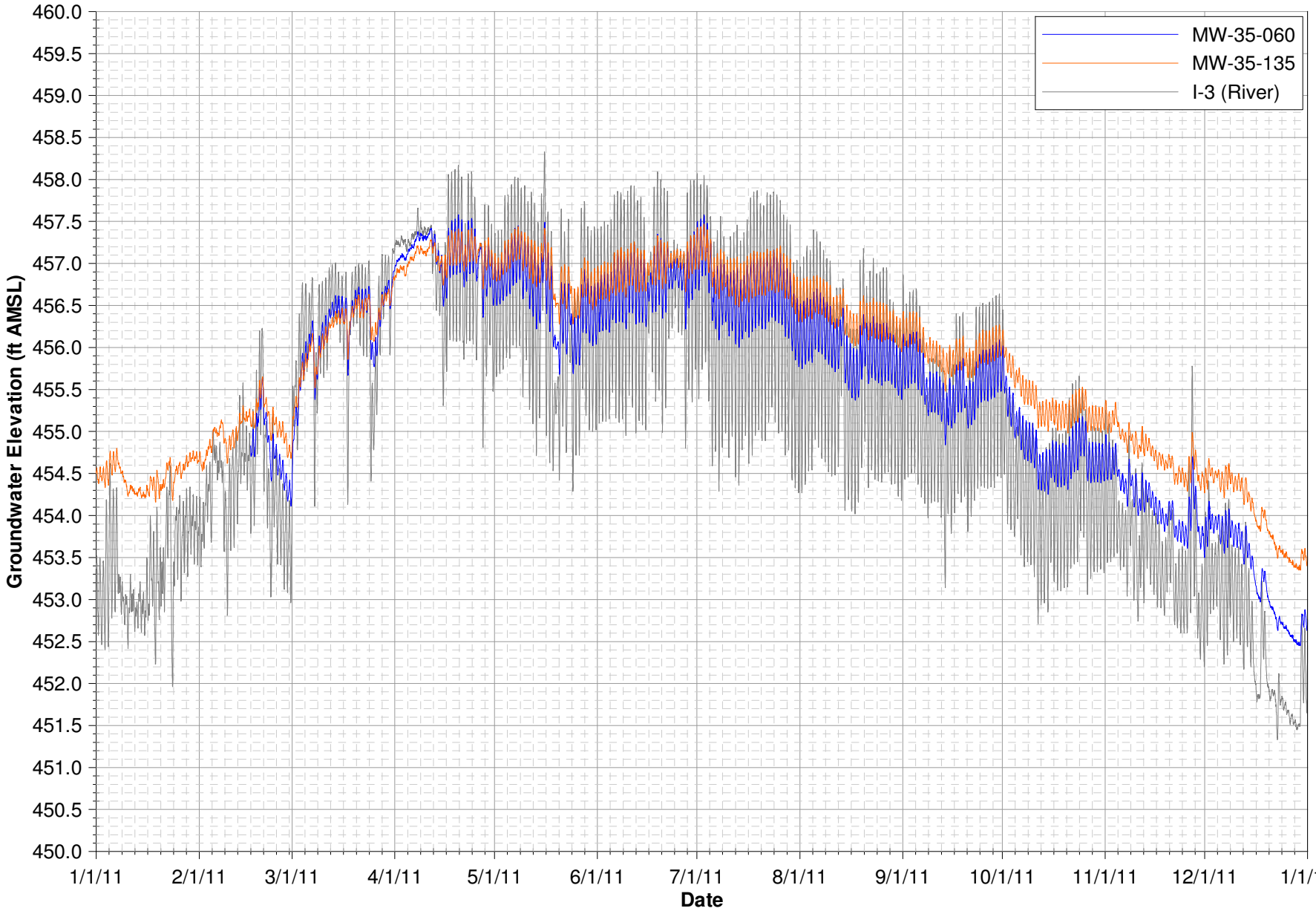
Notes:
Data subject to review.
MW-34-080 data unavailable from August 9, 2011 until October 10, 2011 due to transducer failure.

FIGURE E-1I

MW-34 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

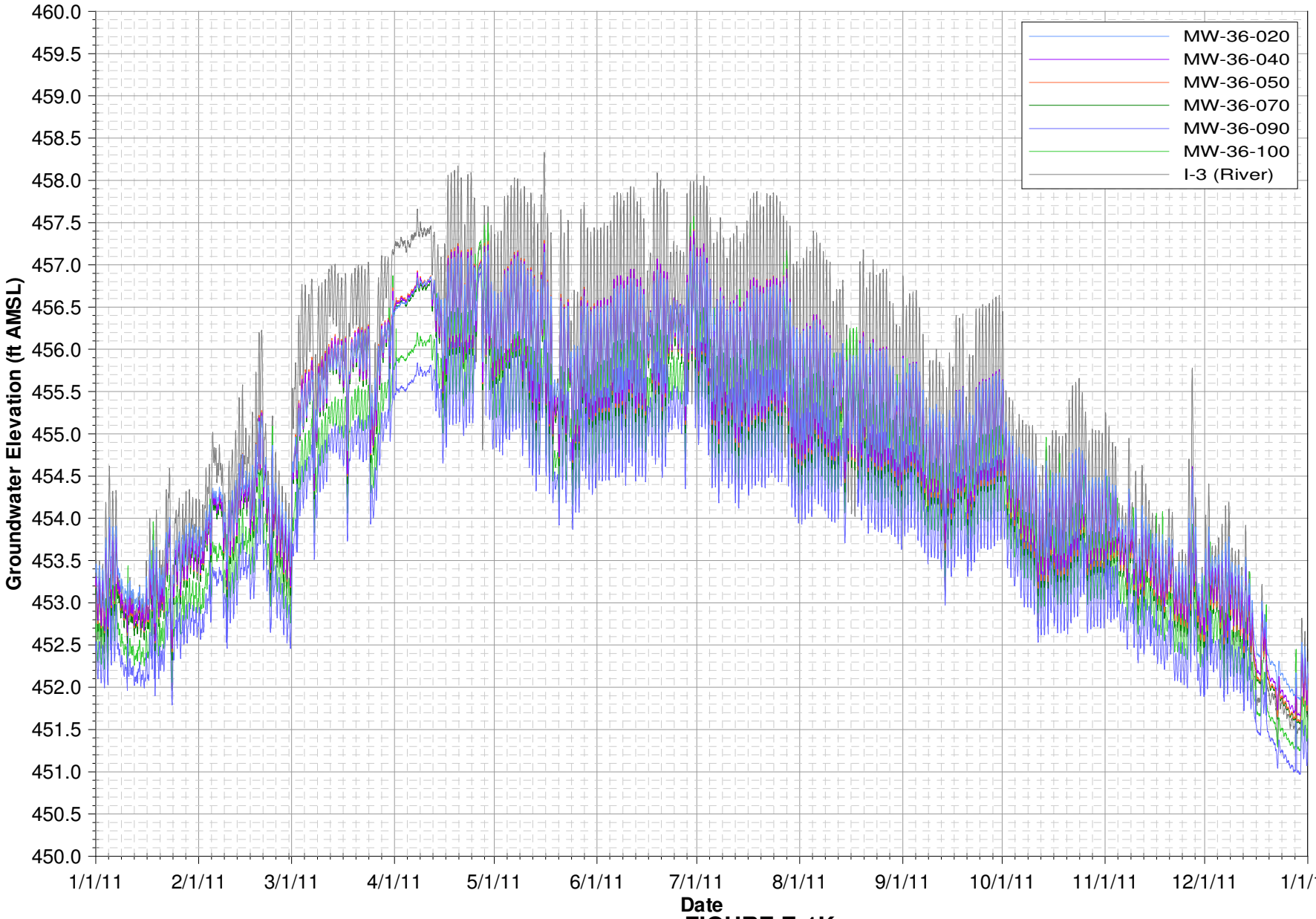


Notes:
Data subject to review.
MW-35-060 data unavailable from January 1, 2011 until February 16, 2011 due to transducer failure.

FIGURE E-1J
MW-35 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



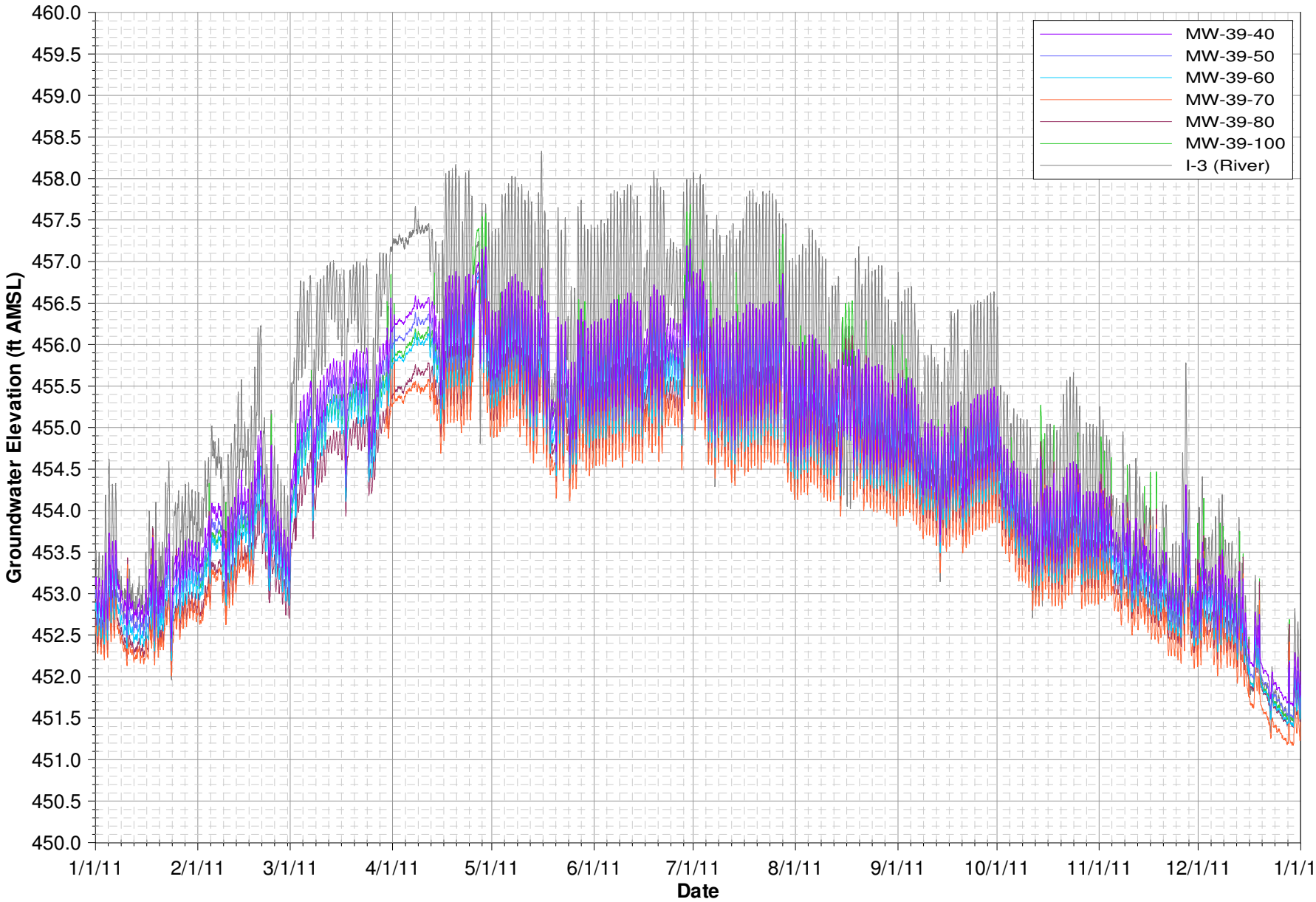
Notes:
Data subject to review.

FIGURE E-1K

MW-36 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

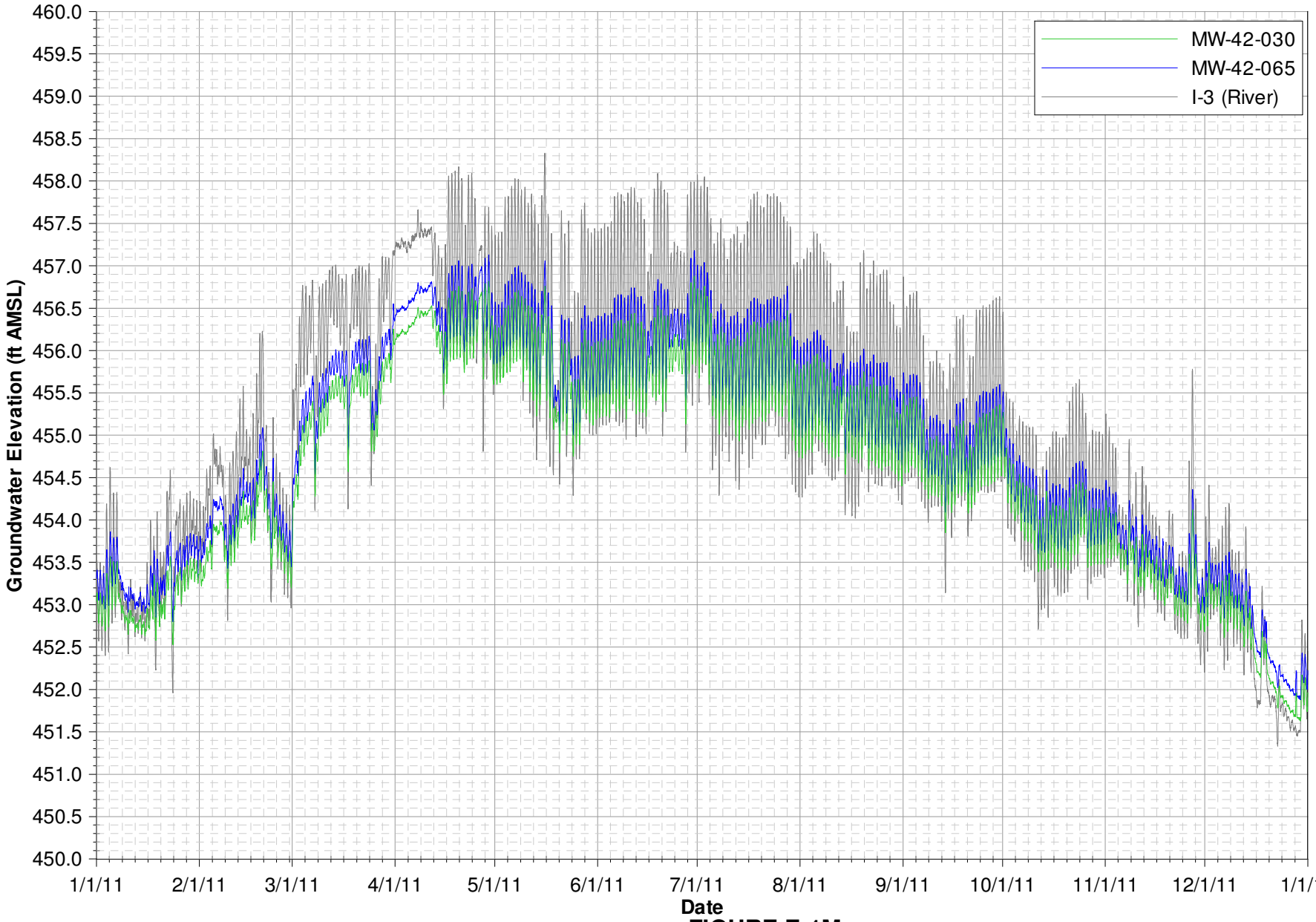


Notes:
Data subject to review.
MW-39-070 data unavailable from February 18, 2011 until March 29, 2011 due to transducer failure.

FIGURE E-1L
MW-39 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

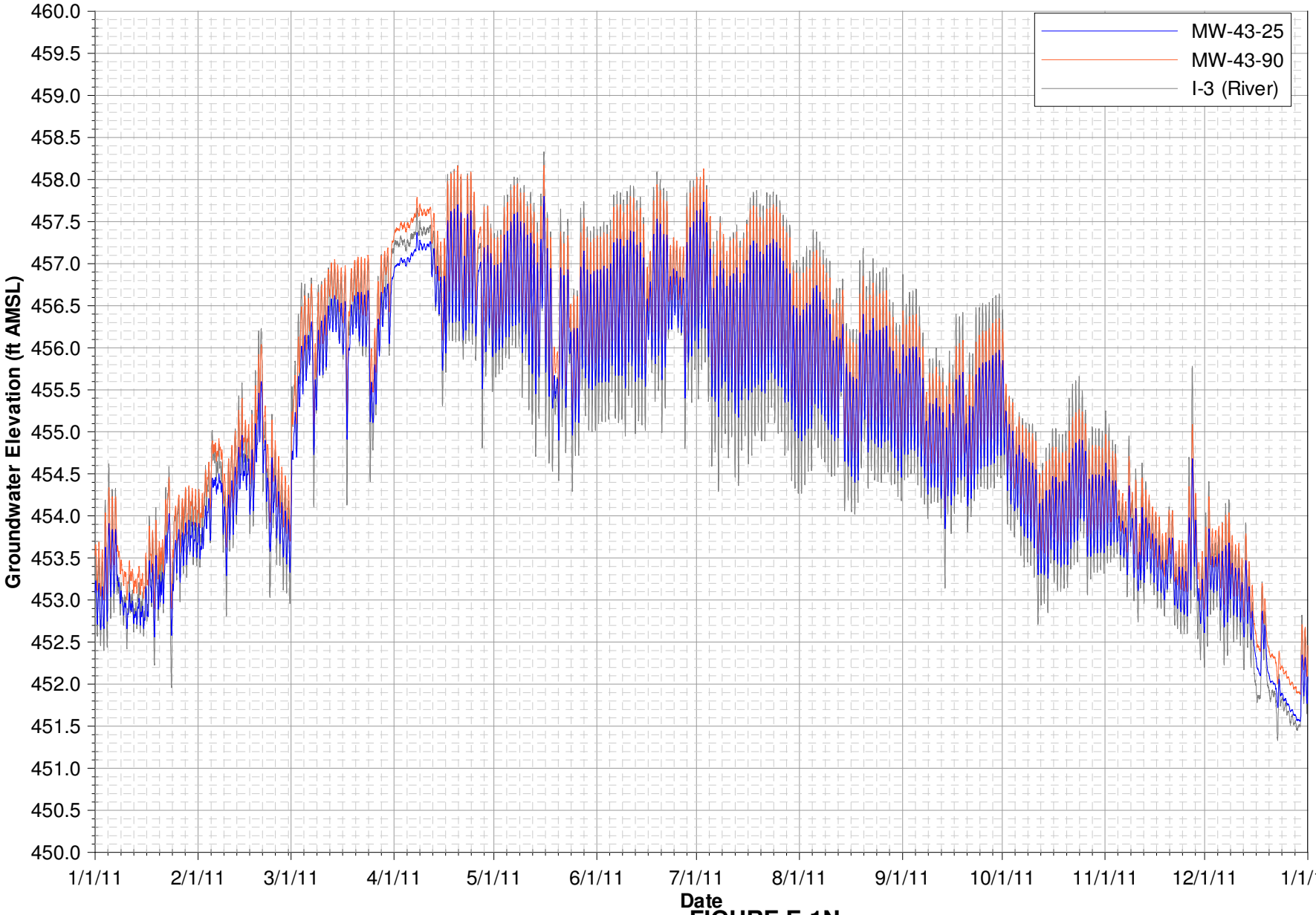
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1M
MW-42 CLUSTER HYDROGRAPHS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



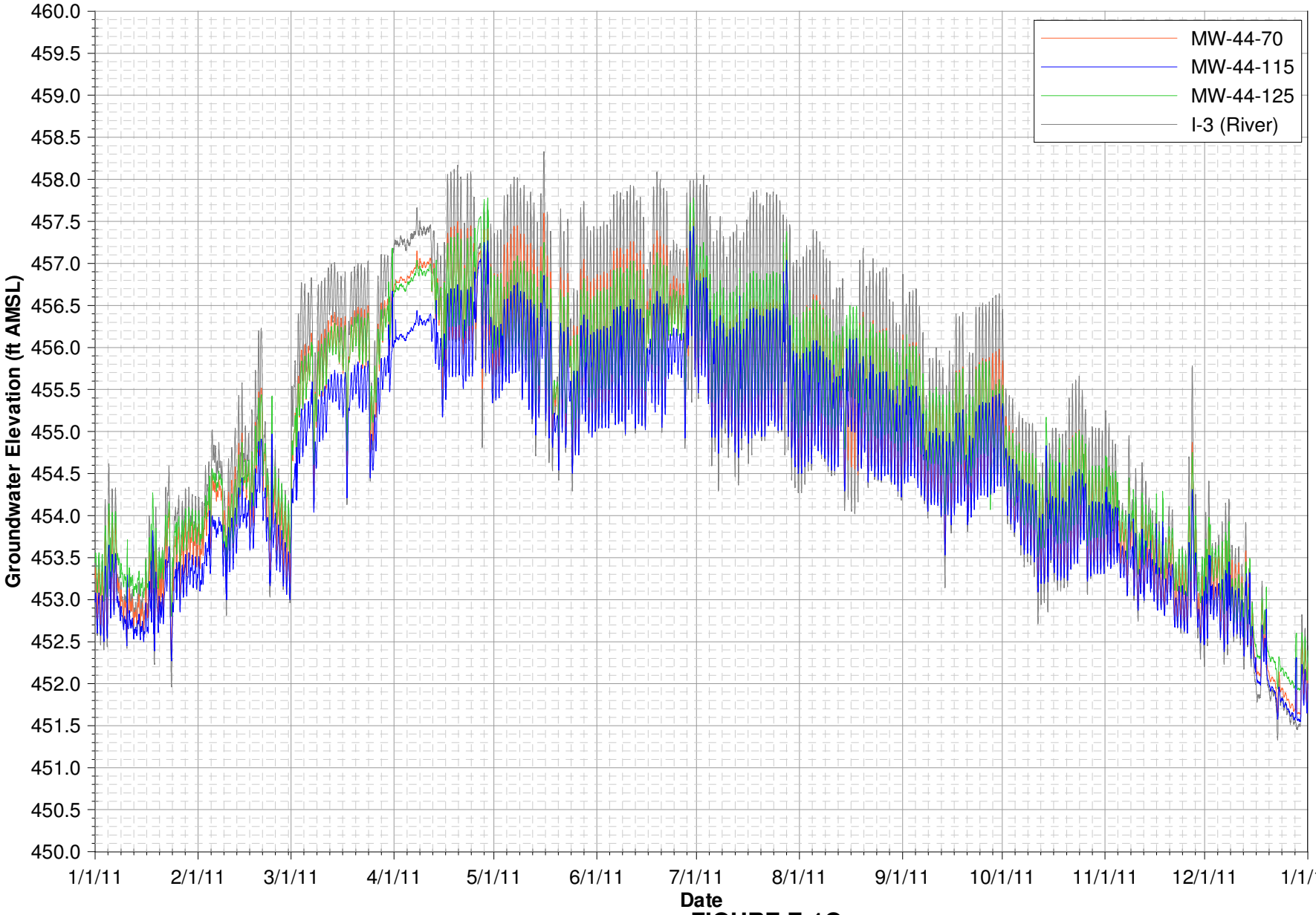
Notes:
Data subject to review.

FIGURE E-1N

MW-43 CLUSTER HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

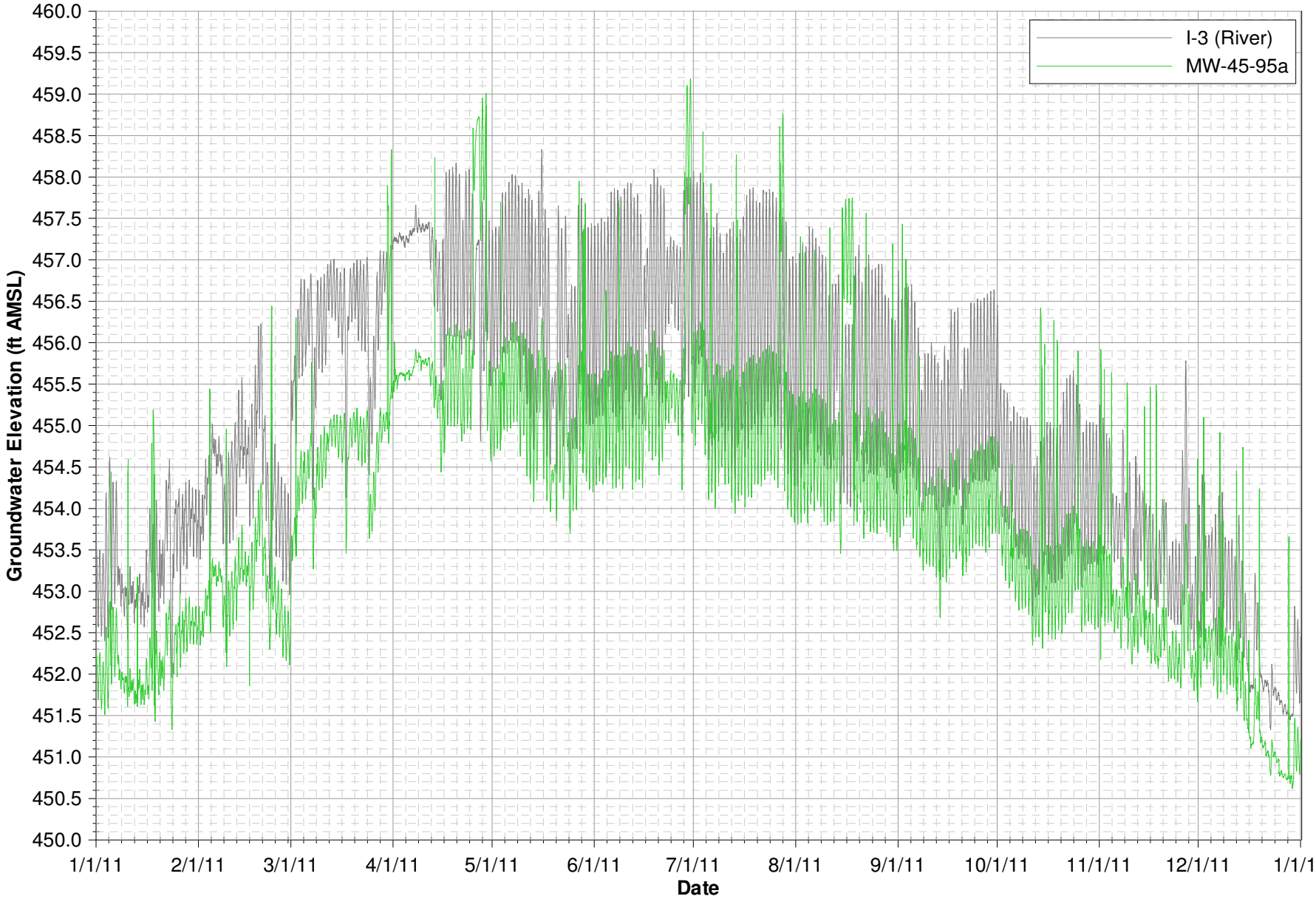
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1O
MW-44 CLUSTER HYDROGRAPHS
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

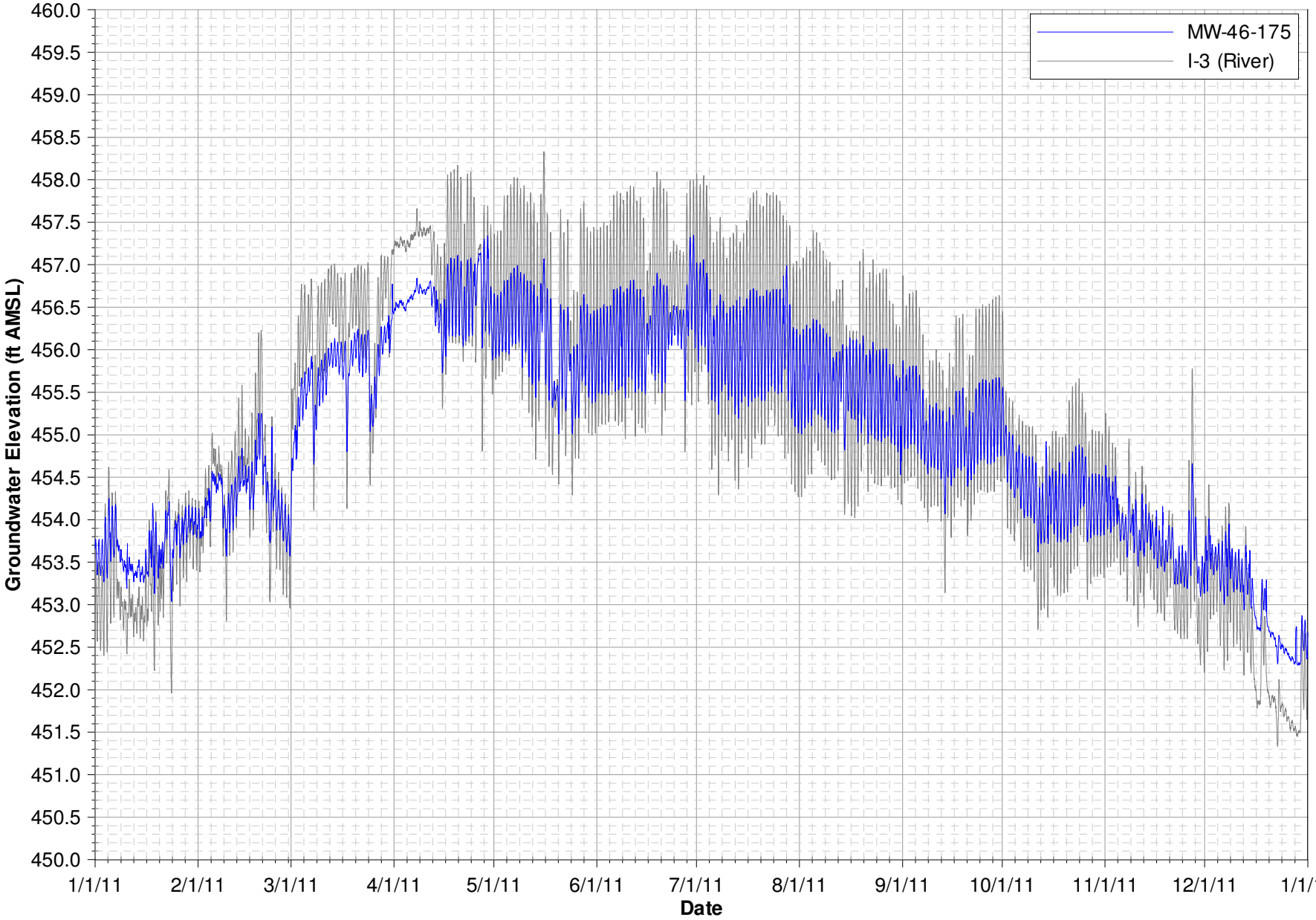
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1P
MW-45-95a HYDROGRAPH
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

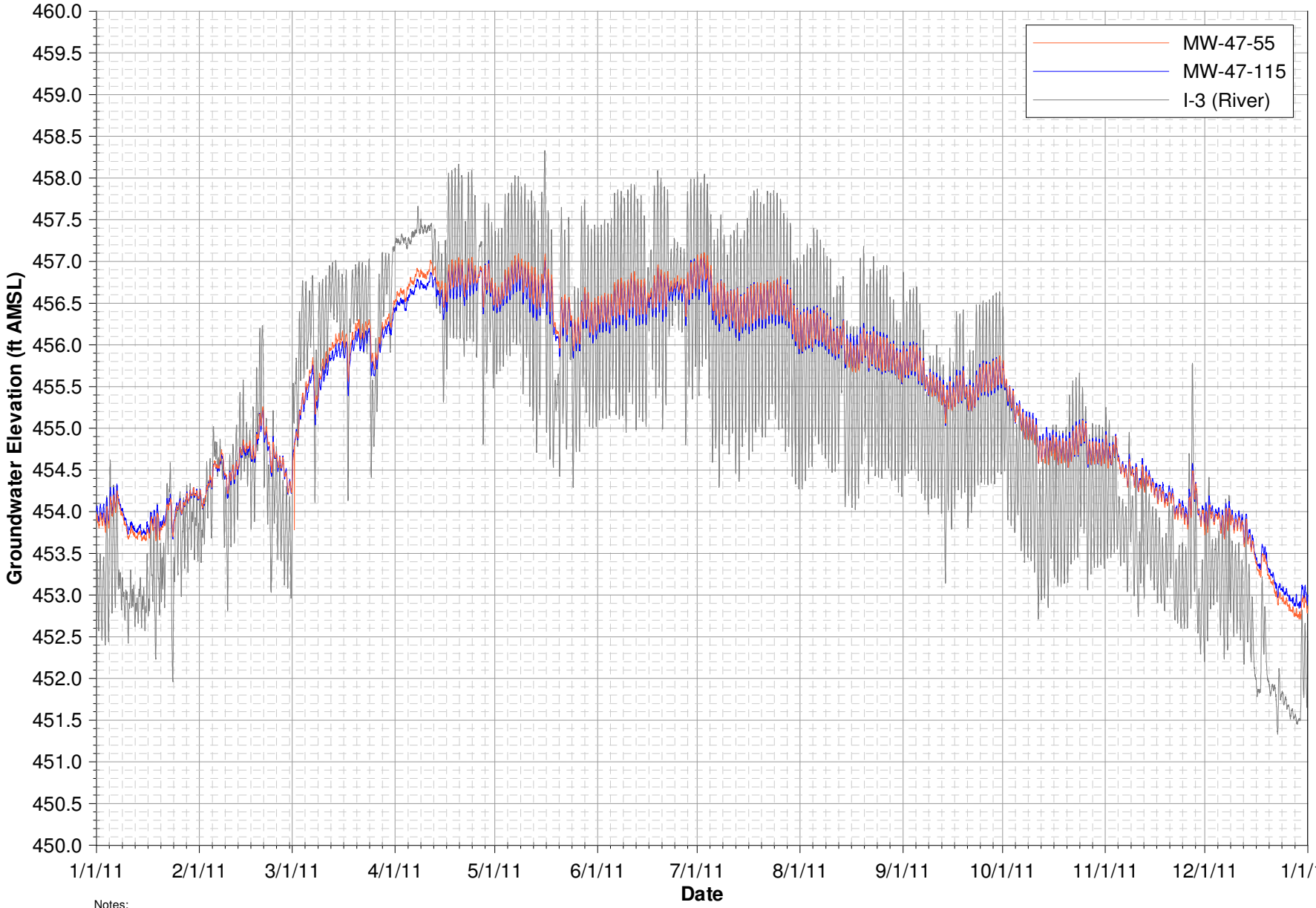
CH2MHILL



Notes:
Data subject to review.

FIGURE E-1Q
MW-46 HYDROGRAPH
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



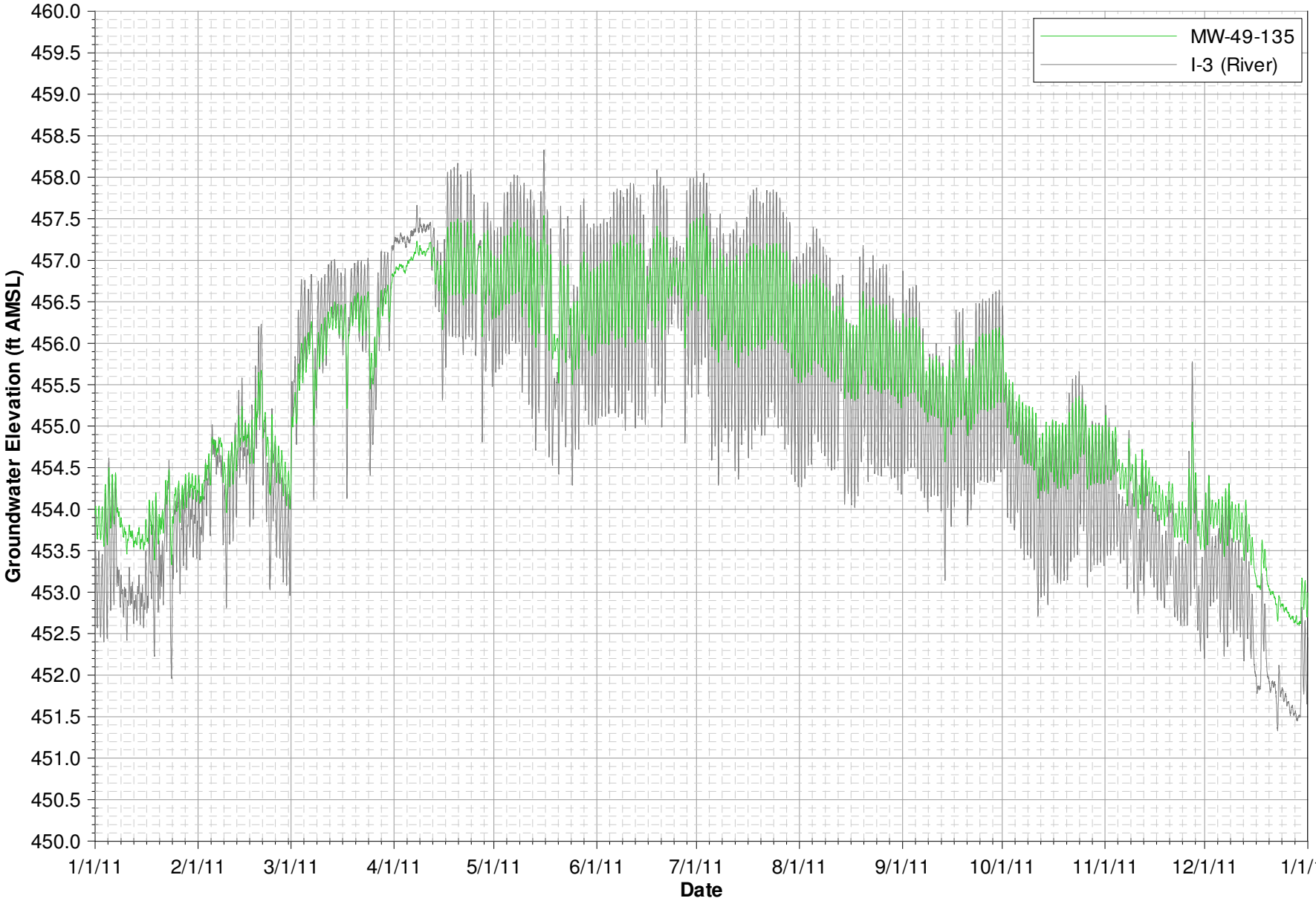
Notes:
Data subject to review.

FIGURE E-1R

MW-47 CLUSTER HYDROGRAPHS

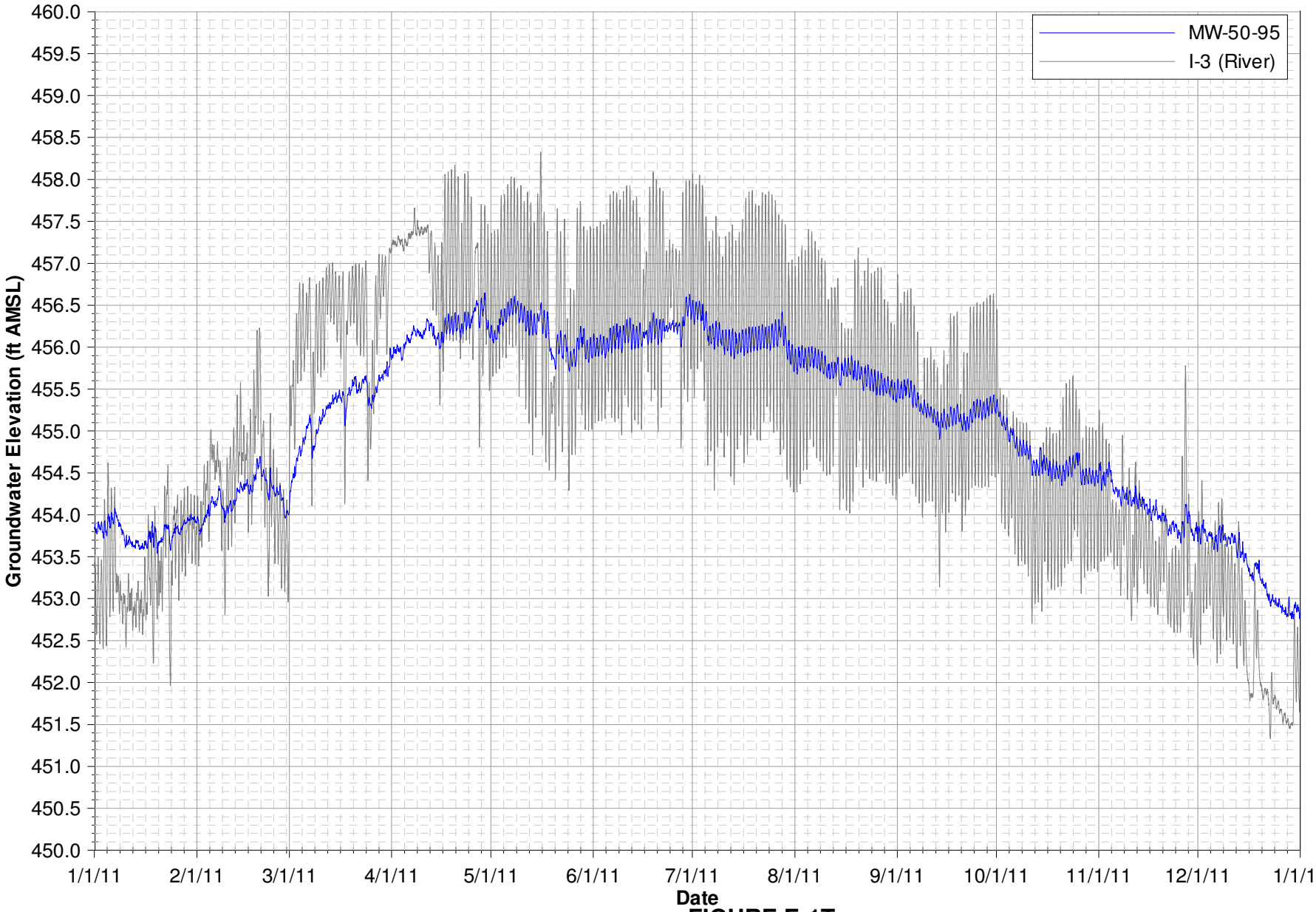
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL



Notes:
Data subject to review.

FIGURE E-1S
MW-49 HYDROGRAPH
FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



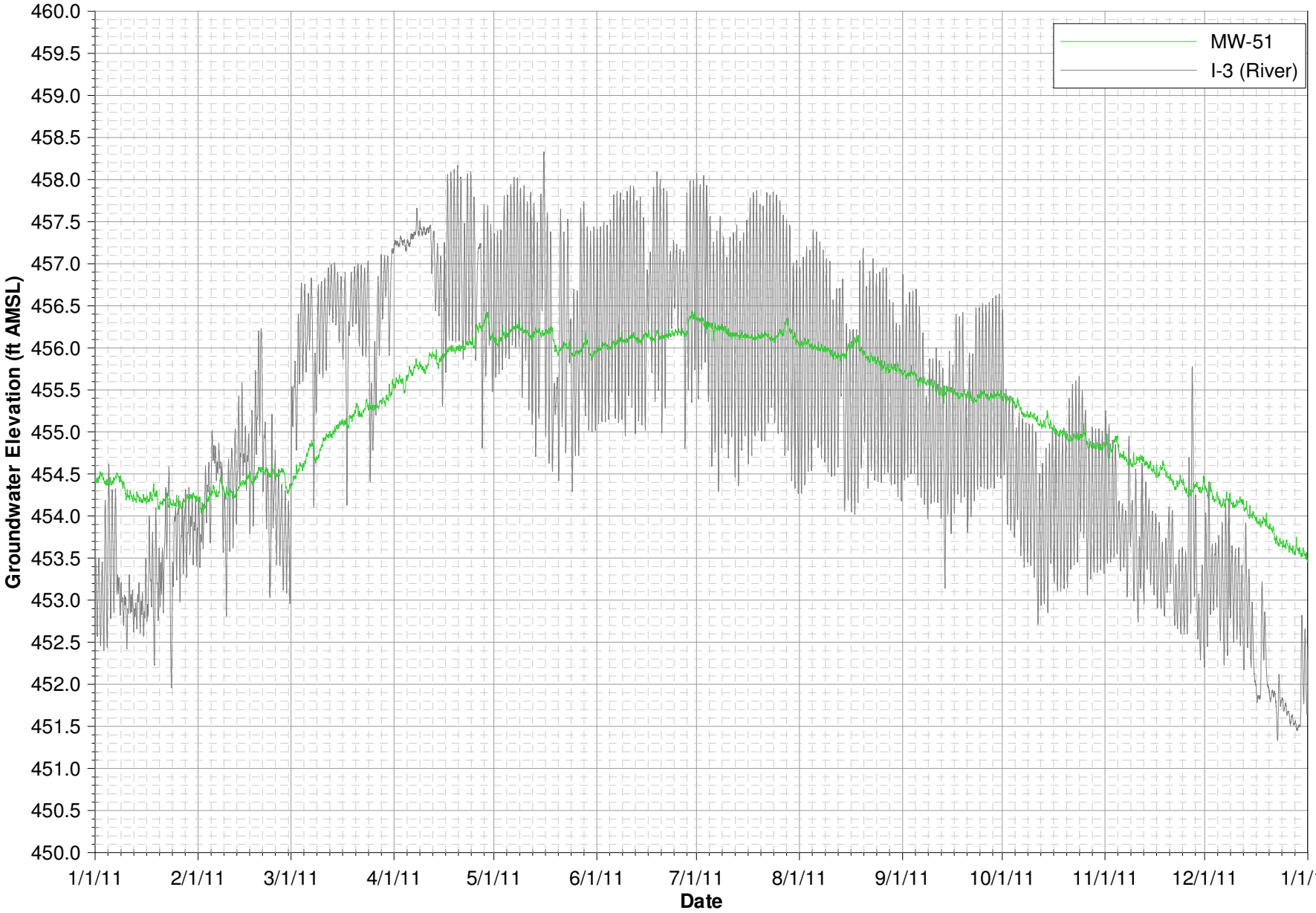
Notes:
Data subject to review.

FIGURE E-1T

MW-50 HYDROGRAPH

FOURTH QUARTER 2011 AND ANNUAL 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-1U

MW-26 & MW-51 HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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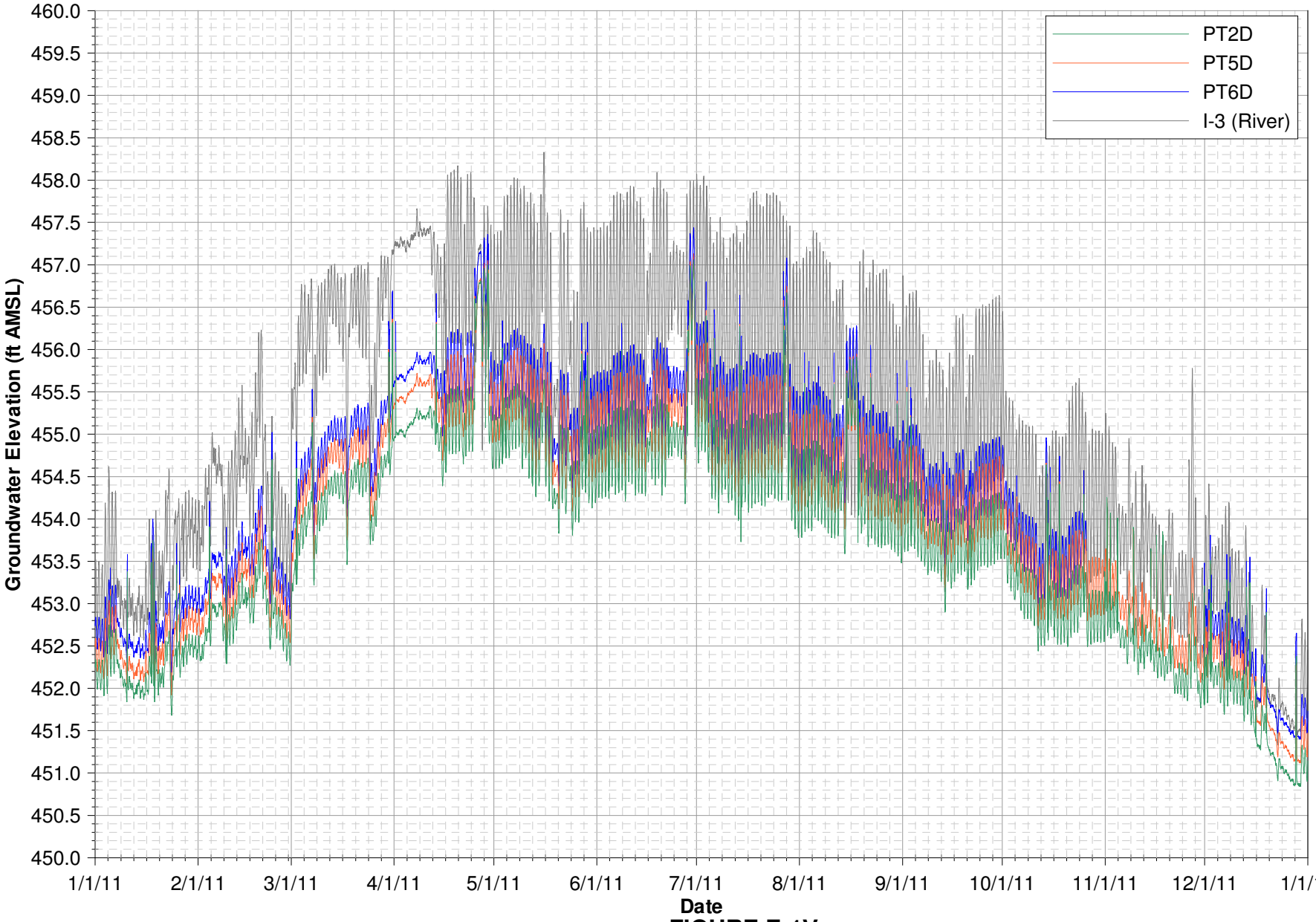

Note:
Data subject to review.
PT6D data unavailable from October 26, 2011 until November 30, 2011 due to transducer failure.

FIGURE E-1V

INSITU PILOT STUDY WELL HYDROGRAPHS

FOURTH QUARTER 2011 AND ANNUAL INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

CH2MHILL

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Appendix F
Groundwater Monitoring Data for GMP and PMP

Table F-1

Chemical Performance Monitoring Analytical Results, March 2005 through December 2011

Fourth Quarter 2011 and Annual 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	740	378	9.98	ND (1.0)	81.7	198	55.4	9.89	431	0.412
	15-Jun-05	1980	-7.0	-60	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	760	392	9.81	ND (1.0)	71.3	204	60.7	11.4	468	0.445
	11-Oct-05	1950	-7.2	-57	737	359	9.48	0.641	69.9	198	49.9	14.6	323	0.402
	15-Dec-05	1830	-7.1	-49	645	326	9.90	ND (1.0)	77.8	138	42.3	14.5	267	0.441
	10-Mar-06	1940	-7.2	-54	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
	16-Dec-10	1700	-7.5	-62.3	680	320	16.0	0.51	79.0	130	33.0	12.0	400	0.51
	07-Dec-11	1400	-7.9	-61.9	540	330	11.0	ND (0.5)	71.0	100	25.0	---	380	---
MW-20-100	10-Mar-05	2490	-5.2	-49	466	511	9.98	ND (1.0)	84.2	133	19.8	8.98	712	0.859
	15-Jun-05	2500	-4.7	-46	921	506	9.02	ND (1.0)	84.0	137	21.3	9.06	592	0.713
	11-Oct-05	2400	-5.3	-48	887	484	8.87	0.731	82.3	170	23.7	15.2	500	0.718
	15-Dec-05	2340	-5.4	-40	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

Table F-1

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Fourth Quarter 2011 and Annual 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	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
	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
	10-Feb-11	1800	-7.0	-58.8	610	380	15.0	0.57	120	180	28.0	14.0	400	0.81
	08-Dec-11	1700	-6.7	-55.6	580	380	13.0	ND (0.5)	120	170	25.0	---	390	---
MW-20-130	09-Mar-05	5520	-5.8	-56	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	3080	1080	10.9	ND (1.0)	68.9	231	12.8	25.4	2390	1.99
	15-Jun-05	7790	-5.0	-48	3410	1230	11.1	ND (1.0)	68.7	352	23.2	31.3	2980	2.75
	07-Oct-05	7330	-5.0	-47	3010	1210	10.9	1.04 J	72.4	349	13.9	38.4	2070	2.41
	16-Dec-05	7860	-5.8	-43	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

Table F-1

Chemical Performance Monitoring Analytical Results, March 2005 through December 2011

Fourth Quarter 2011 and Annual 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-20-130	03-May-07	8150	-7.7	-60	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
	10-Feb-11	5900	-6.6	-59	3100	1100	13.0	1.00	80.0	310	18.0	50.0	2100	2.20
	09-Dec-11	6200	-6.6	-57.2	3300	1200	12.0	ND (2.5)	74.0	340	22.0	33.0	2400	2.40
MW-25	09-Mar-05	877	-8.4	-62	247	169	3.64	ND (0.5)	158	77.6	16.1	6.24	211	0.441
	14-Jun-05	942	-8.6	-61	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	294	185	3.94	ND (0.5)	137	100	20.9	9.06	268	0.475
	04-Oct-05	950	-8.2	-68	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	251	171	3.75	ND (0.5)	146	94.6	15.3	10.2	185	0.371
	14-Dec-05	838	-8.4	-55	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	219	155	3.75	ND (0.5)	156	73.0	14.1	9.71	151	0.382
	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	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

Table F-1

Chemical Performance Monitoring Analytical Results, March 2005 through December 2011

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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	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
	07-Dec-10	780	-9.4	-68.9	220	120	4.80	ND (1.0)	180	74.0	15.0	10.0	180	0.43
	15-Dec-11	860	-9.2	-68.6	270	120	5.90	ND (1.0)	170	89.0	19.0	8.50	210	0.49
	15-Dec-11 FD	890	-8.9	-66.7	280	120	6.00	ND (0.5)	170	91.0	19.0	8.00	220	0.50
MW-26	08-Mar-05	1840	-8.8	-70	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	708	338	4.45	ND (0.5)	96.1	166	40.9	11.4	438	0.559
	13-Jun-05	2130	-8.2	-65	847	371	4.90	ND (0.5)	103	178	44.6	14.0	511	0.663
	04-Oct-05	2120	-7.8	-68	779	372	4.88	0.601	109	166	40.4	19.8	352	0.526
	12-Dec-05	2610	-8.5	-55	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	894	370	6.22	ND (2.5)	105	170	43.9	12.8	510	0.692
	12-Mar-07	2280	-9.0	-67	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
	15-Dec-10	---	---	---	900	480	12.0	---	100	180	40.0	---	560	---
	09-Dec-11	2300	-8.1	-65.2	930	530	14.0	1.20	94.0	210	47.0	15.0	690	0.89
MW-27-20	08-Mar-05	1250	-12	-102	190	432	ND (0.5)	ND (0.5)	215	137	56.6	4.89	195	ND (0.2)
	18-Jul-05	---	-11.9	-98	81.9	228	ND (0.5)	ND (0.5)	160	96.1	30.1	4.27	94.8	ND (0.2)

Table F-1

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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	05-Oct-05	742	-11.8	-102	91.1	252	ND (0.5)	ND (0.5)	175	88.6	31.4	5.48	81.0	ND (0.2)
	14-Dec-05	1020	-11.7	-91	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	---
	07-Dec-10	---	---	---	86.0	220	ND (0.5)	---	200	87.0	29.0	---	93.0	---
	05-Dec-11	---	---	---	83.0	220	ND (0.5)	---	150	83.0	25.0	---	83.0	---
MW-28-25	10-Mar-05	880	-12.2	-95	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	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	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	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	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	---
	08-Dec-10	---	---	---	90.0	230	ND (0.5)	---	190	110	31.0	---	95.0	---
	12-Dec-11	---	---	---	97.0	260	ND (0.5)	---	200	110	33.0	---	96.0	---
MW-30-30	10-Mar-05	38800	-9.8	-79	16000	4270	ND (5.0)	7.91	421	1590	1600	95.4	13600	4.97
	07-Oct-05	36400	-8.5	-75	17600	4000	ND (0.5)	ND (10)	521	1020	842	93.6	7650	5.20
	15-Dec-05	35700	-8.7	-59	19700	4070	ND (1.0)	3.13	504	1060	894	110	8540	6.14

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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-30-30	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	---
	07-Dec-10	---	---	---	7200	1900	ND (1.0)	---	790	390	290	---	4800	---
	07-Dec-11	---	---	---	10000	3200	ND (5.0)	---	910	340	290	---	6300	---
MW-30-50	10-Mar-05	6470 J	-8.3	-68	4660	672	ND (0.5)	1.03	324	335	107	16.5	2040	1.15
	07-Oct-05	6860	-9.4	-79	3060	857	ND (0.5)	0.899 J	252	438	101	37.0	1780	1.27
	16-Dec-05	5850	-10.5	-65	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
	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
	07-Dec-10	---	-12.2	-97.5	140	220	ND (0.5)	---	200	15.0	4.20	---	260	---
	08-Dec-11	---	-12.3	-98.2	130	210	ND (0.5)	---	200	34.0	9.40	---	240	---
MW-31-60	09-Mar-05	1540	-8.6	-63	649	210	4.94	ND (0.5)	76.6	108	17.3	5.97	424	0.401
	13-Jun-05	1660	-8.2	-65	745	207	4.12	ND (0.5)	70.0	121	18.9	6.57	403	0.388
	06-Oct-05	1660	-8.6	-65	691	206	4.01	ND (0.5)	77.3	109	16.5	9.75	308	0.462
	13-Dec-05	1620	-8.7	-54	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	757	222	4.93	ND (0.5)	72.5	116	20.3	6.05	454	0.402 J

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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-31-60	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
	15-Dec-10	2000	-9.0	-69.3	840	210	3.50	ND (0.5)	78.0	170	27.0	12.0	440	0.43
	06-Dec-11	1800	-8.8	-67.9	790	200	3.40	ND (1.0)	76.0	150	24.0	7.60	450	0.54
MW-32-20	09-Mar-05	12500	-7.2	-65	6930	1660	ND (0.5)	3.51	123	838	302	36.9	4000	2.76
	17-Jun-05	10200	-9.0	-67	4810	690	ND (0.5)	ND (2.5)	676	566	231	23.3	2620	1.75
	04-Oct-05	28800	-7.8	-65	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	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	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	---
	08-Dec-10	---	---	---	17000	4100	ND (5.0)	---	830	1600	720	---	11000	---
	08-Dec-11	---	---	---	17000	4400	ND (5.0)	---	1000	1400	670	---	11000	---
MW-32-35	09-Mar-05	3560	-8.2	-68	1770	465	ND (0.5)	0.845	260	312	85.5	13.0	944	1.07
	17-Jun-05	7550	-9.5	-72	3520	787	ND (0.5)	ND (2.5)	223	506	120	14.8	2110	1.18
	04-Oct-05	8340	-8.3	-70	3840	765	ND (0.5)	ND (5.0)	208	567	134	29.3	1530	1.26

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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	16-Dec-05	7660	-8.8	-63	3510	710	ND (1.0)	1.02	219	606	128	30.0	1580	1.25
	10-Mar-06	9230	-8.6	-74	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
	09-Dec-10	11000	-10.2	-84.2	5500	1600	ND (2.5)	ND (2.5)	590	750	390 J	51.0 J	3000	1.70 J
	09-Dec-11	8500	-10.8	-84.2	5000	1700	ND (2.5)	ND (2.5)	640	680	310	34.0	3100	1.70
MW-34-55	10-Mar-05	6230	-10.8	-82	2620	739	ND (0.5)	0.654	240	366	71.3	29.1	1900	1.19
	15-Jul-05	---	-10.3	-84	2250	607	ND (0.5)	ND (0.5)	242	247	52.0	16.5	1420	1.02
	05-Oct-05	5150	-10.6	-88	2170	619	ND (0.5)	ND (0.5)	232	272	59.1	25.8	1230	1.20
	14-Dec-05	5100	-10.8	-74	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	100	250	ND (0.5)	---	170	72.4	16.9	5.26	192	0.248
	17-Nov-09	---	---	---	93.0	240	ND (0.5)	ND (0.5)	---	---	---	---	---	---
	07-Dec-10	590	-12.1	-98.8	87.0	230	ND (0.5)	ND (0.5)	140	81.0	19.0	5.10	100	0.10
	06-Dec-11	630	-12.3	-101	83.0	220	ND (0.5)	ND (0.5)	160	81.0	19.0	4.60	100	0.19
MW-34-80	08-Mar-05	6940	-10.4	-83	4180	1040	ND (0.5)	1.01	304	439	68.1	28.0	2750	1.65

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										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-34-80	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	3910	979	ND (0.5)	ND (0.5)	302	497	76.5	27.7	2670	1.66
	05-Oct-05	10200	-10.1	-85	3880	1060	ND (0.5)	ND (0.5)	302	429	72.5	47.4	1660	1.57
	14-Dec-05	8800	-10.2	-71	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
	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
	07-Dec-10	4600	-11.1	-87.3	2300	700	ND (1.0)	ND (1.0)	220	240	47.0	24.0	1300	1.00
	06-Dec-11	3900	-11.1	-88.1	1900	640	ND (1.0)	ND (1.0)	230	220	43.0	16.0	1300	1.10
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	5350	1270	1.05	ND (0.5)	179	229	17.4	27.1	3510	2.22

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										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-34-100	21-Jun-05 FD	10900 J	-9.5	-77	4920	1180	1.03	ND (0.5)	179	243	18.2	32.1	3740	2.36
	05-Oct-05	10400	-9.9	-83	4530	1150	1.20	ND (0.5)	172	171	13.8	55.2	2450	2.57
	05-Oct-05 FD	10400	-9.9	-83	4680	1200	1.21	ND (0.5)	172	228	14.1	50.9	2730	2.57
	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
	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)	---	---	---	---	---	---
	08-Dec-10	10000	-9.8	-79.5	5800	1300	ND (2.5)	ND (2.5)	140 J	190	9.60	52.0 J	4100	2.60
	08-Dec-10 FD	9900	-10	-80.4	5700	1200	ND (1.0)	ND (1.0)	89.0 J	180	9.80	60.0 J	4000	2.50
	06-Dec-11	10000	-10.1	-79.2	5700	1300	ND (2.5)	ND (2.5)	120	170	7.60	43.0	4000	2.70
	06-Dec-11 FD	9400	-10	-79.5	5600	1200	ND (2.5)	ND (2.5)	120	160	7.40	43.0 J	3900	2.70
Surface Water Stations														
R-27	07-Mar-05	669	-12.3	-102	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	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	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	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)

Table F-1

Chemical Performance Monitoring Analytical Results, March 2005 through December 2011

Fourth Quarter 2011 and Annual 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-27	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	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	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	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	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	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	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	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	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	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	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)
	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	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	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)

Table F-1

Chemical Performance Monitoring Analytical Results, March 2005 through December 2011

Fourth Quarter 2011 and Annual 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	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)
	21-Dec-10	602	-12.1	-102	91.0	223	ND (0.5)	ND (0.5)	133	69.1	24.8	4.75	87.8	ND (0.2)

NOTES:

--- = data not collected or available.
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 = 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).

Appendix G
Interim Measure Extraction System Operations Log, November 2011 through December 2011

APPENDIX G

Interim Measures Extraction System Operations Log, November 2011 through December 2011, PG&E Topock Performance Monitoring Program

During fourth quarter 2011 (November through December), 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 well TW-2D was operated for a short period during December 2011 for groundwater sampling. The operational run time for the Interim Measure (IM) groundwater extraction system (combined or individual pumping) was approximately 97.5 percent during fourth quarter 2011.

The IM Number 3 (IM-3) facility treated approximately 11,523,207 gallons of extracted groundwater during fourth quarter 2011. The IM-3 facility also treated approximately 24,545 gallons of water generated from the groundwater monitoring program and 19,000 gallons of water from IM-3 injection well development. Two 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 2.5 percent of downtime during fourth quarter 2011) 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.

G.1 November 2011

- **November 1, 2011 (planned):** The extraction well system was offline from 11:22 a.m. to 3:34 p.m. due to plant maintenance. Extraction system downtime was 4 hours and 12 minutes.
- **November 2, 2011 (planned):** The extraction well system was offline from 12:54 p.m. to 2:04 p.m. due to testing of critical alarms and leak detection system. Extraction system downtime was 1 hour and 10 minutes.
- **November 4, 2011 (planned):** The extraction well system was offline from 5:20 p.m. to 5:52 p.m. due to well maintenance. Extraction system downtime was 32 minutes.
- **November 9, 2011 (planned):** The extraction well system was offline from 10:20 a.m. to 2:54 p.m. due to reverse osmosis system maintenance. Extraction system downtime was 4 hours and 34 minutes.
- **November 14, 2011 (unplanned):** The extraction well system was offline from 4:48 p.m. to 5:46 p.m. due to a blower malfunction. Extraction system downtime was 58 minutes.

- **November 16, 2011 (planned):** The extraction well system was offline from 10:10 a.m. to 12:40 p.m. due to cleaning of iron oxidation tank T-301B. Extraction system downtime was 2 hours and 30 minutes.
- **November 18, 2011 (unplanned):** The extraction well system was offline from 5:24 a.m. to 8:26 a.m. and 8:44 a.m. to 9:24 a.m. due to a ferrous chloride pumping system malfunction causing low ferrous chloride flow alarms that shut down extraction wells. Extraction system downtime was 3 hours and 42 minutes.
- **November 20, 2011 (unplanned):** The extraction well system was offline from 3:14 p.m. to 3:18 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 4 minutes.
- **November 30, 2011 (unplanned):** The extraction well system was offline from 6:50 p.m. to 9:44 p.m. due to a microfilter valve failure. Extraction system downtime was 2 hours and 54 minutes.

G.2 December 2011

- **December 1, 2011 (unplanned):** The extraction well system was offline from 12:52 p.m. to 1:08 p.m. due to reduced microfilter performance. Extraction system downtime 16 minutes.
- **December 2, 2011 (planned):** The extraction well system was offline from 2:44 p.m. to 4:32 p.m. due to a microfilter flow valve replacement. Extraction system downtime was 1 hour and 48 minutes.
- **December 2, 2011 (planned):** The extraction well system was offline from 10:46 p.m. to 10:52 p.m. due to cleaning of the raw water storage tank strainer. Extraction system downtime was 6 minutes.
- **December 7, 2011 (planned):** The extraction well system was offline from 2:38 p.m. to 3:14 p.m. due to critical alarm and leak detection system testing. Extraction system downtime was 36 minutes.
- **December 8, 2011 (unplanned):** The extraction well system was offline from 6:58 a.m. to 7:04 a.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 6 minutes.
- **December 9, 2011 (unplanned):** The extraction well system was offline from 6:58 a.m. to 7:00 a.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 2 minutes.
- **December 12, 2011 (unplanned):** The extraction well system was offline from 3:48 p.m. to 3:52 p.m. due to groundwater sampling of extraction wells TW-2D and TW-2S. Extraction system downtime was 4 minutes.

- **December 14, 2011 (planned):** The extraction well system was offline from 12:20 p.m. to 3:10 p.m. due to monthly scheduled plant maintenance. Extraction system downtime was 2 hours and 50 minutes.
- **December 16, 2011 (unplanned):** The extraction well system was offline from 7:46 a.m. to 7:48 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 2 minutes.
- **December 19, 2011 (planned):** The extraction well system was offline from 11:38 a.m. to 2:02 p.m. due to maintenance of Iron Oxidation Tank, T-301C. Extraction system downtime was 2 hours and 24 minutes.
- **December 28, 2011 (planned):** The extraction well system was offline from 7:40 a.m. to 9:40 a.m. and 9:42 a.m. to 2:52 p.m. due to monthly scheduled plant maintenance. Extraction system downtime was 7 hours and 10 minutes.