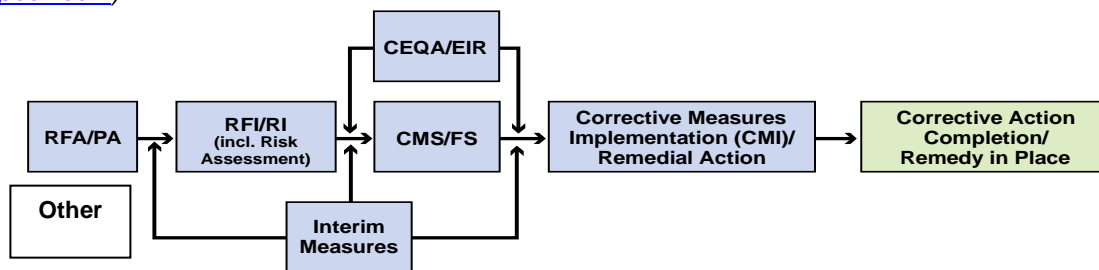


Topock Project Executive Abstract

<p>Document Title: Second Quarter 2011 Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California</p> <p>Submitting Agency: DTSC</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: 8/15/2011</p> <p>Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)</p> <p>PG&E</p>
<p>Priority Status: <input type="checkbox"/> HIGH <input type="checkbox"/> MED <input checked="" type="checkbox"/> LOW</p> <p>Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Action Required:</p> <p><input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review & Comment</p> <p>Return to: _____</p> <p>By Date: _____</p> <p><input type="checkbox"/> Other/Explain:</p>
<p>Type of Document:</p> <p><input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo</p> <p><input type="checkbox"/> Other/Explain:</p>	<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)</p> <p><input checked="" type="checkbox"/> Interim Measures</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>Report is required to be in compliance with DTSC requirements.</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>Report is required to be in compliance with DTSC requirements.</p>	<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:</p>
<p>Brief Summary of attached document:</p> <p>This quarterly report documents the monitoring activities and performance evaluation of the Interim Measure (IM) hydraulic containment system under the IM Performance Monitoring Program and the Groundwater Monitoring Program and Surface Water Monitoring Program for the Topock Project. Hydraulic and chemical monitoring data were collected and used to evaluate IM hydraulic containment system performance based on a set of standards approved by DTSC. Key items included in this report are: (1) measured groundwater elevations and hydraulic gradient data at compliance well pairs that indicate the direction of groundwater flow is away from the Colorado River and towards the pumping centers onsite; (2) hexavalent chromium data for monitoring wells; (3) pumping rates and volumes from the IM extraction system; and (4) Groundwater Monitoring Program and Surface Water Monitoring Program activities and results.</p> <p>Based on the data and evaluation presented in this report, the IM performance standard has been met for the second quarter 2011 reporting period, which includes the months of April, May, and June 2011. The average pumping rate for the IM extraction system over the second quarter 2011 was 124.6 gallons per minute, and an estimated 52.9 kilograms of chromium were removed.</p> <p>Written by: Pacific Gas and Electric Company</p>	
<p>Recommendations:</p> <p>This report is for information only.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>This report is required by DTSC as part of the Interim Measures Performance Monitoring Program.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	

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

August 15, 2011

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

Subject: *Second Quarter 2011 Interim Measures Performance and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California (Document ID: PGE20110815A)*

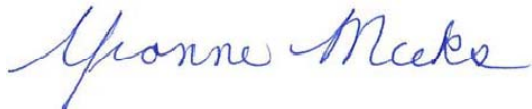
Dear Mr. Yue:

Enclosed is the *Second Quarter 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 (IM) Performance Monitoring Program and the Groundwater Monitoring Program and Surface Water Monitoring Program for the Topock project. This report presents the second quarter (April through June 2011) performance monitoring results for the IM hydraulic containment system and summarizes the operations and performance evaluation for the reporting period. This report also presents groundwater and surface water monitoring activities, results, and analyses related to the Groundwater and Surface Water Monitoring Programs during the reporting period.

The IM quarterly performance monitoring report is submitted in conformance with the reporting requirements in the California Environmental Protection Agency, Department of Toxic Substances Control (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. Comments regarding the new report format and contents are welcomed.

Sincerely,



Yvonne Meeks
Topock Project Manager

Mr. Aaron Yue
August 15, 2011
Page 2

Enclosure

*Second Quarter 2011 Interim Measures Performance and Site-Wide Groundwater and Surface Water
Monitoring Report, PG&E Topock Compressor Station, Needles, California*

cc: Chris Guerre/DTSC
Karen Baker/DTSC
Susan Young/CA-SLC
Nancy Garcia/AZ-SLD

Final Report

**Second Quarter 2011
Interim Measures Performance
Monitoring and Site-Wide
Groundwater and Surface Water
Monitoring Report,
PG&E Topock Compressor Station,
Needles, California**

Document ID: PGE20110815A

Prepared for

**California Department of
Toxic Substances Control**

on behalf of

Pacific Gas and Electric Company

August 15, 2011

CH2MHILL®

155 Grand Avenue Suite 800
Oakland, CA 94612

Second Quarter 2011 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**

August 15, 2011

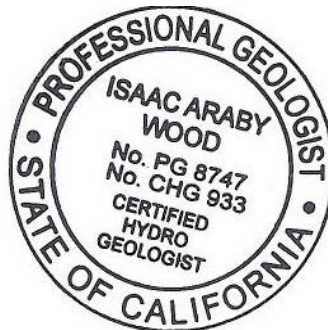
This report was prepared under the supervision of a
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Acronyms and Abbreviations

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

1.0 Introduction

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

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

The data presented for the GMP were collected from throughout the months of April through June 2011. The data for the RMP were collected from June 7 and 8, 2011. The data collected as part of the GMP and RMP are presented in Section 3.0. The data collected throughout the quarter as part of the PMP are presented in Section 4.0. This combined PMP and GMP (including RMP) reporting format was approved by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) in May 2009 (DTSC, 2009a). On July 23, 2010, DTSC approved a new sampling event timing and reporting schedule for the PMP, GMP, and RMP programs (DTSC, 2010a). In compliance with this approval, the second quarter 2011 monitoring report contains data from April through June 2011.

1.1 Site-wide Groundwater and Surface Water Monitoring Program

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

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

Electric Company, Topock Compressor Station, Needles, California, dated June 29, 2009 (CH2M HILL, 2009b).

For background (including well construction details) and descriptions of the current groundwater and surface water sampling, analyses, and monitoring programs, refer to PG&E's *Fourth Quarter 2010 and Annual Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*, dated March 15, 2011 (CH2M HILL, 2011a).

In compliance with the requirements for Groundwater and Surface Water Monitoring Program directive of April 2005 (DTSC, 2005a), this document presents the Second Quarter 2011 GMP and RMP report for the IM monitoring activities from April 1, 2011 through June 30, 2011.

GMP and RMP Monitoring Networks

Figure 1-2 shows the current locations and sampling frequencies of the monitoring wells in the GMP. The complete GMP includes 118 wells, which monitor the Alluvial Aquifer and the bedrock and consist of:

- One hundred one (excluding packer wells) monitoring wells in California.
- Eight monitoring wells in Arizona.
- Two water supply wells.
- Two active extraction wells.
- Five test wells.

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

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

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

During the week of January 18, 2010, a series of storm events occurred that caused flooding of low-lying areas and damaged several wells in the GMP monitoring network, including the bedrock wells of the MW-58 cluster: MW-58-115 and MW-58-205. As a result of this cluster being inundated and filled with floodwater, the Flexible Liner Underground Technologies (FLUTe) well liner that allowed discrete sampling at the 115 foot belowground-surface (ft bgs) and 205 ft bgs depth intervals was damaged and subsequently removed from the borehole. The MW-58 bedrock well cluster was configured as an open rock borehole and temporarily re-designated as MW-58BR. In September 2010, at the direction of DTSC, a packer system was installed into the open borehole MW-58BR at approximately 115 ft bgs, dividing the open borehole into upper and lower intervals designated as MW-58BR-UPR and MW-58BR-LWR, respectively (CH2M HILL, 2010a). In January of 2011, the packer was moved to approximately 160 ft bgs, and the upper and lower intervals were designated as MW-58BR-UPR-160 and MW-58BR-LWR-160,

respectively. In February 2011 DTSC and the United Department of the Interior (DOI) approved an Addendum to the East Ravine Groundwater Investigation (CH2MHILL, 2010b; DTSC, 2011; DOI, 2011a). Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover in late 2011.

On an August 5, 2010 conference call, DTSC directed PG&E to initiate monthly sampling at the MW-64 well cluster. Following the results from MW-58 packer samples, DTSC directed PG&E to remove the FLUTe liner creating depth-discrete sampling zones in the MW-64 cluster (MW-64-150, MW-64-205, and MW-64-260). The FLUTe liner was removed during the week of December 6, 2010, and the open borehole was temporarily re-designated as MW-64BR. Following removal of the FLUTe system, the open borehole was developed, and a sample of the open borehole was collected on December 20, 2010. A packer system dividing the MW-64 borehole into two depth intervals similar to MW-58BR was installed in January 2011, as directed by DTSC (CH2M HILL, 2010c). This packer was set at about 150 ft bgs, and the upper and lower intervals were designated as MW-64BR-UPR-150 and MW-64BR-LWR-150, respectively. In February 2011 DTSC and DOI approved an Addendum to the East Ravine Groundwater Investigation (CH2MHILL, 2010b; DTSC, 2011; DOI, 2011a). Monitoring continues at this well as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover in late 2011.

The two wells composing the MW-38 cluster, located in Bat Cave Wash adjacent to the Topock Compressor Station, were also damaged in the storm events during the week of January 18, 2010. Plans to repair monitoring well MW-38D and repair or replace monitoring well MW-38S provided in the technical memorandum entitled *Final Revised Implementation Plan for Repair of Monitoring Wells MW-38S and MW-38D and Old Well/Pipe Reconnaissance* (CH2M HILL, 2011b) were approved by DTSC and DOI on February 24 and 25, 2011, respectively (DTSC, 2011; DOI, 2011b). Repair/replacement of MW-38S and MW-38D is pending as of the time of submittal of this report.

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, 2007a-c), this document presents the Second Quarter 2011 PMP evaluation report for the IM monitoring activities from April through June 2011.

The Topock project IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain and management of extracted groundwater. The groundwater extraction, treatment, and injection systems are collectively referred to as IM-3. The IM only monitors the Alluvial Aquifer. 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. At this time, extraction wells PE-1 and TW-3D operate full time. Figure 1-1 shows the location of the IM-3 extraction, conveyance, treatment, and injection facilities.

In a letter dated February 14, 2005, DTSC established the criteria for evaluating the performance of the IM (DTSC, 2005c). As defined by DTSC, the performance standard for

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

The February 2005 DTSC directive also defined the monitoring and reporting requirements for the IM (DTSC, 2005b-c). 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 June 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).
- **Extraction Wells** (TW-2D, TW-3D, TW-2S, and PE-01).

Three extraction wells (TW-2D, TW-3D, and TW-2S) are located on the MW-20 bench. In addition, extraction well PE-1 is located on the floodplain approximately 450 feet east of extraction well TW-3D, as shown in Figure 1-4. As stated earlier, extraction wells TW-3D and PE-1 operate full time.

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

The PMP monitors hydrogeologic conditions in the Alluvial Aquifer. 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 Alluvial Aquifer is considered to be hydraulically undivided. The subdivision of the aquifer into three depth intervals is an appropriate construct for presenting and evaluating spatial and temporal distribution of 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 Second Quarter 2011 Monitoring Activities

This section provides a summary of the monitoring and sampling activities completed during Second 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 April, May, and June 2011.

Open bedrock interval boreholes with packers installed (MW-58BR and MW-64BR) were sampled in April 2011 for Cr(VI), chromium, arsenic, and a larger suite of analytes according to their approved implementation plans (CH2M HILL, 2010a,c). After the April 2011 sampling, DTSC directed that monthly sampling of these wells be continued. Monitoring continues at these wells as part of the East Ravine Investigation as of June 2011. Results will be reported under separate cover in late 2011.

2.1.2 Quarterly

Following the July 23, 2010 sampling schedule approval (DTSC, 2010a), the second quarter 2011 GMP quarterly groundwater monitoring event was conducted between April 28 through May 6, 2011 and consisted of collecting samples from 70 groundwater monitoring wells.

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

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

- Two wells (MW-12 and MW-22) screened in alluvial sediments 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).
- Thirty-four GMP wells screened in fluvial sediments were sampled for arsenic, as directed by DTSC in its Corrective Measures Study review comment No. 186 (DTSC, 2009b).
- Arsenic was analyzed in groundwater samples from eight bedrock monitoring wells.
- Samples were also collected from a subset of wells for contaminants of potential concern (COPCs), including molybdenum, nitrate, and selenium and potential in situ byproducts (manganese and arsenic). In an email dated March 3, 2010, DTSC directed monitoring of these COPCs and potential in situ byproducts, as well as fluoride.

2.2 Surface Water Monitoring Program

Quarterly surface water sampling was conducted on June 7 through 8, 2011 from the complete RMP monitoring network. Samples were analyzed for Cr(VI), chromium, specific conductance, and pH. Samples were also analyzed for COPCs (molybdenum, nitrate, and selenium) and potential in situ byproducts (manganese, iron, and arsenic) and geochemical indicator parameters to develop baseline concentrations for remedy performance.

2.3 Performance Monitoring Program

PMP pressure transducers, which monitor the Alluvial Aquifer, are downloaded in the first week of every month (April, May, and June). The transducers in the key monitoring wells (MW-27-085, MW-31-135, MW-33-150, MW-34-100, and MW-45-095a; see Figure 1-4) are downloaded weekly.

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

3.1 Groundwater Results for Cr(VI) and Chromium

Table 3-1 presents the results for Cr(VI), chromium, field oxidation-reduction potential, laboratory specific conductance, and field pH in groundwater samples collected from April 2011 through June 2011. During Second Quarter 2011, the maximum detected Cr(VI) concentration was 12,100 µg/L at well MW-20-130. The laboratory reports for results from April through June 2011 are presented in Appendix A.

Figures 3-1a through 3-1c present the Cr(VI) results for wells monitoring the shallow (upper depth interval), mid-depth (middle depth interval), and deep (lower depth interval) wells of the Alluvial Aquifer and bedrock, respectively, from Second Quarter 2011. Figures 3-1a through 3-1c also show the approximate outlines of Cr(VI) concentration contours greater than 32 µg/L for the Alluvial Aquifer and bedrock based on results from the more comprehensive groundwater sampling event conducted in December 2010 and the Second Quarter 2011 sampling event. The value of 32 µg/L is based on the calculated natural background upper tolerance limit for Cr (VI) in groundwater from the background study (CH2M HILL, 2009a).

The areas where Cr(VI) concentrations are greater than 32 µg/L in the shallow, mid-depth, and deep intervals of the Alluvial Aquifer and East Ravine bedrock wells are generally similar to the previous quarterly monitoring events (CH2M HILL, 2009c-e, 2010d-e, 2011a).

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 the second quarter sampling. During Second Quarter 2011, the maximum detected molybdenum concentration was 170 µg/L at well MW-46-175. The maximum nitrate result was collected from TW-01 at 24.0 mg/L. The maximum selenium result was collected from MW-60-125 at 34.0 µg/L. The maximum detected manganese result was collected from MW-22 at 2300 µg/L. Fluoride was only collected from MW-10 with a result of 7.7 mg/L. Arsenic results are discussed in Section 3.2.3.

3.2.2 Title 22 Metals

Table 3-3 presents the Title 22 metals results for the GMP monitoring well MW-12 and MW-22 sampled during Second Quarter 2011. In addition to chromium, the trace metals detected in MW-12 during the second quarter 2011 groundwater sampling event were arsenic, barium, molybdenum, selenium, and vanadium. The trace metals detected at MW-22 during the second quarter 2011 groundwater sampling event were arsenic, barium,

and molybdenum. The dissolved concentrations of the trace metals detected during the second quarter 2011 event – other than chromium and arsenic – are below the respective federal and California maximum contaminant level drinking water standards.

3.2.3 Arsenic Sampling in Monitoring Wells

Thirty-four Alluvial Aquifer wells were sampled for arsenic in the second quarter 2011 event. These results are presented in Table B-1 in Appendix B. Seven of the monitoring well samples had arsenic concentrations greater than the California maximum contaminant level of 10 µg/L (MW-12, MW-22, MW-32-35, MW-33-40, MW-36-90, MW-42-55, and MW-43-25). The maximum concentration was detected in MW-12 at 49.0 µg/L. The arsenic concentrations are within the previously observed ranges for each well.

Eight bedrock wells were sampled for arsenic in the second quarter 2011 event. These results are presented in Table B-1 in Appendix B. Two of the bedrock monitoring well samples had arsenic concentrations greater than the California maximum contaminant level of 10 µg/L (MW-57-185 at 12.0 µg/L and MW-62-110 at 14.0 µg/L).

3.2.4 Sample Results for Packer Wells

In January 2011, at the direction of DTSC, the packer system installed into the open borehole MW-58BR was moved to 160 ft bgs, dividing the open borehole into upper and lower intervals designated as MW-58BR-UPR-160 and MW-58BR-LWR-160, respectively. In January 2011, a packer system was also installed into the open borehole MW-64BR at about 150 ft bgs, dividing the open borehole into upper and lower intervals designated as MW-64BR-UPR-150 and MW-64BR-LWR-150.

The packer-equipped boreholes MW-58BR and MW-64BR were sampled for arsenic during April 2011. These results are presented in Tables B-1 and B-2 in Appendix B. No results exceeded the California maximum contaminant level of 10 µg/L. Results for additional analytes in Second Quarter 2011 are presented in Table B-2 in Appendix B.

3.2.5 Background Study Metals

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

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

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 surface water sampling event conducted in June 2011. Cr(VI) was not detected above the reporting limit at any in-channel, shoreline, or other surface water monitoring locations during Second Quarter 2011. Chromium was not detected above the reporting limit at any in-channel, shoreline, or other surface water monitoring locations during Second Quarter 2011, with the exception of R-63 which showed a total chromium concentration of 1.2 µg/L. Note that a sample from R-63 collected at the same time as the total chromium sample was non-detect for hexavalent chromium, at a reporting limit of 0.2 µg/L. Table 3-5 presents the COPCs (molybdenum, nitrate, and selenium) and, potential in situ byproducts (manganese, iron, and arsenic), and other geochemical indicator parameters.

3.4 Data Validation and Completeness

Laboratory analytical data from the second quarter 2011 GMP sampling event were reviewed by project chemists to assess data quality and to identify deviations from analytical requirements. In addition to the typical metals, anions, total organic carbon, etc. that are typically analyzed for in the Topock monitoring wells, volatile organic compounds analysis by method SW8260B was also requested at MW-58BR and MW-64BR subsequent to removal of the FLUTe liners.

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

- MW-53D had a hexavalent chromium [Cr(VI)] detection of 6.6 µg/L (E218.6), however the dissolved chromium [Cr(T)] was non-detect at 1 µg/L (SW6020A). The fact that Cr(T) was non-detect suggests an issue with the Cr(VI) analysis, since it is theoretically impossible to have Cr(VI) greater than Cr(T).

A negative ORP (around -150 mV) and the presence of dissolved Mn and Fe (from 4Q 2010 and/or 2Q 2011 samples) are not consistent with the presence of Cr(VI) at this well. Also, specific conductance at this well ranges from 25,000 to 32,000 uS/cm; indicating high dissolved solid concentrations. The Cr(VI) methods using chromatography (i.e. E218.6, SW7199) are sensitive to interference from chloride or sulfate anions at high concentrations.

The MW-53D sample was re-analyzed by the lab for both Cr(T) and Cr(VI). Three Cr(T) results were non-detect (including a SW6020A analysis of the Cr(VI) container); but both Cr(VI) results were 6.6 µg/L, after repeating the analyses at 25x dilution. Even at a 25X dilution, interference was evident in the chromatogram. A notation that dilution was necessary to overcome analytical interference is seen in historical non-detect results at this well with Cr(VI) reporting limits ranging from 1 to 5.2 µg/L (at 5 - 25x dilution). The Cr(VI) detect result was qualified and flagged "J".

- Eight of the method SW8260B VOCs (2-butanone, 1,2,4-trimethylbenzene, 2,2-dichloropropane, acetone, acrolein, acrylonitrile, styrene, and toluene) had matrix

spike recoveries that were outside the control limits, and the associated samples were qualified and flagged “J” (detect results) and “UJ” (non-detect results). Three Continuing Calibration Verification samples were outside the control limits for 2,2-dichloropropane (SW8260B); three non-detect sample results were qualified and flagged “UJ.”

- Five sample results for chromium, arsenic, and manganese (E200.8) had internal standards outside the control limits and were qualified and flagged “J” (detect results) and “UJ” (non-detect results).
- Three field duplicate pairs had relative percent differences greater than the upper control limit for chromium, molybdenum, and manganese (SW6020A); the detect results were qualified and flagged “J.”
- MW-53D also exhibited a matrix issue for arsenic (SW6020A) where a 25x dilution was required to achieve satisfactory internal standard recovery (Note: the arsenic analysis was performed by a different laboratory than the chromium analysis). The sample result was qualified and flagged “J.”
- One laboratory control sample’s recovery for arsenic (SW6020A) was greater than the upper control limit, and the 11 associated detect sample results were qualified and flagged “J.”
- Based on the March 2007 United States Environmental Protection Agency ruling, pH has a 15-minute holding time. As a result, 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.”

No other significant analytical deficiencies were identified in the second 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.

4.0 IM Performance Monitoring Program Evaluation

4.1 Water Quality Results for PMP Floodplain Wells

Table C-1 in Appendix C presents the results of the general chemistry and stable isotope analyses for 15 PMP monitoring wells and two river stations during sampling events from March 2005 through June 2011. In July 2008, DTSC approved modifications to the PMP IM chemical performance monitoring program (DTSC, 2008b). With those modifications, there are now 10 monitoring wells and one river station sampled for IM chemical performance monitoring. Figure 1-4 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.

4.2 Cr(VI) Distribution and Trends in PMP Wells

The April through June 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 4-1¹. Figure 4-2 presents the April through June 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. The Cr(VI) concentration contours shown for the Alluvial Aquifer on these figures are based on results from the more comprehensive groundwater sampling conducted in December 2010 and the second quarter 2011 sampling event.

Figure 4-3 presents Cr(VI) concentration trend graphs for selected deep monitoring wells in the floodplain area through June 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 June 2011.

Wells showing marked decreases in concentration are generally in the floodplain area where IM pumping is removing chromium in groundwater. Wells with historic detections near or at reporting limits remained at these levels during the second quarter 2011 period. A review of Figure 4-3 and Appendix C indicates that Cr(VI) concentrations have remained steady or

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

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

Key trends for PMP groundwater monitoring wells sampled during the Second Quarter 2011 include:

- Concentrations at the MW-20 cluster (located near the TW-3D pumping well) indicate steady concentrations at MW-20-070 (since 2007), decreasing concentrations at MW-20-100 (since May 2007), and variable concentrations at MW-20-130, as shown in Figure C-3 in Appendix C.
- Mid-depth and deep MW-33 cluster Cr(VI) concentrations have shown stable to slightly increasing trends since 2005, while shallow well MW-33-40 has remained below or near the reporting limit since 2004 as presented in Figure C-5 in Appendix C.
- Concentrations at MW-34-100 have been variable, but generally declining, since June 2006. The sample result for April 2011 (16.1 µg/L) was the lowest concentration reported at this well to date, as shown on Figure 4-3. Superimposed on this primary overall downward trend in Cr(VI) concentration, MW-34-100 also shows a secondary seasonal effect in concentration related to high (spring/summer) and low (winter) Colorado River levels. The transitions between high and low river stages are believed to result in relatively small changes in the direction of the flow paths around MW-34-100 (both horizontally and/or vertically). Such changes in flowpaths could result in seasonal variations in the concentrations observed in MW34-100 as groundwater is pulled from areas of higher concentrations and/or lower ORP. The secondary trend of seasonal fluctuation in Cr(VI) is also seen in other monitoring wells near MW-34-100: superimposed on the overall decreasing trends at MW-44-125 and MW-44-115, and on a stable Cr(VI) trend at MW-46-175. River levels are discussed in Section 4.6.
- Concentrations in well MW-50-095 have declined since June 2007, and the lowest concentration reported to date was reported in December 2010, as shown in Figure C-12 in Appendix C.

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 (CH2M HILL, 2005, 2006; PG&E, 2007, 2008). Appendix C includes Cr(VI) concentration trend graphs for the IMCP wells. The IMCP well Cr(VI) results in Second Quarter 2011 were all below their assigned trigger levels.

4.4 Extraction Systems Operations

Pumping data for the IM-3 groundwater extraction system for the second quarter reporting period of April 1, 2011 through June 30, 2011 are presented in Table 4-1. From April 1, 2011 through June 30, 2011, the volume of groundwater extracted and treated by the IM-3 system was 16,334,980 gallons. This resulted in removal of an estimated 116.6 pounds (52.9

kilograms) of chromium from the aquifer during the period from April 1, 2011 through June 30, 2011.

During Second Quarter 2011, extraction wells TW-3D and PE-1 operated at a combined pumping rate of 124.6 gallons per minute (gpm), including periods of planned and unplanned downtime. The average monthly pumping rates were 116.0 gpm (April 2011), 133.3 gpm (May 2011), and 124.4 (June 2011) during the reporting period. Extraction wells TW-2S and TW-2D were not operated during Second Quarter 2011. The operational run-time percentage for the IM extraction system was 92.8 percent during this reporting period. The operations log for the extraction system during Second Quarter 2011, including planned and unplanned downtime, is included in Appendix D.

The concentrate (i.e., saline water) from the reverse osmosis system was shipped offsite as a RCRA non-hazardous waste and was transported to Liquid Environmental Solutions in Phoenix, Arizona for treatment and disposal. Six containers of solids from the IM-3 facility were disposed of at the Kettleman Hills Chemical Waste Management facility during Second 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.

During the second quarter 2011 reporting period, Cr(VI) concentrations in TW-3D have remained stable, ranging from a maximum value of 1,130 µg/L in April 2011 to a minimum value of 1,030 µg/L in June 2011, as shown in Table 4-2. TDS concentrations in TW-3D for this period have remained relatively stable, averaging about 5,100 milligrams per liter, as shown in Table 4-2.

The Cr(VI) concentrations in the extracted groundwater at well PE-1, located on the floodplain, have ranged from 9.5 to 10.5 µg/L during the reporting period, as shown in Table 4-2. TDS concentrations in PE-1 for this period have also remained stable, averaging about 3,100 milligrams per liter.

4.5 Hydraulic Gradient and River Levels during Quarterly Period

During the reporting period, water levels were recorded at intervals of 30 minutes with pressure transducers in 53 wells in the Alluvial Aquifer and two river monitoring stations (I-3 and RRB). The data are typically continuous, with only short interruptions for sampling or maintenance. The locations of the wells monitored are shown in Figure 1-4.

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

Average Second Quarter 2011 groundwater elevations for the shallow, mid-depth, and deep wells are presented and contoured in plan view in Figures 4-4a through 4-4c. Average groundwater elevations for wells on floodplain cross-section A are presented and contoured in Figure 4-5. Several monitoring wells are significantly deeper than other wells in the lower depth interval. Due to vertical gradients present at the Topock site, water levels in deeper wells tend to be higher than water levels in shallower wells. Consequently, some of the wells with screen intervals significantly deeper than most of the lower-interval wells exhibit water levels that are not contoured in the plan view in Figure 4-4c.

For the second quarter 2011 reporting period, a full set of transducer data was recorded in wells located on the Arizona side of the Colorado River. The quarterly average groundwater elevations for wells MW-55-120, MW-54-85, MW-54-140, and MW-54-195 are presented on Figure 4-4c and are used for contouring, where appropriate. With the exception of well MW-55-45, all of the wells in the MW-54 and MW-55 clusters are screened in the deep interval of the Alluvial Aquifer. Well MW-55-45 is screened over the boundary between the shallow and middle intervals.

Deep zone water levels shown in Figure 4-4c indicate that potentiometric levels in monitoring wells in Arizona are higher than those in wells across the river on the California floodplain. This means that the hydraulic gradient on the Arizona side of the river is directed to the west and, as a result, groundwater flow would also be towards the west in that area. This is consistent with the site conceptual model and with the current numerical groundwater flow model (CH2M HILL, 2009a, 2009f).

Hydraulic gradients were measured during the second 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 4-3 presents the average monthly hydraulic gradients that were measured between the gradient well pairs in Second Quarter 2011. Figure 4-6 presents graphs of the hydraulic gradients, monthly average pumping rates, and river levels for the quarterly period. Strong landward gradients were measured each month. The overall average gradients for all well pairs ranged from 0.0042 to 0.0052 feet per foot (ft/ft). This is 4.2 to 5.2 times greater than the required gradient of 0.001 ft/ft. The gradient for the northern well pair ranged from 2.0 to 2.2 times the target gradient of 0.001 ft/ft. For the central well pair, the average landward gradient ranged from 7.7 to 10.1 times the target gradient. The southern well pair gradients averaged 2.9 to 3.5 times the target gradient for the second quarter 2011 reporting period.

4.6 Projected River Levels during Next Quarter

Colorado River stage near the Topock Compressor Station is measured at the I-3 location and is directly influenced by releases from Davis Dam and, to a lesser degree, from Lake Havasu elevations, both of which are controlled by the United States Bureau of Reclamation (BOR). Total releases from Davis Dam follow a predictable annual cycle, with largest

monthly releases typically in spring and early summer and smallest monthly releases in late fall/winter (November and December). Superimposed on this annual cycle is a diurnal cycle determined primarily by daily fluctuations in electric power demand. Releases within a given 24-hour period often fluctuate over a wider range of flows than that of monthly average flows over an entire year.

Figure 4-7 shows river stage measured at I-3 superimposed on the projected I-3 river levels. Projected river levels for future months are based on the BOR projections of Davis Dam discharge and Lake Havasu levels from the month preceding. For example, the projected river level for July 2011 is based on the June 2011 BOR data of Davis Dam release and Lake Havasu level not the actual release and level values. The variability between measured and projected river levels is due to the difference between measured and actual Davis Dam release and Lake Havasu levels. The more recent data plotted in Figure 4-7 are summarized in Table 4-4. The future projections shown in Figure 4-7 are based on BOR long-range projections of Davis Dam releases and Lake Havasu levels from June 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 4-4, show that the average projected Davis Dam release for July 2011 (15,500 cubic feet per second) will be less than the actual release in June 2011 (16,024 cubic feet per second). Based on July 2011 BOR predictions, it is anticipated that the Colorado River level at the I-3 gage location in July 2011 will be approximately 0.45 foot lower compared to the actual levels in June 2011. Current projections show that the water levels will decrease during the next quarterly reporting period (July through October 2011), as shown in Figure 4-7.

4.7 Quarterly PMP Evaluation Summary

The groundwater elevation and hydraulic gradient data from April 2011 through June 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 the second quarter 2011 were 4.2 to 5.2 times the required minimum magnitude. The current gradient well pairs are adequate to define the capture of the hexavalent chromium plume while pumping from extraction wells TW-3D and PE-1. Based on the hydraulic and monitoring data and evaluation presented in this report, the IM performance standard has been met for the second quarter 2011 reporting period.

A total of 16,334,980 gallons of groundwater was extracted between April and June 2011 by the IM-3 treatment facility. The average pumping rate for the IM extraction system during Second Quarter 2011, including system downtime, was 124.6 gpm. An estimated 116.6 pounds (52.9 kilograms) of chromium were removed and treated during Second Quarter 2011.

A review of the groundwater gradient maps for Second Quarter 2011 (Figures 4-4a to 4-4c) shows that floodplain PMP monitoring wells where Cr(VI) was detected at greater than 20 µg/L are within the IM capture zone of the pumping well(s) during the reporting period. That is, the inferred groundwater flow lines from floodplain PMP wells with Cr(VI) greater than 20 µg/L are oriented towards the TW-3D and PE-1 extraction wells.

The wells that are monitored in the IM pumping area (e.g., MW-36-100, MW-39-70, MW-39-80, and MW-39-100) generally continue to show overall declining Cr(VI) concentrations relative to prior monitoring results, as shown in Figure 4-3 and Appendix C. Presentation and evaluation of the Cr(VI) trends observed in the performance monitoring area during the second quarter 2011 reporting period are discussed in Section 4.2.

5.0 Upcoming Operation and Monitoring Events

Reporting of the IM extraction and monitoring activities will continue as described in the PMP and under direction from DTSC. All monitoring results, operations, and performance monitoring data will be reported in the third quarter 2011 monitoring report, which will be submitted by November 30, 2011.

5.1 Groundwater Monitoring Program

5.1.1 Quarterly Monitoring

As described in the July 23, 2010 DTSC sampling schedule approval (DTSC, 2010a), the third quarter monitoring event will occur September 26 through October 7, 2011. This sampling event will include approximately 30 GMP wells.

5.1.2 Monthly Monitoring

Monthly sampling of the two active extraction wells (TW-3D and PE-1) will continue to be performed during the first two weeks of each month.

5.2 Surface Water Monitoring Program

The third quarter 2011 surface water monitoring event will be conducted at locations in the RMP monitoring network and is scheduled to occur on October 11 and 12, 2011. Results will be reported in the third quarter 2011 quarterly monitoring report.

5.3 Performance Monitoring Program

5.3.1 Extraction

Per DTSC direction, PG&E will continue to operate wells TW-3D and PE-1 at a target combined pumping rate of 135 gpm during Third Quarter 2011, except for periods when planned and unplanned downtime occurs. Extracted groundwater treated at the IM-3 facility will be discharged into the IM-3 injection wells in accordance with Waste Discharge Requirements Order No. R7-2006-0060. Saline water and solids generated as byproducts of the treatment process will continue to be transported for offsite disposal.

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

5.3.2 Transducer Download

Downloads of the transducers in the key gradient control wells (MW-27-085, MW-31-135, MW-33-135, MW-34-100, and MW-45-095) will continue to be conducted weekly during the third quarter 2011 reporting period. Downloads of the remainder of the transducers will occur during the first week of each month during the third quarter 2011 reporting period.

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Tables

Table 3-1

Groundwater Sampling Results, April 2010 through June 2011
 Second Quarter 2011 Interim Measure 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 Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-9	SA	15-Dec-10	312	334	93	3,310	7.4
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
MW-12	SA	06-Apr-10	1,960	1,900	74	6,150	8.4
		06-Apr-10 FD	1,960	1,840	FD	FD	FD
		06-May-10	2,650	2,700	84	5,820	8.4
		06-May-10 FD	2,650	2,890	FD	FD	FD
		30-Sep-10	2,930	2,810	210	6,390	8.2
		30-Sep-10 FD	3,110	2,810	FD	FD	FD
		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
MW-13	SA	07-Dec-10	21.9	22.6	3.8	2,030	7.9
MW-14	SA	07-Dec-10	22.1	22.1	14	1,560	8.0
MW-15	SA	14-Dec-10	13.8	13.4	150	1,810	7.7
MW-16	SA	10-Dec-10	10.1	10.2	22	1,130	8.0
		02-May-11	10.0	10.6	---	1,100	8.5
MW-17	SA	14-Dec-10	16.7	17.0	150	1,590	7.9
		03-May-11	15.0	15.9	---	1,500	8.0
MW-18	SA	14-Dec-10	21.1	19.4	120	1,360	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
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
MW-20-100 ²	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
MW-20-130 ²	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
MW-21	SA	04-May-10	2.0	3.8	-30	8,420	7.1
		28-Sep-10	ND (1.0)	1.1	-84	13,100	7.1

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Table 3-1

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-21	SA	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	---	9,000	7.6
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
MW-23-060	BR-S	03-May-10	24.7	23.9	-32	14,700	---
		29-Sep-10	29.6	31.1	51	16,500	---
		14-Dec-10	30.4	33.3	53	16,100	---
		09-Feb-11	31.5	30.8	93	16,900	---
		04-May-11	30.2	31.3	-77	15,000	---
MW-23-080	BR-S	04-May-10	21.8	20.5	-77	18,000	---
		29-Sep-10	6.0	8.0	-53	17,300	---
		14-Dec-10	12.2	12.8	3.5	17,400	---
		09-Feb-11	19.8	20.7	63	17,400	---
		04-May-11	14.1	13.3	-170	15,000	---
		04-May-11 FD	14.4	12.5	FD	16,000	FD
MW-24BR	BR	05-May-10	ND (1.0)	ND (1.0)	-150	15,400	8.4
		30-Sep-10	ND (1.0)	1.1	-170	15,000	8.0
		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
MW-25	SA	07-Dec-10	280	344	35	1,360	7.6
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
MW-27-20	SA	07-Dec-10	ND (0.2)	ND (1.0)	-170	1,000	7.7
MW-27-60	MA	07-Dec-10	ND (0.2)	ND (1.0)	-160	1,180	8.2
MW-27-85	DA	29-Apr-10	ND (1.0)	ND (1.0)	-29	15,400	7.2
		01-Oct-10	ND (1.0)	1.2	-37	15,100	7.2
		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

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
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
MW-28-90	DA	29-Apr-10	ND (1.0)	ND (1.0)	-100	7,980	7.4
		28-Sep-10	ND (0.2)	ND (1.0)	-110	7,480	7.3
		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
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
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
MW-30-50	MA	07-Dec-10	ND (0.2)	ND (1.0)	-210	1,330	8.0
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
MW-31-135	DA	15-Dec-10	17.8	15.9	89	11,700	7.8
MW-32-20	SA	08-Dec-10	ND (1.0)	ND (1.0)	-140	51,700	6.8
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
MW-33-40	SA	30-Apr-10	ND (0.2)	ND (1.0)	-37	5,920	8.3
		28-Sep-10	ND (0.2)	3.5	-26	5,490	8.2
		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
MW-33-90	MA	30-Apr-10	24.2	22.7	-32	10,900	7.5
		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
MW-33-150	DA	30-Apr-10	9.5	9.3	-33	17,600	7.6
		30-Apr-10 FD	10.4	9.7	FD	FD	FD
		29-Sep-10	10.8	10.8	62	17,500	7.4
		29-Sep-10 FD	11.2	11.0	FD	FD	FD
		10-Dec-10	11.5	11.9	-44	17,600	7.6

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-33-150	DA	09-Feb-11	12.2	12.3	---	17,700	7.5
		04-May-11	11.2	11.4	-93	15,000	7.4
MW-33-210	DA	30-Apr-10	11.3	11.8	-27	20,400	7.4
		29-Sep-10	13.0	13.5	88	19,600	7.3
		10-Dec-10	14.1	15.5	-69	19,900	7.4
		09-Feb-11	14.8	15.2	61	20,000	7.3
		04-May-11	10.7	11.0	-170	1,700	7.2
MW-34-55	MA	07-Dec-10	ND (0.2)	ND (1.0)	-150	1,020	7.7
MW-34-80	DA	29-Apr-10	ND (1.0)	ND (1.0)	-6.9	8,570	7.4
		01-Oct-10	ND (0.2)	ND (1.0)	-60	8,400	7.4
		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
MW-34-100	DA	28-Apr-11	ND (1.0)	ND (1.0)	-19	7,600	7.6
		29-Apr-10	71.3	73.5	29	19,500	7.5
		29-Apr-10 FD	78.7	73.6	FD	FD	FD
		01-Oct-10	75.1	66.6	33	18,500	7.4
		01-Oct-10 FD	75.6	67.1	FD	FD	FD
		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
MW-35-60	SA	28-Apr-11	15.9	15.8	12	16,000	7.6
		28-Apr-11 FD	16.1	16.8	FD	16,000	FD
		04-May-11	26.1	26.4	-19	6,700	7.9
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
MW-36-20	SA	07-Dec-10	ND (0.2)	ND (1.0)	-170	7,260	7.6
MW-36-40	SA	07-Dec-10	ND (0.2)	ND (1.0)	-200	2,120	7.9
MW-36-50	MA	08-Dec-10	ND (0.2)	ND (1.0)	-110	1,810	7.5
MW-36-70	MA	07-Dec-10	ND (0.2)	ND (1.0)	-100	---	8.1

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
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
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
MW-37S	MA	10-Dec-10	9.6	10.0	120	5,240	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
MW-39-50	MA	08-Dec-10	ND (0.2)	ND (1.0)	-7.5	1,720	8.0
MW-39-60	MA	09-Dec-10	ND (0.2)	ND (1.0)	-63	2,040	7.9
MW-39-70	MA	08-Dec-10	ND (0.2)	ND (1.0)	79	3,850	7.4
MW-39-80	DA	09-Dec-10	ND (0.2)	ND (1.0)	-38	9,460	7.0
MW-39-100	DA	14-Dec-10	206	240	6.4	20,300	6.7
MW-40D	DA	15-Dec-10	172	159	22	16,200	7.5
		05-May-11	140	124	-7.7	14,000	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
MW-41M	DA	08-Dec-10	11.0	10.4	-83	15,700	7.8
MW-41D	DA	08-Dec-10	2.2	3.1	-110	22,100	7.9
		02-May-11	1.9	2.4	---	18,000	7.8
MW-42-30	SA	06-Dec-10	ND (0.2)	ND (1.0)	-220	4,850	7.8
MW-42-55	MA	29-Apr-10	ND (1.0)	ND (1.0)	-100	10,500	7.5
		27-Sep-10	ND (0.2)	ND (1.0)	---	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
MW-42-65	MA	29-Apr-10	ND (1.0)	ND (1.0)	-31	13,600	7.2
		27-Sep-10	ND (1.0)	ND (1.0)	---	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

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
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
MW-43-75	DA	09-Dec-10	ND (1.0)	ND (1.0)	-170	11,700	7.6
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
MW-44-70	MA	09-Dec-10	ND (0.2)	ND (1.0)	-230	2,850	7.6
		03-May-11	ND (0.2)	ND (1.0)	-160	2,500	7.4
MW-44-115	DA	30-Apr-10	269	270	-100	12,600	7.9
		30-Apr-10 FD	320	273	FD	FD	FD
		28-Sep-10	228	218	-200	11,800	7.9
		28-Sep-10 FD	236	219	FD	FD	FD
		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
MW-44-125	DA	30-Apr-10	9.4	40.8	-210	13,000	8.0
		28-Sep-10	ND (0.2)	16.0	-220	12,000	7.7
		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
MW-45-095a	DA	14-Dec-10	---	---	-98	9,550	7.5
MW-46-175	DA	30-Apr-10	81.7	79.8	-120	18,400	8.5
		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
MW-46-205	DA	08-Dec-10	5.6	6.4	-100	21,800	8.3

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-46-205	DA	04-May-11	5.8	6.6	41	18,000	8.1
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
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
MW-48	BR	08-Apr-10	ND (1.0)	ND (1.0)	89	19,200	7.0
		05-May-10	ND (1.0)	ND (1.0)	-27	19,500	7.8
		29-Sep-10	ND (1.0)	ND (1.0)	110	16,800	7.1
		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
MW-49-135	DA	13-Dec-10	ND (1.0)	3.1	-1.2	14,400	7.8
MW-49-275	DA	13-Dec-10	ND (1.0)	1.8	-200	26,400	8.1
MW-49-365	DA	13-Dec-10	ND (2.1)	ND (1.0)	-220	40,200	7.9
MW-50-095	MA	10-Dec-10	18.9	19.7	36	5,240	7.8
		03-May-11	18.3	18.9	---	5,000	8.2
MW-50-200 ²	DA	06-May-10	10,800	9,840	110	22,400	7.8
		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
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
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
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
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
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	---

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
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	---
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
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
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
MW-55-45	MA	09-Dec-10	ND (0.2)	ND (1.0)	-200	1,560	7.8
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
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
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
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
MW-57-070	BR	05-May-10	452	452	3.5	1,830	7.4
		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
MW-57-185	BR-D	05-May-10	3.9	4.7	-50	19,700	8.7
		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	---	17,000	8.4
MW-58BR-LWR	BR	16-Sep-10	200	200	---	---	---
		07-Oct-10	199	173	-66	9,890	7.5

Refer to table footnotes for data qualifier explanation.

Table 3-1

Groundwater Sampling Results, April 2010 through June 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-58BR-LWR-160	BR	10-Feb-11	140	130	---	---	---
		04-Apr-11	100	110	---	---	---
MW-58BR-UPR	BR	14-Sep-10	3.8	3.5	---	---	---
		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)	---	---	---
		18-Mar-11	ND (5.0)	ND (1.0)	---	---	---
MW-59-100	SA	06-May-10	4,940	4,850	93	10,500	7.0
		30-Sep-10	5,140	4,630	240	10,700	6.9
		16-Dec-10	5,660	4,830	110	9,940	7.0
		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
MW-60-125	BR-S	06-May-10	1,120	1,080	76	9,610	7.4
		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
MW-61-110	BR-S	06-May-10	480	511	110	16,600	7.5
		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
MW-62-065	BR-S	06-May-10	436	456	120	6,580	7.4
		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
MW-62-110	BR-M	04-May-10	579	569	-54	9,220	8.0
		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
MW-62-190	BR-D	04-May-10	ND (1.0)	ND (1.0)	-95	19,500	8.0

Refer to table footnotes for data qualifier explanation.

Table 3-1

Groundwater Sampling Results, April 2010 through June 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 Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
MW-62-190	BR-D	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
MW-63-065	BR-S	03-May-10	1.4	2.1	15	8,070	7.1
		03-May-10 FD	1.4	2.4	FD	FD	FD
		27-Sep-10	1.7	2.2	73	7,440	7.1
		27-Sep-10 FD	1.7	2.2	FD	FD	FD
		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
MW-64-150	BR-S	04-May-10	ND (1.0)	ND (1.0)	38	11,300	6.9
		25-Aug-10	ND (1.0)	ND (1.0)	-51	10,900	7.2
		29-Sep-10	ND (1.0)	ND (1.0)	18	10,500	6.7
		20-Oct-10	ND (0.2)	ND (1.0)	-49	8,340	7.1
		11-Nov-10	ND (0.2)	ND (1.0)	-26	8,550	7.3
MW-64-205	BR-D	04-May-10	ND (1.0)	2.6	-170	16,300	7.2
		25-Aug-10	ND (1.0)	3.9	-72	15,800	7.6
		29-Sep-10	ND (1.0)	3.8	-110	15,900	6.8
		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-D	04-May-10	ND (1.0)	ND (1.0)	-190	16,100	7.2
		25-Aug-10	ND (1.0)	ND (1.0)	-210	15,900	8.1
		29-Sep-10	ND (1.0)	ND (1.0)	-180	15,900	6.7
		20-Oct-10	ND (1.0)	ND (1.0)	-140	14,800	6.9
		11-Nov-10	ND (1.0)	ND (1.0)	-160	14,500	7.2
MW-64BR ³	BR	20-Dec-10	140	140	---	---	---
MW-64BR-LWR-150	BR	24-Feb-11	100	97.0	---	---	---
		20-Apr-11	2.1	3.2	---	---	---
MW-64BR-UPR-150	BR	26-Jan-11	220	220	---	---	---
		12-Apr-11	130	140	---	---	---
OW-3S	SA	08-Dec-10	25.2	25.6	-49	1,650	7.9
OW-3M	MA	08-Dec-10	18.0	18.6	-100	5,730	8.2

Refer to table footnotes for data qualifier explanation.

Table 3-1

Groundwater Sampling Results, April 2010 through June 2011
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
OW-3D	DA	08-Dec-10	9.4	10.4	-110	8,920	8.2
PE-1	DA	07-Apr-10	13.7	15.4 LF	---	---	---
		04-May-10	13.0	14.6 LF	---	---	---
		02-Jun-10	14.0	13.4 UF	---	---	---
		07-Jul-10	13.7	11.4 LF	---	---	---
		04-Aug-10	12.4	11.9 LF	---	---	---
		01-Sep-10	14.9	12.4 LF	---	---	---
		05-Oct-10	13.2	12.3 LF	---	---	---
		03-Nov-10	12.9	12.0 LF	---	---	---
		07-Dec-10	15.2	14.4 LF	---	---	---
		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	---
PGE-7BR	BR	09-Dec-10	ND (1.0)	ND (1.0)	-250	20,400	7.3
PGE-8 ²	BR	08-Apr-10	ND (1.0)	3.0	-270	21,600	8.3
		10-Feb-11	ND (1.0)	2.0	-330	20,800	8.0
Park Moabi-3	MA	10-Dec-10	11.9	10.5 UF	48	1,300	7.6
Park Moabi-4	MA	10-Dec-10	21.0	20.6 UF	40	1,960	7.4
TW-1	SA-MA-DA	05-May-10	3,700	3,700	31	7,450	7.4
		28-Sep-10	3,690	3,490	2.1	7,130	7.3
		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	---	6,900	7.4
TW-2S	MA	15-Dec-10	700	815	200	2,550	7.6
TW-2D	DA	15-Dec-10	274	287	230	9,370	7.2
TW-3D	DA	07-Apr-10	1,380	1,310 LF	---	---	---
		04-May-10	1,000	1,240 LF	---	---	---
		02-Jun-10	1,500	1,230 UF	---	---	---
		07-Jul-10	1,100	1,130 LF	---	---	---
		04-Aug-10	1,280	1,100 LF	---	---	---

Refer to table footnotes for data qualifier explanation.

Table 3-1

Groundwater Sampling Results, April 2010 through June 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Selected Water Quality Parameters		
					Field ORP (mV)	Specific ¹ Conductance (µS/cm)	Field pH
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	---	---	---
		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	---
TW-4	DA	13-Dec-10	11.4	11.9	83	21,700	7.4
TW-5	DA	10-Dec-10	---	---	63	14,500	7.7

Refer to table footnotes for data qualifier explanation.

Table 3-1

Groundwater Sampling Results, April 2010 through June 2011
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NOTES:

ND = not detected at listed reporting limit (RL)
FD = field duplicate sample
UF = unfiltered
LF = lab filtered
J = concentration or RL estimated by laboratory or data validation
(---) = data not collected, available, rejected, or field instrument malfunction
µg/L = micrograms per liter
mV = millivolts
ORP = oxidation-reduction potential
µS/cm = microSiemens per centimeter

¹ Field Specific Conductance reported through First Quarter 2011; Lab Specific Conductance reported starting in Second Quarter 2011.

² Data collected February 2011 due to field logistical issues.

³ 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, 2010) and are not included in this table.

As a result 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 in late 2011 (CH2M HILL, 2010b).

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 in late 2011 (CH2M HILL, 2010b).

TW-1 not posted on contour maps (Figure 3-1a-c and Figure 4-1) because well is constructed across all three depth intervals.

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

Wells are assigned to separate Aquifer zones for results reporting:

SA: shallow interval of Alluvial Aquifer

MA: mid-depth interval of Alluvial Aquifer

DA: deep interval of Alluvial Aquifer

PA: perched aquifer (unsaturated zone)

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

BR-S: well completed in shallowest portion of BR

BR-M: well completed in middle portion of BR

BR-D: well completed in deeper portion of BR

Refer to table footnotes for data qualifier explanation.

Table 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-9	SA	15-Dec-10	---	21.0	1.7	5.9	ND (10)	9.20	---
MW-10	SA	07-Dec-10	7.2	ND (20)	100	4.6	ND (10)	11.0	12.0
		07-Dec-10 FD	6.9	ND (20)	110	4.6	ND (10)	11.0	12.0
		05-May-11	---	---	64.0	5.5	---	11.0	7.70
		05-May-11 FD	---	---	61.0	5.5	---	11.0	7.70
MW-12	SA	16-Dec-10	53.0	31.0	14.0	10.0	ND (10)	9.80	---
		10-Feb-11	48.0	---	13.0	9.8	---	---	---
		06-May-11	49.0	---	13.0	9.5	---	10.0	---
MW-13	SA	07-Dec-10	1.9	ND (20)	---	---	ND (10)	4.40	---
MW-14	SA	07-Dec-10	---	ND (20)	---	---	ND (10)	5.10	---
MW-15	SA	14-Dec-10	---	ND (20)	---	---	ND (10)	5.10	---
MW-16	SA	10-Dec-10	9.7	22.0	11.0	1.5	ND (10)	3.00	---
		02-May-11	10.0	30.0	13.0	1.6	ND (10)	---	---
MW-17	SA	14-Dec-10	1.2	ND (20)	24.0	11.0	ND (10)	4.70	---
		03-May-11	1.3	ND (20)	15.0	11.0	ND (10)	---	---
MW-18	SA	14-Dec-10	---	ND (20)	---	---	ND (10)	3.60	---
MW-19	SA	15-Dec-10	---	ND (20)	---	---	ND (10)	4.20	---
MW-20-70	SA	16-Dec-10	---	ND (20)	30.0	9.9	ND (10)	16.0	---
		06-May-11	---	---	35.0	9.0	---	13.0	---
MW-20-100 ¹	MA	10-Feb-11	---	150	4.4	6.2	ND (10)	15.0	---
		06-May-11	---	---	4.2	11.0	---	18.0	---
MW-20-130 ¹	DA	10-Feb-11	4.9	26.0	40.0	21.0	ND (10)	13.0	---
		06-May-11	5.1	---	43.0	16.0	ND (2.5)	11.0	---
MW-21	SA	07-Dec-10	---	77.0	---	---	61.0	1.00	---
		03-May-11	---	---	59.0	21.0	---	2.10	---
MW-22	SA	07-Dec-10	12.0	9400	23.0	1.1	4400	ND (2.5)	---
		03-May-11	12.0	---	28.0	ND (2.5)	2300	---	---
MW-23-060	BR-S	14-Dec-10	3.0	ND (20)	---	---	ND (10)	3.70	---
		04-May-11	2.5	---	---	---	0.51	---	---
MW-23-080	BR-S	14-Dec-10	2.6	ND (20)	---	---	ND (10)	3.90	---
		04-May-11	3.3	---	---	---	ND (0.5)	---	---
		04-May-11 FD	3.4	---	---	---	ND (2.5)	---	---
MW-24BR	BR	08-Dec-10	---	ND (20)	64.0	ND (0.5)	480	ND (2.5)	---
MW-25	SA	07-Dec-10	1.5	ND (20)	---	---	ND (10)	4.80	---
MW-26	SA	15-Dec-10	1.7	27.0	34.0	30.0	ND (10)	12.0	---
		05-May-11	1.4	---	17.0	5.6	16.0	14.0	---
MW-27-20	SA	07-Dec-10	2.9	720	---	---	110	ND (0.5)	---

Table 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-27-60	MA	07-Dec-10	7.1	ND (20)	---	---	18.0	ND (0.5)	---
MW-27-85	DA	07-Dec-10	1.4	240	---	---	140	ND (1.0)	---
		08-Feb-11	1.3	---	---	---	---	---	---
		08-Feb-11 FD	1.3	---	---	---	---	---	---
		28-Apr-11	1.4	---	---	---	---	---	---
		28-Apr-11 FD	1.4	---	---	---	---	---	---
MW-28-25	SA	08-Dec-10	1.7	63.0	---	---	160	ND (0.5)	---
		02-May-11	2.0	---	---	---	---	---	---
MW-28-90	DA	08-Dec-10	1.8	810	18.0	ND (0.5)	180	ND (1.0)	---
		08-Feb-11	1.7	---	---	---	---	---	---
		02-May-11	2.0	---	---	---	---	---	---
MW-29	SA	14-Dec-10	21.0	1800	---	---	180	ND (0.5)	---
		29-Apr-11	9.0	---	---	---	400	---	---
MW-30-30	SA	07-Dec-10	1.6	3000	25.0	0.71	320	ND (1.0)	---
		03-May-11	---	---	24.0	ND (2.5)	---	ND (1.0)	---
MW-30-50	MA	07-Dec-10	9.7	ND (20)	5.9	ND (0.5)	30.0	ND (0.5)	---
MW-31-60	SA	15-Dec-10	1.1	ND (20)	---	---	ND (10)	3.50	---
MW-31-135	DA	15-Dec-10	3.7	ND (20)	28.0	0.52	ND (10)	ND (1.0)	---
MW-32-20	SA	08-Dec-10	2.6	15000	---	---	1000	ND (5.0)	---
MW-32-35	SA	09-Dec-10	22.0	15000 J	---	---	2300 J	ND (2.5)	---
		02-May-11	26.0	---	---	---	2200	---	---
MW-33-40	SA	10-Dec-10	11.0	ND (20)	---	---	ND (10)	ND (2.5)	16.0
		09-Feb-11	12.0	---	---	---	---	---	---
		02-May-11	19.0	---	---	---	---	---	---
MW-33-90	MA	10-Dec-10	1.3	ND (20)	22.0	0.91	ND (10)	1.80	---
MW-33-150	DA	10-Dec-10	---	ND (20)	38.0	0.75	ND (10)	ND (2.5)	---
MW-33-210	DA	10-Dec-10	---	ND (20)	15.0	0.72	ND (10)	ND (2.5)	---
MW-34-55	MA	07-Dec-10	2.5	160	---	---	63.0	ND (0.5)	---
MW-34-80	DA	07-Dec-10	1.3	49.0	---	---	27.0	ND (1.0)	---
		07-Feb-11	1.3	---	---	---	---	---	---
		07-Feb-11 FD	1.2	---	---	---	---	---	---
		28-Apr-11	1.4	---	---	---	---	---	---
MW-34-100	DA	08-Dec-10	1.3	ND (20)	40.0	ND (0.5)	ND (10)	ND (2.5)	---
		08-Dec-10 FD	1.3	ND (20)	40.0	ND (0.5)	ND (10)	ND (1.0)	---
		11-Jan-11	1.2	---	---	---	---	---	---
		07-Feb-11	1.5	---	---	---	---	---	---
		28-Apr-11	1.4	---	---	---	---	---	---

Table 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-34-100	DA	28-Apr-11 FD	1.3	---	---	---	---	---	---
MW-35-60	SA	14-Dec-10	---	ND (20)	---	---	ND (10)	1.90	---
MW-35-135	DA	14-Dec-10	0.9	ND (20)	---	---	ND (10)	2.50	---
MW-36-20	SA	07-Dec-10	1.9	900	---	---	130	ND (0.5)	---
MW-36-40	SA	07-Dec-10	4.7	570	6.2	ND (0.5)	120	ND (0.5)	---
MW-36-50	MA	08-Dec-10	3.6	170	---	---	250	ND (0.5)	---
MW-36-70	MA	07-Dec-10	7.1	42.0	---	---	44.0	ND (0.5)	---
MW-36-90	DA	08-Dec-10	17.0	ND (20)	---	---	10.0	ND (0.5)	---
		08-Dec-10 FD	18.0	ND (20)	---	---	12.0	ND (0.5)	---
		02-May-11	19.0	---	---	---	---	---	---
MW-36-100	DA	15-Dec-10	5.1	29.0	38.0	ND (0.5)	75.0	ND (2.5)	---
		03-May-11	6.3	---	42.0	0.77	75.0	ND (1.0)	---
MW-37D	DA	15-Dec-10	---	28.0	---	---	ND (10)	ND (2.5)	---
		05-May-11	---	---	47.0	ND (2.5)	---	ND (2.5)	---
MW-37S	MA	10-Dec-10	1.7	ND (20)	---	---	ND (10)	1.50	---
MW-39-50	MA	08-Dec-10	8.6	ND (20)	9.7	ND (0.5)	29.0	ND (0.5)	---
MW-39-60	MA	09-Dec-10	6.0	ND (20)	26.0	ND (0.5)	18.0	ND (0.5)	---
MW-39-70	MA	08-Dec-10	---	ND (20)	---	---	ND (10)	ND (0.5)	---
MW-39-80	DA	09-Dec-10	---	ND (20)	---	---	ND (10)	ND (1.0)	---
MW-39-100	DA	14-Dec-10	2.2	ND (20)	8.4	ND (0.5)	ND (10)	ND (2.5)	---
MW-40D	DA	15-Dec-10	4.2	ND (20)	47.0	2.0	ND (10)	2.90	---
		05-May-11	4.3	---	48.0	ND (2.5)	5.6	2.70	---
MW-41D	DA	08-Dec-10	2.4	43.0	---	---	63.0	ND (2.5)	---
MW-41M	DA	08-Dec-10	2.0	ND (20)	---	---	ND (10)	ND (1.0)	---
MW-41S	SA	08-Dec-10	2.0	ND (20)	---	---	ND (10)	1.30	---
		08-Dec-10 FD	1.9	ND (20)	---	---	ND (10)	1.30	---
MW-42-30	SA	06-Dec-10	2.2	---	26.0	ND (0.5)	---	ND (0.5)	---
MW-42-55	MA	06-Dec-10	12.0	1300	---	---	670	ND (1.0)	---
		07-Feb-11	12.0	---	---	---	---	---	---
		29-Apr-11	13.0	---	---	---	---	---	---
MW-42-65	MA	06-Dec-10	1.8	110	---	---	1700	ND (1.0)	---
		07-Feb-11	1.9	---	---	---	---	---	---
		29-Apr-11	2.2	---	---	---	1600	---	---
MW-43-25	SA	09-Dec-10	19.0	3100	---	---	240	ND (0.5)	---
		29-Apr-11	20.0	---	---	---	270	---	---
MW-43-75	DA	09-Dec-10	11.0	1900	---	---	280	ND (2.5)	---
MW-43-90	DA	09-Dec-10	3.7	4500	---	---	1000	ND (2.5)	---

Table 3-2

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Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-43-90	DA	29-Apr-11	3.3	---	---	---	1000	---	---
MW-44-70	MA	09-Dec-10	3.1	260	---	---	120	ND (0.5)	---
		03-May-11	3.3	---	---	---	---	---	---
MW-44-115	DA	09-Dec-10	5.1	ND (20)	82.0	ND (0.5)	ND (10)	ND (2.5)	---
		09-Dec-10 FD	5.0	ND (20)	77.0	ND (0.5)	ND (10)	ND (2.5)	---
		03-May-11	5.6	---	83.0	ND (2.5)	5.2	ND (1.0)	---
MW-44-125	DA	09-Dec-10	4.0	78.0 J	160	ND (0.5)	610	ND (2.5)	---
		09-Dec-10 FD	3.8	140 J	170	ND (0.5)	620	ND (2.5)	---
		03-May-11	3.7	---	83.0 J	0.81	480 J	ND (1.0)	---
		03-May-11 FD	3.4	---	130 J	ND (2.5)	750 J	0.55	---
MW-45-095a	DA	14-Dec-10	3.6	ND (20)	---	---	ND (10)	ND (1.0)	---
MW-46-175	DA	08-Dec-10	---	ND (20)	200	0.83	ND (10)	ND (1.0)	---
		08-Dec-10 FD	---	24.0	200	0.84	ND (10)	ND (1.0)	---
		03-May-11	---	---	170	2.9	---	ND (2.5)	---
		03-May-11 FD	---	---	170	4.9	---	ND (2.5)	---
MW-46-205	DA	08-Dec-10	---	ND (40)	---	---	31.0	ND (2.5)	---
MW-47-55	SA	13-Dec-10	1.1	ND (20)	---	---	ND (10)	1.60	---
		13-Dec-10 FD	1.2	ND (20)	---	---	ND (10)	1.60	---
MW-47-115	DA	13-Dec-10	---	ND (20)	---	---	ND (10)	ND (2.5)	---
MW-48	BR	08-Dec-10	---	ND (20)	---	---	38.0	ND (1.0)	---
MW-49-135	DA	13-Dec-10	1.6	620	---	---	560	ND (2.5)	---
MW-49-275	DA	13-Dec-10	---	61.0	---	---	470	ND (2.5)	---
MW-49-365	DA	13-Dec-10	---	ND (100)	---	---	150	ND (5.0)	---
MW-50-095	MA	10-Dec-10	---	ND (20)	---	---	ND (10)	1.50	---
MW-50-200 ¹	DA	10-Feb-11	---	ND (40)	---	---	ND (20)	6.40	---
		10-Feb-11 FD	---	ND (40)	---	---	ND (20)	6.10	---
MW-51	MA	16-Dec-10	3.9	ND (20)	---	---	ND (10)	10.0	---
		06-May-11	3.9	---	39.0	13.0	ND (2.5)	10.0	---
MW-52D	DA	09-Dec-10	3.3	530	---	---	290	ND (2.5)	---
		03-May-11	3.3	---	---	---	280	---	---
MW-52M	DA	09-Dec-10	1.3	1000	---	---	180	ND (2.5)	---
		03-May-11	1.2	---	---	---	---	---	---
MW-52S	MA	09-Dec-10	0.35	6200	---	---	990	ND (1.0)	---
		03-May-11	0.5	---	---	---	---	---	---
MW-53D	DA	09-Dec-10	2.9	190	---	---	2000	ND (2.5)	---
		03-May-11	3.2 J	---	---	---	1900	---	---
MW-53M	DA	10-Dec-10	1.0	290	---	---	420	ND (2.5)	---

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Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-53M	DA	03-May-11	0.96	---	---	---	400	---	---
MW-54-85	DA	14-Dec-10	---	1150	---	---	1190	ND (0.5)	---
		05-May-11	ND (5.0)	---	---	---	838	---	---
MW-54-140	DA	14-Dec-10	---	ND (100)	---	---	246	0.659	---
		05-May-11	ND (5.0)	---	---	---	217 J	---	---
MW-54-195	DA	14-Dec-10	---	112	---	---	585	ND (0.5)	---
		05-May-11	ND (5.0) J	---	---	---	614	---	---
		05-May-11 _{FD}	ND (5.0) J	---	---	---	613	---	---
MW-55-45	MA	09-Dec-10	---	ND (100)	---	---	1030	ND (0.5)	---
MW-55-120	DA	09-Dec-10	---	ND (100)	---	---	33.7	1.40	---
		09-Dec-10 _{FD}	---	ND (100)	---	---	33.9	1.40	---
MW-56D	DA	14-Dec-10	---	634	---	---	639	ND (0.5)	---
MW-56M	DA	14-Dec-10	---	3190	---	---	720	ND (0.5)	---
MW-56S	SA	14-Dec-10	---	2960	---	---	546	ND (0.5)	---
MW-57-070	BR	15-Dec-10	1.4	79.0	3.0	2.0	17.0	6.20	---
		15-Dec-10 _{FD}	1.5	69.0	3.1	1.9	25.0	6.20	---
MW-57-185	BR-D	09-Dec-10	11.0	ND (20)	87.0	0.52	580	ND (2.5)	---
		03-May-11	12.0	---	88.0	3.3	540	ND (2.5)	---
MW-58BR-LWR-	BR	10-Feb-11	1.6	---	---	---	---	1.20	---
		04-Apr-11	1.6	---	---	---	---	1.10	---
MW-58BR-UPR-	BR	01-Feb-11	1.9	---	---	---	---	ND (1.0)	---
		18-Mar-11	1.8	---	---	---	---	ND (1.0)	---
MW-59-100	SA	16-Dec-10	2.1	ND (20)	4.6	5.0	ND (10)	5.90	---
		06-May-11	2.0	---	ND (12)	4.7	3.4	3.80	---
MW-60-125	BR-S	16-Dec-10	1.4	ND (20)	17.0	5.2 J	29.0	3.60	---
		16-Dec-10 _{FD}	1.5	ND (20)	18.0	5.3 J	35.0	3.30	---
		05-May-11	1.8	---	32.0	34.0	ND (0.5)	3.60	---
MW-61-110	BR-S	15-Dec-10	3.2	130	27.0	1.0	520	ND (2.5)	---
		05-May-11	3.4	---	23.0	ND (2.5)	360	ND (2.5)	---
MW-62-065	BR-S	15-Dec-10	0.99	ND (20)	13.0	3.1	ND (10)	3.60	---
MW-62-110	BR-M	16-Dec-10	14.0	ND (20)	57.0	2.4	230	2.80	---
		09-Feb-11	14.0	---	---	---	---	---	---
		05-May-11	14.0	---	60.0	2.5	240	2.50	---
MW-62-190	BR-D	16-Dec-10	8.1	49.0	87.0	0.51	1300	ND (2.5)	---
		09-Feb-11	8.0	---	---	---	---	---	---
		05-May-11	6.5	---	82.0	ND (2.5)	1000	ND (2.5)	---
MW-63-065	BR-S	06-Dec-10	1.6	26.0	28.0	0.88	57.0	1.30	---

Table 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Iron Dissolved (µg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)	Fluoride (mg/L)
MW-63-065	BR-S	03-May-11	1.6	---	27.0	1.8	43.0	1.00	---
MW-64BR ²	BR	20-Dec-10	5.3	---	---	---	---	2.10	---
MW-64BR-LWR-	BR	24-Feb-11	4.5	---	---	---	---	ND (2.5)	---
		20-Apr-11	3.9	---	---	---	---	ND (2.5)	---
MW-64BR-UPR-	BR	26-Jan-11	2.8	---	---	---	---	2.60	---
		12-Apr-11	3.1	---	---	---	---	3.40	---
OW-3D	DA	08-Dec-10	2.6	ND (20)	26.0	0.56	ND (10)	ND (1.0)	---
OW-3M	MA	08-Dec-10	---	ND (20)	---	---	ND (10)	1.10	---
OW-3S	SA	08-Dec-10	---	61.0	---	---	ND (10)	3.20	---
PGE-7BR	BR	09-Dec-10	---	110000	---	---	4600	ND (2.5)	---
PGE-8 ¹	BR	10-Feb-11	---	240	85.0	ND (2.5)	610	ND (2.5)	---
Park Moabi-3	MA	10-Dec-10	---	ND (20)	---	---	ND (10)	3.30	---
Park Moabi-4	MA	10-Dec-10	---	ND (20)	---	---	ND (10)	2.20	---
TW-1	SA-MA-DA	09-Dec-10	---	ND (20)	15.0	36.0	ND (10)	25.0	---
		05-May-11	---	---	14.0	28.0	---	24.0	---
TW-2D	DA	15-Dec-10	---	ND (20)	---	---	ND (10)	1.10	---
TW-2S	MA	15-Dec-10	---	ND (20)	---	---	ND (10)	4.40	---
TW-4	DA	13-Dec-10	---	ND (40)	---	---	ND (20)	ND (2.5)	---
TW-5	DA	10-Dec-10	---	ND (20)	---	---	ND (10)	ND (2.5)	---

Table 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, December 2010 through June 2011
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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 mg/L

¹ Data collected February 2011 due to field logistical issues.

² One-time sample collected from a Borehole.

The Background Study Upper Tolerance Limit (UTL) for Arsenic is 24.3 µg/L.

The U.S. EPA and California Maximum Contaminant Level for Arsenic is 10 µg/L.

The secondary U.S. EPA and California Maximum Contaminant Level for Iron is 300 µg/L.

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 Selenium is 10.3 µg/L.

The U.S. EPA and California Maximum Contaminant Level for Selenium is 50.0 µg/L.

The secondary U.S. EPA and California Maximum Contaminant Level for Manganese is 50 µg/L.

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) for Fluoride is 7.1 mg/L.

The U.S. EPA and California Maximum Contaminant Level for Fluoride is 4 mg/L.

The secondary U.S. EPA and California Maximum Contaminant Level for Fluoride is 2 mg/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)

BR-S: well completed in shallow portion of BR

BR-M: well completed in middle portion of BR

BR-D: well completed in deep portion of BR

Table 3-3
Title 22 Metals Results, Second Quarter 2011
Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
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California MCL:		6	10	1,000	4	5	NE	50	1,000*	15	2	NE	100	50	100*	2	NE	5,000*
Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-12	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)
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)

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

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

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

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

Metals analyzed by Methods SW6010B or SW6020A or SW7470A.

Table 3-4

Surface Water Sampling Results, Second Quarter 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
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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-BNS-D	06/07/2011	ND (0.2)	ND (1.0)	987	7.99 J
C-CON-S	06/08/2011	ND (0.2)	ND (1.0)	940	8.05 J
C-CON-D	06/08/2011	ND (0.2)	ND (1.0)	948	7.91 J
C-I-3-S	06/07/2011	ND (0.2)	ND (1.0)	952	8.17 J
C-I-3-D	06/07/2011	ND (0.2)	ND (1.0)	953	8.17 J
C-MAR-S	06/07/2011	ND (0.2)	ND (1.0)	970	7.80 J
C-MAR-D	06/07/2011	ND (0.2)	ND (1.0)	980	7.83 J
C-NR1-S	06/08/2011	ND (0.2)	ND (1.0)	944	8.14 J
C-NR1-D	06/08/2011	ND (0.2)	ND (1.0)	954	8.12 J
C-NR3-S	06/08/2011	ND (0.2)	ND (1.0)	948	8.11 J
C-NR3-D	06/08/2011	ND (0.2)	ND (1.0)	950	8.13 J
C-NR4-S	06/08/2011	ND (0.2)	ND (1.0)	953	8.07 J
C-NR4-D	06/08/2011	ND (0.2)	ND (1.0)	951	8.12 J
C-R22a-S	06/07/2011	ND (0.2)	ND (1.0)	957	8.27 J
C-R22a-D	06/07/2011	ND (0.2)	ND (1.0)	939	8.24 J
C-R27-S	06/07/2011	ND (0.2)	ND (1.0)	947	8.23 J
C-R27-D	06/07/2011	ND (0.2)	ND (1.0)	943	8.23 J
C-TAZ-S	06/07/2011	ND (0.2)	ND (1.0)	955	8.27 J
C-TAZ-D	06/07/2011	ND (0.2)	ND (1.0)	958	8.26 J
Shoreline Samples					
R-19	06/08/2011	ND (0.2)	ND (1.0)	942	8.25 J
R-28	06/08/2011	ND (0.2)	ND (1.0)	947	8.26 J
R63	06/07/2011	ND (0.2)	1.20	952	8.33 J
RRB	06/08/2011	ND (0.2)	ND (1.0)	947	8.17 J
Other Surface Water Monitoring Locations					
SW1	06/07/2011	ND (0.2)	ND (1.0)	968	7.60 J
SW2	06/07/2011	ND (0.2)	ND (1.0)	960	7.81 J

Table 3-4

Surface Water Sampling Results, Second Quarter 2011
Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
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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.

Table 3-5
COPCs, In Situ Byproducts and Geochemical Indicator Parameters in Surface Water Samples, Second Quarter 2011
Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
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Location	Sample Date	Alkalinity, bicarb. as CaCO3 mg/L	Alkalinity, carb 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-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-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-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-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-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-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-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-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-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-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-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-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-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-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)
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-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-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-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)
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-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)
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)
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)

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, Second Quarter 2011

Second Quarter 2011 Interim Measures Performance Monitoring

and Site-Wide Groundwater and Surface Water Monitoring Report

PG&E Topock Compressor Station, Needles, California

Extraction Well ID	April 2011		May 2011		June 2011		Second Quarter 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	0.00	0	0.00	0	0.00	0
TW-03D	93.09	4,021,693	106.93	4,773,302	99.83	4,312,859	99.95	13,107,853
PE-01	22.89	988,946	26.40	1,178,718	24.52	1,059,462	24.61	3,227,126
TOTAL	116.0	5,010,639	133.3	5,952,020	124.4	5,372,321	124.6	16,334,980

Chromium Removed This Quarter (kg) 52.9

Chromium Removed Project to Date (kg) 3,057.5

Chromium Removed This Quarter (lb) 116.6

Chromium Removed Project to Date (lb) 6,740.5

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.

Table 4-2

Analytical Results for Extraction Wells, January 2010 through June 2011
 Second Quarter 2011 Interim Measure 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	06-Jan-10	1,350 LF	1,300	5,350
	03-Feb-10	1,320 LF	1,400	5,220
	03-Mar-10	1,340 LF	1,380	5,080
	07-Apr-10	1,310 LF	1,380	5,110
	04-May-10	1,240 LF	1,000	5,210
	02-Jun-10	1,230 UF	1,500	5,500
	07-Jul-10	1,130 LF	1,100	5,280
	04-Aug-10	1,100 LF	1,280	5,330
	01-Sep-10	1,160 LF	1,130	4,900
	05-Oct-10	1,150 LF	1,280	5,160
	03-Nov-10	1,130 LF	1,160	5,360
	07-Dec-10	1,170 LF	1,080	5,530
	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
PE-1	06-Jan-10	19.6 LF	20.0	3,110
	03-Feb-10	19.1 LF	22.6	3,330
	03-Mar-10	17.3 LF	20.8	3,080
	07-Apr-10	15.4 LF	13.7	3,120
	04-May-10	14.6 LF	13.0	3,280
	02-Jun-10	13.4 UF	14.0	3,450
	07-Jul-10	11.4 LF	13.7	3,350
	04-Aug-10	11.9 LF	12.4	3,180
	01-Sep-10	12.4 LF	14.9	3,420
	05-Oct-10	12.3 LF	13.2	3,290
	03-Nov-10	12.0 LF	12.9	3,300
	07-Dec-10	14.4 LF	15.2	3,160
	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

NOTES:

µg/L = concentration in micrograms per liter

mg/L = concentration in milligrams per liter

LF = lab filtered

UF = unfiltered

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

Dissolved chromium was analyzed by Method 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 4-3

Average Hydraulic Gradients Measured at Well Pairs, Second Quarter 2011
 Second Quarter 2011 Interim Measures Performance Monitoring
 and Site-Wide Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Well Pair ^a	Reporting Period	Mean landward ^b Hydraulic Gradient (feet/foot)	Days in ^c Monthly Average
Overall Average	April	0.0042	NA
	May	0.0052	NA
	June	0.0043	NA
Northern Gradient Pair MW-31-135 / MW-33-150	April	0.0020	30 / 30
	May	0.0021	31 / 31
	June	0.0022	30 / 30
Central Gradient Pair MW-45-95 / MW-34-100	April	0.0077	30 / 30
	May	0.0101	31 / 31
	June	0.0080	30 / 30
Southern Gradient Pair MW-45-95 / MW-27-85	April	0.0029	30 / 30
	May	0.0035	31 / 31
	June	0.0029	30 / 30

Notes:

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

a Refer to Figure 1-3 for location of well pairs

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

c Number of days transducers in both wells were operating correctly / Total number of days in month.

TABLE 4-4

Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3
 Second Quarter 2011 Interim Measures Performance Monitoring and
 Site-Wide Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Month	Davis Dam Release			Colorado River Elevation at I-3		
	Projected (cfs)	Actual (cfs)	Difference (cfs)	Predicted (ft amsl)	Actual (ft amsl)	Difference (feet)
January 2008	9,300	8,900	400	453.5	453.6	0.1
February 2008	10,100	12,463	-2,363	454.5	454.7	0.1
March 2008	15,200	15,837	-637	455.6	455.9	0.3
April 2008	17,600	18,554	-954	456.6	457.0	0.4
May 2008	17,200	16,155	1,045	456.6	456.4	-0.3
June 2008	15,400	15,655	-255	456.2	456.5	0.3
July 2008	14,500	14,574	-74	455.8	456.0	0.2
August 2008	13,100	12,976	124	455.2	455.2	0.0
September 2008	12,300	11,731	569	454.9	455.0	0.1
October 2008	10,500	10,272	228	454.1	454.2	0.1
November 2008	10,400	10,130	270	454.1	454.03	-0.1
December 2008	5,800	5,506	294	452.3	452.45	0.2
January 2009	9,300	10,644	-1,344	452.6	454.02	1.4
February 2009	10,800	11,319	-519	454.2	454.34	0.2
March 2009	16,200	16,826	-626	456.1	456.37	0.3
April 2009	18,800	18,432	368	457.2	457.13	-0.1
May 2009	15,800	14,889	911	456.4	456.26	-0.1
June 2009	14,100	13,246	854	455.8	455.73	0.0
July 2009	13,500	13,579	-79	455.5	455.65	0.1
August 2009	11,900	12,296	-396	454.8	455.08	0.3
September 2009	12,700	12,203	497	454.9	455.24	0.4
October 2009	9,500	10,128	-628	453.8	454.04	0.3
November 2009	10,200	9,909	291	454.1	454.27	0.2
December 2009	9,000	8,650	350	453.6	453.54	-0.1
January 2010	9,900	7,415	2,485	453.9	453.36	-0.5
February 2010	7,700	7,961	-261	453.0	453.41	0.4
March 2010	14,700	14,014	686	455.5	455.40	-0.1
April 2010	16,100	14,762	1,338	455.3	455.94	0.7
May 2010	15,500	15,246	254	456.2	456.41	0.3
June 2010	15,800	15,332	468	456.4	456.45	0.0
July 2010	14,500	14,841	-341	455.9	456.34	0.4
August 2010	13,500	13,627	-127	455.4	455.87	0.5
September 2010	13,400	13,555	-155	455.2	455.79	0.6
October 2010	12,300	12,463	-163	454.7	455.41	0.7
November 2010	10,900	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			456.3		

NOTES:

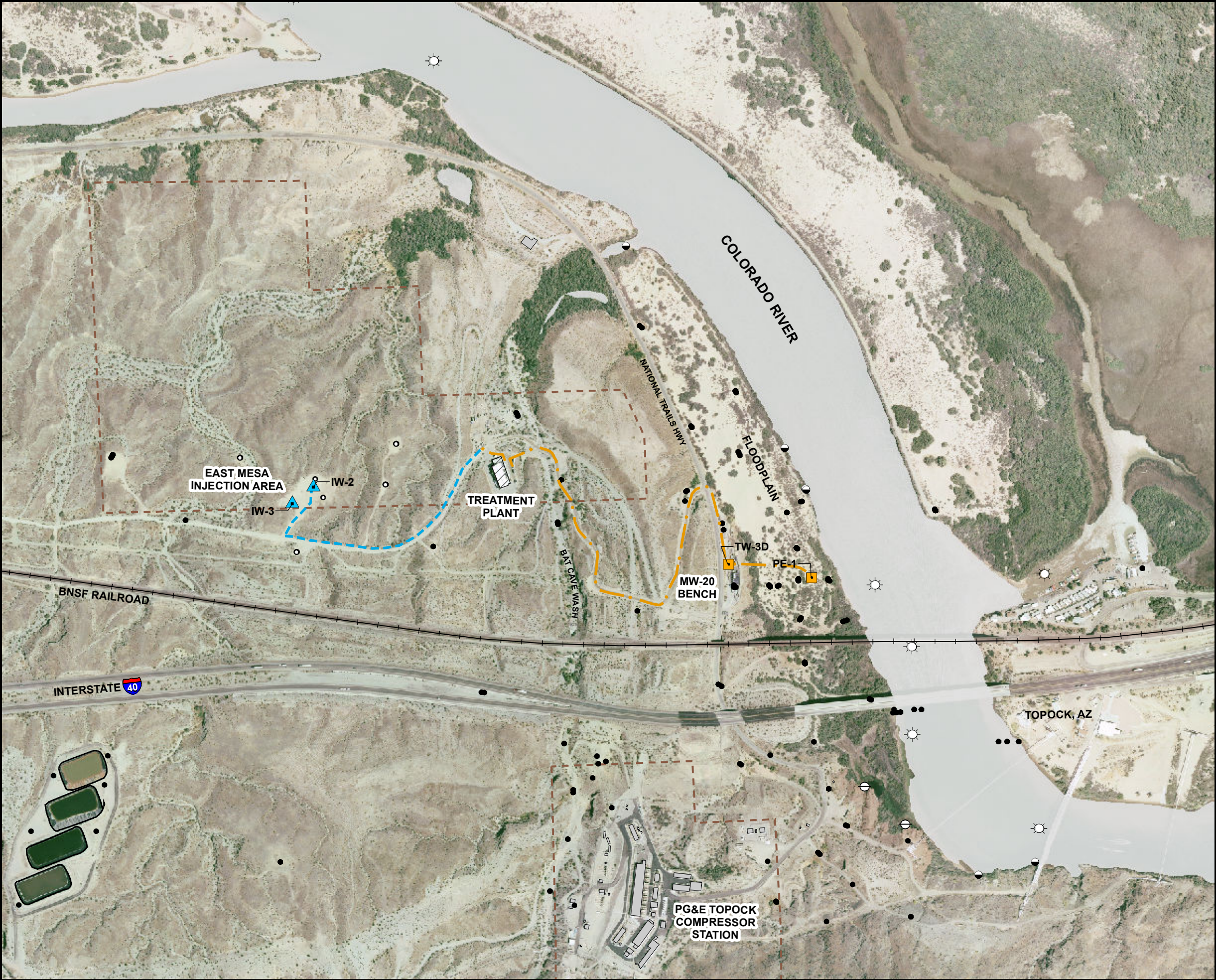
cfs = cubic feet per second; ft amsl = feet above mean sea level.

Projected river level for each month in the past is calculated based on the preceding months USBR projections of Davis Dam release and stage in Lake Havasu. Future projections of river level at I-3 are based upon July 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 2008 please see *Fourth Quarter 2009 and Annual Interim Measure Performance Monitoring Report, PG&E Topock Compressor Station, Needles, California* (CH2M HILL, 2010a).

Figures



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

Note: 1. Location map shows Interim Measure No. 3 (IM-3) active facilities as of current report
2. See Figures 1-2 and 1-3 for complete monitoring locations and identifications.

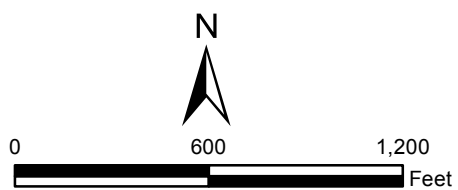
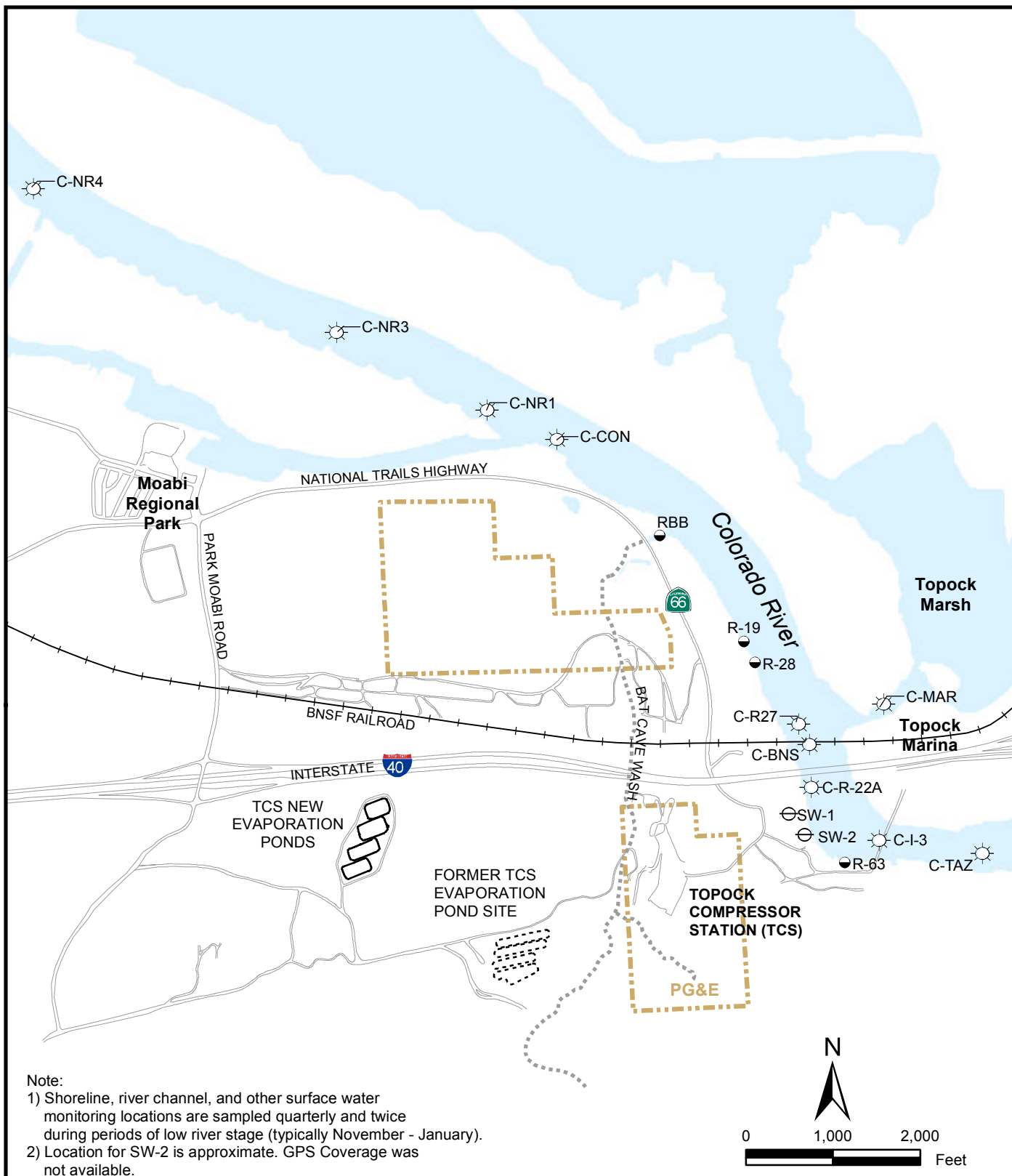


FIGURE 1-1
LOCATIONS OF IM-3 FACILITIES
AND MONITORING LOCATIONS
SECOND QUARTER 2011 INTERIM MEASURE
PERFORMANCE MONITORING AND SITE-WIDE
GROUNDWATER AND SURFACE WATER MONITORING
REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



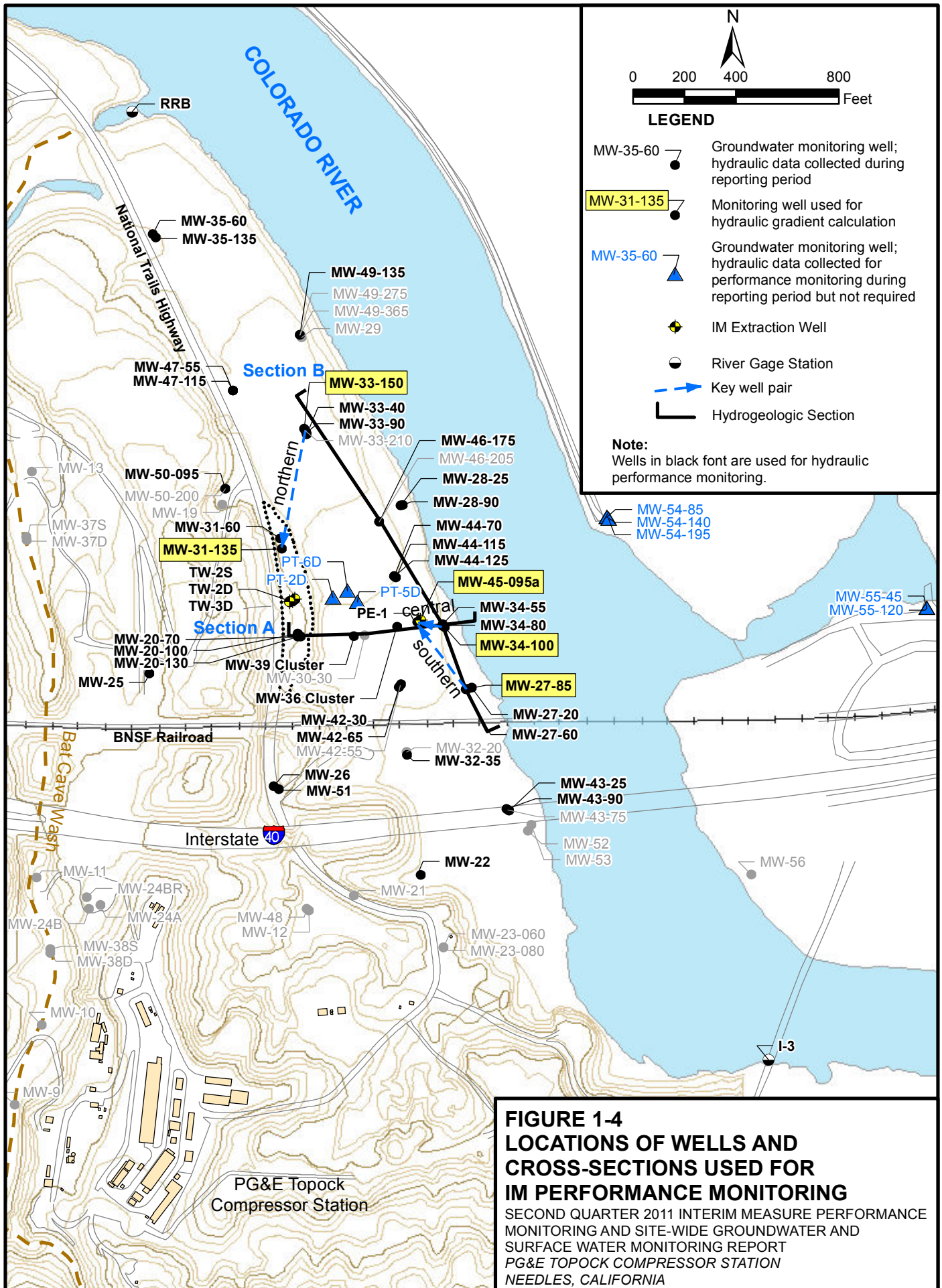
LEGEND

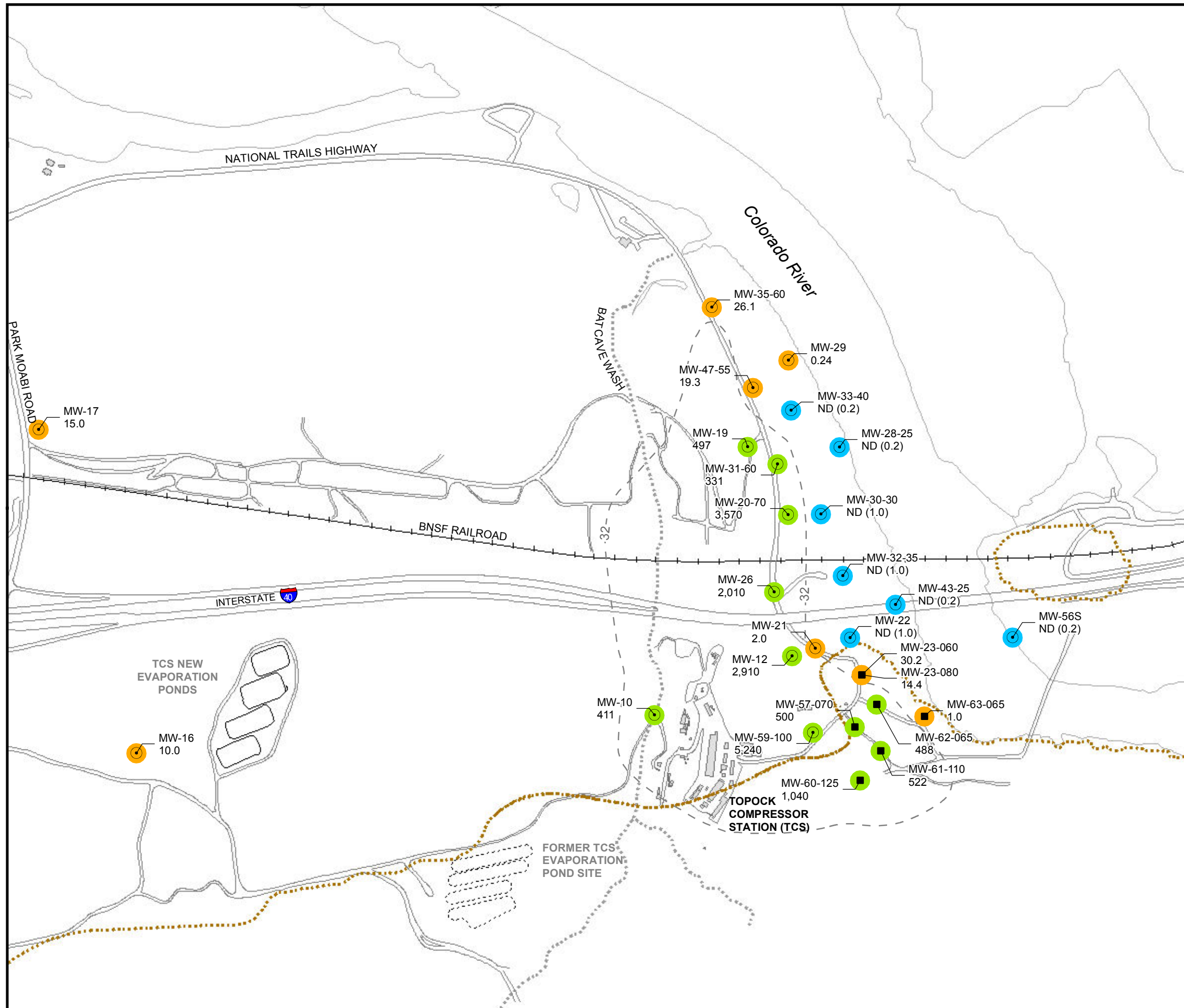
- Shoreline Surface Water Monitoring Location
- River Channel Surface Water Monitoring Location
- Other Surface Water Monitoring Location

FIGURE 1-3 MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR RMP

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

CH2MHILL





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 - Second 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 2010 and Second Quarter 2011 groundwater sampling results.

Approximate bedrock contact at 455 feet above mean sea level.

Notes:

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

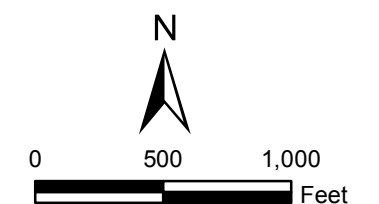
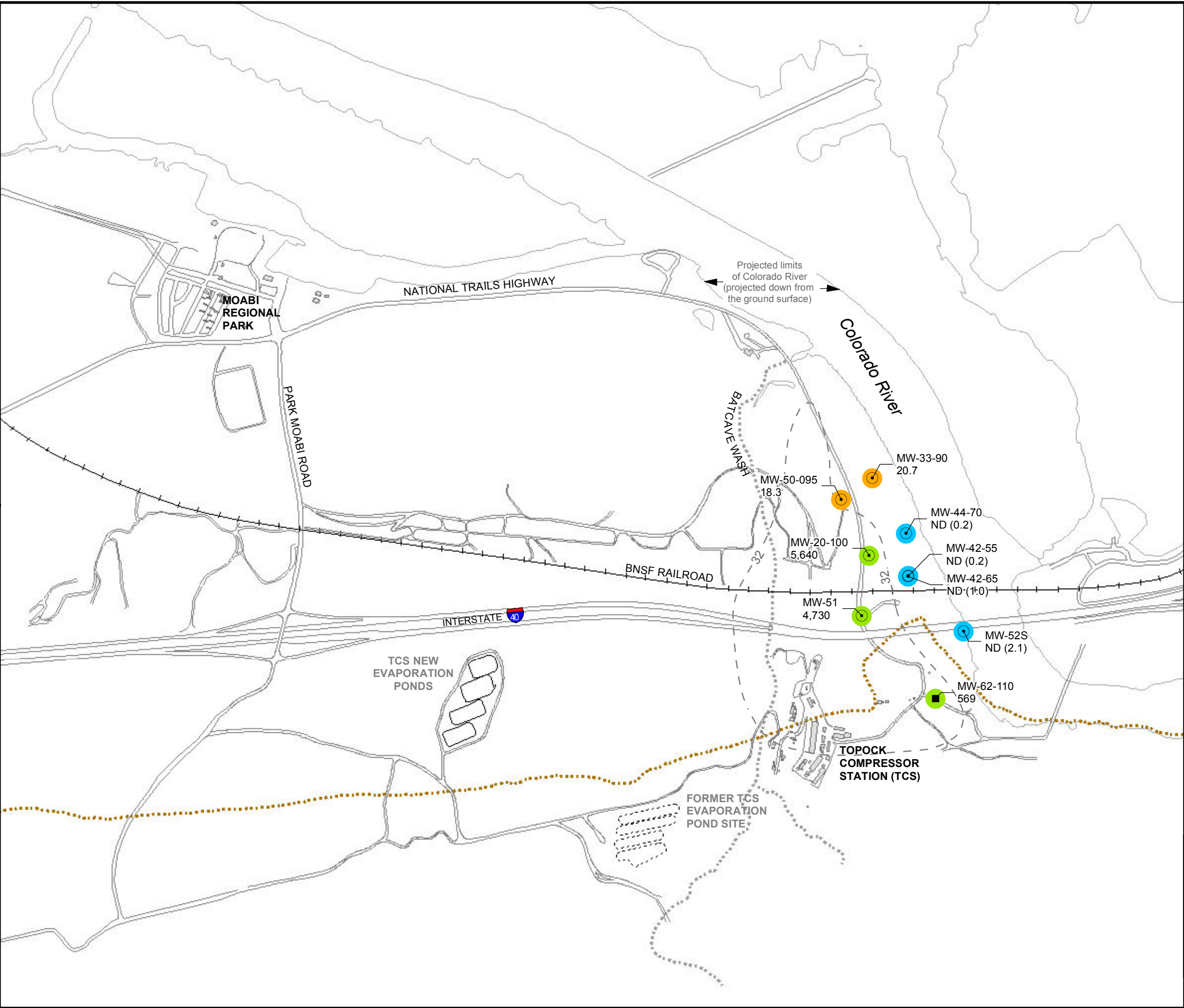


FIGURE 3-1a Cr(VI) SAMPLING RESULTS, SHALLOW WELLS IN ALLUVIAL AQUIFER AND BEDROCK, SECOND QUARTER 2011

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



LEGEND

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

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

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

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

Cr(VI) Concentrations - Second 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 2010 and Second 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.

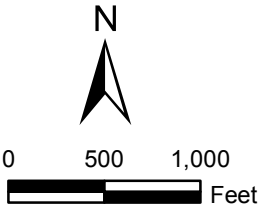
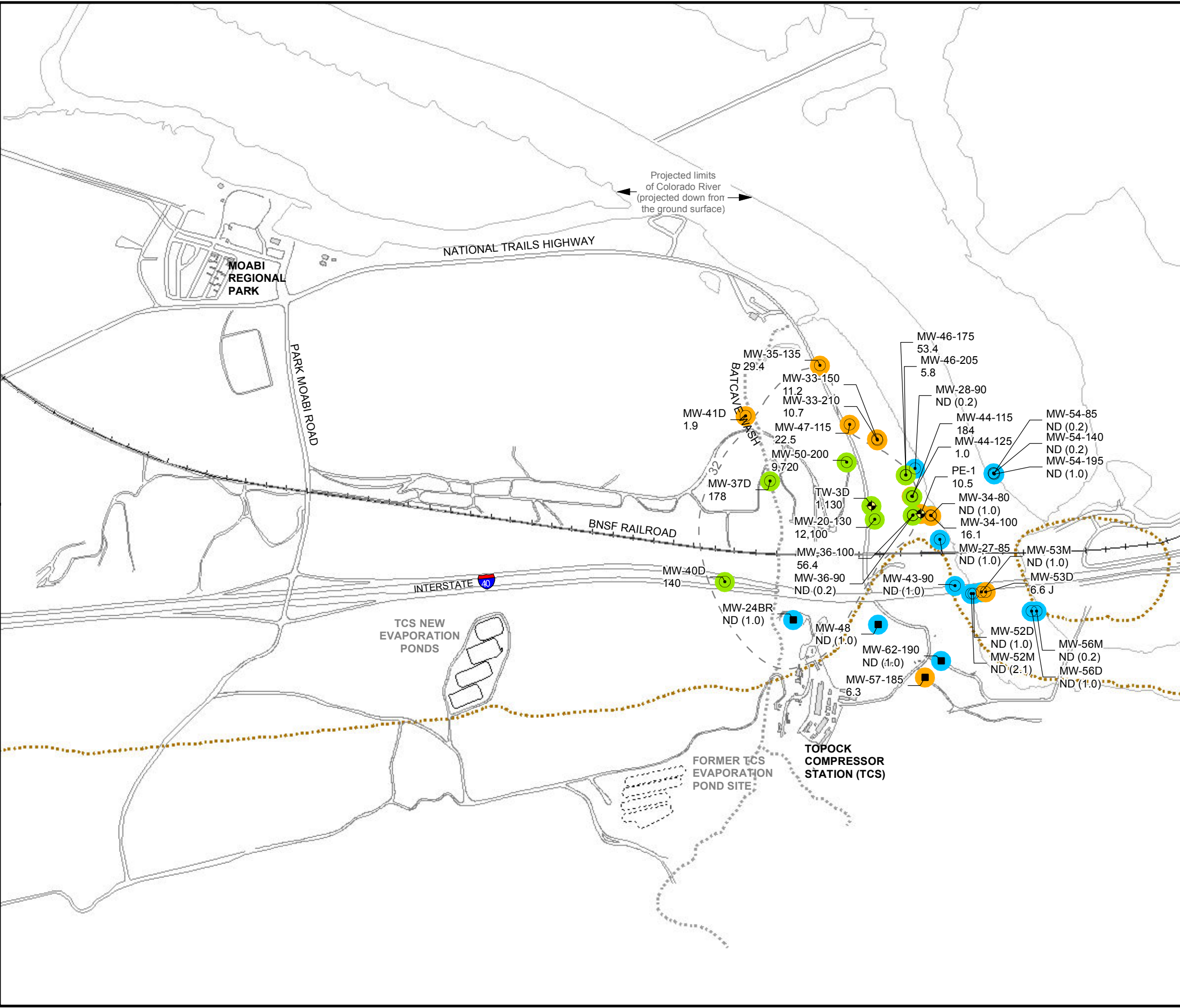


FIGURE 3-1b
Cr(VI) SAMPLING RESULTS
MID-DEPTH WELLS IN ALLUVIAL AQUIFER
AND BEDROCK, SECOND QUARTER 2011
SECOND QUARTER 2011 INTERIM MEASURE PERFORMANCE
MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



- LEGEND**
- Alluvial Aquifer well sampled during sampling event
 - Bedrock well sampled during sampling event
 - Extraction 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 - Second 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 2010 and Second Quarter 2011 groundwater sampling results.

..... Approximate bedrock contact at 395 feet above mean sea level.

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

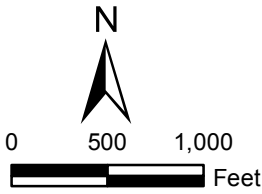
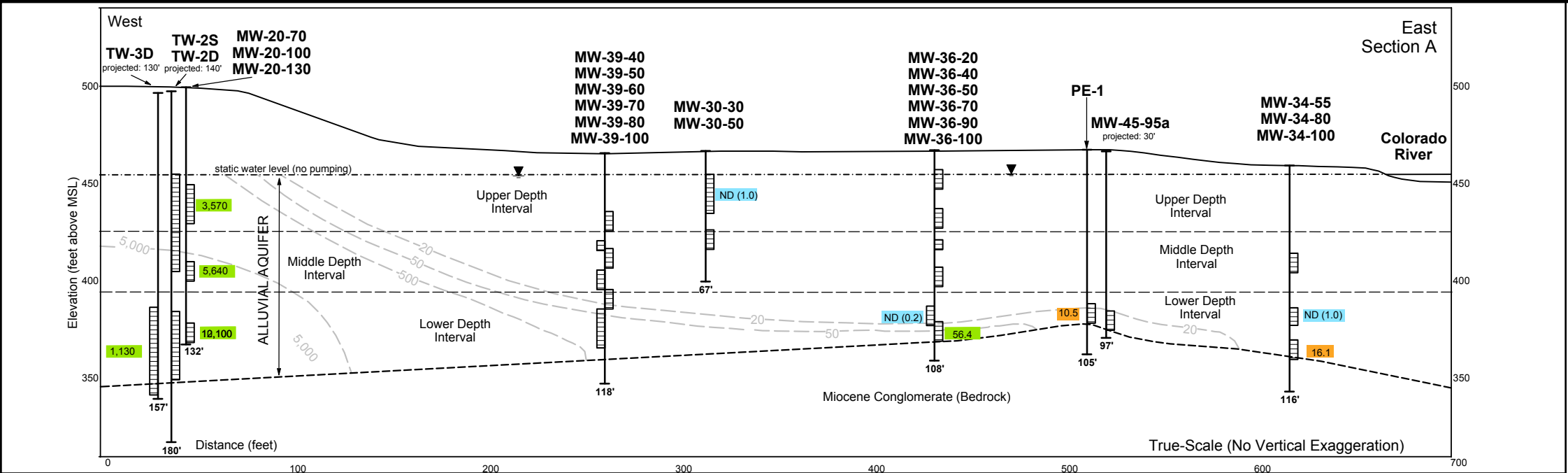


FIGURE 3-1c
Cr(VI) SAMPLING RESULTS,
DEEP WELLS IN ALLUVIAL AQUIFER
AND BEDROCK, SECOND QUARTER 2011

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



LEGEND

- Alluvial Aquifer well sampled during sampling event
- Bedrock well sampling during sampling event
- ⬢ 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 - Second 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 2010 and Second Quarter 2011 groundwater sampling results.

Hydrogeologic Section A

Approximate bedrock contact

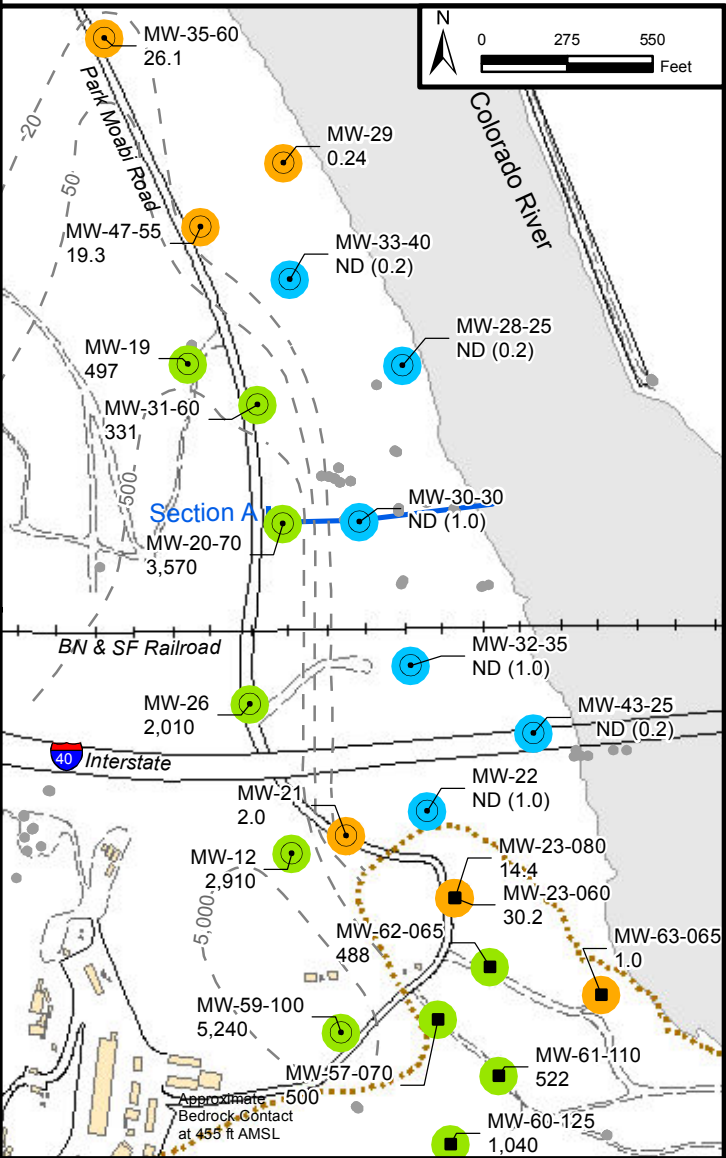
NOTES ON CONTOUR MAPS

- 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 µg/L in the floodplain portion of the Alluvial Aquifer.
- 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.
- Extraction wells PE-1 and TW-3D are not included in contouring. These wells draw water from a larger area and do not represent Cr(VI) concentrations at their specific locations.
- Results from TW-3D, PE-01, MW-46-175 and MW-34-100 are from January 2011; the remainder are from February 2011. See table 3-1 for complete results.

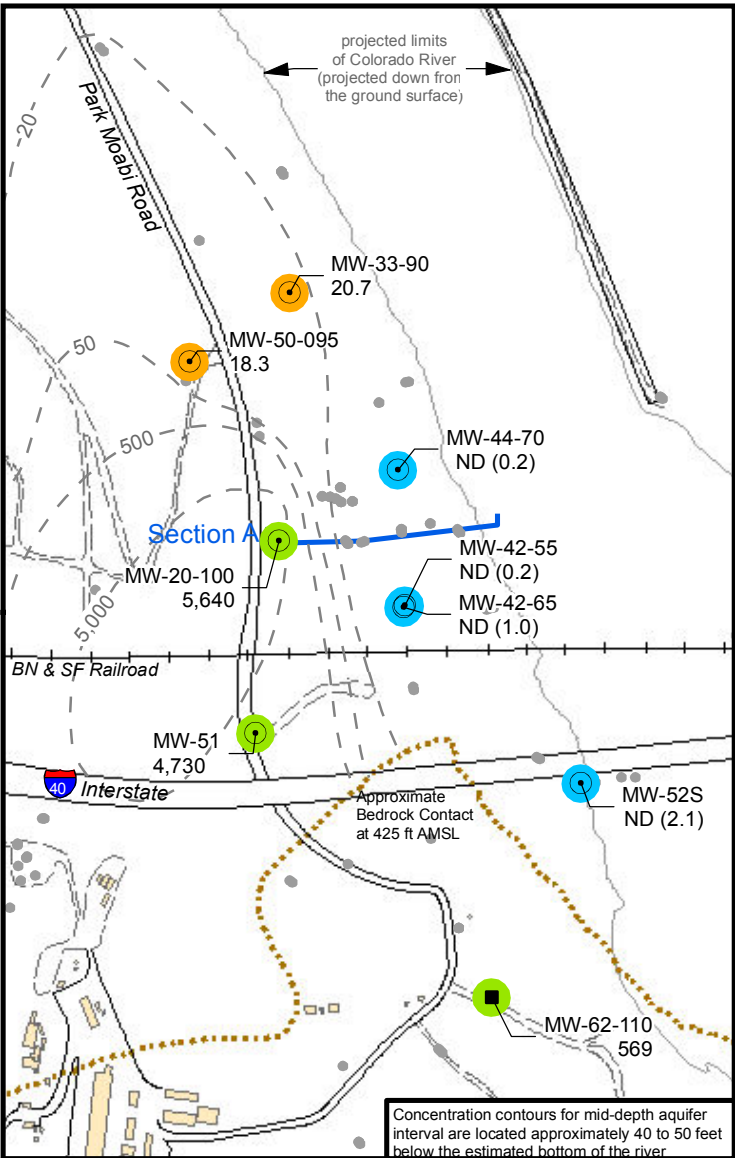
FIGURE 4-1 MAXIMUM Cr(VI) CONCENTRATIONS IN ALLUVIAL AQUIFER, SECOND QUARTER 2011

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

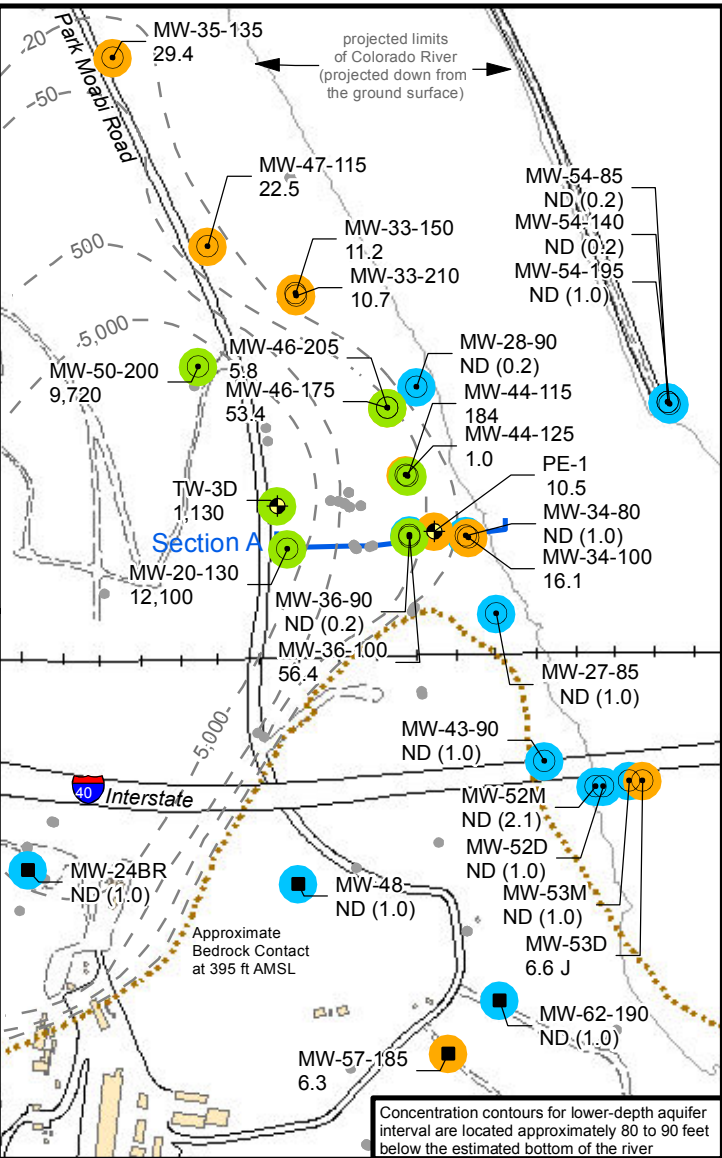
CH2MHILL



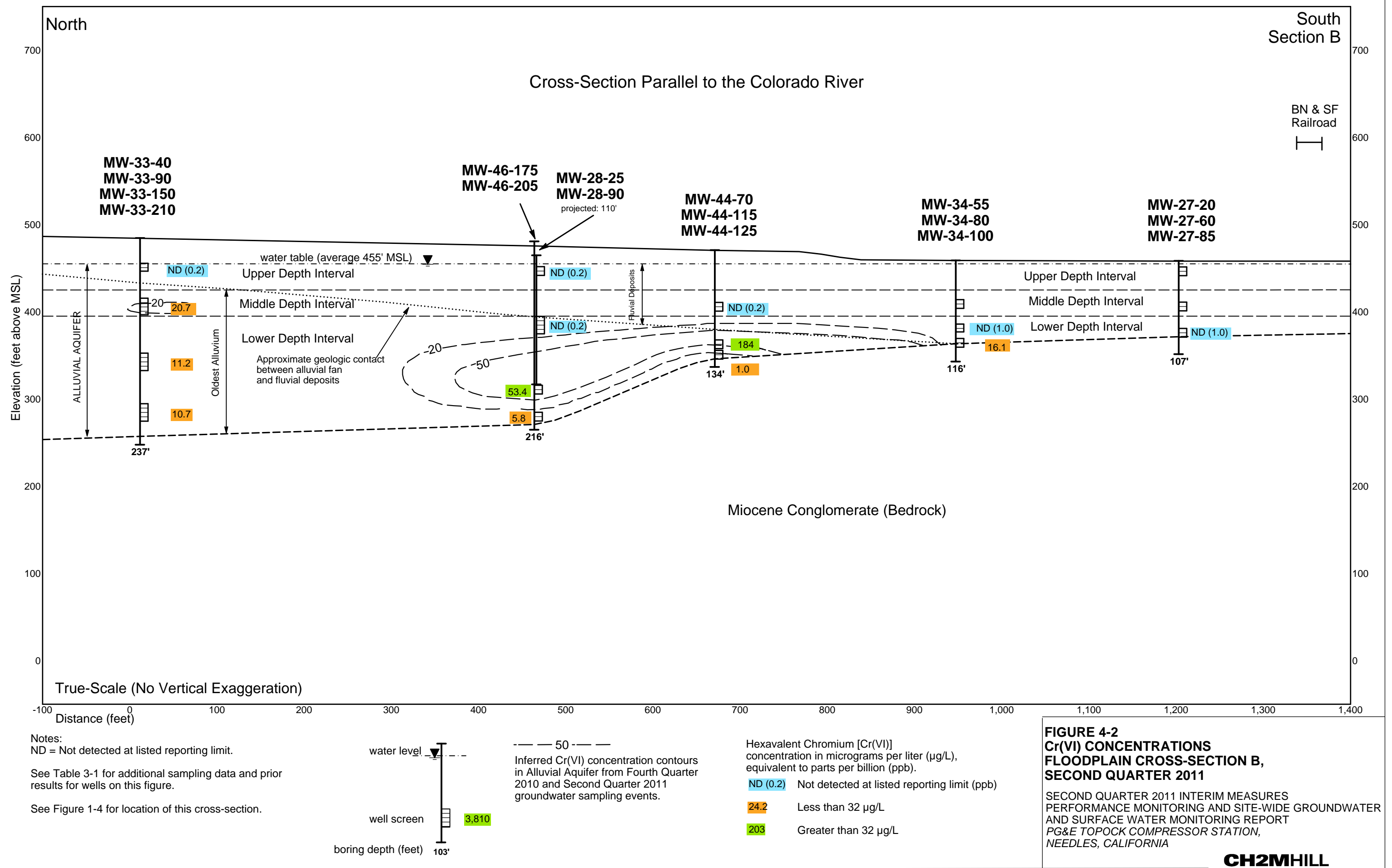
Shallow Wells (Upper Depth Interval)

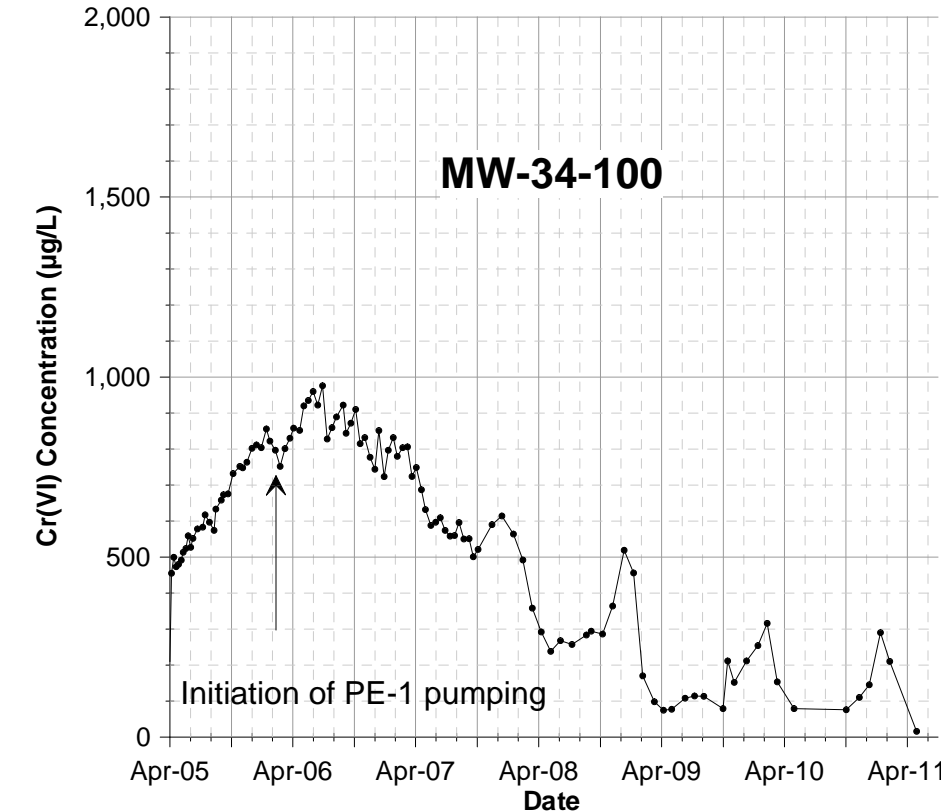
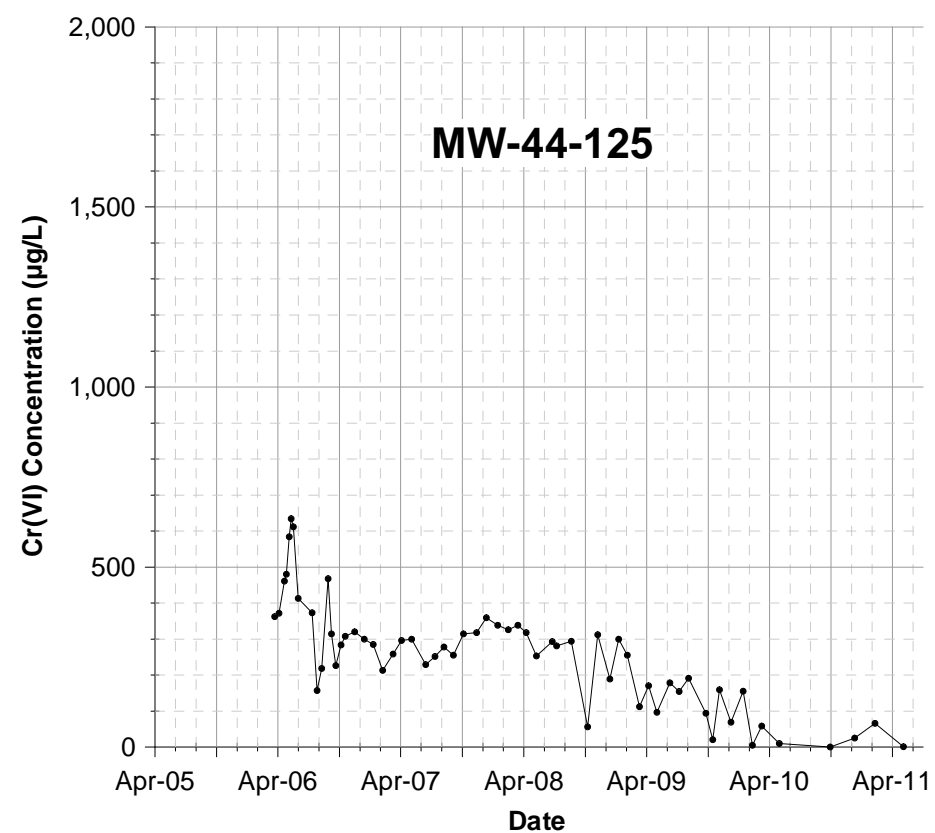
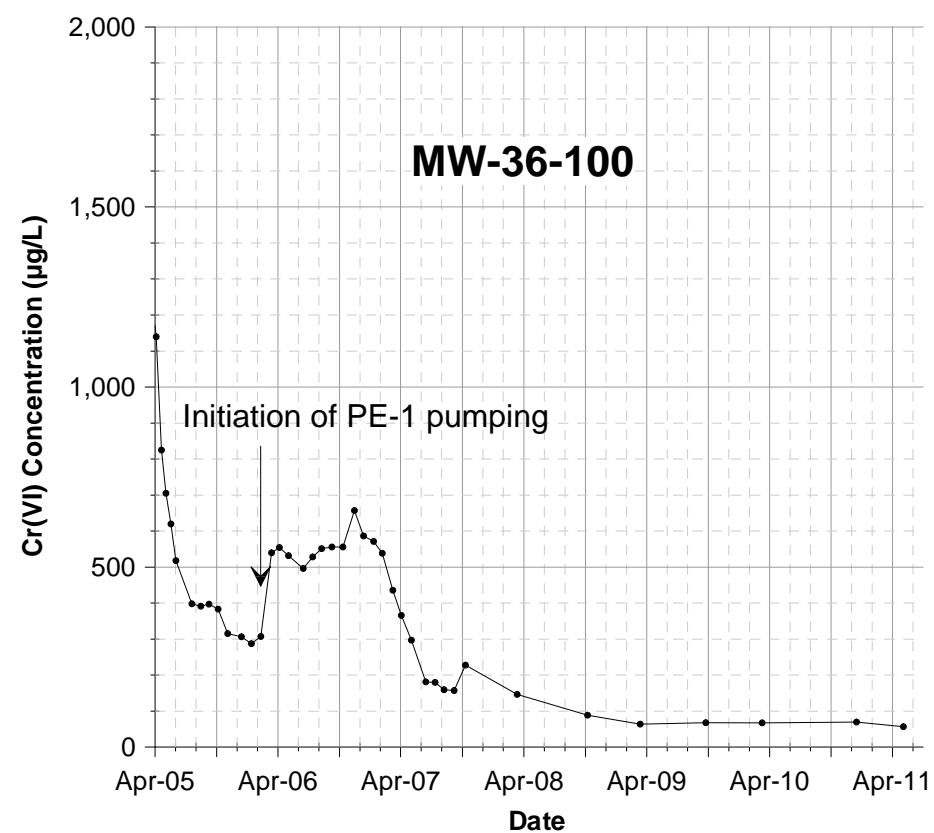
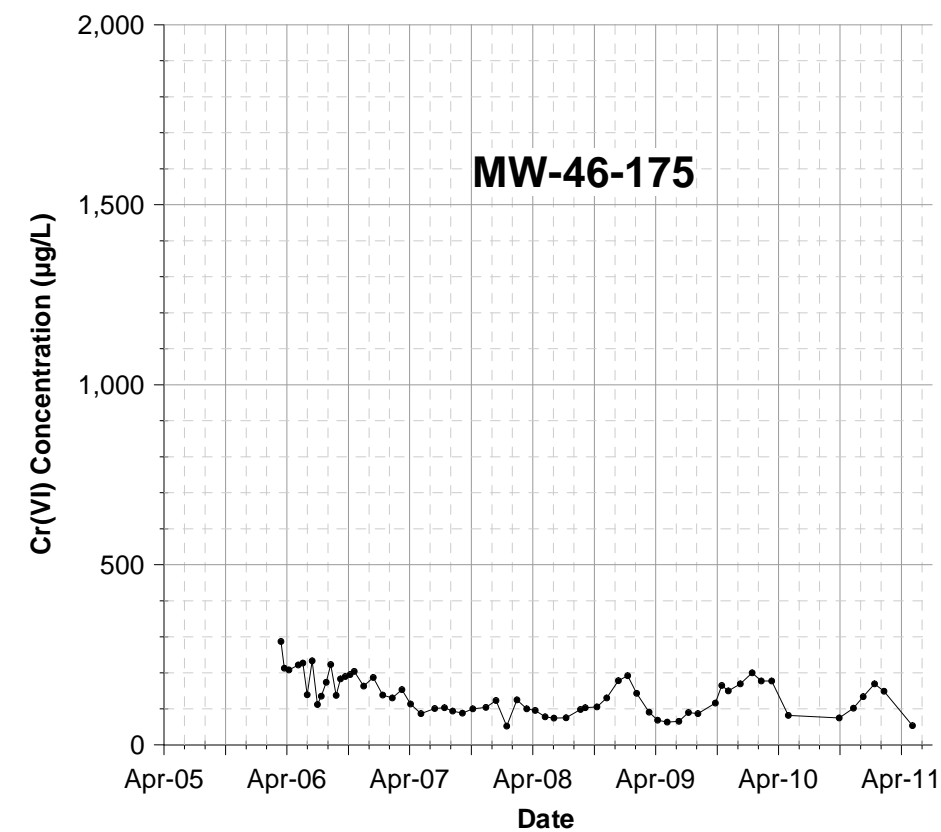
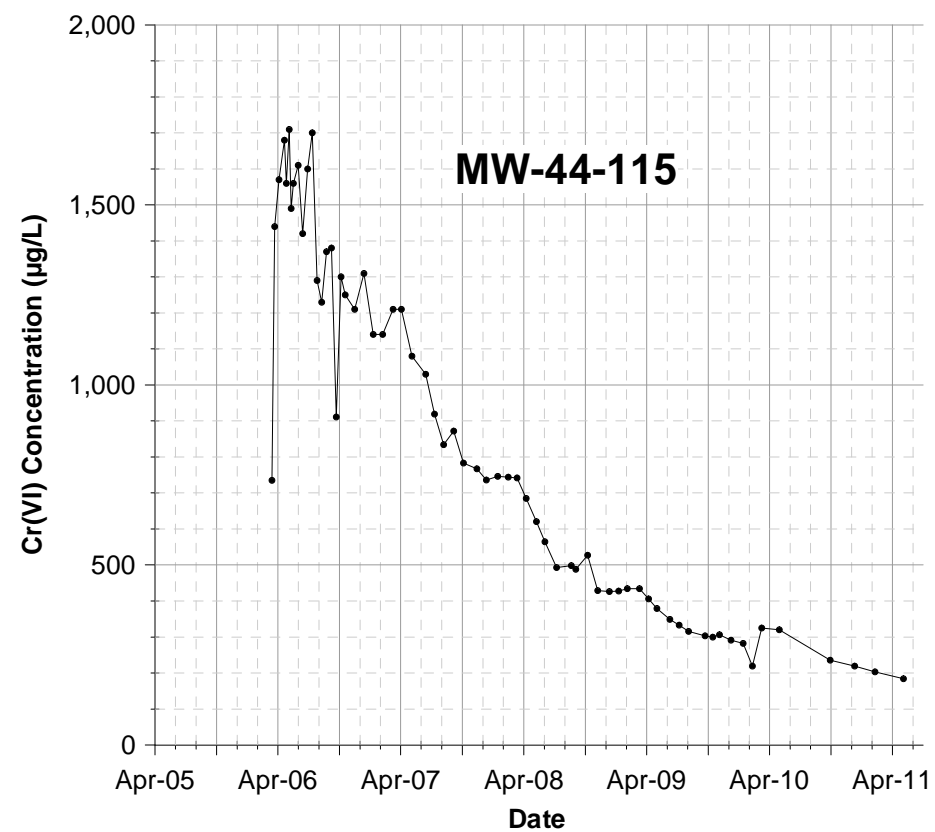
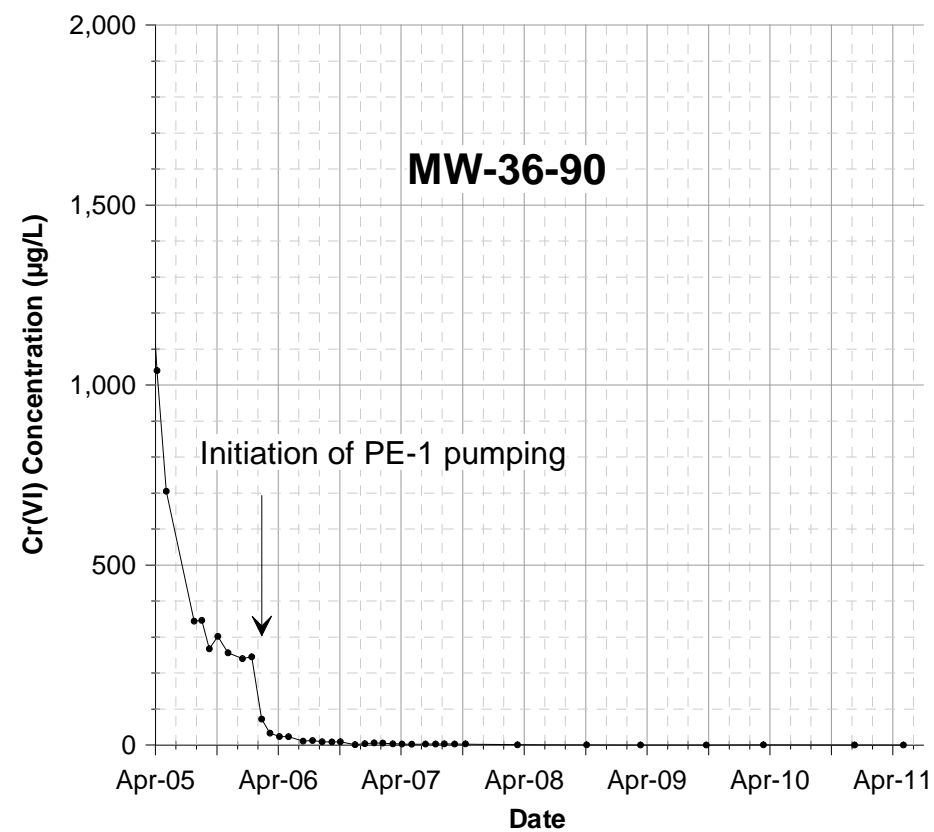


Mid-Depth Wells (Middle-Depth Interval)



Deep Wells (Lower Depth Interval)

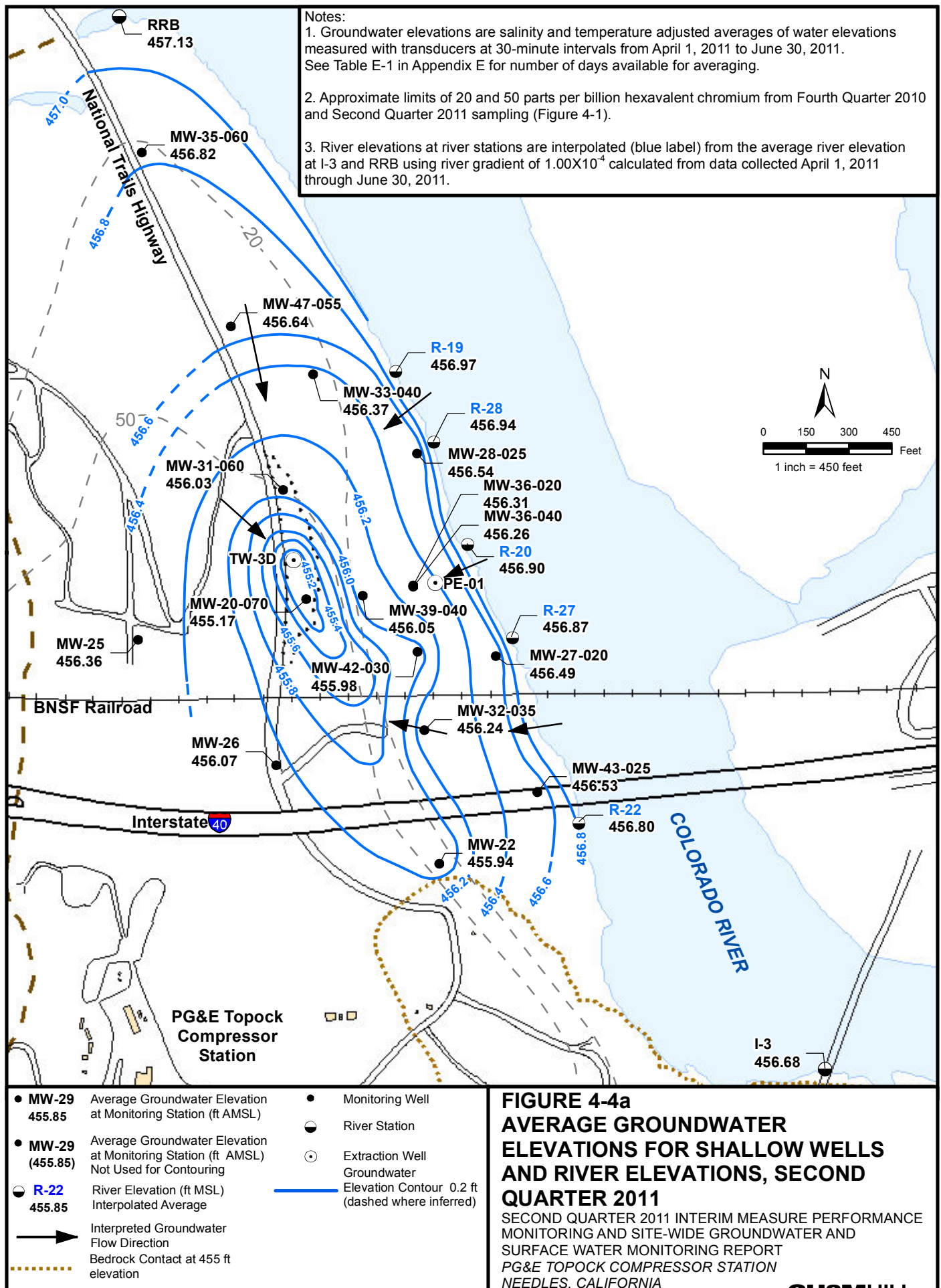




Notes

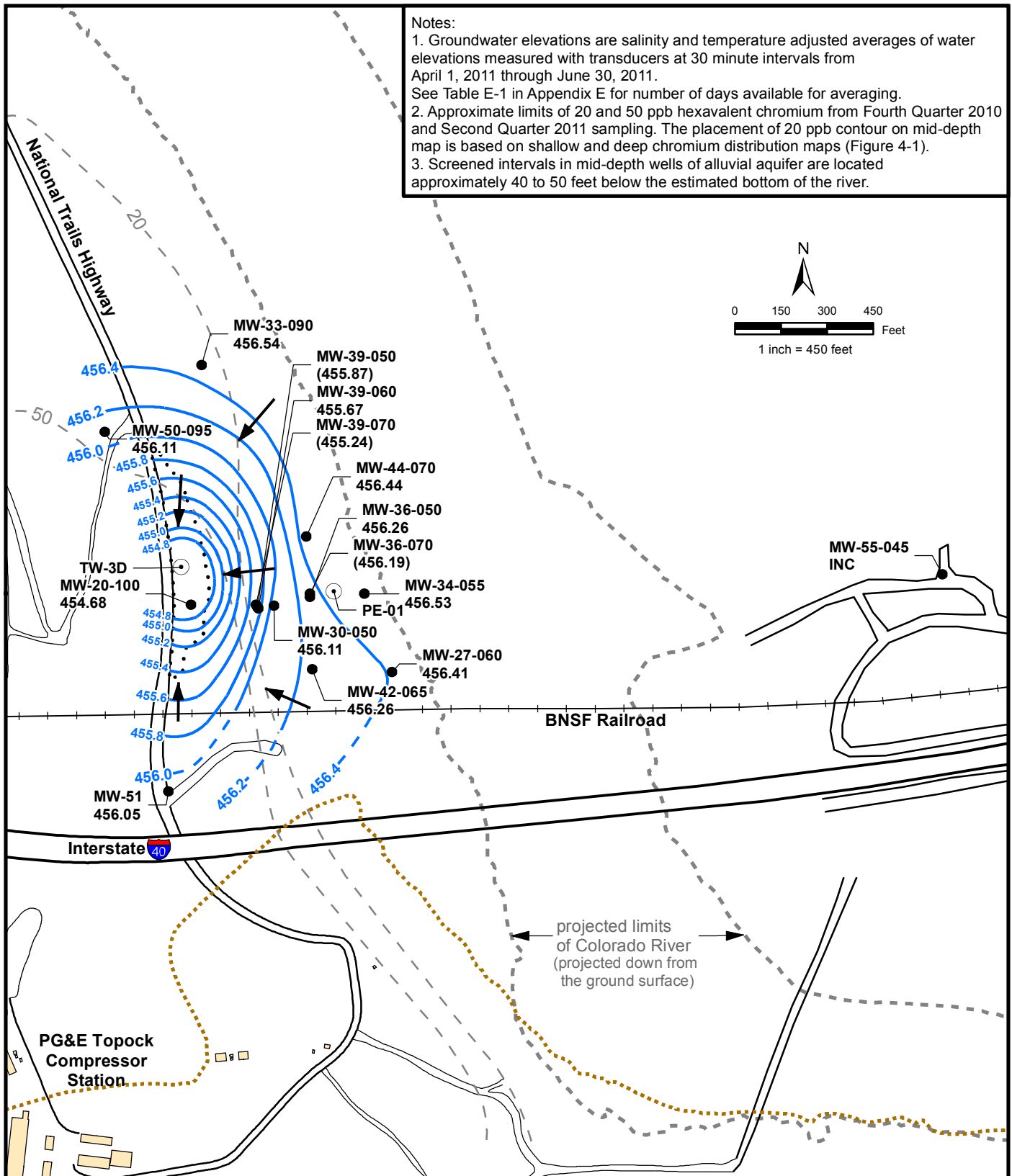
1. Hexavalent chromium [Cr(VI)] results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. Results plotted are maximum concentrations from primary and duplicate samples; see Table 3-1 for complete results.
3. MW-36 wells selected to monitor effects of PE-1 pumping on plume west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

FIGURE 4-3
Cr(VI) CONCENTRATION TRENDS IN
SELECTED PERFORMANCE MONITORING WELLS,
APRIL 2005 THROUGH JUNE 2011
 SECOND QUARTER 2011 INTERIM MEASURES PERFORMANCE MONITORING AND
 SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA



Notes:

1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30 minute intervals from April 1, 2011 through June 30, 2011. See Table E-1 in Appendix E for number of days available for averaging.
2. Approximate limits of 20 and 50 ppb hexavalent chromium from Fourth Quarter 2010 and Second Quarter 2011 sampling. The placement of 20 ppb contour on mid-depth map is based on shallow and deep chromium distribution maps (Figure 4-1).
3. Screened intervals in mid-depth wells of alluvial aquifer are located approximately 40 to 50 feet below the estimated bottom of the river.

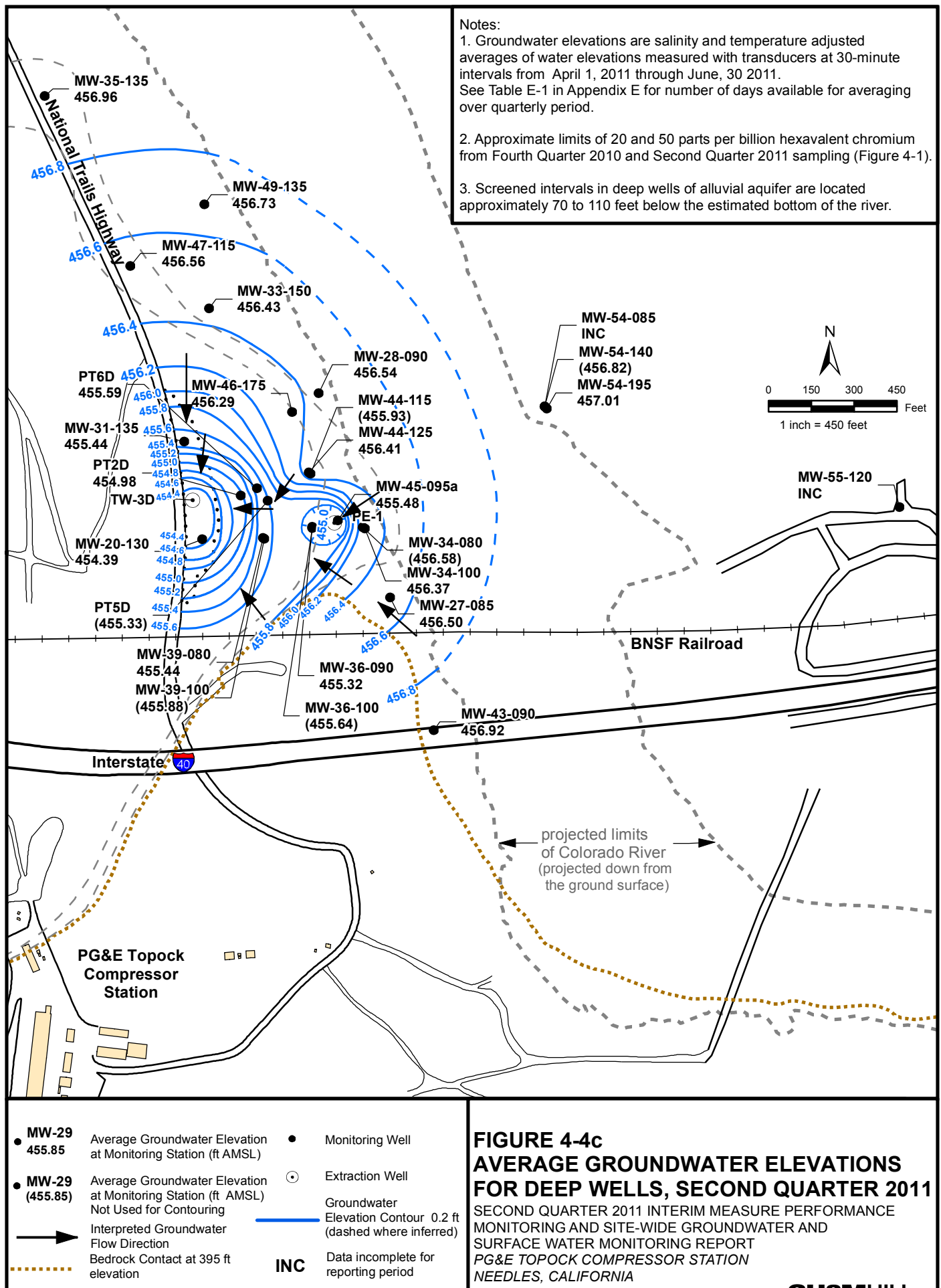


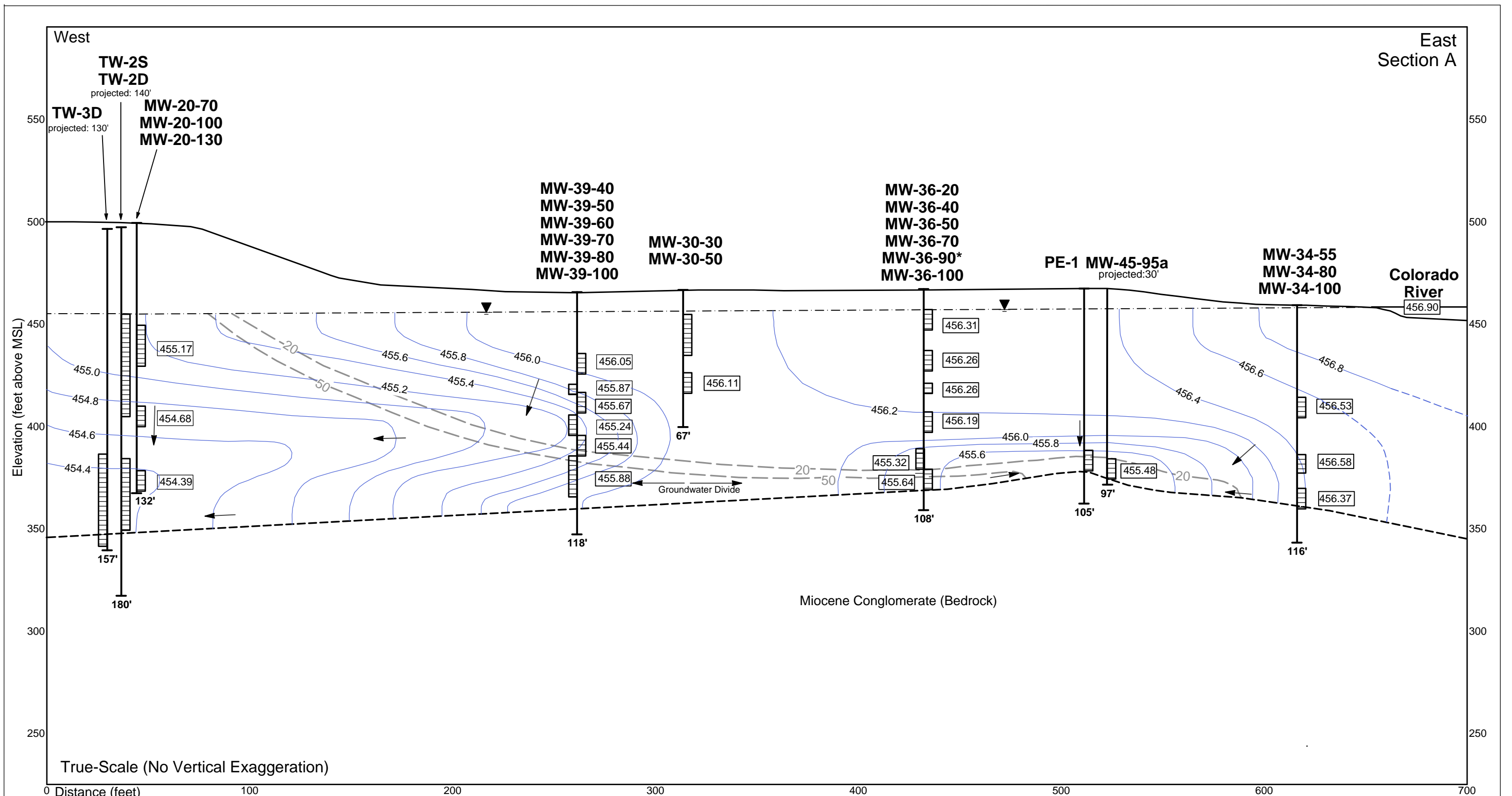
- MW-29 455.85 Average Groundwater Elevation at Monitoring Station (ft AMSL)
- MW-29 (455.85) Average Groundwater Elevation at Monitoring Station (ft AMSL) Not Used for Contouring
- Interpreted Groundwater Flow Direction
- Bedrock Contact at 425 ft elevation
- Monitoring Well
- Extraction Well
- Groundwater Elevation Contour 0.2 ft (dashed where inferred)
- INC Data incomplete for reporting period

**FIGURE 4-4b
AVERAGE GROUNDWATER ELEVATIONS
FOR MID-DEPTH WELLS,
SECOND QUARTER 2011**

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

CH2MHILL





Notes:
Results show average groundwater elevations for April 1, 2011 through June 30, 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-20) is the calculated average river level based upon the river gradient between RRB and I-3.

Legend:

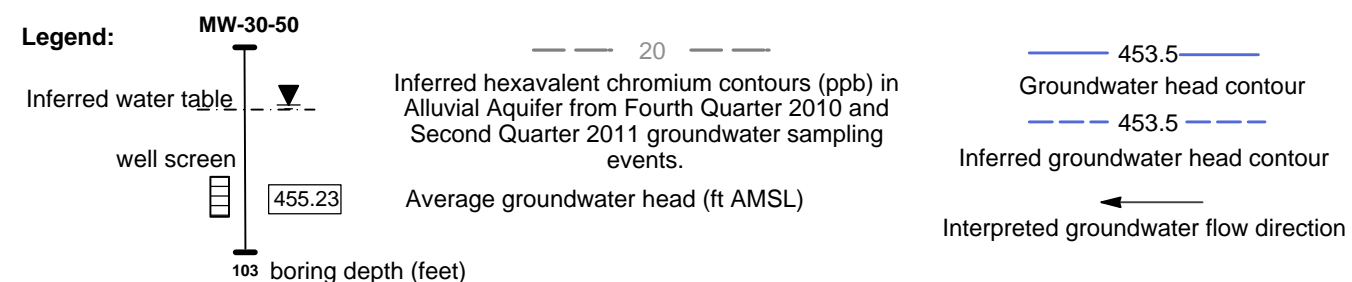
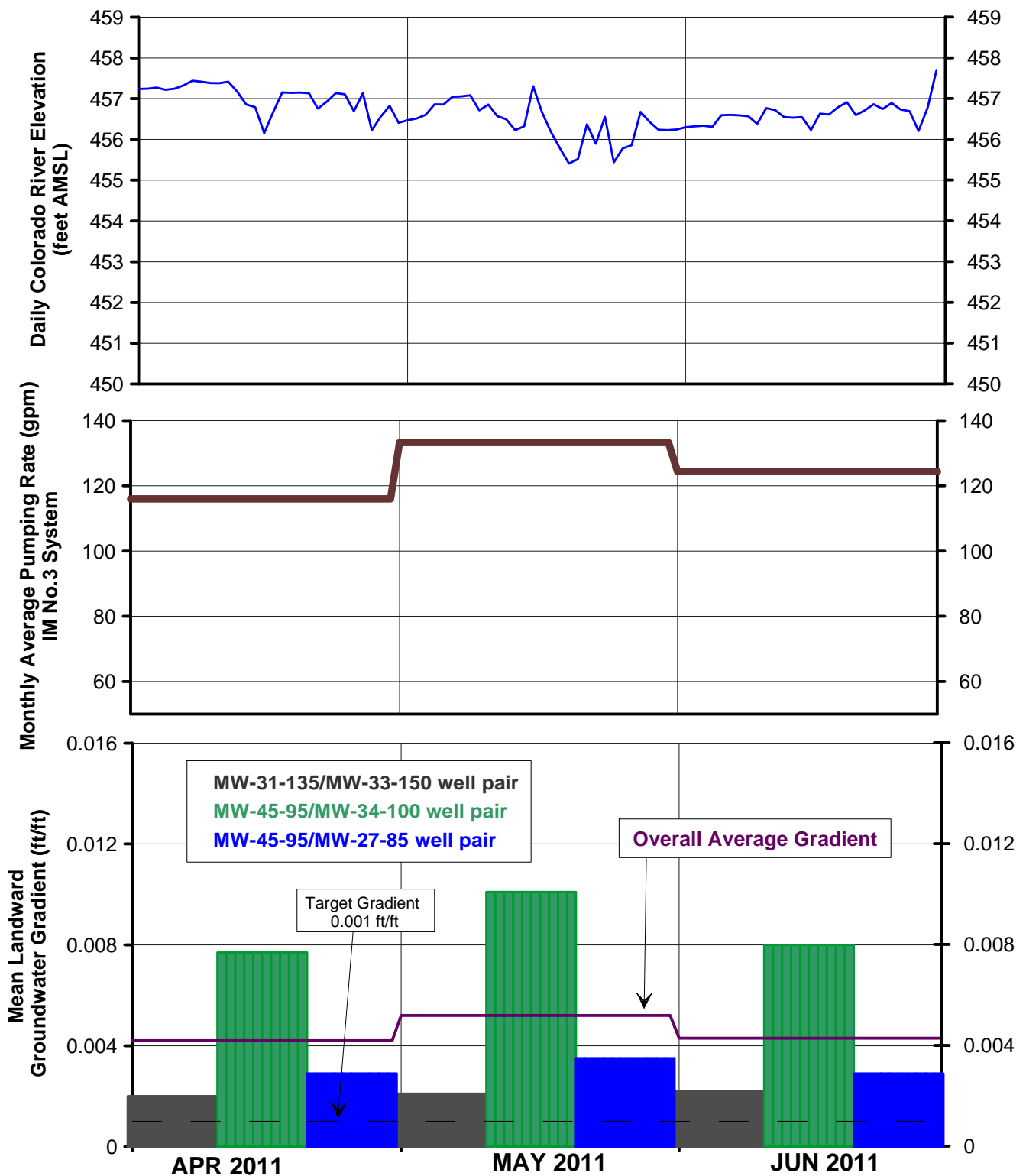


FIGURE 4-5
AVERAGE GROUNDWATER ELEVATIONS
FOR WELLS IN FLOODPLAIN CROSS-SECTION A
SECOND QUARTER 2011

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

CH2MHILL

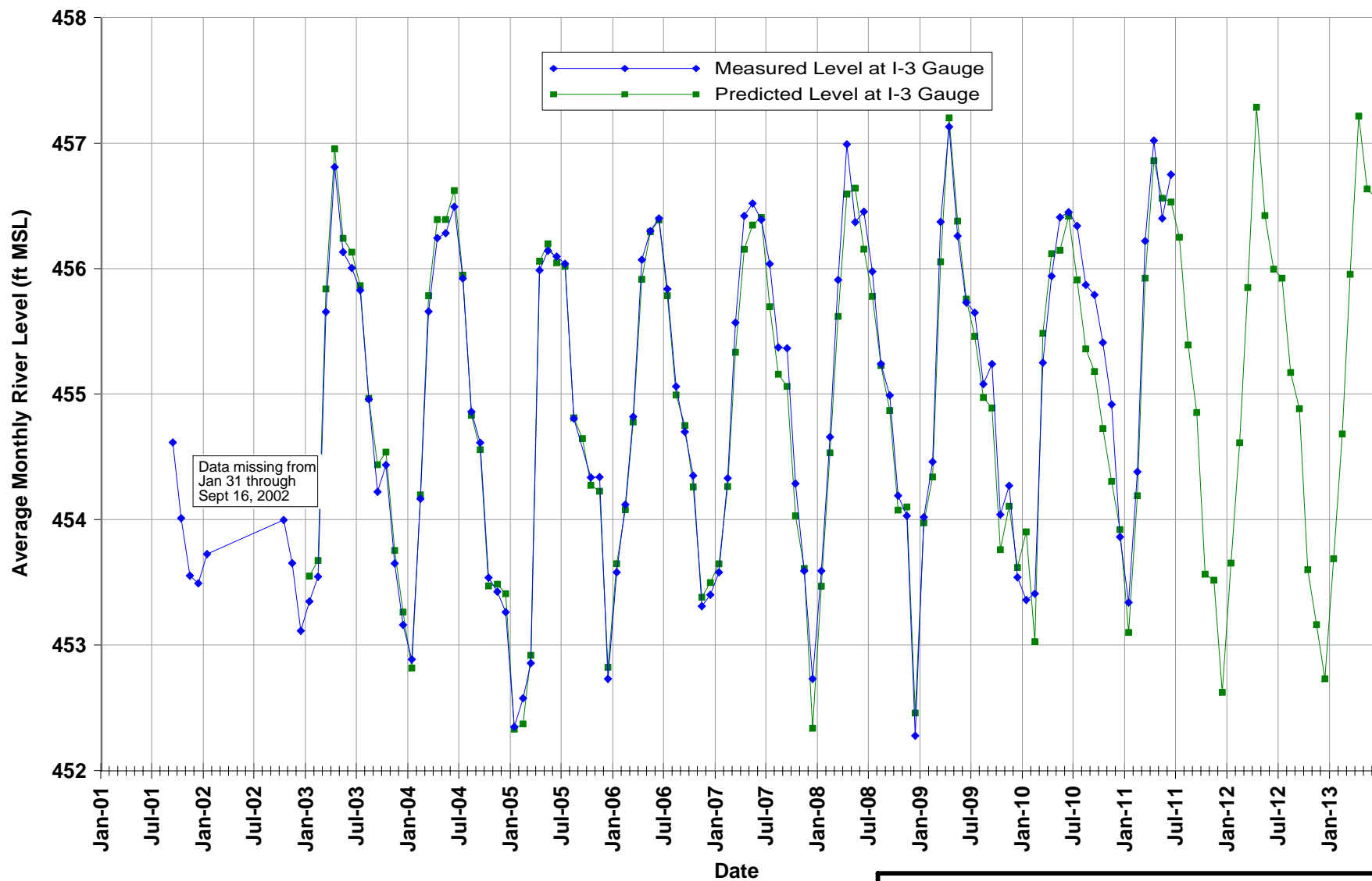


Notes:

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

**FIGURE 4-6
MEASURED HYDRAULIC GRADIENTS,
RIVER ELEVATIONS, AND PUMPING RATE,
SECOND QUARTER 2011**

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



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

SECOND QUARTER 2011 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 A
Lab Reports, Second Quarter 2011
(Provided on CD-ROM with hardcopy submittal)



LABORATORIES, INC.

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

Date: 05-23-2011
EMAX Batch No.: 11E036

Attn: Shawn Duffy

CH2M HILL
2525 Airport Dr.
Redding, CA 96001

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

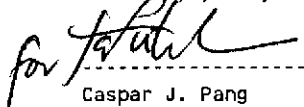
Enclosed is the Laboratory report for samples received on 05/05/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
-----	-----	-----	-----	-----
MW-56D-177	E036-01	05/04/11	WATER	SPECIFIC CONDUCTANCE CHROMIUM HEXAVALENT BY IC DISSOLVED METALS IN WATER & WASTE
MW-56M-177	E036-02	05/04/11	WATER	SPECIFIC CONDUCTANCE CHROMIUM HEXAVALENT BY IC DISSOLVED METALS IN WATER & WASTE
MW-56S-177	E036-03	05/04/11	WATER	SPECIFIC CONDUCTANCE CHROMIUM HEXAVALENT BY IC DISSOLVED METALS IN WATER & WASTE

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

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the 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 Certificate Number L2278 Testing

EMAX

10E036

CH2MHILL CH-0408-

CHAIN OF CUSTODY RECORD

5/4/2011 3:09:42 PM

Page 1 OF 1

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-AZ Turnaround Time 12 Days Shipping Date: 5/4/2011 COC Number: 7				Container: 2x250 ml Poly Preservatives: (NH4)2SO4/NH4OH, 4°C Filtered: Field Holding Time: 28	500 ml Poly HNO3, 4°C Field 180	1 Liter Poly 4°C NA 2	* Where provided w/ 2 Cr ⁶ bottles, please analyze 1 + hold 1	Number of Containers	COMMENTS
Cr6 (E218.6R) Field Filtered Metals (6020A) Field Filtered Chromium Specific Conductance (E120.1)									
DATE	TIME	MATRIX							
1 MW-56D-177	5/4/2011	10:50	Water						
2 MW-56M-177	5/4/2011	11:50	Water						
3 MW-56S-177	5/4/2011	12:20	Water						
TOTAL NUMBER OF CONTAINERS					12				

T = 2.8 °C

Approved by Sampled by Relinquished by Received by Relinquished by Received by	Signatures 	Date/Time 5-4-11 1510 5-4-11 15:10 5-4-11 15:10 5-4-11 15:10	Shipping Details Method of Shipment: FedEx On Ice: yes / no Airbill No: Lab Name: Lab Phone: Keith Start 5/5/11 0940	ATTN: Sample Custody	Special Instructions: May 2-13, 2011 Report Copy to Shawn Duffy (530) 229-3303
---	-------------------------------	---	---	---------------------------------------	--

CLIENT: CH2M HILL TOPOCK

SDG: 11E036

Analyst names:

1. 200-8 : Chris Capulong
2. 218-6 : Andy Mai
3. 120.1 : Nina Macalinao

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E036

METHOD 200.8 DISSOLVED CHROMIUM BY ICP-MS

A total of three (3) water samples were received on 05/05/11 for Dissolved Metals In Water & Wast analysis, Method 200.8 in accordance with Methods for the Determination of Metals in Environmental Samples, Supplement 1 (EPA/600/R-94/111).

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 IME015WL/C were all within QC limits.

Matrix QC Sample

Matrix QC sample was analyzed at the frequency prescribed by the project. Percent recoveries for E036-01M/S were within project QC limits. 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.

Sample E036-01 was reported at 5x dilution due to matrix interference.

LAB CHRONICLE
DISSOLVED CHROMIUM BY ICP-MS

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

SDG NO. : 11E036
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	IME015WB	1	NA	05/13/1117:53	05/09/1111:30	98E11043	98E11041	IME015W	Method Blank
LCS1W	IME015WL	1	NA	05/13/1117:57	05/09/1111:30	98E11044	98E11041	IME015W	Lab Control Sample (LCS)
LCD1W	IME015WC	1	NA	05/13/1118:01	05/09/1111:30	98E11045	98E11041	IME015W	LCS Duplicate
MW-56N-177	E036-02	1	NA	05/13/1123:54	05/09/1111:30	98E11131	98E11124	IME015W	Field Sample
MW-56S-177	E036-03	1	NA	05/13/1123:58	05/09/1111:30	98E11132	98E11124	IME015W	Field Sample
MW-56D-177MS	E036-01M	5	NA	05/17/1100:08	05/09/1111:30	98E12105	98E12103	IME015W	Matrix Spike Sample (MS)
MW-56D-177MSD	E036-01S	5	NA	05/17/1100:12	05/09/1111:30	98E12106	98E12103	IME015W	MS Duplicate (MSD)
MW-56D-177AS	E036-01A	5	NA	05/17/1100:16	05/09/1111:30	98E12107	98E12103	IME015W	Analytical Spike Sample
MW-56D-177	E036-01T	5	NA	05/17/1100:20	05/09/1111:30	98E12108	98E12103	IME015W	Diluted Sample
MW-56D-177DL	E036-01J	25	NA	05/17/1100:24	05/09/1111:30	98E12109	98E12103	IME015W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD 200.8
DISSOLVED CHROMIUM BY ICP-MS

```
=====
Client      : CH2M HILL                      Date Collected: 05/04/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/05/11
SDG NO.     : 11E036                        Date Extracted: 05/09/11 11:30
Sample ID   : MW-560-177                    Date Analyzed: 05/17/11 00:20
Lab Samp ID : E036-01T                      Dilution Factor: 5
Lab File ID : 98E12108                      Matrix       : WATER
Ext Btch ID : IME015W                       % Moisture    : NA
Calib. Ref. : 98E12103                      Instrument ID : T-198
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	5.00	1.00

METHOD 200.8
DISSOLVED CHROMIUM BY ICP-MS

```
=====
Client      : CH2M HILL                      Date Collected: 05/04/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/05/11
SDG NO.     : 11E036                        Date Extracted: 05/09/11 11:30
Sample ID   : MW-56M-177                    Date Analyzed: 05/13/11 23:54
Lab Samp ID : E036-02                       Dilution Factor: 1
Lab File ID : 98E11131                      Matrix       : WATER
Ext Btch ID : IME015W                       % Moisture    : NA
Calib. Ref. : 98E11124                      Instrument ID : T-198
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
-----	-----	-----	-----
Chromium	ND	1.00	0.200

METHOD 200.8
DISSOLVED CHROMIUM BY ICP-MS

```

=====
Client      : CH2M HILL                      Date Collected: 05/04/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/05/11
SDG NO.     : 11E036                        Date Extracted: 05/09/11 11:30
Sample ID   : MW-56S-177                    Date Analyzed: 05/13/11 23:58
Lab Samp ID : E036-03                       Dilution Factor: 1
Lab File ID : 98E11132                      Matrix       : WATER
Ext Btch ID : 1ME015W                       % Moisture    : NA
Calib. Ref. : 98E11124                      Instrument ID : T-198
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

METHOD 200.8
DISSOLVED CHROMIUM BY ICP-MS

```
=====
Client      : CH2M HILL                      Date Collected: NA
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/09/11
SDG NO.     : 11E036                        Date Extracted: 05/09/11 11:30
Sample ID   : MBLK1W                        Date Analyzed: 05/13/11 17:53
Lab Samp ID : IME015WB                      Dilution Factor: 1
Lab File ID : 98E11043                      Matrix       : WATER
Ext Btch ID : IME015W                       % Moisture    : NA
Calib. Ref. : 98E11041                      Instrument ID : T-198
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.200

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11E036
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILT N FACTR: 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: IME015WB IME015WL IME015WC
LAB FILE ID: 98E11043 98E11044 98E11045
DATIME EXTRCTD: 05/09/1111:30 05/09/1111:30 05/09/1111:30 DATE COLLECTED: NA
DATIME ANALYZD: 05/13/1117:53 05/13/1117:57 05/13/1118:01 DATE RECEIVED: 05/09/11
PREP. BATCH: IME015W IME015W IME015W
CALIB. REF: 98E11041 98E11041 98E11041

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	25.7	103	25.0	25.6	102	1	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11E036
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 5 5 5
SAMPLE ID: MW-560-177
CONTROL NO.: E036-01T E036-01M E036-01S
LAB FILE ID: 98E12108 98E12105 98E12106
DATIME EXTRACTD: 05/09/1111:30 05/09/1111:30 05/09/1111:30 DATE COLLECTED: 05/04/11
DATIME ANALYZD: 05/17/1100:20 05/17/1100:08 05/17/1100:12 DATE RECEIVED: 05/05/11
PREP. BATCH: IME015W IME015W IME015W
CALIB. REF: 98E12103 98E12103 98E12103

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 %
Chromium	ND	25.0	25.0	100	25.0	24.8	99	1	75-125	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E036
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 5 25
SAMPLE ID: MW-56D-177 MW-56D-177DL
EMAX SAMP ID: E036-01T E036-01J
LAB FILE ID: 98E12108 98E12109
DATE EXTRACTED: 05/09/1111:30 05/09/1111:30 DATE COLLECTED: 05/04/11
DATE ANALYZED: 05/17/1100:20 05/17/1100:24 DATE RECEIVED: 05/05/11
PREP. BATCH: 1ME015W 1ME015W
CALIB. REF: 98E12103 98E12103

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Chromium	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11E036
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 5 5
SAMPLE ID: MW-56D-177
CONTROL NO.: E036-01T E036-01A
LAB FILE ID: 98E12108 98E12107
DATE TIME EXTRACTED: 05/09/1111:30 05/09/1111:30 DATE COLLECTED: 05/04/11
DATE TIME ANALYZED: 05/17/1100:20 05/17/1100:16 DATE RECEIVED: 05/05/11
PREP. BATCH: 1ME015W 1ME015W
CALIB. REF: 98E12103 98E12103

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Chromium	ND	125	125	100	75-125

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E036

METHOD 120.1 SPECIFIC CONDUCTANCE

A total of three (3) water samples were received on 05/05/11 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 TOPDOCK GAS COMPRESSOR STAT
Batch No. : 11E036

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-177	E036-01	21700	1	NA	2.00	2.00	05/09/1112:04	NA	ECE00107	ECE00101	ECE001W	05/04/1110:50	05/05/11
MW-56M-177	E036-02	14900	1	NA	2.00	2.00	05/09/1112:08	NA	ECE00108	ECE00101	ECE001W	05/04/1111:50	05/05/11
MW-56S-177	E036-03	6310	1	NA	2.00	2.00	05/09/1112:14	NA	ECE00109	ECE00101	ECE001W	05/04/1112:20	05/05/11

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E036

METHOD 218.6 HEXAVALENT CHROMIUM

A total of three (3) water samples were received on 05/05/11 for Chromium Hexavalent by IC analysis, Method 218.6 in accordance with Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100).

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 HCE011WL/C were all within QC limits.

Matrix QC Sample

Matrix QC sample was analyzed at the frequency prescribed by the project. .
Percent recovery for E036-01U was within project QC limits.
Percent recovery for E036-02M was within project QC limits.
Percent recovery for E036-03M 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.

Sample E036-01 was reported at DF 5 due to low recovery of its spike at DF1.

METHOD 218.6
HEXAVALENT CHROMIUM

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11E036

Matrix : WATER
Instrument ID : 159

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	HCE011WB	ND	1	NA	0.200	0.100	05/19/1115:47	NA	IE20003	IE20001	HCE011W	NA	NA
LCS1W	HCE011WL	1.92	1	NA	0.200	0.100	05/19/1115:57	NA	IE20004	IE20001	HCE011W	NA	NA
LCD1W	HCE011WC	1.94	1	NA	0.200	0.100	05/19/1116:08	NA	IE20005	IE20001	HCE011W	NA	NA
MW-56D-177	E036-01T	ND	5	NA	1.00	0.500	05/19/1116:49	NA	IE20009	IE20001	HCE011W	05/04/1110:50	05/05/11
MW-56D-177MS	E036-01U	4.56	5	NA	1.00	0.500	05/19/1117:00	NA	IE20010	IE20001	HCE011W	05/04/1110:50	05/05/11
MW-56M-177	E036-02	ND	1	NA	0.200	0.100	05/19/1117:10	NA	IE20011	IE20001	HCE011W	05/04/1111:50	05/05/11
MW-56M-177MS	E036-02M	1.02	1	NA	0.200	0.100	05/19/1117:21	NA	IE20012	IE20001	HCE011W	05/04/1111:50	05/05/11
MW-56S-177	E036-03	ND	1	NA	0.200	0.100	05/19/1118:13	NA	IE20017	IE20013	HCE011W	05/04/1112:20	05/05/11
MW-56S-177MS	E036-03M	0.982	1	NA	0.200	0.100	05/19/1118:23	NA	IE20018	IE20013	HCE011W	05/04/1112:20	05/05/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E036
METHOD: METHOD 218.6

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: HCE011WB HCE011WL HCE011WC
LAB FILE ID: IE20003 IE20004 IE20005
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 05/19/1115:47 05/19/1115:57 05/19/1116:08 DATE RECEIVED: NA
PREP. BATCH: HCE011W HCE011W HCE011W
CALIB. REF: IE20001 IE20001 IE20001

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	1.92	96	2.00	1.94	97	1	90-110	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E036
METHOD: METHOD 218.6

=====

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	MW-56D-177			
LAB SAMP ID:	E036-01T	E036-01U		
LAB FILE ID:	1E20009	1E20010		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	05/04/11 10:50
DATE ANALYZED:	05/19/1116:49	05/19/1117:00	DATE RECEIVED:	05/05/11
PREP. BATCH:	HCE011W	HCE011W		
CALIB. REF:	1E20001	1E20001		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
-----	-----	-----	-----	-----	-----
Hexavalent Chromium	ND	5.00	4.56	91	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E036
METHOD: METHOD 218.6

=====

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-56M-177			
LAB SAMP ID:	E036-02	E036-02M		
LAB FILE ID:	1E20011	1E20012		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	05/04/11 11:50
DATE ANALYZED:	05/19/1117:10	05/19/1117:21	DATE RECEIVED:	05/05/11
PREP. BATCH:	HCE011W	HCE011W		
CALIB. REF:	1E20001	1E20001		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
-----	-----	-----	-----	-----	-----
Hexavalent Chromium	ND	1.00	1.02	102	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E036
METHOD: METHOD 218.6

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MW-56S-177
LAB SAMP ID: E036-03 E036-03M
LAB FILE ID: IE20017 IE20018
DATE EXTRACTED: NA NA DATE COLLECTED: 05/04/11 12:20
DATE ANALYZED: 05/19/1118:13 05/19/1118:23 DATE RECEIVED: 05/05/11
PREP. BATCH: HCE011W HCE011W
CALIB. REF: IE20013 IE20013

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	1.00	0.982	98	90-110



LABORATORIES, INC.

1835 W. 205th Street

Torrance, CA 90501

Tel: (310) 618-8889

Fax: (310) 618-0818

Date: 05-23-2011

EMAX Batch No.: 11E064

Attn: Shawn Duffy

CH2M HILL

2525 Airpark Dr.

Redding CA 96001

Subject: Laboratory Report

Project: PG&E's Topock Gas Compressor Stat

Enclosed is the Laboratory report for samples received on 05/09/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
-----	-----	-----	-----	-----
MW-54-085-177	E064-01	05/05/11	WATER	SPECIFIC CONDUCTANCE DISSOLVED METALS IN WATER & WASTE CHROMIUM HEXAVALENT BY IC
MW-54-140-177	E064-02	05/05/11	WATER	SPECIFIC CONDUCTANCE DISSOLVED METALS IN WATER & WASTE CHROMIUM HEXAVALENT BY IC
MW-54-195-177	E064-03	05/05/11	WATER	SPECIFIC CONDUCTANCE DISSOLVED METALS IN WATER & WASTE CHROMIUM HEXAVALENT BY IC
MW-90-195-177	E064-04	05/05/11	WATER	SPECIFIC CONDUCTANCE DISSOLVED METALS IN WATER & WASTE 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

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the 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 Certificate Number L2278 Testing

EMAX

11E064

CH2MHILL CH-0408

CHAIN OF CUSTODY RECORD

5/6/2011 10:49:09 AM

Page 1 OF 1

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-AZ Turnaround Time 12 Days Shipping Date: 5/6/2011 COC Number: 10				Container: 2x250 ml Poly Preservatives: (NH4)2SO4/NH4OH, 4°C Filtered: Field Holding Time: 28	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	1 Liter Poly 4°C NA 2						
			Cr6 (E218.6R) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (SW6010B/SW6020A) Field Filtered As,Mn	Specific Conductance (E120.1)							
	DATE	TIME	MATRIX										
1	MW-54-085-177	5/5/2011	9:06	Water	X	X	X	X					
2	MW-54-140-177	5/5/2011	10:00	Water	X	X	X	X					
3	MW-54-195-177	5/5/2011	11:04	Water	X	X	X	X					
4	MW-90-195-177	5/5/2011	10:25	Water	X	X	X	X					
										TOTAL NUMBER OF CONTAINERS		20	2

Signatures Approved by: [Signature] Sampled by: [Signature] Relinquished by: [Signature] Received by: Rafael Davila Relinquished by: Rafael Davila Received by: Leda TLF		Date/Time 5-6-11 15:30 15:30 21:30 5/6/11-21:20	Shipping Details Method of Shipment: courier On Ice: yes / no Airbill No: Lab Name: EMAX Lab Phone:	ATTN: Sample Custody	Special Instructions: May 2-13, 2011 T= 2.9°C Report Copy to Shawn Duffy (530) 229-3303
---	--	---	---	-------------------------	---

with Start 5/9/11 9:20

CLIENT: CH2M HILL TOPOCK

SDG: 11E064

Analyst names:

1. 200-8 : Chris Capulong
2. 218-6 : Andy Mai
3. 120.1 : Nina Macalinao

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E064

METHOD 200.8 DISSOLVED METALS BY ICP-MS

A total of four (4) water samples were received on 05/09/11 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).

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 IME021WL/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.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

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

SDG NO. : 11E064
Instrument ID : T-I98

WATER									
Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IME021WB	1	NA	05/17/1122:10	05/11/1111:45	98E13133	98E13131	IME021W	Method Blank
LCS1W	IME021WL	1	NA	05/17/1122:14	05/11/1111:45	98E13134	98E13131	IME021W	Lab Control Sample (LCS)
LCD1W	IME021WC	1	NA	05/17/1122:19	05/11/1111:45	98E13135	98E13131	IME021W	LCS Duplicate
MW004B-41AS	D310-03A	1	NA	05/17/1122:31	05/11/1111:45	98E13138	98E13131	IME021W	Analytical Spike Sample
MW004B-41	D310-03	1	NA	05/17/1122:35	05/11/1111:45	98E13139	98E13131	IME021W	Field Sample
MW004B-41DL	D310-03J	5	NA	05/17/1122:39	05/11/1111:45	98E13140	98E13131	IME021W	Diluted Sample
MW-54-085-177	E064-01	1	NA	05/18/1116:44	05/11/1111:45	98E14062	98E14060	IME021W	Field Sample
MW-54-140-177	E064-02	1	NA	05/18/1116:48	05/11/1111:45	98E14063	98E14060	IME021W	Field Sample
MW-54-195-177	E064-03	1	NA	05/18/1117:07	05/11/1111:45	98E14067	98E14060	IME021W	Field Sample
MW-90-195-177	E064-04	1	NA	05/18/1117:11	05/11/1111:45	98E14068	98E14060	IME021W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD 200.8
DISSOLVED METALS BY ICP-MS

```

=====
Client      : CH2M HILL                      Date Collected: 05/05/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/09/11
SDG NO.     : 11E064                        Date Extracted: 05/11/11 11:45
Sample ID   : MW-54-085-177                 Date Analyzed: 05/18/11 16:44
Lab Samp ID : E064-01                       Dilution Factor: 1
Lab File ID : 98E14062                     Matrix       : WATER
Ext Btch ID : IME021W                      % Moisture    : NA
Calib. Ref. : 98E14060                     Instrument ID : T-198
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	0.200
Chromium	ND	1.00	0.200
Manganese	838	5.00	0.200

METHOD 200.8
DISSOLVED METALS BY ICP-MS

```
=====
Client       : CH2M HILL                Date Collected: 05/05/11
Project      : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/09/11
SDG NO.      : 11E064                  Date Extracted: 05/11/11 11:45
Sample ID:   MW-54-140-177             Date Analyzed: 05/18/11 16:48
Lab Samp ID: E064-02                   Dilution Factor: 1
Lab File ID: 98E14063                  Matrix          : WATER
Ext Btch ID: IME021W                   % Moisture       : NA
Calib. Ref.: 98E14060                  Instrument ID    : T-I98
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
-----	-----	-----	-----
Arsenic	ND	5.00	0.200
Chromium	ND	1.00	0.200
Manganese	217	5.00	0.200

METHOD 200.8
DISSOLVED METALS BY ICP-MS

```
=====
Client      : CH2M HILL                      Date Collected: 05/05/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/09/11
SDG NO.     : 11E064                        Date Extracted: 05/11/11 11:45
Sample ID   : MW-54-195-177                 Date Analyzed: 05/18/11 17:07 # 05/18/11 16:53
Lab Samp ID : E064-03 #E064-03T             Dilution Factor: 1 # 5
Lab File ID : 98E14067 #98E14064           Matrix      : WATER
Ext Btch ID : IME021W                       % Moisture   : NA
Calib. Ref. : 98E14060                     Instrument ID : T-198
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	0.200
Chromium	ND	1.00	0.200
# Manganese	614	25.0	1.00

Members of the Associated File

METHOD 200.8
DISSOLVED METALS BY ICP-MS

```
=====
Client      : CH2M HILL                      Date Collected: 05/05/11
Project     : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/09/11
SDG NO.     : 11E064                        Date Extracted: 05/11/11 11:45
Sample ID:  MW-90-195-177                   Date Analyzed: 05/18/11 17:11 # 05/18/11 16:57
Lab Samp ID: E064-04 #E064-04T             Dilution Factor: 1 # 5
Lab File ID: 98E14068 #98E14065           Matrix      : WATER
Ext Btch ID: IME021W                       % Moisture   : NA
Calib. Ref.: 98E14060                     Instrument ID : T-198
=====
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	0.200
# Chromium	ND	5.00	1.00
# Manganese	613	25.0	1.00

Members of the Associated File

METHOD 200.8
DISSOLVED METALS BY ICP-MS

```

=====
Client       : CH2M HILL                      Date Collected: NA
Project      : PG&E'S TOPOCK GAS COMPRESSOR STAT Date Received: 05/11/11
SDG NO.      : 11E064                        Date Extracted: 05/11/11 11:45
Sample ID    : MBLK1W                        Date Analyzed: 05/17/11 22:10
Lab Samp ID  : IME021WB                      Dilution Factor: 1
Lab File ID  : 98E13133                      Matrix       : WATER
Ext Btch ID  : IME021W                       % Moisture    : NA
Calib. Ref. : 98E13131                      Instrument ID : T-198
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
-----	-----	-----	-----
Arsenic	ND	5.00	0.200
Chromium	ND	1.00	0.200
Manganese	ND	5.00	0.200

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11E064
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1 1
SAMPLE ID: MBLK1W
CONTROL NO.: IME021WB IME021WL IME021WC
LAB FILE ID: 98E13133 98E13134 98E13135
DATIME EXTRACTD: 05/11/1111:45 05/11/1111:45 05/11/1111:45 DATE COLLECTED: NA
DATIME ANALYZD: 05/17/1122:10 05/17/1122:14 05/17/1122:19 DATE RECEIVED: 05/11/11
PREP. BATCH: IME021W IME021W IME021W
CALIB. REF: 98E13131 98E13131 98E13131

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	25.3	101	25.0	25.4	102	1	85-115	20
Chromium	ND	25.0	24.6	98	25.0	24.9	100	1	85-115	20
Manganese	ND	25.0	25.9	103	25.0	25.9	104	0	85-115	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 5
SAMPLE ID: MW004B-41 MW004B-41DL
EMAX SAMP ID: D310-03 D310-D3J
LAB FILE ID: 98E13139 98E13140
DATE EXTRACTED: 05/11/1111:45 05/11/1111:45 DATE COLLECTED: 04/29/11
DATE ANALYZED: 05/17/1122:35 05/17/1122:39 DATE RECEIVED: 04/30/11
PREP. BATCH: IME021W IME021W
CALIB. REF: 98E13131 98E13131

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	10
Chromium	3.83	ND	NA	10
Manganese	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG NO.: 11E064
METHOD: METHOD 200.8 (DISSOLVED)

MATRIX: WATER % MOISTURE: NA
DILTN FACTR: 1 1
SAMPLE ID: MW004B-41
CONTROL NO.: D310-03 D310-03A
LAB FILE ID: 98E13139 98E13138
DATIME EXTRACTD: 05/11/1111:45 05/11/1111:45 DATE COLLECTED: 04/29/11
DATIME ANALYZD: 05/17/1122:35 05/17/1122:31 DATE RECEIVED: 04/30/11
PREP. BATCH: IME021W IME021W
CALIB. REF: 98E13131 98E13131

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Arsenic	ND	25.0	30.0	120	75-125
Chromium	3.83	25.0	28.5	99	75-125
Manganese	ND	25.0	25.1	100	75-125

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E064

METHOD 120.1 SPECIFIC CONDUCTANCE

A total of four (4) water samples were received on 05/09/11 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. : 11E064

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-54-085-177	E064-01	10100	1 NA	2.00	2.00	05/13/1111:17	NA	ECE00302	ECE00301	ECE003W	05/05/1109:06	05/09/11
MW-54-140-177	E064-02	13000	1 NA	2.00	2.00	05/13/1111:19	NA	ECE00303	ECE00301	ECE003W	05/05/1110:00	05/09/11
MW-54-195-177	E064-03	20000	1 NA	2.00	2.00	05/13/1111:23	NA	ECE00304	ECE00301	ECE003W	05/05/1111:04	05/09/11
MW-90-195-177	E064-04	20000	1 NA	2.00	2.00	05/13/1111:30	NA	ECE00305	ECE00301	ECE003W	05/05/1110:25	05/09/11

CASE NARRATIVE

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
SDG : 11E064

METHOD 218.6 HEXAVALENT CHROMIUM

A total of four (4) water samples were received on 05/09/11 for Chromium Hexavalent by IC analysis, Method 218.6 in accordance with Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100).

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 HCE011WL/C were all within QC limits.

Matrix QC Sample

Matrix QC samples were analyzed at the frequency prescribed by the project. Percent recovery for E064-01M was within project QC limits. Percent recovery for E064-02M was within project QC limits. Percent recovery for E064-03U was within project QC limits. Percent recovery for E064-04U 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 E064-03 and -04 were reported from DF 5 due to failed spiking in DF 1. Raw data from all runs were submitted for review.

METHOD 218.6
HEXAVALENT CHROMIUM

Client : CH2M HILL
Project : PG&E'S TOPOCK GAS COMPRESSOR STAT
Batch No. : 11E064

Matrix : WATER
Instrument ID : 159

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	HCE011WB	ND	1	NA	0.200	0.100	05/19/1115:47	NA	IE20003	IE20001	HCE011W	NA	NA
LCS1W	HCE011WL	1.92	1	NA	0.200	0.100	05/19/1115:57	NA	IE20004	IE20001	HCE011W	NA	NA
LCD1W	HCE011WC	1.94	1	NA	0.200	0.100	05/19/1116:08	NA	IE20005	IE20001	HCE011W	NA	NA
MW-54-085-177	E064-01	ND	1	NA	0.200	0.100	05/19/1118:54	NA	IE20021	IE20013	HCE011W	05/05/1109:06	05/09/11
MW-54-085-177MS	E064-01M	1.01	1	NA	0.200	0.100	05/19/1119:05	NA	IE20022	IE20013	HCE011W	05/05/1109:06	05/09/11
MW-54-140-177	E064-02	ND	1	NA	0.200	0.100	05/19/1119:57	NA	IE20027	IE20025	HCE011W	05/05/1110:00	05/09/11
MW-54-140-177MS	E064-02M	0.968	1	NA	0.200	0.100	05/19/1120:07	NA	IE20028	IE20025	HCE011W	05/05/1110:00	05/09/11
MW-54-195-177	E064-03T	ND	5	NA	1.00	0.500	05/19/1120:59	NA	IE20033	IE20025	HCE011W	05/05/1111:04	05/09/11
MW-54-195-177MS	E064-03U	4.78	5	NA	1.00	0.500	05/19/1121:10	NA	IE20034	IE20025	HCE011W	05/05/1111:04	05/09/11
MW-90-195-177	E064-04T	ND	5	NA	1.00	0.500	05/19/1122:02	NA	IE20039	IE20037	HCE011W	05/05/1110:25	05/09/11
MW-90-195-177MS	E064-04U	4.73	5	NA	1.00	0.500	05/19/1122:12	NA	IE20040	IE20037	HCE011W	05/05/1110:25	05/09/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 218.6

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: HCE011WB HCE011WL HCE011WC
LAB FILE ID: IE20003 IE20004 IE20005
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 05/19/1115:47 05/19/1115:57 05/19/1116:08 DATE RECEIVED: NA
PREP, BATCH: HCE011W HCE011W HCE011W
CALIB. REF: IE20001 IE20001 IE20001

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	1.92	96	2.00	1.94	97	1	90-110	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 218.6

=====

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-085-177			
LAB SAMP ID:	E064-01	E064-01M		
LAB FILE ID:	1E20021	1E20022		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	05/05/11 09:06
DATE ANALYZED:	05/19/1118:54	05/19/1119:05	DATE RECEIVED:	05/09/11
PREP. BATCH:	HCE011W	HCE011W		
CALIB. REF:	1E20013	1E20013		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
-----	-----	-----	-----	-----	-----
Hexavalent Chromium	ND	1.00	1.01	101	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 218.6

=====

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MW-54-140-177			
LAB SAMP ID:	E064-02	E064-02M		
LAB FILE ID:	IE20027	IE20028		
DATE EXTRACTED:	NA	NA	DATE COLLECTED:	05/05/11 10:00
DATE ANALYZED:	05/19/1119:57	05/19/1120:07	DATE RECEIVED:	05/09/11
PREP. BATCH:	HCE011W	HCE011W		
CALIB. REF:	IE20025	IE20025		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
-----	-----	-----	-----	-----	-----
Hexavalent Chromium	ND	1.00	0.968	97	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 218.6
=====

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 5
SAMPLE ID: MW-54-195-177 5
LAB SAMP ID: E064-03T E064-03U
LAB FILE ID: IE20033 IE20034
DATE EXTRACTED: NA NA DATE COLLECTED: 05/05/11 11:04
DATE ANALYZED: 05/19/1120:59 05/19/1121:10 DATE RECEIVED: 05/09/11
PREP. BATCH: HCE011W HCE011W
CALIB. REF: IE20025 IE20025

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.00	4.78	96	90-110

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: CH2M HILL
PROJECT: PG&E'S TOPOCK GAS COMPRESSOR STAT
BATCH NO.: 11E064
METHOD: METHOD 218.6
=====

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 5 5
SAMPLE ID: MW-90-195-177
LAB SAMP ID: E064-04T E064-04U
LAB FILE ID: IE20039 IE20040
DATE EXTRACTED: NA NA DATE COLLECTED: 05/05/11 10:25
DATE ANALYZED: 05/19/1122:02 05/19/1122:12 DATE RECEIVED: 05/09/11
PREP. BATCH: HCE011W HCE011W
CALIB. REF: IE20037 IE20037

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
-----	-----	-----	-----	-----	-----
Hexavalent Chromium	ND	5.00	4.73	95	90-110

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

May 9, 2011

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

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-EW-181, GROUNDWATER MONITORING
PROJECT, TLI NO.: 994444

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-181 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 April 5, 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.

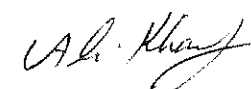
Samples for Total Dissolved Chromium were analyzed by method EPA 200.8 with the approval of Mr. Shawn Duffy of CH2M Hill.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

For 
Mona Nassimi
Manager, Analytical Services


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

TRUESDAIL LABORATORIES, INC.

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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.: 408401.01.DM

Laboratory No.: 994444

Date: May 9, 2011

Collected: April 5, 2011

Received: April 5, 2011

ANALYST LIST

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

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

Attention: Shawn Duffy

Laboratory No.: 994444
Date Received: April 5, 2011

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994444-001	PE-01-181	E120.1	NONE	4/5/2011	11:40	EC	5180	umhos/cm	2.00
994444-001	PE-01-181	E200.8	LABFLT	4/5/2011	11:40	Chromium	10.0	ug/L	1.0
994444-001	PE-01-181	E218.6	LABFLT	4/5/2011	11:40	Chromium, hexavalent	10.5	ug/L	0.20
994444-001	PE-01-181	SM2540C	NONE	4/5/2011	11:40	Total Dissolved Solids	2920	mg/L	125
994444-002	TW-03D-181	E120.1	NONE	4/5/2011	11:40	EC	8710	umhos/cm	2.00
994444-002	TW-03D-181	E200.8	LABFLT	4/5/2011	11:40	Chromium	1220	ug/L	4.0
994444-002	TW-03D-181	SM2540C	NONE	4/5/2011	11:40	Total Dissolved Solids	5120	mg/L	250
994444-002	TW-03D-181	SM3500-CrB	LABFLT	4/5/2011	11:40	Chromium, hexavalent	1130	ug/L	50.0

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: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 994444

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Printed 5/9/2011

Samples Received on 4/5/2011 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-181	994444-001	04/05/2011 11:40	Water
TW-03D-181	994444-002	04/05/2011 11:40	Water

Specific Conductivity - EPA 120.1

Batch 04EC11C

4/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994444-001 Specific Conductivity	umhos/cm	04/07/2011	1.00	0.0380	2.00	5180
994444-002 Specific Conductivity	umhos/cm	04/07/2011	1.00	0.0380	2.00	8710

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 994446-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7860	7850	0.127	0 - 10

Lab Control Sample

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

Lab Control Sample Duplicate

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998	996	100.	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 8

Project Number: 408401.01.DM

Printed 5/9/2011

Chromium VI by EPA 218.6

Batch 04CrH11C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994444-001 Chromium, Hexavalent	ug/L	04/06/2011 08:59	1.05	0.0210	0.20	10.5
Method Blank						
Parameter	Unit	DF	Result			
Chromium, Hexavalent	ug/L	1.00	ND			
Duplicate						
						Lab ID = 994417-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	2.02	2.06	1.86	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.20	5.00	104.	90 - 110
Matrix Spike						
						Lab ID = 994417-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.43	7.38(5.30)	101.	90 - 110
Matrix Spike						
						Lab ID = 994417-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.25	7.36(5.30)	97.9	90 - 110
Matrix Spike						
						Lab ID = 994417-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.41	7.49(5.30)	98.4	90 - 110
Matrix Spike						
						Lab ID = 994417-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.56	7.69(5.30)	97.5	90 - 110
Matrix Spike						
						Lab ID = 994417-005
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.57	1.60(1.06)	96.7	90 - 110
Matrix Spike						
						Lab ID = 994417-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.57	1.65(1.06)	92.4	90 - 110
Matrix Spike						
						Lab ID = 994441-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.57	7.62(5.30)	99.1	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 5/9/2011

Matrix Spike						Lab ID = 994441-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.79	1.81(1.06)	98.8	90 - 110
Matrix Spike						Lab ID = 994441-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.46	7.64(5.25)	96.5	90 - 110
Matrix Spike						Lab ID = 994441-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.06	9.23(5.30)	96.7	90 - 110
Matrix Spike						Lab ID = 994441-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.65	8.70(5.30)	99.1	90 - 110
Matrix Spike						Lab ID = 994441-007
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.86	6.95(5.30)	98.3	90 - 110
Matrix Spike						Lab ID = 994441-008
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.54	7.60(5.30)	98.8	90 - 110
Matrix Spike						Lab ID = 994441-009
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.44	8.48(5.30)	99.2	90 - 110
Matrix Spike						Lab ID = 994441-010
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.29	1.31(1.06)	97.8	90 - 110
Matrix Spike						Lab ID = 994444-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	26.2	26.9(16.4)	95.5	90 - 110
Matrix Spike						Lab ID = 994445-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.21(1.06)	103.	90 - 110
Matrix Spike						Lab ID = 994445-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.52	5.62(5.25)	98.2	90 - 110
Matrix Spike						Lab ID = 994445-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	1950	1960(1050)	99.2	90 - 110

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Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 6 of 8
Project Number: 408401.01.DM
Printed 5/9/2011
Chromium, Hexavalent by SM 3500-Cr B

Batch 04CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994444-002 Chromium, Hexavalent	ug/L	04/13/2011 17:48	5.00	17.5	50.0	1130

Method Blank

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

Duplicate

Lab ID = 994444-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	1140	1130	1.10	0 - 20

Lab Control Sample

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

Matrix Spike

Lab ID = 994444-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	1620	1630(500.)	97.5	85 - 115

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.2	60.0	102	90 - 110

Total Dissolved Solids by SM 2540 C

Batch 04TDS11B

4/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994444-001 Total Dissolved Solids	mg/L	04/08/2011	1.00	0.434	125	2920
994444-002 Total Dissolved Solids	mg/L	04/08/2011	1.00	0.434	250.	5120

Method Blank

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

Duplicate

Lab ID = 994445-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	26700	27600	3.24	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	479	500.	95.8	90 - 110



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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 7 of 8

Project Number: 408401.01.DM

Printed 5/9/2011

Metals by EPA 200.8, Dissolved

Batch 050511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994444-001 Chromium	ug/L	05/05/2011 21:23	5.00	0.0950	1.0	10.0
994444-002 Chromium	ug/L	05/05/2011 22:05	20.0	0.380	4.0	1220

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994444-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	9.43	10.0	5.82	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.7	90 - 110

Matrix Spike

Lab ID = 994444-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	235.	260.(250.)	90.2	75 - 125

Matrix Spike Duplicate

Lab ID = 994444-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	225	260.(250.)	86.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.0	50.0	93.9	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.7	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 8 of 8

Project Number: 408401.01.DM

Printed 5/9/2011

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	46.3	50.0	92.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	43.2	50.0	86.4	80 - 120


Serial Dilution

Lab ID = 994617-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	561.	576	2.58	0 - 10

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


Mona Nassimi
Manager, Analytical Services

E2 Condon



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 04TDS11B

Date Calculated: 4/4/11

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	110.3680	110.3690	110.3686	0.0004	No	0.0006	6.0	25.0	ND	1
994418-1	100	112.8375	112.8626	112.8626	0.0000	No	0.0251	251.0	25.0	251.0	1
994466	100	109.3972	109.4375	109.4373	0.0002	No	0.0401	401.0	25.0	401.0	1
994444-1	20	47.6380	47.6968	47.6965	0.0003	No	0.0585	2925.0	125.0	2925.0	1
994444-2	10	50.2154	50.2669	50.2666	0.0003	No	0.0512	5120.0	250.0	5120.0	1
994445-1	10	48.1855	48.2274	48.227	0.0004	No	0.0415	4150.0	250.0	4150.0	1
994445-2	10	49.7197	49.7675	49.7674	0.0001	No	0.0477	4770.0	250.0	4770.0	1
994445-3	5	51.2559	51.3941	51.394	0.0001	No	0.1381	27620.0	500.0	27620.0	1
994446-1	10	49.3275	49.3712	49.3709	0.0003	No	0.0434	4340.0	250.0	4340.0	1
994446-2	10	49.4167	49.4587	49.4586	0.0001	No	0.0419	4190.0	250.0	4190.0	1
994446-3	10	73.0052	73.0455	73.0452	0.0003	No	0.0400	4000.0	250.0	4000.0	1
994445-3D	5	51.1327	51.2663	51.2663	0.0000	No	0.1336	26720.0	500.0	26720.0	1
LCS	100	111.6515	111.6994	111.6994	0.0000	No	0.0479	479.0	25.0	479.0	1
994446-4	10	50.1290	50.182	50.1819	0.0001	No	0.0529	5290.0	250.0	5290.0	1
994446-5	10	49.3600	49.4047	49.4045	0.0002	No	0.0445	4450.0	250.0	4450.0	1
994446-7	10	50.6068	50.6483	50.6479	0.0004	No	0.0411	4110.0	250.0	4110.0	1
994446-8	10	49.4823	49.5245	49.5244	0.0001	No	0.0421	4210.0	250.0	4210.0	1
994446-9	20	76.5377	76.6147	76.6147	0.0000	No	0.0770	3850.0	125.0	3850.0	1
994446-10	20	75.1414	75.1985	75.1984	0.0001	No	0.0570	2850.0	125.0	2850.0	1
994446-11	50	65.6325	65.6803	65.68	0.0003	No	0.0475	950.0	50.0	950.0	1
994446-12	50	65.8011	65.875	65.8749	0.0001	No	0.0738	1476.0	50.0	1476.0	1
994446-14	20	75.7722	75.8469	75.8469	0.0000	No	0.0747	3735.0	125.0	3735.0	1
994446-15	50	69.5790	69.6265	69.6265	0.0000	No	0.0475	950.0	50.0	950.0	1
LCS D											1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

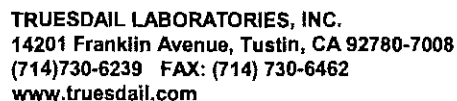
TDS/EC CHECK

Batch: 04TDS11B

Date Calculated: 4/4/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994418-1	423	0.59	274.95	0.91
994466	732	0.55	475.8	0.84
994444-1	5180	0.56	3367	0.87
994444-2	8710	0.59	5661.5	0.90
994445-1	7500	0.55	4875	0.85
994445-2	8080	0.59	5252	0.91
994445-3	41600	0.66	27040	1.02
994446-1	7330	0.59	4764.5	0.91
994446-2	7160	0.59	4654	0.90
994446-3	7070	0.57	4595.5	0.87
994445-3D	41600	0.64	27040	0.99
LCS				
994446-4	8680	0.61	5642	0.94
994446-5	7850	0.57	5102.5	0.87
994446-7	7350	0.56	4777.5	0.86
994446-8	7280	0.58	4732	0.89
994446-9	6630	0.58	4309.5	0.89
994446-10	5190	0.55	3373.5	0.84
994446-11	1710	0.56	1111.5	0.85
994446-12	2570	0.57	1670.5	0.88
994446-14	6630	0.56	4309.5	0.87
994446-15	1720	0.55	1118	0.85





994 444
CHAIN OF CUSTODY RECORD
[IM3Plant-EW-181]

COC Number

TURNAROUND TIME

10 Days

DATE 04/05/11

PAGE 1 OF 1

[illegible]

CHAIN OF CUSTODY SIGNATURE RECORD					SAMPLE CONDITIONS						
Signature (Relinquished)	<i>C. Knight</i>	Printed Name	<i>C. Knight</i>	Company/ Agency	<i>CH2M HILL</i>	Date/ Time	<i>4-5-11 16:00</i>	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	<i>4°C</i> °F
Signature (Received)	<i>Rafael Davila</i>	Printed Name	<i>Rafael</i>	Company/ Agency	<i>T.H.I</i>	Date/ Time	<i>4-5-11 18:00</i>	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	<i>Rafael Davila</i>	Printed Name	<i>Rafael</i>	Company/ Agency	<i>T.H.I</i>	Date/ Time	<i>4-5-11 22:00</i>	SPECIAL REQUIREMENTS:			
Signature (Received)	<i>Linda</i>	Printed Name	<i>Linda</i>	Company/ Agency	<i>TLI</i>	Date/ Time	<i>4/5/11 22:00</i>				
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time					
Signature (Received)		Printed Name		Company/ Agency		Date/ Time					

045

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
04/05/11	994416-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
04/05/11	994417-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
04/05/11	994418-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
04/06/11	994441-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
04/06/11	994442-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
04/06/11	994444-1	7.0	5.00	9.5	8:30	SB

ah

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
99486 8/1-9/	<1	<2	04/29/11	M.M	Yes	
99486 9/1-4/88	<1	<2				
99486 1/12/4,89	<1	<2				
99486 2/3,6/	<1	<2				
99486 3/1,3,4,5	<1	<2				
99486 7	<1	<2	5/2/11	ES	NO	
99486 1						
662						
965						
99486 7 (-1)	<1	<2	5/2/11	M.M	Yes	
99486 7	<1	<2				
99488 9/12/45/	<1	<2				
99489 0/11-5	<1	<2				
99489 1/11-5	<1	<2				
99489 2/11-4/	<1	<2				
99489 3/11-4/	<1	<2				
99490 3	<1	<2				
99490 8/11-7	<1	<2	05/03/11	M.M	Yes	
99490 9/12-6/						
99491 0/1,4/						
99491 1/2/						
99491 2/11-5/						
99491 3/11-6/						
99491 4/11-4/						
99491 5/16,23/	<1	7.2	5/4/11	ES	NO	yes @ 9:00
99491 7/11-4/						
99492 1		<2				
922						
923						
924						
928						
926						
933 (1-2)		7.2				yes @ 9:00
948 (1-3)		7.2				
949	7.2	7.2			Yes	
99490 6/11-2/	<1	7.2			NO	yes @ 9:00 a.m
99490 7/11-2/	<1	7.2				
DS 99490 7-2	<1	7.2				yes @ 9:00 a.m
99494 9	<1	7.2	5/4/11	M.M	Yes	
99486 3/1,2/	>1	7.2			Yes	yes
99486 5	<1	7.2				
99495 3/1-4/	<1	7.2				
99495 4/1,2/	<1					
99495 5/1,3,4/	<1					
99487 0/11-9/	<1	<2	5/2/11	ES	NO	
99491 0/11-6/	<1	<2	5/5/11	ES	NO	
99487 2/11-5/	<1	<2				
99487 4/11-2/	<1	<2	4/24/11	KK	NO	Yes @ 5:45pm
99489 4/11-10/	<1	<2	5/6/11	MG	NO	



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 994444

Date Delivered: 04/05/11 Time: 12:00 By: ☐ Mail ☒ Field Service ☐ Client

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

June 9, 2011

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

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK 2011-GMP-177-Q2, GROUNDWATER
MONITORING PROJECT, TLI NO.: 994894

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-177-Q2 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 April 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.

The straight run for the matrix spike for sample MW-42-055-177 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

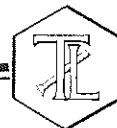
No other violations or non-conformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


for Mona Nassimi
Manager, Analytical Services

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



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

Attention: Shawn Duffy

Laboratory No.: 994894

Date Received: April 29, 2011

Project Name: PG&E Topock Project

Project No.: 405681.MP.02.GM.04

P.O. No.: 405681.MP.02.GM.04

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994894-001	MW-27-085-177	E218.6	FLDFLT	4/28/2011	13:05	Chromium, hexavalent	ND	ug/L	1.0
994894-001	MW-27-085-177	SW6020	FLDFLT	4/28/2011	13:05	Chromium	ND	ug/L	1.0
994894-002	MW-34-080-177	E218.6	FLDFLT	4/28/2011	15:58	Chromium, hexavalent	ND	ug/L	1.0
994894-002	MW-34-080-177	SW6020	FLDFLT	4/28/2011	15:58	Chromium	ND	ug/L	1.0
994894-003	MW-34-100-177	E218.6	FLDFLT	4/28/2011	14:22	Chromium, hexavalent	15.9	ug/L	1.0
994894-003	MW-34-100-177	SW6020	FLDFLT	4/28/2011	14:22	Chromium	15.8	ug/L	1.0
994894-004	MW-93-177	E218.6	FLDFLT	4/28/2011	12:30	Chromium, hexavalent	ND	ug/L	1.0
994894-004	MW-93-177	SW6020	FLDFLT	4/28/2011	12:30	Chromium	ND	ug/L	1.0
994894-005	MW-94-177	E218.6	FLDFLT	4/28/2011	14:05	Chromium, hexavalent	16.1	ug/L	1.0
994894-005	MW-94-177	SW6020	FLDFLT	4/28/2011	14:05	Chromium	16.8	ug/L	1.0
994894-006	MW-29-177	E218.6	FLDFLT	4/29/2011	12:44	Chromium, hexavalent	0.24	ug/L	0.20
994894-006	MW-29-177	SW6020	FLDFLT	4/29/2011	12:44	Chromium	ND	ug/L	1.0
994894-007	MW-42-055-177	E218.6	FLDFLT	4/29/2011	8:31	Chromium, hexavalent	ND	ug/L	0.20
994894-007	MW-42-055-177	SW6020	FLDFLT	4/29/2011	8:31	Chromium	ND	ug/L	1.0
994894-008	MW-42-065-177	E218.6	FLDFLT	4/29/2011	9:16	Chromium, hexavalent	ND	ug/L	1.0
994894-008	MW-42-065-177	SW6020	FLDFLT	4/29/2011	9:16	Chromium	ND	ug/L	1.0
994894-009	MW-43-025-177	E218.6	FLDFLT	4/29/2011	10:13	Chromium, hexavalent	ND	ug/L	0.20
994894-009	MW-43-025-177	SW6020	FLDFLT	4/29/2011	10:13	Chromium	ND	ug/L	1.0
994894-010	MW-43-090-177	E218.6	FLDFLT	4/29/2011	11:37	Chromium, hexavalent	ND	ug/L	1.0
994894-010	MW-43-090-177	SW6020	FLDFLT	4/29/2011	11:37	Chromium	ND	ug/L	1.0

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

Results below 0.01ppm will have two (2) significant figures.

Result above or equal to 0.01ppm will have three (3) significant figures.

Quality Control data will always have three (3) significant figures.

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

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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: 405681.MP.02.GM.04

Project Number: 405681.MP.02.GM.04

Laboratory No. 994894

Page 1 of 7

Printed 5/16/2011

Samples Received on 4/29/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-27-085-177	994894-001	04/28/2011 13:05	Water
MW-34-080-177	994894-002	04/28/2011 15:58	Water
MW-34-100-177	994894-003	04/28/2011 14:22	Water
MW-93-177	994894-004	04/28/2011 12:30	Water
MW-94-177	994894-005	04/28/2011 14:05	Water
MW-29-177	994894-006	04/29/2011 12:44	Water
MW-42-055-177	994894-007	04/29/2011 08:31	Water
MW-42-065-177	994894-008	04/29/2011 09:16	Water
MW-43-025-177	994894-009	04/29/2011 10:13	Water
MW-43-090-177	994894-010	04/29/2011 11:37	Water

Chrome VI by EPA 218.6

Batch 05CrH11E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994894-001 Chromium, Hexavalent	ug/L	05/04/2011 12:04	5.25	0.110	1.0	ND
994894-002 Chromium, Hexavalent	ug/L	05/04/2011 12:25	5.25	0.110	1.0	ND
994894-003 Chromium, Hexavalent	ug/L	05/04/2011 11:02	5.25	0.110	1.0	15.9
994894-004 Chromium, Hexavalent	ug/L	05/04/2011 12:46	5.25	0.110	1.0	ND
994894-005 Chromium, Hexavalent	ug/L	05/04/2011 13:50	5.25	0.110	1.0	16.1
994894-006 Chromium, Hexavalent	ug/L	05/04/2011 13:07	1.05	0.0210	0.20	0.24
994894-007 Chromium, Hexavalent	ug/L	05/04/2011 15:03	1.05	0.0210	0.20	ND
994894-008 Chromium, Hexavalent	ug/L	05/04/2011 17:30	5.25	0.110	1.0	ND
994894-009 Chromium, Hexavalent	ug/L	05/04/2011 15:24	1.05	0.0210	0.20	ND
994894-010 Chromium, Hexavalent	ug/L	05/04/2011 17:50	5.25	0.110	1.0	ND

Method Blank

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

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

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 7

Project Number: 405681.MP.02.GM.04

Printed 5/16/2011

Duplicate						Lab ID = 994894-003
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	15.9	15.9	0.214	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	98.9	90 - 110
Matrix Spike						Lab ID = 994894-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.903	1.06(1.06)	85.2	90 - 110
Matrix Spike						Lab ID = 994894-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.58	5.25(5.25)	106.	90 - 110
Matrix Spike						Lab ID = 994894-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.06(1.06)	100.	90 - 110
Matrix Spike						Lab ID = 994894-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.56	5.47(5.25)	102.	90 - 110
Matrix Spike						Lab ID = 994894-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	42.0	42.1(26.2)	99.5	90 - 110
Matrix Spike						Lab ID = 994894-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.838	1.06(1.06)	79.0	90 - 110
Matrix Spike						Lab ID = 994894-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.59	5.25(5.25)	106.	90 - 110
Matrix Spike						Lab ID = 994894-005
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	42.4	42.3(26.2)	100.	90 - 110
Matrix Spike						Lab ID = 994894-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.30(1.06)	94.2	90 - 110
Matrix Spike						Lab ID = 994894-007
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.75	5.68(5.25)	101.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 5/16/2011

Matrix Spike

Lab ID = 994894-007

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 = 994894-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.58	5.25(5.25)	106.	90 - 110

Matrix Spike

Lab ID = 994894-008

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

Matrix Spike

Lab ID = 994894-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.21(1.06)	98.8	90 - 110

Matrix Spike

Lab ID = 994894-010

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 = 994894-010

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

MRCSS - Secondary

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

MRCVS - Primary

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

MRCVS - Primary

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 5/16/2011

Metals by EPA 6020A, Dissolved

Batch 050911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994894-001 Chromium	ug/L	05/10/2011 03:49	5.00	0.0950	1.0	ND
994894-002 Chromium	ug/L	05/10/2011 03:56	5.00	0.0950	1.0	ND
994894-003 Chromium	ug/L	05/10/2011 04:03	5.00	0.0950	1.0	15.8
994894-004 Chromium	ug/L	05/10/2011 04:09	5.00	0.0950	1.0	ND
994894-005 Chromium	ug/L	05/10/2011 04:16	5.00	0.0950	1.0	16.8
994894-006 Chromium	ug/L	05/10/2011 04:23	5.00	0.0950	1.0	ND
994894-007 Chromium	ug/L	05/10/2011 04:30	5.00	0.0950	1.0	ND
994894-008 Chromium	ug/L	05/10/2011 04:37	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	11.6	10.7	8.07	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.2	50.0	90.4	85 - 115

Matrix Spike

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	282.	261.(250.)	109.	75 - 125

Matrix Spike Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	266.	261.(250.)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	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	47.2	50.0	94.5	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 5/16/2011

Metals by EPA 6020A, Dissolved

Batch 051011B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994894-009 Chromium	ug/L	05/11/2011 04:45	5.00	0.0950	1.0	ND
994894-010 Chromium	ug/L	05/11/2011 04:52	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.2	10.5	2.70	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.8	85 - 115

Matrix Spike

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	262.	260.(250.)	100.	75 - 125

Matrix Spike Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	257.	260.(250.)	98.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.3	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	47.7	50.0	95.3	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 5/16/2011

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	47.2	50.0	94.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.3	50.0	90.7	80 - 120

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


Mona Nassimi
Manager, Analytical Services

CH2MHILL

Rec'd 04/29/11
994894

CHAIN OF CUSTODY RECORD

4/29/2011 2:34:21 PM

Page 1 OF 2

Project Name PG&E Topock				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	<p>* Where provided w/ 2 Cr6 bottles, Please analyze 1 + hold 1.</p>	Number of Containers	COMMENTS
Location Topock				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	Field			
Project Manager Jay Piper				Holding Time:	28	28	180			
Sample Manager Shawn Duffy				Task Order	Cr6 (E218.6) Field Filtered	Cr6 (E218.6) Field Filtered	Metals (SW6010B/SW6020A) Field Filtered Chromium			
Turnaround Time 10 Days				DATE	TIME	MATRIX				
Shipping Date: 4/29/2011										
COC Number: 1										
-1	MW-27-085-177	4/28/2011	13:05	Water		X	X		3	mu=2
	MW-27-085-177-EB	4/28/2011	11:50	Water	X				1	Hold
-2	MW-34-080-177	4/28/2011	15:58	Water		X	X		3	mu=2
-3	MW-34-100-177	4/28/2011	14:22	Water	X		X		2	mu=2
	MW-70-177	4/28/2011	16:30	Water	X				1	Hold
-4	MW-93-177	4/28/2011	12:30	Water		X	X		3	?
-5	MW-94-177	4/28/2011	14:05	Water	X		X		2	mu=2
-6	MW-29-177	4/29/2011	12:44	Water		X	X		3	mu=2
	MW-29-177-EB	4/29/2011	12:00	Water	X				1	Hold
-7	MW-42-055-177	4/29/2011	8:31	Water		X	X		3	mu=2
	MW-42-055-177-EB	4/29/2011	7:50	Water	X				1	Hold
-8	MW-42-065-177	4/29/2011	9:16	Water		X	X		3	mu=2
	MW-42-065-177-EB	4/29/2011	8:50	Water	X				1	Hold
-9	MW-43-025-177	4/29/2011	10:13	Water		X	X		3	mu=2
	MW-43-025-177-EB	4/29/2011	9:40	Water	X				1	Hold

For Sample Conditions
See Form Attached

Approved by	Signatures	Date/Time	Shipping Details
Sampled by		4-29-11	Method of Shipment: FedEx
Relinquished by			On Ice: yes / no
Received by		4-29-11 15:45	Airbill No:
Relinquished by		4-29-11 21:30	Lab Name: Truesdail Laboratories, Inc.
Received by		4/29/11 21:30	Lab Phone: (714) 730-6239

ATTN:

Sample Custody

Special Instructions:

April 28 - May 13, 2011





Report Copy to

Shawn Duffy
(530) 229-3303

CHAIN OF CUSTODY RECORD

Page 2 OF 2

Project Name PG&E Topock				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	<p>* Where provided w/2 Cr⁶ bottles, please analyze 1 + hold 1.</p>	Number of Containers	<p>pH = 6.0103/6.0201 COMMENTS</p>
Location Topock				Preservatives:	(NH ₄) ₂ SO ₄ /4/NH ₄ OH, 4°C	(NH ₄) ₂ SO ₄ /4/NH ₄ OH, 4°C	HNO ₃ , 4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	Field			
Project Manager Jay Piper				Holding Time:	28	28	180			
Sample Manager Shawn Duffy					Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (SM6010B/SM6020A) Field Filtered Chromium			
Task Order				DATE	TIME	Matrix				
Project 2011-GMP-177-Q2										
Turnaround Time 10 Days										
Shipping Date: 4/29/2011										
COC Number: 1										
MW-43-090-177	4/29/2011	11:37	Water		X	X		3	M = 2	
MW-43-090-177-EB	4/29/2011	10:30	Water	X				1	Hold	
MW-71-177	4/29/2011	13:05	Water	X				1	Hold	
TOTAL NUMBER OF CONTAINERS								36		

Signatures		Date/Time	Shipping Details		Special Instructions:
Approved by		4-29-11	Method of Shipment:	FedEx	
Sampled by			On Ice: yes / no		
Relinquished by			Airbill No:		Sample Custody
Received by		4-29-11 12:45	Lab Name:	Truesdail Laboratories, Inc.	
Relinquished by		4-29-11 21:30	Lab Phone:	(714) 730-6239	Report Copy to Shawn Duffy (530) 229-3303
Received by		4/29/11 21:30			

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
05/02/11	994889-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
05/02/11	994890-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
05/02/11	994891-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
05/02/11	994892-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
05/02/11	994893-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
05/02/11	994894-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓

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
05/02/11	994894-6	9.5	N/A	N/A	N/A	SB
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
05/03/11	994906-1	7.0	5.00	9.5	9:50	SB
05/03/11	994907-1	7.0	5.00	9.5	9:55	SB
↓	↓ -2	↓	↓	↓	10:00	↓
05/03/11	994908-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
05/03/11	994909-2	9.5	N/A	N/A	N/A	SB
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
05/03/11	994910-1	9.5	N/A	N/A	N/A	SB
↓	↓ -4	↓	↓	↓	↓	↓
05/03/11	994911-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
05/03/11	994912-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994868/1.9/	<1	<2	04/29/11	M.M	Yes	No
994869/1.4/5.8	<1	<2				
994871/1.2/4.89	<1	<2				
994872/3.6/	<1	<2				
994873/1.3/4.5	<1	<2				
994877	<1	<2	5/2/11	ES	NO	
994881						
662						
965						
994887(-1)	<1	<2	5/2/11	M.M	Yes	
994867	<1	<2				
994889/1.2/4.9	<1	<2				
994890/1.1-5	<1	<2				
994891/1.1-5	<1	<2				
994892/1.1-4	<1	<2				
994893/1.1-4	<1	<2				
994903	<1	<2				
994908/1.1-7	<1	<2	05/03/11	M.M	Yes	
994909/1.2-6/						
994910/1.4/						
994911/2/						
994912/1.1-5/						
994913/1.1-6/						
994914/1.1-4/						
994915/1.6/2.3	<1	7.2	5/4/11	ES	NO	yes @ 9:00
994917/1.1-4/						
994921		<2				
922						
923						
924						
925						
926						
933(1-2)		7.2				yes @ 9:00
948(1-3)		7.2				
949	7.2	<2			yes	
994906/1.1-2	<1	7.2			NO	yes @ 9:00 a.m
994907/1.1-2	<1	7.2				
DS 994907-2	<1	7.2				yes @ 9:00 a.m
994949	<1	7.2	5/4/11	M.M	yes	
994863/4.2/	>1	7.2			yes	yes
994865	<1	7.2				
994953/1.1-4	<1	<2				
994954/1.8/	<1					
994955/1.3/4/	<1					
994970/1.1-9	<1	<2	5/2/11	ES	NO	
994910/4-6	<1	<2	5/5/11	ES	NO	
994972/1.1-5	<1	<2				
994914/1.1-2	<1	<2	4/24/11	KK	NO	yes @ 5:45pm
994944/1.1-10	<1	<2	5/6/11	MG	NO	



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: EL

Lab # _____

Date Delivered: 04/29/11 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?
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: ☒ Truesdall ☐ 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: Shabazz

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

May 16, 2011

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

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-EW-182, GROUNDWATER MONITORING
PROJECT, TLI NO.: 994906

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-182 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 May 2, 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.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Attention: Shawn Duffy

Sample: Two (2) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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

Laboratory No.: 994906

Date: May 16, 2011

Collected: May 2, 2011

Received: May 2, 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	Sonya Bersudsky
SM 3500-CrB	Hexavalent Chromium	Jenny Tankunakorn



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

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

P.O. No.: 408401.01.DM

Laboratory No.: 994906

Date Received: May 2, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994906-001	PE-01-182	E120.1	NONE	5/2/2011	14:45	EC	5240	umhos/cm	2.00
994906-001	PE-01-182	E200.8	LABFLT	5/2/2011	14:45	Chromium	10.5	ug/L	1.0
994906-001	PE-01-182	E218.6	LABFLT	5/2/2011	14:45	Chromium, hexavalent	9.9	ug/L	0.20
994906-001	PE-01-182	SM2540C	NONE	5/2/2011	14:45	Total Dissolved Solids	3100	mg/L	125
994906-002	TW-03D-182	E120.1	NONE	5/2/2011	14:45	EC	8620	umhos/cm	2.00
994906-002	TW-03D-182	E200.8	LABFLT	5/2/2011	14:45	Chromium	1070	ug/L	2.0
994906-002	TW-03D-182	SM2540C	NONE	5/2/2011	14:45	Total Dissolved Solids	5080	mg/L	125
994906-002	TW-03D-182	SM3500-CrB	LABFLT	5/2/2011	14:45	Chromium, hexavalent	1100	ug/L	50.0

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.

TRUESDAIL LABORATORIES, INC.

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Established 1931

14201 FRANKLIN AVENUE
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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 994906

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Printed 5/17/2011

Samples Received on 5/2/2011 11:45:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-182	994906-001	05/02/2011 14:45	Water
TW-03D-182	994906-002	05/02/2011 14:45	Water

Specific Conductivity - EPA 120.1

Batch 05EC11F

5/11/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994906-001 Specific Conductivity	umhos/cm	05/11/2011	1.00	0.0380	2.00	5240
994906-002 Specific Conductivity	umhos/cm	05/11/2011	1.00	0.0380	2.00	8620

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 995065-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	1900	1890	0.264	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705	706	99.8	90 - 110

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	972	996	97.6	90 - 110

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

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Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 3 of 8
Project Number: 408401.01.DM
Printed 5/17/2011
Chrome VI by EPA 218.6

Batch 05CrH11C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994906-001 Chromium, Hexavalent	ug/L	05/03/2011 12:16	1.05	0.0210	0.20	9.9

Method Blank

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

Duplicate

Lab ID = 994871-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	4.19	4.15	0.935	0 - 20

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 = 994871-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.84	8.54(5.30)	106.	90 - 110

Matrix Spike

Lab ID = 994871-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.72	9.45(5.30)	105.	90 - 110

Matrix Spike

Lab ID = 994871-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.40	8.24(5.30)	103	90 - 110

Matrix Spike

Lab ID = 994871-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.5	17.0(10.6)	95.5	90 - 110

Matrix Spike

Lab ID = 994892-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.46	6.51(5.30)	99.1	90 - 110

Matrix Spike

Lab ID = 994892-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	2.02	2.02(1.06)	100.	90 - 110

Matrix Spike

Lab ID = 994892-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.96	7.02(5.30)	98.9	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 5/17/2011

Matrix Spike

Lab ID = 994892-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.69	1.73(1.06)	95.8	90 - 110

Matrix Spike

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	20.5	20.5(10.6)	100.	90 - 110

Matrix Spike

Lab ID = 994907-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.71	5.55(5.25)	103.	90 - 110

Matrix Spike

Lab ID = 994907-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.16(1.06)	108.	90 - 110

Matrix Spike

Lab ID = 994907-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	1960	1880(1050)	108.	90 - 110

Matrix Spike

Lab ID = 994910-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.62	1.61(1.06)	101.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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


Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 5 of 8
Project Number: 408401.01.DM
Printed 5/17/2011
Chromium, Hexavalent by SM 3500-Cr B

Batch 05CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994906-002 Chromium, Hexavalent	ug/L	05/09/2011 16:03	5.00	21.8	50.0	1100

Method Blank

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

Duplicate

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3630	3570	1.79	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	98.9	100.	98.9	90 - 110

Matrix Spike

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	6080	6070(2500)	100.	85 - 115

Matrix Spike Duplicate

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	6330	6070(2500)	110.	85 - 115

MRCCS - Secondary

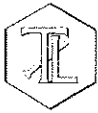
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	56.3	60.0	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.3	60.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	55.0	60.0	91.7	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 5/17/2011

Total Dissolved Solids by SM 2540 C

Batch 05TDS11C

5/5/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994906-001 Total Dissolved Solids	mg/L	05/05/2011	1.00	0.434	125	3100
994906-002 Total Dissolved Solids	mg/L	05/05/2011	1.00	0.434	125	5080

Method Blank

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

Duplicate

Lab ID = 994909-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1020	1020	0.196	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	518	500.	104.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 5/17/2011

Metals by EPA 200.8, Dissolved

Batch 051011B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994906-001 Chromium	ug/L	05/11/2011 03:08	5.00	0.0950	1.0	10.5
994906-002 Chromium	ug/L	05/11/2011 03:43	10.0	0.190	2.0	1070

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	10.2	10.5	2.70	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.8	85 - 115

Matrix Spike

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	262.	260.(250.)	100.	75 - 125

Matrix Spike Duplicate

Lab ID = 994906-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	257.	260.(250.)	98.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.1	50.0	100.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 5/17/2011

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	45.3	50.0	90.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.3	80 - 120


Serial Dilution

Lab ID = 994906-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	1020	1070	4.30	0 - 10

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 05TDS11C

Date Calculated: 5/9/11

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	111.6504	111.6504	111.6504	0.0000	No	0.0000	0.0	25.0	ND	1
994906-1	20	49.4804	49.5428	49.5424	0.0004	No	0.0620	3100.0	125.0	3100.0	1
994906-2	20	51.1740	51.2759	51.2757	0.0002	No	0.1017	5085.0	125.0	5085.0	1
994907-1	20	51.1335	51.2175	51.2171	0.0004	No	0.0836	4180.0	125.0	4180.0	1
994907-2	20	47.6226	47.7175	47.7171	0.0004	No	0.0945	4725.0	125.0	4725.0	1
994909-1	50	50.1299	50.1693	50.1689	0.0004	No	0.0390	780.0	50.0	780.0	1
994909-2	50	50.2380	50.288	50.288	0.0000	No	0.0500	1000.0	50.0	1000.0	1
994909-3	50	48.1847	48.2427	48.2423	0.0004	No	0.0576	1152.0	50.0	1152.0	1
994909-4	50	49.8371	49.8985	49.8982	0.0003	No	0.0611	1222.0	50.0	1222.0	1
994909-5	50	49.7193	49.7756	49.7755	0.0001	No	0.0562	1124.0	50.0	1124.0	1
994909-6	50	49.2815	49.3331	49.3327	0.0004	No	0.0512	1024.0	50.0	1024.0	1
994909-6D	50	50.3882	50.4393	50.4391	0.0002	No	0.0509	1018.0	50.0	1018.0	1
LCS	100	112.3579	112.4097	112.4097	0.0000	No	0.0518	518.0	25.0	518.0	1
994910-1	100	68.9806	69.0345	69.0341	0.0004	No	0.0535	535.0	25.0	535.0	1
994910-2	50	47.9715	48.006	48.006	0.0000	No	0.0345	690.0	50.0	690.0	1
994910-3	50	65.6336	65.6842	65.6839	0.0003	No	0.0503	1006.0	50.0	1006.0	1
994910-4	100	68.6369	68.6644	68.6643	0.0001	No	0.0274	274.0	25.0	274.0	1
994910-5	50	51.5131	51.5733	51.5733	0.0000	No	0.0602	1204.0	50.0	1204.0	1
994910-6	50	50.5302	50.5923	50.5923	0.0000	No	0.0621	1242.0	50.0	1242.0	1
994955-1	50	47.0717	47.1293	47.1291	0.0002	No	0.0574	1148.0	50.0	1148.0	1
994955-2	50	48.1872	48.2709	48.2709	0.0000	No	0.0837	1674.0	50.0	1674.0	1
994955-3	50	65.9794	66.0354	66.035	0.0004	No	0.0556	1112.0	50.0	1112.0	1
994955-4	50	49.4193	49.4742	49.474	0.0002	No	0.0547	1094.0	50.0	1094.0	1
LCSD											1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL = reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name
Analyst Signature
Reviewer Printed Name
Reviewer Signature


Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 05TDS11C

Date Calculated: 5/9/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994906-1	5230	0.59	3399.5	0.91
994906-2	8610	0.59	5596.5	0.91
994907-1	7420	0.56	4823	0.87
994907-2	7960	0.59	5174	0.91
994909-1	1276	0.61	829.4	0.94
994909-2	1576	0.63	1024.4	0.98
994909-3	1753	0.66	1139.45	1.01
994909-4	1800	0.68	1170	1.04
994909-5	1709	0.66	1110.85	1.01
994909-6	1582	0.65	1028.3	1.00
994909-6D	1582	0.64	1028.3	0.99
LCS				
994910-1	937	0.57	609.05	0.88
994910-2	1188	0.58	772.2	0.89
994910-3	1550	0.65	1007.5	1.00
994910-4	440	0.62	286	0.96
994910-5	1960	0.61	1274	0.95
994910-6	1980	0.63	1287	0.97
994955-1	1750	0.66	1137.5	1.01
994955-2	2540	0.66	1651	1.01
994955-3	1680	0.66	1092	1.02
994955-4	1610	0.68	1046.5	1.05



CHAIN OF CUSTODY RECORD

[IM3Plant-EW-182]

COC Number

TURNAROUND TIME 10 Days

DATE 05/02/11

PAGE 1 OF 1

[illegible]

CHAIN OF CUSTODY SIGNATURE RECORD					SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> 3. 80°C°F		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED YES <input type="checkbox"/> NO <input type="checkbox"/>		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			

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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
05/02/11	994894-6	9.5	N/A	N/A	N/A	SB
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
05/03/11	994906-1	7.0	5.00	9.5	9:50	SB
05/03/11	994907-1	7.0	5.00	9.5	9:55	SB
↓	↓ -2	↓	↓	↓	10:00	↓
05/03/11	994908-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
05/03/11	994909-2	9.5	N/A	N/A	N/A	SB
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
05/03/11	994910-1	9.5	N/A	N/A	N/A	SB
↓	↓ -4	↓	↓	↓	↓	↓
05/03/11	994911-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
05/03/11	994912-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓

al

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994868(1-9)	<1	<2	04/29/11	M.M	Yes	No
994869(1-4, 6-8)	<1	<2				
994871(1-2, 4, 8)	<1	<2				
994872(1-3, 6)	<1	<2				
994873(1-1, 3, 4, 5)	<1	<2				
994877	<1	<2	5/2/11	ES	NO	
994871						
994872						
994875						
994877(-1)	<1	<2	5/2/11	M.M	Yes	
994878	<1	<2				
994889(1-4, 5)	<1	<2				
994890(1-5)	<1	<2				
994891(1-5)	<1	<2				
994892(1-4)	<1	<2				
994893(1-4)	<1	<2				
994903	<1	<2				
994908(1-7)	<1	<2	05/03/11	M.M	Yes	
994909(1-6)						
994910(1-4)						
994911(1-2)						
994912(1-5)						
994913(1-6)						
994914(1-4)						
994915(1-6, 23)	<1	7.2	5/4/11	ES	No	yes @ 9:00
994917(1-4)						
994921		<2				No
922						
923						
924						
925						
926						
933(1-2)		7.2				yes @ 9:00
948(1-3)		7.2				
949	7.2	<2			yes	
994906(1-2)	<1	7.2			NO	yes @ 9:00 a.m.
994907(1-2)	<1	7.2				
DS 994907-2	<1	7.2				yes @ 9:00 a.m.
994949	<1	7.2	5/4/11	M.M	yes	
994863(1-2)	>1	7.2			yes	yes
994865	<1	7.2				
994953(1-4)	<1	<1				
994954(1-2)	<1					
994955(1-3, 4)	<1					
994970(1-9)	<1	<2	5/2/11	ES	NO	
994910(1-6)	<1	<2	5/5/11	ES	NO	
994972(1-5)	<1	<2				
994974(1-2)	<1	<2	4/24/11	KK	NO	yes @ 5:45pm
994894(1-10)	<1	<2	5/6/11	M.G	NO	



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 994906

Date Delivered: 05/02/11 Time: 2:45 By: ☐ Mail ☒ Field Service ☐ Client

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

TRUESDAIL LABORATORIES, INC.

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Established 1931

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TUSTIN, CALIFORNIA 92780-7008
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www.truesdail.com

June 6, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-177-Q2, GROUNDWATER MONITORING PROJECT, TLI NO.: 994988

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-177-Q2 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 May 4, 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 straight run for the matrix spike for sample MW-44-125-177 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

Due to the discrepancy between the Total Dissolved Chromium (10.8 ug/L) and Hexavalent Chromium (ND<0.20 ug/L) results for sample MW-44-125-177, Mr. Shawn Duffy of CH2M Hill was notified. Sample from both the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were 12.0 ug/L and 10.3 ug/L, respectively. After discussing the results with Mr. Duffy, the original results are reported.

Due to the discrepancy between the Total Dissolved Chromium (ND<1 ug/L) and Hexavalent Chromium (6.6 ug/L) results for sample MW-53D-177, Mr. Shawn Duffy of CH2M Hill was notified. Sample from both 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. After discussing the results with Mr. Duffy, the original results are reported.

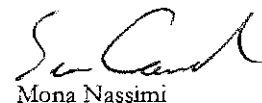
Due to the discrepancy between the Total Dissolved Chromium (14.7 ug/L) and Hexavalent Chromium (1.0 ug/L) results for sample MW-95-177, Mr. Shawn Duffy of CH2M Hill was notified. Sample from both the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were 15.9 ug/L and 11.9 ug/L, respectively. After discussing the results with Mr. Duffy, the original results are reported.

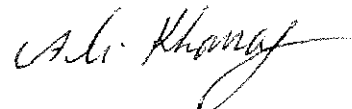


No other violations or non-conformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services


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

TRUESDAIL LABORATORIES, INC.

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

Attention: Shawn Duffy

Laboratory No.: 994988
Date Received: May 4, 2011

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994988-001	MW-16-177	E218.6	FLDFLT	5/2/2011	14:59	Chromium, hexavalent	10.0	ug/L	0.20
994988-001	MW-16-177	SW6020	FLDFLT	5/2/2011	14:59	Chromium	10.6	ug/L	1.0
994988-002	MW-28-025-177	E218.6	FLDFLT	5/2/2011	11:32	Chromium, hexavalent	ND	ug/L	0.20
994988-002	MW-28-025-177	SW6020	FLDFLT	5/2/2011	11:32	Chromium	1.2	ug/L	1.0
994988-003	MW-28-090-177	E218.6	FLDFLT	5/2/2011	12:26	Chromium, hexavalent	ND	ug/L	0.20
994988-003	MW-28-090-177	SW6020	FLDFLT	5/2/2011	12:26	Chromium	ND	ug/L	1.0
994988-004	MW-32-035-177	E218.6	FLDFLT	5/2/2011	13:51	Chromium, hexavalent	ND	ug/L	1.0
994988-004	MW-32-035-177	SW6020	FLDFLT	5/2/2011	13:51	Chromium	ND	ug/L	1.0
994988-005	MW-33-040-177	E218.6	FLDFLT	5/2/2011	15:06	Chromium, hexavalent	ND	ug/L	0.20
994988-005	MW-33-040-177	SW6020	FLDFLT	5/2/2011	15:06	Chromium	ND	ug/L	1.0
994988-006	MW-36-090-177	E218.6	FLDFLT	5/2/2011	15:05	Chromium, hexavalent	ND	ug/L	0.20
994988-006	MW-36-090-177	SW6020	FLDFLT	5/2/2011	15:05	Chromium	ND	ug/L	1.0
994988-007	MW-41D-177	E218.6	FLDFLT	5/2/2011	12:43	Chromium, hexavalent	1.9	ug/L	1.0
994988-007	MW-41D-177	SW6020	FLDFLT	5/2/2011	12:43	Chromium	2.4	ug/L	1.0
994988-008	MW-17-177	E218.6	FLDFLT	5/3/2011	13:16	Chromium, hexavalent	15.0	ug/L	0.20
994988-008	MW-17-177	SW6020	FLDFLT	5/3/2011	13:16	Chromium	15.9	ug/L	1.0
994988-009	MW-21-177	E218.6	FLDFLT	5/3/2011	17:17	Chromium, hexavalent	2.0	ug/L	1.0
994988-009	MW-21-177	SW6020	FLDFLT	5/3/2011	17:17	Chromium	2.3	ug/L	1.0
994988-010	MW-22-177	E218.6	FLDFLT	5/3/2011	15:55	Chromium, hexavalent	ND	ug/L	1.0
994988-010	MW-22-177	SW6020	FLDFLT	5/3/2011	15:55	Chromium	ND	ug/L	1.0
994988-011	MW-30-030-177	E218.6	FLDFLT	5/3/2011	13:22	Chromium, hexavalent	ND	ug/L	1.0
994988-011	MW-30-030-177	SW6020	FLDFLT	5/3/2011	13:22	Chromium	ND	ug/L	1.0
994988-012	MW-36-100-177	E218.6	FLDFLT	5/3/2011	14:12	Chromium, hexavalent	56.4	ug/L	1.0
994988-012	MW-36-100-177	SW6020	FLDFLT	5/3/2011	14:12	Chromium	62.5	ug/L	1.0

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



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994988-013	MW-44-070-177	E218.6	FLDFLT	5/3/2011	9:25	Chromium, hexavalent	ND	ug/L	0.20
994988-013	MW-44-070-177	SW6020	FLDFLT	5/3/2011	9:25	Chromium	ND	ug/L	1.0
994988-014	MW-44-115-177	E218.6	FLDFLT	5/3/2011	10:01	Chromium, hexavalent	184	ug/L	5.2
994988-014	MW-44-115-177	SW6020	FLDFLT	5/3/2011	10:01	Chromium	201	ug/L	1.0
994988-015	MW-44-125-177	E218.6	FLDFLT	5/3/2011	12:18	Chromium, hexavalent	ND	ug/L	0.20
994988-015	MW-44-125-177	SW6020	FLDFLT	5/3/2011	12:18	Chromium	10.8	ug/L	1.0
994988-016	MW-46-175-177	E218.6	FLDFLT	5/3/2011	16:06	Chromium, hexavalent	53.4	ug/L	2.1
994988-016	MW-46-175-177	SW6020	FLDFLT	5/3/2011	16:06	Chromium	55.9	ug/L	1.0
994988-017	MW-47-055-177	E218.6	FLDFLT	5/3/2011	16:52	Chromium, hexavalent	19.3	ug/L	1.0
994988-017	MW-47-055-177	SW6020	FLDFLT	5/3/2011	16:52	Chromium	19.4	ug/L	1.0
994988-018	MW-47-115-177	E218.6	FLDFLT	5/3/2011	16:03	Chromium, hexavalent	22.5	ug/L	1.0
994988-018	MW-47-115-177	SW6020	FLDFLT	5/3/2011	16:03	Chromium	24.4	ug/L	1.0
994988-019	MW-50-095-177	E218.6	FLDFLT	5/3/2011	14:21	Chromium, hexavalent	18.3	ug/L	1.0
994988-019	MW-50-095-177	SW6020	FLDFLT	5/3/2011	14:21	Chromium	18.9	ug/L	1.0
994988-020	MW-52D-177	E218.6	FLDFLT	5/3/2011	11:35	Chromium, hexavalent	ND	ug/L	1.0
994988-020	MW-52D-177	SW6020	FLDFLT	5/3/2011	11:35	Chromium	ND	ug/L	1.0
994988-021	MW-52M-177	E218.6	FLDFLT	5/3/2011	10:45	Chromium, hexavalent	ND	ug/L	2.1
994988-021	MW-52M-177	SW6020	FLDFLT	5/3/2011	10:45	Chromium	ND	ug/L	1.0
994988-022	MW-52S-177	E218.6	FLDFLT	5/3/2011	9:40	Chromium, hexavalent	ND	ug/L	2.1
994988-022	MW-52S-177	SW6020	FLDFLT	5/3/2011	9:40	Chromium	ND	ug/L	1.0
994988-023	MW-53D-177	E218.6	FLDFLT	5/3/2011	13:15	Chromium, hexavalent	6.6	ug/L	5.2
994988-023	MW-53D-177	SW6020	FLDFLT	5/3/2011	13:15	Chromium	ND	ug/L	1.0
994988-024	MW-53M-177	E218.6	FLDFLT	5/3/2011	14:35	Chromium, hexavalent	ND	ug/L	1.0
994988-024	MW-53M-177	SW6020	FLDFLT	5/3/2011	14:35	Chromium	ND	ug/L	1.0
994988-025	MW-57-185-177	E218.6	FLDFLT	5/3/2011	11:46	Chromium, hexavalent	6.3	ug/L	1.0
994988-025	MW-57-185-177	SW6020	FLDFLT	5/3/2011	11:46	Chromium	7.2	ug/L	1.0
994988-026	MW-63-065-177	E218.6	FLDFLT	5/3/2011	9:12	Chromium, hexavalent	1.0	ug/L	0.20
994988-026	MW-63-065-177	SW6020	FLDFLT	5/3/2011	9:12	Chromium	1.7	ug/L	1.0
994988-027	MW-95-177	E218.6	FLDFLT	5/3/2011	11:52	Chromium, hexavalent	1.0	ug/L	1.0
994988-027	MW-95-177	SW6020	FLDFLT	5/3/2011	11:52	Chromium	14.7	ug/L	1.0
994988-028	MW-96-177	E218.6	FLDFLT	5/3/2011	15:53	Chromium, hexavalent	53.2	ug/L	2.1
994988-028	MW-96-177	SW6020	FLDFLT	5/3/2011	15:53	Chromium	56.8	ug/L	1.0
994988-029	MW-23-060-177	E218.6	FLDFLT	5/4/2011	10:06	Chromium, hexavalent	30.2	ug/L	1.0
994988-029	MW-23-060-177	SW6020	FLDFLT	5/4/2011	10:06	Chromium	31.3	ug/L	1.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994988-030	MW-23-080-177	E218.6	FLDFLT	5/4/2011	11:33	Chromium, hexavalent	14.1	ug/L	1.0
994988-030	MW-23-080-177	SW6020	FLDFLT	5/4/2011	11:33	Chromium	13.3	ug/L	1.0
994988-031	MW-33-090-177	E218.6	FLDFLT	5/4/2011	14:08	Chromium, hexavalent	20.7	ug/L	1.0
994988-031	MW-33-090-177	SW6020	FLDFLT	5/4/2011	14:08	Chromium	21.3	ug/L	1.0
994988-032	MW-33-150-177	E218.6	FLDFLT	5/4/2011	10:45	Chromium, hexavalent	11.2	ug/L	1.0
994988-032	MW-33-150-177	SW6020	FLDFLT	5/4/2011	10:45	Chromium	11.4	ug/L	1.0
994988-033	MW-33-210-177	E218.6	FLDFLT	5/4/2011	12:03	Chromium, hexavalent	10.7	ug/L	1.0
994988-033	MW-33-210-177	SW6020	FLDFLT	5/4/2011	12:03	Chromium	11.0	ug/L	1.0
994988-034	MW-35-060-177	E218.6	FLDFLT	5/4/2011	12:39	Chromium, hexavalent	26.1	ug/L	1.0
994988-034	MW-35-060-177	SW6020	FLDFLT	5/4/2011	12:39	Chromium	26.4	ug/L	1.0
994988-035	MW-35-135-177	E218.6	FLDFLT	5/4/2011	13:35	Chromium, hexavalent	29.4	ug/L	1.0
994988-035	MW-35-135-177	SW6020	FLDFLT	5/4/2011	13:35	Chromium	31.0	ug/L	1.0
994988-036	MW-46-205-177	E218.6	FLDFLT	5/4/2011	9:23	Chromium, hexavalent	5.8	ug/L	1.0
994988-036	MW-46-205-177	SW6020	FLDFLT	5/4/2011	9:23	Chromium	6.6	ug/L	1.0
994988-037	MW-92-177	E218.6	FLDFLT	5/4/2011	11:32	Chromium, hexavalent	14.4	ug/L	1.0
994988-037	MW-92-177	SW6020	FLDFLT	5/4/2011	11:32	Chromium	12.5	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:

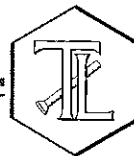
Results below 0.01ppm will have two (2) significant figures.

Result above or equal to 0.01ppm will have three (3) significant figures.

Quality Control data will always have three (3) significant figures.

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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: 405681.MP.02.GM.04

Project Number: 405681.MP.02.GM.04

Laboratory No. 994988

Page 1 of 18

Printed 6/6/2011

Samples Received on 5/4/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-16-177	994988-001	05/02/2011 14:59	Water
MW-28-025-177	994988-002	05/02/2011 11:32	Water
MW-28-090-177	994988-003	05/02/2011 12:26	Water
MW-32-035-177	994988-004	05/02/2011 13:51	Water
MW-33-040-177	994988-005	05/02/2011 15:06	Water
MW-36-090-177	994988-006	05/02/2011 15:05	Water
MW-41D-177	994988-007	05/02/2011 12:43	Water
MW-17-177	994988-008	05/03/2011 13:16	Water
MW-21-177	994988-009	05/03/2011 17:17	Water
MW-22-177	994988-010	05/03/2011 15:55	Water
MW-30-030-177	994988-011	05/03/2011 13:22	Water
MW-36-100-177	994988-012	05/03/2011 14:12	Water
MW-44-070-177	994988-013	05/03/2011 09:25	Water
MW-44-115-177	994988-014	05/03/2011 10:01	Water
MW-44-125-177	994988-015	05/03/2011 12:18	Water
MW-46-175-177	994988-016	05/03/2011 16:06	Water
MW-47-055-177	994988-017	05/03/2011 16:52	Water
MW-47-115-177	994988-018	05/03/2011 16:03	Water
MW-50-095-177	994988-019	05/03/2011 14:21	Water
MW-52D-177	994988-020	05/03/2011 11:35	Water
MW-52M-177	994988-021	05/03/2011 10:45	Water
MW-52S-177	994988-022	05/03/2011 09:40	Water
MW-53D-177	994988-023	05/03/2011 13:15	Water
MW-53M-177	994988-024	05/03/2011 14:35	Water
MW-57-185-177	994988-025	05/03/2011 11:46	Water
MW-63-065-177	994988-026	05/03/2011 09:12	Water
MW-95-177	994988-027	05/03/2011 11:52	Water
MW-96-177	994988-028	05/03/2011 15:53	Water
MW-23-060-177	994988-029	05/04/2011 10:06	Water
MW-23-080-177	994988-030	05/04/2011 11:33	Water
MW-33-090-177	994988-031	05/04/2011 14:08	Water

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TRUESDAIL LABORATORIES, INC.

Report Continued

MW-33-150-177	994988-032	05/04/2011 10:45	Water
MW-33-210-177	994988-033	05/04/2011 12:03	Water
MW-35-060-177	994988-034	05/04/2011 12:39	Water
MW-35-135-177	994988-035	05/04/2011 13:35	Water
MW-46-205-177	994988-036	05/04/2011 09:23	Water
MW-92-177	994988-037	05/04/2011 11:32	Water

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

Chrome VI by EPA 218.6

Batch 05CrH111

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-001 Chromium, Hexavalent	ug/L	05/06/2011 09:22	1.05	0.0210	0.20	10.0
994988-002 Chromium, Hexavalent	ug/L	05/06/2011 09:32	1.05	0.0210	0.20	ND
994988-003 Chromium, Hexavalent	ug/L	05/06/2011 09:42	1.05	0.0210	0.20	ND
994988-004 Chromium, Hexavalent	ug/L	05/06/2011 11:58	5.25	0.110	1.0	ND
994988-005 Chromium, Hexavalent	ug/L	05/06/2011 11:16	1.05	0.0210	0.20	ND
994988-006 Chromium, Hexavalent	ug/L	05/06/2011 11:26	1.05	0.0210	0.20	ND
994988-007 Chromium, Hexavalent	ug/L	05/06/2011 13:32	5.25	0.110	1.0	1.9
994988-008 Chromium, Hexavalent	ug/L	05/06/2011 11:47	1.05	0.0210	0.20	15.0
994988-009 Chromium, Hexavalent	ug/L	05/06/2011 14:55	5.25	0.110	1.0	2.0
994988-010 Chromium, Hexavalent	ug/L	05/06/2011 15:47	5.25	0.110	1.0	ND
994988-011 Chromium, Hexavalent	ug/L	05/06/2011 16:08	5.25	0.110	1.0	ND
994988-012 Chromium, Hexavalent	ug/L	05/06/2011 15:27	5.25	0.110	1.0	56.4
994988-013 Chromium, Hexavalent	ug/L	05/06/2011 16:39	1.05	0.0210	0.20	ND
994988-014 Chromium, Hexavalent	ug/L	05/06/2011 16:50	26.2	0.551	5.2	184.
994988-015 Chromium, Hexavalent	ug/L	05/06/2011 18:14	1.05	0.0210	0.20	ND
994988-016 Chromium, Hexavalent	ug/L	05/06/2011 17:43	10.5	0.220	2.1	53.4

Method Blank

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

Duplicate

Lab ID = 994988-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	9.78	9.95	1.74	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.98	5.00	99.6	90 - 110

Matrix Spike

Lab ID = 994988-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	20.3	20.6(10.6)	97.8	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

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Matrix Spike						Lab ID = 994988-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.14(1.06)	100.	90 - 110
Matrix Spike						Lab ID = 994988-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.05	1.06(1.06)	99.0	90 - 110
Matrix Spike						Lab ID = 994988-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.57	5.25(5.25)	106.	90 - 110
Matrix Spike						Lab ID = 994988-004
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 = 994988-005
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.10(1.06)	102.	90 - 110
Matrix Spike						Lab ID = 994988-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.16(1.06)	102.	90 - 110
Matrix Spike						Lab ID = 994988-007
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.03	7.14(5.25)	97.9	90 - 110
Matrix Spike						Lab ID = 994988-007
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 = 994988-008
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	36.4	36.6(21.6)	98.9	90 - 110
Matrix Spike						Lab ID = 994988-009
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.05	7.23(5.25)	96.5	90 - 110
Matrix Spike						Lab ID = 994988-010
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.46	5.25(5.25)	104.	90 - 110
Matrix Spike						Lab ID = 994988-010
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.634	1.06(1.06)	59.8	90 - 110

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Matrix Spike						Lab ID = 994988-011
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.59	5.25(5.25)	106.	90 - 110
Matrix Spike						Lab ID = 994988-011
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 = 994988-012
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	135.	135.(78.8)	99.9	90 - 110
Matrix Spike						Lab ID = 994988-013
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.12(1.06)	101.	90 - 110
Matrix Spike						Lab ID = 994988-014
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.25	455.	446(262.)	103.	90 - 110
Matrix Spike						Lab ID = 994988-015
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.74	5.44(5.25)	106.	90 - 110
Matrix Spike						Lab ID = 994988-015
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.06(1.06)	103.	90 - 110
Matrix Spike						Lab ID = 994988-016
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	151.	158.(105)	93.4	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.99	5.00	99.8	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

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Chrome VI by EPA 218.6

Batch 05CrH11K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-017 Chromium, Hexavalent	ug/L	05/08/2011 14:14	5.25	0.110	1.0	19.3
994988-018 Chromium, Hexavalent	ug/L	05/08/2011 14:35	5.25	0.110	1.0	22.5
994988-019 Chromium, Hexavalent	ug/L	05/08/2011 14:46	5.25	0.110	1.0	18.3
994988-020 Chromium, Hexavalent	ug/L	05/08/2011 15:58	5.25	0.110	1.0	ND
994988-021 Chromium, Hexavalent	ug/L	05/08/2011 18:03	10.5	0.220	2.1	ND
994988-022 Chromium, Hexavalent	ug/L	05/08/2011 18:14	10.5	0.220	2.1	ND
994988-023 Chromium, Hexavalent	ug/L	05/08/2011 19:06	26.2	0.550	5.2	6.6
994988-024 Chromium, Hexavalent	ug/L	05/08/2011 17:32	5.25	0.110	1.0	ND
994988-025 Chromium, Hexavalent	ug/L	05/08/2011 20:30	5.25	0.110	1.0	6.3
994988-026 Chromium, Hexavalent	ug/L	05/08/2011 19:26	1.05	0.0210	0.20	1.0

Method Blank

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

Duplicate

Lab ID = 994988-017

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	19.6	19.3	1.75	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110

Matrix Spike

Lab ID = 994988-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	45.9	45.5(26.2)	101.	90 - 110

Matrix Spike

Lab ID = 994988-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	49.5	48.7(26.2)	103.	90 - 110

Matrix Spike

Lab ID = 994988-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	43.0	44.5(26.2)	94.2	90 - 110

Matrix Spike

Lab ID = 994988-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.18	5.25(5.25)	98.6	90 - 110



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Matrix Spike						Lab ID = 994988-021
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.7	10.5(10.5)	102.	90 - 110
Matrix Spike						Lab ID = 994988-022
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.8	10.5(10.5)	103.	90 - 110
Matrix Spike						Lab ID = 994988-023
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	30.3	32.8(26.2)	90.2	90 - 110
Matrix Spike						Lab ID = 994988-024
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.07	5.25(5.25)	96.5	90 - 110
Matrix Spike						Lab ID = 994988-025
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	31.5	32.5(26.2)	96.2	90 - 110
Matrix Spike						Lab ID = 994988-026
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.17	6.31(5.30)	97.4	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.94	5.00	98.7	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	10.2	10.0	102.	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.97	10.0	99.7	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.86	10.0	98.6	95 - 105



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Chrome VI by EPA 218.6

Batch 05CrH11M

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-027 Chromium, Hexavalent	ug/L	05/09/2011 15:01	5.25	0.110	1.0	1.0
994988-028 Chromium, Hexavalent	ug/L	05/09/2011 14:30	10.5	0.220	2.1	53.2
994988-029 Chromium, Hexavalent	ug/L	05/09/2011 14:41	5.25	0.110	1.0	30.2
994988-030 Chromium, Hexavalent	ug/L	05/09/2011 14:51	5.25	0.110	1.0	14.1
994988-031 Chromium, Hexavalent	ug/L	05/09/2011 16:04	5.25	0.110	1.0	20.7
994988-032 Chromium, Hexavalent	ug/L	05/09/2011 17:48	5.25	0.110	1.0	11.2
994988-033 Chromium, Hexavalent	ug/L	05/09/2011 17:58	5.25	0.110	1.0	10.7
994988-034 Chromium, Hexavalent	ug/L	05/09/2011 16:35	5.25	0.110	1.0	26.1
994988-035 Chromium, Hexavalent	ug/L	05/09/2011 16:46	5.25	0.110	1.0	29.4
994988-036 Chromium, Hexavalent	ug/L	05/09/2011 18:09	5.25	0.110	1.0	5.8

Method Blank

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

Duplicate

Lab ID = 995018-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	2.31	2.29	1.04	0 - 20

Lab Control Sample

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

Matrix Spike

Lab ID = 994988-027

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.91	6.28(5.25)	93.0	90 - 110

Matrix Spike

Lab ID = 994988-028

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	151.	158.(105)	93.1	90 - 110

Matrix Spike

Lab ID = 994988-029

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	77.7	82.7(52.5)	90.4	90 - 110

Matrix Spike

Lab ID = 994988-030

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	39.8	40.3(26.2)	98.0	90 - 110

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Matrix Spike						Lab ID = 994988-031
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	46.7	46.9(26.2)	99.3	90 - 110
Matrix Spike						Lab ID = 994988-032
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	37.0	37.4(26.2)	98.6	90 - 110
Matrix Spike						Lab ID = 994988-033
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	36.5	36.9(26.2)	98.5	90 - 110
Matrix Spike						Lab ID = 994988-034
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	50.6	52.3(26.2)	93.6	90 - 110
Matrix Spike						Lab ID = 994988-035
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	81.5	81.9(52.5)	99.3	90 - 110
Matrix Spike						Lab ID = 994988-036
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	30.8	32.0(26.2)	95.3	90 - 110
Matrix Spike						Lab ID = 995018-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.47	7.59(5.30)	97.8	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.00	5.00	100.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.96	10.0	99.6	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	10.0	10.0	100.	95 - 105



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Chrome VI by EPA 218.6

Batch 05CrH110

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-037 Chromium, Hexavalent	ug/L	05/10/2011 12:07	5.25	0.110	1.0	14.4

Method Blank

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

Duplicate

Lab ID = 995048-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	176.	178	1.32	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.98	5.00	99.5	90 - 110

Matrix Spike

Lab ID = 994988-037

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	39.5	40.6(26.2)	95.7	90 - 110

Matrix Spike

Lab ID = 995048-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.29	5.25(5.25)	101.	90 - 110

Matrix Spike

Lab ID = 995048-003

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

Matrix Spike

Lab ID = 995048-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.18	5.25(5.25)	98.6	90 - 110

Matrix Spike

Lab ID = 995048-005

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 = 995048-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	376.	388(210.)	94.1	90 - 110

Matrix Spike

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	992.	1010(525)	96.3	90 - 110



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Metals by EPA 6020A, Dissolved

Batch 051111B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-001 Chromium	ug/L	05/12/2011 01:44	5.00	0.110	1.0	10.6
994988-003 Chromium	ug/L	05/12/2011 02:19	5.00	0.110	1.0	ND
994988-004 Chromium	ug/L	05/12/2011 02:26	5.00	0.110	1.0	ND
994988-005 Chromium	ug/L	05/12/2011 02:33	5.00	0.110	1.0	ND
994988-006 Chromium	ug/L	05/12/2011 02:39	5.00	0.110	1.0	ND
994988-007 Chromium	ug/L	05/12/2011 02:46	5.00	0.110	1.0	2.4
994988-008 Chromium	ug/L	05/12/2011 03:28	5.00	0.110	1.0	15.9
994988-009 Chromium	ug/L	05/12/2011 03:35	5.00	0.110	1.0	2.3
994988-010 Chromium	ug/L	05/12/2011 03:42	5.00	0.110	1.0	ND
994988-011 Chromium	ug/L	05/12/2011 03:49	5.00	0.110	1.0	ND
994988-012 Chromium	ug/L	05/12/2011 03:56	5.00	0.110	1.0	62.5
994988-013 Chromium	ug/L	05/12/2011 04:09	5.00	0.110	1.0	ND
994988-014 Chromium	ug/L	05/12/2011 04:16	5.00	0.110	1.0	201.
994988-015 Chromium	ug/L	05/12/2011 04:30	5.00	0.110	1.0	10.8
994988-016 Chromium	ug/L	05/12/2011 04:58	5.00	0.110	1.0	55.9
994988-017 Chromium	ug/L	05/12/2011 05:12	5.00	0.110	1.0	19.4

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995059-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	96.0	85 - 115

Matrix Spike

Lab ID = 995059-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0(50.0)	96.5	75 - 125

Matrix Spike Duplicate

Lab ID = 995059-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0(50.0)	94.3	75 - 125



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.7	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	46.7	50.0	93.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.4	80 - 120

Serial Dilution

Lab ID = 994988-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	58.7	62.5	6.32	0 - 10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

Metals by EPA 6020A, Dissolved

Batch 051111C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-018 Chromium	ug/L	05/12/2011 06:35	5.00	0.110	1.0	24.4
994988-019 Chromium	ug/L	05/12/2011 07:09	5.00	0.110	1.0	18.9
994988-020 Chromium	ug/L	05/12/2011 07:44	5.00	0.110	1.0	ND
994988-021 Chromium	ug/L	05/12/2011 07:51	5.00	0.110	1.0	ND
994988-022 Chromium	ug/L	05/12/2011 07:58	5.00	0.110	1.0	ND
994988-023 Chromium	ug/L	05/12/2011 08:05	5.00	0.110	1.0	ND
994988-024 Chromium	ug/L	05/12/2011 08:12	5.00	0.110	1.0	ND
994988-025 Chromium	ug/L	05/12/2011 08:19	5.00	0.110	1.0	7.2
994988-026 Chromium	ug/L	05/12/2011 08:26	5.00	0.110	1.0	1.7
994988-027 Chromium	ug/L	05/12/2011 08:32	5.00	0.110	1.0	14.7
994988-028 Chromium	ug/L	05/12/2011 08:39	5.00	0.110	1.0	56.8
994988-029 Chromium	ug/L	05/12/2011 09:21	5.00	0.110	1.0	31.3
994988-030 Chromium	ug/L	05/12/2011 09:35	5.00	0.110	1.0	13.3
994988-031 Chromium	ug/L	05/12/2011 09:42	5.00	0.110	1.0	21.3
994988-032 Chromium	ug/L	05/12/2011 09:49	5.00	0.110	1.0	11.4
994988-033 Chromium	ug/L	05/12/2011 09:55	5.00	0.110	1.0	11.0
994988-034 Chromium	ug/L	05/12/2011 10:02	5.00	0.110	1.0	26.4
994988-035 Chromium	ug/L	05/12/2011 10:09	5.00	0.110	1.0	31.0
994988-036 Chromium	ug/L	05/12/2011 10:37	5.00	0.110	1.0	6.6
994988-037 Chromium	ug/L	05/12/2011 10:44	5.00	0.110	1.0	12.5

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994988-018

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	24.3	24.4	0.246	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.5	85 - 115

Matrix Spike

Lab ID = 994988-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	280.	274.(250.)	102.	75 - 125



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

Matrix Spike Duplicate

Lab ID = 994988-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	276.	274.(250.)	101.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.5	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.3	50.0	98.6	90 - 110

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	47.6	50.0	95.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.3	50.0	92.6	80 - 120

Serial Dilution

Lab ID = 994988-029

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	31.7	31.3	1.36	0 - 10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

Metals by EPA 6020A, Dissolved

Batch 051211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994988-002 Chromium	ug/L	05/13/2011 00:32	5.00	0.110	1.0	1.2

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 994988-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	9.77	10.5	7.19	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.9	50.0	99.8	85 - 115

Matrix Spike

Lab ID = 994988-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	249.	260.(250.)	95.5	75 - 125

Matrix Spike Duplicate

Lab ID = 994988-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248.	260.(250.)	95.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.5	50.0	93.0	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.5	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.5	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

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	46.7	50.0	93.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.6	50.0	93.3	80 - 120

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


Mona Nassimi

Manager, Analytical Services

994988

CHAIN OF CUSTODY RECORD

5/4/2011 2:59:47 PM

Page 1 OF 4

Project Name PG&E Topock				Container: 250 ml Poly				2x250 ml Poly				500 ml Poly				500 ml Poly				Rec'd 05/04/11 Lab#: 994988 * Where provided w/2 Cr6 bottles, analyze 1 + hold 1 <div style="border: 2px solid black; padding: 5px; text-align: center; font-weight: bold;">ALERT !! Level III QC</div>				Number of Containers		COMMENTS					
Location Topock				Preservatives: (NH4)2SO4/NH4OH, 4°C				(NH4)2SO4/NH4OH, 4°C				HNO3, 4°C				HNO3, 4°C															
Project Number 405681.MP.02.GM.04				Filtered: Field				Field				NA				Field															
Project Manager Jay Piper				Holding Time: 28				28				180				180															
Sample Manager Shawn Duffy																															
Task Order																															
Project 2011-GMP-177-Q2																															
Turnaround Time 10 Days																															
Shipping Date: 5/4/2011																															
COC Number: 4																															
				DATE				TIME				Matrix																			
1 MW-16-177				5/2/2011				14:59				Water				X												2		pH=2	
2 MW-21-177-EB				5/2/2011				13:24				Water				X												1		Hold	
3 MW-28-025-177				5/2/2011				11:32				Water								X								3		pH=2	
4 MW-28-025-177-EB				5/2/2011				11:01				Water				X												1		Hold	
5 MW-28-090-177				5/2/2011				12:26				Water								X								3		pH=2	
6 MW-28-090-177-EB				5/2/2011				11:52				Water				X												1		Hold	
7 MW-32-035-177				5/2/2011				13:51				Water								X								3		pH=2	
8 MW-32-035-177-EB				5/2/2011				12:55				Water				X												1		Hold	
9 MW-33-040-177				5/2/2011				15:06				Water								X								3		pH=2	
10 MW-33-040-177-EB				5/2/2011				14:18				Water				X												1		Hold	
11 MW-36-090-177				5/2/2011				15:05				Water				X								X				2		pH=2	
12 MW-41D-177				5/2/2011				12:43				Water				X								X				2		pH=2	
13 MW-72-177				5/2/2011				15:45				Water				X												1		Hold	
14 MW-73-177				5/2/2011				15:30				Water				X												1		Hold	
15 MW-17-177				5/3/2011				13:16				Water				X								X				2		pH=2	

Approved by _____
 Sampled by _____
 Relinquished by _____
 Received by _____
 Relinquished by _____
 Received by _____

Signatures
 Rafael Davila
 Lida

Date/Time
 5-4-11
 1510
 5-4-11
 15:10
 5-4-11
 21:30
 5/4/11 21:30

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: Truesdall Laboratories, Inc.

Lab Phone: (714) 730-6239

ATTN:

Sample Custody

Special Instructions:

April 28 - May 13, 2011

Report Copy to

 Shawn Duffy
 (530) 229-3303

For Sample Conditions
See Form Attached

CH2MHILL

994988

CHAIN OF CUSTODY RECORD

5/4/2011 2:59:47 PM

Page 2 OF 4

Project Name PG&E Topock				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	<p>* Where provided w/2 Cr6 bottles, analyze 1 + hold 1</p> <div style="border: 2px solid black; padding: 5px; text-align: center;"> ALERT !! Level III QC </div>	Number of Containers	COMMENTS
Location Topock				Preservatives:	(NH4)2SO4 / 4°C	(NH4)2SO4 / 4°C	HNO3, 4°C	HNO3, 4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	NA	Field			
Project Manager Jay Piper				Holding Time:	28	28	180	180			
Sample Manager Shawn Duffy					Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (SW6010B/SW6020A) Chromium	Metals (SW6010B/SW6020A) Field Filtered Chromium			
Task Order				DATE	TIME	MATRIX					
Project 2011-GMP-177-Q2											
Turnaround Time 10 Days											
Shipping Date: 5/4/2011											
COC Number: 4											
-9	MW-21-177	5/3/2011	17:17	Water		X		X		3	
-10	MW-22-177	5/3/2011	16:55	Water	X			X		2	
-11	MW-30-030-177	5/3/2011	13:22	Water	X			X		2	pm=2
-12	MW-36-100-177	5/3/2011	14:12	Water	X			X		2	
73	MW-44-070-177	5/3/2011	9:25	Water		X				2	
	MW-44-070-177-EB	5/3/2011	8:15	Water	X					1	Hold
-14	MW-44-115-177	5/3/2011	10:01	Water	X			X		2	
-15	MW-44-125-177	5/3/2011	12:18	Water	X			X		2	
-16	MW-46-175-177	5/3/2011	16:06	Water	X			X		2	
-17	MW-47-055-177	5/3/2011	16:52	Water	X			X		2	
-18	MW-47-115-177	5/3/2011	16:03	Water	X			X		2	pm=2
-19	MW-50-095-177	5/3/2011	14:21	Water	X			X		2	
-20	MW-52D-177	5/3/2011	11:35	Water		X		X		3	
-21	MW-52M-177	5/3/2011	10:45	Water		X		X		3	
-22	MW-52S-177	5/3/2011	9:40	Water		X		X		3	

Approved by	Signatures	Date/Time	Shipping Details
Sampled by	<i>[Signature]</i>	5-4-11	Method of Shipment: courier
Relinquished by	<i>[Signature]</i>	15:10	On Ice: yes / no
Received by	<i>Rafael Davila</i>	5-4-11	Airbill No:
Relinquished by	<i>Rafael Davila</i>	5/4/11 21:30	Lab Name: Truesdall Laboratories, Inc.
Received by	<i>Linda</i>	5/4/11 21:30	Lab Phone: (714) 730-6239

ATTN:

Sample Custody

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

994988

CH2MHILL

CHAIN OF CUSTODY RECORD

5/4/2011 2:59:48 PM

Page 3 OF 4

Project Name PG&E Topock				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	* Where provided w/ 2 Cr6 bottles, analyze 1 + hold 1	Number of Containers	COMMENTS
Location Topock				Preservatives:	(NH4)2SO4/NH4OH, 4°C	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	NA	Field			
Project Manager Jay Piper				Holding Time:	28	28	180	180			
Sample Manager Shawn Duffy											
Task Order					Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Metals (SW6010B/SW6020A) Chromium	Metals (SW6010B/SW6020A) Field Filtered Chromium			
Project 2011-GMP-177-Q2											
Turnaround Time 10 Days											
Shipping Date: 5/4/2011											
COC Number: 4											
	DATE	TIME	Matrix								
-23	MW-53D-177	5/3/2011	13:15	Water		X		X		3	
-24	MW-53M-177	5/3/2011	14:35	Water		X		X		3	
-25	MW-57-185-177	5/3/2011	11:46	Water	X			X		2	pm=2
-26	MW-63-065-177	5/3/2011	9:12	Water	X			X		2	
	MW-74-177	5/3/2011	16:24	Water	X					1	Hold
	MW-75-177	5/3/2011	17:00	Water	X					1	Hold
-27	MW-95-177	5/3/2011	11:52	Water	X			X		2	
-28	MW-96-177	5/3/2011	15:53	Water	X			X		2	
-29	MW-23-060-177	5/4/2011	10:06	Water	X			X		2	
-30	MW-23-080-177	5/4/2011	11:33	Water	X			X		2	pm=2
-31	MW-33-090-177	5/4/2011	14:06	Water	X			X		2	
-32	MW-33-150-177	5/4/2011	10:45	Water	X			X		2	
-33	MW-33-210-177	5/4/2011	12:03	Water	X			X		2	
-34	MW-35-060-177	5/4/2011	12:39	Water	X			X		2	
-35	MW-35-135-177	5/4/2011	13:35	Water	X			X		2	

ALERT !!
Level III QC

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		5-4-11	Method of Shipment:	courier		April 28 - May 13, 2011
Sampled by		1510	On Ice: yes / no			
Relinquished by		5-4-11	Airbill No:			
Received by	Rafael Davila	15:10	Lab Name: Truesdall Laboratories, Inc.			
Relinquished by	Rafael Davila	5-4-11 21:30	Lab Phone: (714) 730-6239			
Received by	Linda	5/4/11 21:30				
			Sample Custody			
			Report Copy to			
			Shawn Duffy			
			(530) 229-3303			

CH2MHILL

994988

CHAIN OF CUSTODY RECORD

5/4/2011 2:59:48 PM

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Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/4/2011 COC Number: 4				Container: 250 ml Poly 2x250 ml Poly 500 ml Poly 500 ml Poly Preservatives: (NH4)2SO4 (NH4)2SO4 HNO3 HNO3 4°C 4°C 4°C 4°C Filtered: Field Field NA Field Holding Time: 28 28 180 180				<div style="border: 2px solid black; padding: 10px; text-align: center;"> <h1 style="margin: 0;">ALERT !!</h1> <h2 style="margin: 0;">Level III QC</h2> </div>				Number of Containers	<p>pH for SW 601012 602014</p>																									
C6 (E218.6) Field Filtered C6 (E218.6R) Field Filtered Metals (SW6010B/SW6020A) Field Filtered Chromium Metals (SW6010B/SW6020A) Chromium																																						
<table border="1"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>Matrix</th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>5/4/2011</td> <td>9:23</td> <td>Water</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>5/4/2011</td> <td>14:40</td> <td>Water</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5/4/2011</td> <td>11:32</td> <td>Water</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>				DATE	TIME	Matrix						5/4/2011	9:23	Water	X				X	5/4/2011	14:40	Water	X					5/4/2011	11:32	Water	X				X			
DATE	TIME	Matrix																																				
5/4/2011	9:23	Water	X				X																															
5/4/2011	14:40	Water	X																																			
5/4/2011	11:32	Water	X				X																															
TOTAL NUMBER OF CONTAINERS								95																														

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: Truesdell Laboratories, Inc.

Lab Phone: (714) 730-6238

ATTN:

Sample Custody

Special Instructions:

April 28 - May 13, 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
05/05/11	994983-9	9.5	N/A	N/A	N/A	SB
↓	↓ -10	↓	↓	↓	↓	↓
05/05/11	994984	9.5	N/A	N/A	N/A	SB
05/05/11	994985-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
05/05/11	994986	9.5	N/A	N/A	N/A	SB
05/05/11	994987-3	9.5	N/A	N/A	N/A	SB
05/05/11	994988-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
	-21					
	-22					
	-23					
	-24					

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
05/05/11	994988-25	9.5	N/A	N/A	N/A	SB
↓	↓ -26	↓	↓	↓	↓	↓
↓	↓ -27	↓	↓	↓	↓	↓
↓	↓ -28	↓	↓	↓	↓	↓
↓	↓ -29	↓	↓	↓	↓	↓
↓	↓ -30	↓	↓	↓	↓	↓
↓	↓ -31	↓	↓	↓	↓	↓
↓	↓ -32	↓	↓	↓	↓	↓
↓	↓ -33	↓	↓	↓	↓	↓
↓	↓ -34	↓	↓	↓	↓	↓
↓	↓ -35	↓	↓	↓	↓	↓
↓	↓ -36	↓	↓	↓	↓	↓
↓	↓ -37	↓	↓	↓	↓	↓
05/06/11	995017-4	9.5	N/A	N/A	N/A	SB
05/06/11	995018	9.5	N/A	N/A	N/A	SB
05/06/11	995019-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
05/06/11	995020-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
05/06/11	995021-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
05/06/11	995022-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
05/06/11	995023-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994988(1-37)	<1	<2	5/6/11	MG	No	—
994987(1-2)	72	<2	5/5/11	ES	Yes	—
994987(4-7)	<1	<2	↓	↓	No	—
995016	<1	<2	5/6/11	ES	No	—
995017(1-9)	↓	↓	↓	↓	↓	—
995026-4	<1	<2	5/6/11	ES	No	—
995043(1-3)	<1	<2	5/9/11	ES	Yes	—
995044-2	↓	↓	↓	↓	↓	—
995064(1-7)	↓	↓	↓	↓	↓	DISSOLVED
995064(1-2)	↓	↓	↓	↓	No	TOTAL
995065(1-10)	↓	↓	↓	↓	No	↓
Total 995023(1-6)	↓	↓	↓	↓	↓	↓
995059(1-3)	<1	72	5/9/11	ES	No	Yes @ 2:00 p.m.
994871(1-a)	<1	<2	5/3/11	ES	No	—
Diss 994913(1-6)	<1	<2	5/9/11	ES	No	—
994907						
995101(1-2)	>1	<2	5/11/11	ES	Yes	—
995101(3-4)	<1	<2	↓	↓	No	—
995102(1-13)	<1	<2	↓	↓	Yes (3,5,7,12)	—
Total 995103(1-4-8)	<1	<2	↓	↓	No	—
Diss 995103(1-8)	<1	<2	↓	↓	Yes	—
995120(2-5)		SOIL	5/12/11	ES	Yes	TTL C
995130-1	<1	<2	↓	↓	Yes	3010A
995093(1-3)	<1	72	↓	↓	No	Yes @ 9:00
995108	>1	<2	↓	↓	Yes	—
995095	<1	<2	↓	↓	No	—
995100	<1	72	↓	↓	No	Yes @ 9:00
995125(1-9)	<1	<2	↓	↓	No	—
Diss 995128(1-2)	<1	<2	↓	↓	Yes	3010A
Total 995128(1-2)	<1	<2	↓	↓	No	—
Diss 995129(1-1)	<1	<2	↓	↓	Yes	3010A
Total 995129(1-7)	<1	<2	↓	↓	No	—
994982(1)	<1	<2	5/9	KK	NO yes	No
995018(1)	<1	<2	↓	↓	↓	↓
995168	<1	<2	5/13	M.U	Yes	—
995150(133)	<1	>2	5/16	KK	No	Yes @ 5:50pm
995151(1-6)	<1	>2	↓	↓	↓	↓
995152(1-16)	<1	>2	↓	↓	↓	↓
995153(1-9)	<1	>2	↓	↓	↓	↓
995177	<1	<2	5/17	ES	No	—
178	↓	↓	↓	↓	↓	—
995204	↓	↓	↓	↓	↓	—
205	↓	↓	↓	↓	↓	—
201	↓	↓	↓	↓	↓	—
202	↓	↓	↓	↓	↓	—
207	↓	↓	↓	↓	↓	—
995183(12.4)	↓	72	↓	↓	↓	Yes @ 4:30 p.m.
995192-5	↓	↓	↓	↓	↓	Yes @ 9:30 p.m.
995211(1-8)	>2	<2	↓	↓	Yes	—



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 994988

Date Delivered: 5/4/11 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?
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 90, 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: Hipolito



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Established 1931

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

June 6, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-GMP-177-Q2, GROUNDWATER MONITORING
PROJECT, TLI NO.: 995048

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-GMP-177-Q2 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 May 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.

Due to the discrepancy between the Total Dissolved Chromium (346 ug/L) and Hexavalent Chromium (486 ug/L) results for sample MW-57-070-177, Mr. Shawn Duffy of CH2M Hill was notified. Sample from both the Total Dissolved Chromium and Hexavalent Chromium sample containers were analyzed for Total Dissolved Chromium. After discussing the results with Mr. Duffy, the Total Dissolved Chromium result from the Hexavalent Chromium sample container is reported.


Due to the discrepancy between the Total Dissolved Chromium (421 ug/L) and Hexavalent Chromium (594 ug/L) results for sample MW-97-177, Mr. Shawn Duffy of CH2M Hill was notified. Sample from both the Total Dissolved Chromium and Hexavalent Chromium sample containers were analyzed for Total Dissolved Chromium. The results were 435 ug/L and 471 ug/L, respectively. The Hexavalent Chromium sample was also re-analyzed and yielded a result of 500 ug/L. After discussing the results with Mr. Duffy, the original Total Dissolved Chromium result and the re-analysis result for the Hexavalent Chromium are reported. The discrepancy between the original Hexavalent Chromium result and the re-analysis may have been due to a dilution error during the original analysis.

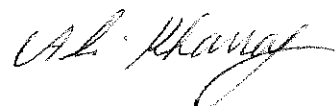


No other violations or non-conformance actions occurred for this data package.

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


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

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

Attention: Shawn Duffy

Laboratory No.: 995048
Date Received: May 6, 2011

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995048-001	MW-19-177	SM3500-CrB	FLDFLT	5/4/2011	14:45	Chromium, hexavalent	497	ug/L	20.0
995048-001	MW-19-177	SW6020	FLDFLT	5/4/2011	14:45	Chromium	494	ug/L	1.0
995048-002	MW-31-060-177	SM3500-CrB	FLDFLT	5/4/2011	16:06	Chromium, hexavalent	331	ug/L	20.0
995048-002	MW-31-060-177	SW6020	FLDFLT	5/4/2011	16:06	Chromium	324	ug/L	1.0
995048-003	MW-48-177	E218.6	FLDFLT	5/4/2011	15:49	Chromium, hexavalent	ND	ug/L	1.0
995048-003	MW-48-177	SW6020	FLDFLT	5/4/2011	15:49	Chromium	ND	ug/L	1.0
995048-004	MW-10-177	SM3500-CrB	FLDFLT	5/5/2011	15:24	Chromium, hexavalent	411	ug/L	20.0
995048-004	MW-10-177	SW6020	FLDFLT	5/5/2011	15:24	Chromium	384	ug/L	1.0
995048-005	MW-24BR-177	E218.6	FLDFLT	5/5/2011	13:58	Chromium, hexavalent	ND	ug/L	1.0
995048-005	MW-24BR-177	SW6020	FLDFLT	5/5/2011	13:58	Chromium	ND	ug/L	1.0
995048-006	MW-26-177	SM3500-CrB	FLDFLT	5/5/2011	16:28	Chromium, hexavalent	2010	ug/L	50.0
995048-006	MW-26-177	SW6020	FLDFLT	5/5/2011	16:28	Chromium	1890	ug/L	1.0
995048-007	MW-37D-177	E218.6	FLDFLT	5/5/2011	9:06	Chromium, hexavalent	178	ug/L	2.1
995048-007	MW-37D-177	SW6020	FLDFLT	5/5/2011	9:06	Chromium	172	ug/L	1.0
995048-008	MW-40D-177	E218.6	FLDFLT	5/5/2011	10:12	Chromium, hexavalent	140	ug/L	2.1
995048-008	MW-40D-177	SW6020	FLDFLT	5/5/2011	10:12	Chromium	124	ug/L	1.0
995048-009	MW-57-070-177	E218.6	FLDFLT	5/5/2011	12:39	Chromium, hexavalent	486	ug/L	10.5
995048-009	MW-57-070-177	SW6020	FLDFLT	5/5/2011	12:39	Chromium	475	ug/L	2.0
995048-010	MW-60-125-177	E218.6	FLDFLT	5/5/2011	15:29	Chromium, hexavalent	1040	ug/L	21.0
995048-010	MW-60-125-177	SW6020	FLDFLT	5/5/2011	15:29	Chromium	959	ug/L	2.0
995048-011	MW-61-110-177	E218.6	FLDFLT	5/5/2011	14:02	Chromium, hexavalent	522	ug/L	10.5
995048-011	MW-61-110-177	SW6020	FLDFLT	5/5/2011	14:02	Chromium	531	ug/L	2.0

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

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995048-012	MW-62-065-177	E218.6	FLDFLT	5/5/2011	11:23	Chromium, hexavalent	488	ug/L	10.5
995048-012	MW-62-065-177	SW6020	FLDFLT	5/5/2011	11:23	Chromium	472	ug/L	1.0
995048-013	MW-62-110-177	E218.6	FLDFLT	5/5/2011	13:16	Chromium, hexavalent	569	ug/L	10.5
995048-013	MW-62-110-177	SW6020	FLDFLT	5/5/2011	13:16	Chromium	531	ug/L	2.0
995048-014	MW-62-190-177	E218.6	FLDFLT	5/5/2011	13:25	Chromium, hexavalent	ND	ug/L	1.0
995048-014	MW-62-190-177	SW6020	FLDFLT	5/5/2011	13:25	Chromium	ND	ug/L	1.0
995048-015	MW-91-177	SM3500-CrB	FLDFLT	5/5/2011	14:52	Chromium, hexavalent	391	ug/L	20.0
995048-015	MW-91-177	SW6020	FLDFLT	5/5/2011	14:52	Chromium	401	ug/L	1.0
995048-016	MW-97-177	E218.6	FLDFLT	5/5/2011	12:41	Chromium, hexavalent	500	ug/L	10.5
995048-016	MW-97-177	SW6020	FLDFLT	5/5/2011	12:41	Chromium	421	ug/L	2.0
995048-017	TW-01-177	SM3500-CrB	FLDFLT	5/5/2011	17:02	Chromium, hexavalent	3700	ug/L	250
995048-017	TW-01-177	SW6020	FLDFLT	5/5/2011	17:02	Chromium	3520	ug/L	20.0
995048-018	MW-12-177	SM3500-CrB	FLDFLT	5/6/2011	8:26	Chromium, hexavalent	2910	ug/L	250
995048-018	MW-12-177	SW6020	FLDFLT	5/6/2011	8:26	Chromium	2870	ug/L	20.0
995048-019	MW-20-070-177	SM3500-CrB	FLDFLT	5/6/2011	9:20	Chromium, hexavalent	3570	ug/L	250
995048-019	MW-20-070-177	SW6020	FLDFLT	5/6/2011	9:20	Chromium	3510	ug/L	20.0
995048-020	MW-20-100-177	SM3500-CrB	FLDFLT	5/6/2011	10:10	Chromium, hexavalent	5640	ug/L	250
995048-020	MW-20-100-177	SW6020	FLDFLT	5/6/2011	10:10	Chromium	5600	ug/L	20.0
995048-021	MW-20-130-177	SM3500-CrB	FLDFLT	5/6/2011	11:25	Chromium, hexavalent	12100	ug/L	500
995048-021	MW-20-130-177	SW6020	FLDFLT	5/6/2011	11:25	Chromium	11500	ug/L	40.0
995048-022	MW-50-200-177	SM3500-CrB	FLDFLT	5/6/2011	11:40	Chromium, hexavalent	9720	ug/L	500
995048-022	MW-50-200-177	SW6020	FLDFLT	5/6/2011	11:40	Chromium	9080	ug/L	20.0
995048-023	MW-51-177	SM3500-CrB	FLDFLT	5/6/2011	9:36	Chromium, hexavalent	4730	ug/L	250
995048-023	MW-51-177	SW6020	FLDFLT	5/6/2011	9:36	Chromium	4690	ug/L	20.0
995048-024	MW-59-100-177	E218.6	FLDFLT	5/6/2011	10:36	Chromium, hexavalent	5240	ug/L	105
995048-024	MW-59-100-177	SW6020	FLDFLT	5/6/2011	10:36	Chromium	4520	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.

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

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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Laboratory No. 995048

Page 1 of 15

Printed 6/24/2011

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 405681.MP.02.GM.04

Project Number: 405681.MP.02.GM.04

Samples Received on 5/9/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
MW-19-177	995048-001	05/04/2011 14:45	Water
MW-31-060-177	995048-002	05/04/2011 16:06	Water
MW-48-177	995048-003	05/04/2011 15:49	Water
MW-10-177	995048-004	05/05/2011 15:24	Water
MW-24BR-177	995048-005	05/05/2011 13:58	Water
MW-26-177	995048-006	05/05/2011 16:28	Water
MW-37D-177	995048-007	05/05/2011 09:06	Water
MW-40D-177	995048-008	05/05/2011 10:12	Water
MW-57-070-177	995048-009	05/05/2011 12:39	Water
MW-60-125-177	995048-010	05/05/2011 15:29	Water
MW-61-110-177	995048-011	05/05/2011 14:02	Water
MW-62-065-177	995048-012	05/05/2011 11:23	Water
MW-62-110-177	995048-013	05/05/2011 13:16	Water
MW-62-190-177	995048-014	05/05/2011 13:25	Water
MW-91-177	995048-015	05/05/2011 14:52	Water
MW-97-177	995048-016	05/05/2011 12:41	Water
TW-01-177	995048-017	05/05/2011 17:02	Water
MW-12-177	995048-018	05/06/2011 08:26	Water
MW-20-070-177	995048-019	05/06/2011 09:20	Water
MW-20-100-177	995048-020	05/06/2011 10:10	Water
MW-20-130-177	995048-021	05/06/2011 11:25	Water
MW-50-200-177	995048-022	05/06/2011 11:40	Water
MW-51-177	995048-023	05/06/2011 09:36	Water
MW-59-100-177	995048-024	05/06/2011 10:36	Water

Chromium VI by EPA 218.6

Batch 05CrH110

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-003 Chromium, Hexavalent	ug/L	05/10/2011 15:43	5.25	0.110	1.0	ND
995048-005 Chromium, Hexavalent	ug/L	05/10/2011 15:53	5.25	0.110	1.0	ND
995048-007 Chromium, Hexavalent	ug/L	05/10/2011 14:16	10.5	0.220	2.1	178.

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



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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.GM.04

Printed 6/6/2011

995048-009 Chromium, Hexavalent		ug/L	05/10/2011 13:10		52.5	1.10	10.5	486.
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID = 995048-007	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range		
Chromium, Hexavalent	ug/L	10.5	176.	178	1.32	0 - 20		
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	1.00	4.98	5.00	99.5	90 - 110		
Matrix Spike							Lab ID = 994988-037	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	5.25	39.5	40.6(26.2)	95.7	90 - 110		
Matrix Spike							Lab ID = 995048-003	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	5.25	5.29	5.25(5.25)	101.	90 - 110		
Matrix Spike							Lab ID = 995048-003	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	1.06	ND	1.06(1.06)		90 - 110		
Matrix Spike							Lab ID = 995048-005	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	5.25	5.18	5.25(5.25)	98.6	90 - 110		
Matrix Spike							Lab ID = 995048-005	
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 = 995048-007	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	10.5	376.	388(210.)	94.1	90 - 110		
Matrix Spike							Lab ID = 995048-009	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	52.5	992.	1010(525)	96.3	90 - 110		
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Chromium, Hexavalent	ug/L	1.00	5.01	5.00	100.	90 - 110		

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


Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
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Project Number: 405681.MP.02.GM.04
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Chrome VI by EPA 218.6

Batch 05CrH11P

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-008 Chromium, Hexavalent	ug/L	05/11/2011 14:19	10.5	0.220	2.1	140.
995048-010 Chromium, Hexavalent	ug/L	05/11/2011 07:58	105	2.20	21.0	1040
995048-011 Chromium, Hexavalent	ug/L	05/11/2011 08:19	52.5	1.10	10.5	522.
995048-012 Chromium, Hexavalent	ug/L	05/11/2011 08:29	52.5	1.10	10.5	488.
995048-013 Chromium, Hexavalent	ug/L	05/11/2011 08:40	52.5	1.10	10.5	569.
995048-014 Chromium, Hexavalent	ug/L	05/11/2011 14:29	5.25	0.110	1.0	ND
995048-024 Chromium, Hexavalent	ug/L	05/11/2011 09:11	525	11.0	105	5240

Method Blank

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

Duplicate

Lab ID = 995048-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1060	1040	2.34	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.22	5.00	104.	90 - 110

Matrix Spike

Lab ID = 995048-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	293.	298(158.)	96.6	90 - 110

Matrix Spike

Lab ID = 995048-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2180	2090(1050)	109.	90 - 110

Matrix Spike

Lab ID = 995048-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1080	1050(525)	106.	90 - 110

Matrix Spike

Lab ID = 995048-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1010	1010(525)	100.	90 - 110

Matrix Spike

Lab ID = 995048-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1360	1360(788.)	99.9	90 - 110



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Matrix Spike						Lab ID = 995048-014
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.56	5.25(5.25)	106	90 - 110
Matrix Spike						Lab ID = 995048-014
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 = 995048-016
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1330	1380(788.)	93.0	90 - 110
Matrix Spike						Lab ID = 995048-024
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	525	10500	10500(5250)	101.	90 - 110
Matrix Spike						Lab ID = 995100-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.67	5.71(5.25)	99.2	90 - 110
Matrix Spike						Lab ID = 995100-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.22(1.06)	102.	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.88	10.0	98.8	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101.	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.88	10.0	98.8	95 - 105



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Chrome VI by EPA 218.6

Batch 06CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-016 Chromium, Hexavalent	ug/L	06/02/2011 14:43	52.5	1.10	10.5	500.

Method Blank

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

Duplicate

Lab ID = 995388-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	1.54	1.53	0.391	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.84	5.00	96.8	90 - 110

Matrix Spike

Lab ID = 995048-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	1060	1020(525)	107.	90 - 110

Matrix Spike

Lab ID = 995371-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.10	5.54(5.25)	91.6	90 - 110

Matrix Spike

Lab ID = 995371-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.18(1.06)	99.8	90 - 110

Matrix Spike

Lab ID = 995388-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.65	6.83(5.30)	96.6	90 - 110

Matrix Spike

Lab ID = 995388-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.00	8.73(5.30)	105.	90 - 110

MRCCS - Secondary

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

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Metals by EPA 6020A, Dissolved

Batch 051611B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-001 Chromium	ug/L	05/17/2011 01:04	5.00	0.110	1.0	494.
995048-002 Chromium	ug/L	05/17/2011 01:31	5.00	0.110	1.0	324.
995048-003 Chromium	ug/L	05/17/2011 01:38	5.00	0.110	1.0	ND
995048-004 Chromium	ug/L	05/17/2011 02:05	5.00	0.110	1.0	384.
995048-005 Chromium	ug/L	05/17/2011 02:12	5.00	0.110	1.0	ND
995048-006 Chromium	ug/L	05/17/2011 02:39	5.00	0.110	1.0	1890
995048-007 Chromium	ug/L	05/17/2011 02:45	5.00	0.110	1.0	172.
995048-008 Chromium	ug/L	05/17/2011 02:52	5.00	0.110	1.0	124.
995048-010 Chromium	ug/L	05/17/2011 03:06	10.0	0.220	2.0	959.
995048-011 Chromium	ug/L	05/17/2011 03:53	10.0	0.220	2.0	531.
995048-012 Chromium	ug/L	05/17/2011 04:07	5.00	0.110	1.0	472.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995048-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	484.	494	2.13	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.6	85 - 115

Matrix Spike

Lab ID = 995048-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	709.	744(250.)	85.9	75 - 125

Matrix Spike Duplicate

Lab ID = 995048-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	754.	744(250.)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	92.1	90 - 110

MRCVS - Primary

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



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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.3	50.0	92.6	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	44.4	50.0	88.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.2	50.0	90.3	80 - 120

Serial Dilution

Lab ID = 995048-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	540.	531	1.66	0 - 10



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Metals by EPA 6020A, Dissolved

Batch: 051711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-013 Chromium	ug/L	05/17/2011 16:14	10.0	0.220	2.0	531.
995048-014 Chromium	ug/L	05/17/2011 16:21	5.00	0.110	1.0	ND
995048-015 Chromium	ug/L	05/17/2011 16:28	5.00	0.110	1.0	401.
995048-016 Chromium	ug/L	05/17/2011 16:35	10.0	0.220	2.0	421.
995048-017 Chromium	ug/L	05/17/2011 17:08	100	2.20	20.0	3520
995048-018 Chromium	ug/L	05/17/2011 17:15	100	2.20	20.0	2870
995048-019 Chromium	ug/L	05/17/2011 17:22	100	2.20	20.0	3510
995048-020 Chromium	ug/L	05/17/2011 17:29	100	2.20	20.0	5600
995048-021 Chromium	ug/L	05/17/2011 17:36	200	4.40	40.0	11500
995048-022 Chromium	ug/L	05/17/2011 17:43	100	2.20	20.0	9080
995048-023 Chromium	ug/L	05/17/2011 17:50	100	2.20	20.0	4690
995048-024 Chromium	ug/L	05/17/2011 17:57	100	2.20	20.0	4520

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	100	343.	346	0.958	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	95.0	85 - 115

Matrix Spike

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	100	5020	5350(5000)	93.4	75 - 125

Matrix Spike Duplicate

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	100	5060	5350(5000)	94.2	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	95.9	90 - 110



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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.5	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	45.7	50.0	91.4	80 - 120

Interference Check Standard AB

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

Serial Dilution

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	500	338.	346	2.43	0 - 10



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Metals by EPA 6020A, Dissolved

Batch 052611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-009 Chromium	ug/L	05/26/2011 16:21	10.0	0.220	2.0	475.

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	10.0	364.	365	0.329	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	97.9	85 - 115

Matrix Spike

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	830.	865(500.)	93.1	75 - 125

Matrix Spike Duplicate

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	825.	865(500.)	91.9	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	52.6	50.0	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.1	50.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	95.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	95.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.4	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 13 of 15****Project Number: 405681.MP.02.GM.04****Printed 6/6/2011****MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.1	50.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.6	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	50.0	50.0	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	91.9	80 - 120

Serial Dilution

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	442	475	7.20	0 - 10

Serial Dilution

Lab ID = 995048-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	351.	365	3.80	0 - 10



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Chromium, Hexavalent by SM 3500-Cr B		Batch: 05CrH11A				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995048-001 Chromium, Hexavalent	ug/L	05/09/2011 16:05	2.00	8.70	20.0	497.
995048-002 Chromium, Hexavalent	ug/L	05/09/2011 16:06	2.00	8.70	20.0	331.
995048-004 Chromium, Hexavalent	ug/L	05/09/2011 16:07	2.00	8.70	20.0	411.
995048-006 Chromium, Hexavalent	ug/L	05/09/2011 16:08	5.00	21.8	50.0	2010
995048-015 Chromium, Hexavalent	ug/L	05/09/2011 16:09	2.00	8.70	20.0	391.
995048-017 Chromium, Hexavalent	ug/L	05/09/2011 16:15	25.0	109.	250.	3700
995048-018 Chromium, Hexavalent	ug/L	05/09/2011 16:16	25.0	109.	250.	2910
995048-019 Chromium, Hexavalent	ug/L	05/09/2011 16:17	25.0	109.	250.	3570
995048-020 Chromium, Hexavalent	ug/L	05/09/2011 16:18	25.0	109.	250.	5640
995048-021 Chromium, Hexavalent	ug/L	05/09/2011 16:19	50.0	218.	500.	12100
995048-022 Chromium, Hexavalent	ug/L	05/09/2011 16:20	50.0	218.	500.	9720
995048-023 Chromium, Hexavalent	ug/L	05/09/2011 16:21	25.0	109.	250.	4730

Method Blank

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

Duplicate

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3630	3570	1.79	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	98.9	100.	98.9	90 - 110

Matrix Spike

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	6080	6070(2500)	100.	85 - 115

Matrix Spike Duplicate

Lab ID = 995048-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	6330	6070(2500)	110.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	56.3	60.0	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	61.3	60.0	102.	90 - 110



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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	55.0	60.0	91.7	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.



Mona Nassimi

Manager, Analytical Services

CH2MHILL

CHAIN OF CUSTODY RECORD

995048

5/6/2011 12:19:50 PM

Page 1 OF 2

Project Name PG&E Topock
 Location Topock
 Project Number 405681.MP.02.GM.04
 Project Manager Jay Piper
 Sample Manager Shawn Duffy

Container: 250 ml Poly 250 ml Poly 500 ml Poly
 Preservatives: (NH4)2SO4 (NH4)2SO4 HNO3
 4/NH4OH, 4/NH4OH, 4°C
 Filtered: Field Field Field
 Holding Time: 28 28 180

Task Order
 Project 2011-GMP-177-Q2
 Turnaround Time 10 Days
 Shipping Date: 5/6/2011
 COC Number: 11

Rec'd 05/06/11

Lab# 995048

For Sample Conditions
 See Form Attached

ALERT!!
 Level III QC

Number of Containers

pH 6-
 5/6/2011
 20620A

COMMENTS

DATE TIME Matrix

MW-19-177	5/4/2011	14:45	Water		X	X	2	
MW-31-060-177	5/4/2011	16:06	Water		X	X	2	
MW-48-177	5/4/2011	15:49	Water	X		X	2	
MW-76-177	5/4/2011	14:21	Water	X			1	Hold
MW-10-177	5/5/2011	15:24	Water		X	X	2	
MW-24BR-177	5/5/2011	13:58	Water	X		X	2	
MW-26-177	5/5/2011	16:28	Water		X	X	2	
MW-37D-177	5/5/2011	9:06	Water	X		X	2	
MW-40D-177	5/5/2011	10:12	Water	X		X	2	
MW-57-070-177	5/5/2011	12:39	Water	X		X	2	
MW-60-125-177	5/5/2011	15:29	Water	X		X	2	
MW-61-110-177	5/5/2011	14:02	Water	X		X	2	
MW-62-065-177	5/5/2011	11:23	Water	X		X	2	
MW-62-110-177	5/5/2011	13:16	Water	X		X	2	
MW-62-190-177	5/5/2011	13:25	Water	X		X	2	

Signatures

Date/Time

Shipping Details

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Method of Shipment: FedEx

On Ice: yes / no

Airbill No:

Lab Name: Truesdall Laboratories, Inc.

Lab Phone: (714) 730-6239

ATTN:

Sample Custody

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
 (530) 229-3303

5-6-11 15:30
 Rafael Davila 5-6-11 15:30
 Rafael Davila 5-6-11 21:30
 Lida, TLI 5/6/11 21:30

CH2MHILL

CHAIN OF CUSTODY RECORD

5/6/2011 12:19:50 PM

Page 2 OF 2

TLI

995048

Project Name PG&E Topock				Container:	250 ml Poly	250 ml Poly	500 ml Poly	<div style="border: 2px solid black; padding: 10px; transform: rotate(-5deg); display: inline-block;"> ALERT!! Level III QC </div>	Number of Containers	<p>PH for SW 60100 SW 60201</p> <p>COMMENTS</p>
Location Topock				Preservatives:	(NH4)2SO 4/NH4OH, 4°C	(NH4)2SO 4/NH4OH, 4°C	HNO3, 4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	Field			
Project Manager Jay Piper				Holding Time:	28	28	180			
Sample Manager Shawn Duffy										
Task Order					C6 (E218.6) Field Filtered	C6 (SM3500B) Field Filtered	Metals (SW6010B/SW6020A) Field Filtered Chromium			
Project 2011-GMP-177-Q2										
Turnaround Time 10 Days										
Shipping Date: 5/6/2011										
COC Number: 11										
	DATE	TIME	MATRIX							
1	MW-78-177	5/5/2011	14:29	Water	X				1	Hold
2	MW-79-177	5/5/2011	17:20	Water	X				1	Hold
3	MW-91-177	5/5/2011	14:52	Water		X	X		2	
4	MW-97-177	5/5/2011	12:41	Water	X		X		2	
5	TW-01-177	5/5/2011	17:02	Water		X	X		2	
6	MW-12-177	5/6/2011	8:26	Water		X	X		2	
7	MW-20-070-177	5/6/2011	9:20	Water		X	X		2	
8	MW-20-100-177	5/6/2011	10:10	Water		X	X		2	
9	MW-20-130-177	5/6/2011	11:25	Water		X	X		2	
10	MW-50-200-177	5/6/2011	11:40	Water		X	X		2	
11	MW-51-177	5/6/2011	9:36	Water		X	X		2	
12	MW-59-100-177	5/6/2011	10:36	Water	X		X		2	
13	MW-80-177	5/6/2011	11:55	Water	X				1	Hold
14	MW-81-177	5/6/2011	11:58	Water	X				1	Hold
TOTAL NUMBER OF CONTAINERS								53		

Signatures Approved by <i>[Signature]</i> Relinquished by <i>[Signature]</i> Received by <i>[Signature]</i> Relinquished by <i>[Signature]</i> Received by <i>[Signature]</i>		Date/Time 5-6-11 15:30 5-6-11 15:30 5-6-11 21:30 5/6/11 21:30		Shipping Details Method of Shipment: FedEx On Ice: yes / no Airbill No: Lab Name: Truesdall Laboratories, Inc. Lab Phone: (714) 730-6239		Special Instructions: ATTN: Sample Custody 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
05/06/11	995046	9.5	N/A	N/A	N/A	SB
05/09/11	995048-3	9.5	N/A	N/A	N/A	SB
	-5					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-16					
	-24					
05/10/11	995064-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
05/11/11	995100	7.0	5 mL	9.5	8:30 a.m.	ali
05/11/11	995103-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
995020(1-2)	<1	<2	5/6/11	ES	Yes	3010A
995025(1-5)	<1	<2	5/7/11	ES	Yes (-3,4,5)	
995048(1-24)	<1	<2	5/16/11	MM	no	—
995216(1-2)	<1	<2	5/18/11	KK	Yes	KK —
995247(1-2)	<1	<2	5/19/11	ES	yes	—
995239(1-7)	<1	>2	5/22	KK	NO	Yes @ 5:30pm
995240(1-7)	<1	>2	5/22	KK	NO	Yes @ 5:30pm
995241(1-8)	<1	>1	5/22	KK	NO	Yes @ 5:30pm
995022(2-4)	<1	<2	5/5	KK	Yes	—
995019(1-2)	<1	<2	↓	↓	↓	—
995021(1-4)	<1	<2	↓	↓	↓	—
995224	<1	>2	5/24/11	ES	NO	yes w/ 10:00
995244(1,2,4)	<1	>2	↓	↓	↓	
995024(1-5)	<1	<2	5/7/11	ES	Yes	3010A
995023(1-11)	<1	<2				
995026(1-5)	<1	<2				
995083(1-9)	<1	<2	5/4	KK	Yes	—
995311	<1	>2	5/26/11	ES	NO	yes w/ 2:00pm
995324(1)	<1	<2	5/25/11	KK	Yes	—
995336(1-2)	<1	>2	5/27/11	KK	NO	Yes @ 10:30am
995227	<1	>2	5-27-11	KK	NO	Yes @ 11:30am
995355	<1	>2	5-27-11	KK	NO	Yes @ 3pm
995350	<1	>2	6/1/11	ES	NI	yes w/ 11:00
351	↓	↓	↓	↓	↓	↓
349	↓	↓	↓	↓	↓	↓
995363(1,2,4)	↓	↓	↓	↓	↓	↓
995371	↓	↓	↓	↓	↓	↓
995359	<1	<2	6/2/11	MM	Yes	3010
995388(1-2)	↓	↓	↓	↓	↓	↓
995389(1,3,5,9,11,15)	↓	↓	↓	↓	↓	↓
995390(1,3,6,8,10,12,14,16,18,20)	↓	↓	↓	↓	↓	↓
995397	<1	<2	6/2/11	ES	NO	—
995399(1,2)	↓	↓	↓	↓	↓	↓
995415(1)	<1	<2	6/3/11	MM	Yes	3010
995416(1)	↓	↓	↓	↓	↓	↓
995417(1,3,5,7,9)	↓	↓	↓	↓	↓	↓
995322(1-65)	Solid	—	6/3/11	MM	Yes	TTC
995429(1-9)	<1	>2	6/4/11	ES	NO	yes w/ 2:00
430(1-7)						
431(1-10)						
432(1-6)						



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 995048

Date Delivered: 05/06/11 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)? 4.1°C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?
Preserved (if yes) by: ☒ Truesdall ☐ Client ☒ Yes ☐ No ☐ N/A
12. Were samples pH checked? pH = all 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 Truesdall Log-In/Receiving: Linda Stuebner

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

July 07, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-EW-183, GROUNDWATER MONITORING
PROJECT, TLI NO.: 995497

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-183 groundwater-monitoring project for Total Dissolved and Hexavalent Chromium, Total Dissolved Solids, and pH. 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 June 7, 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.

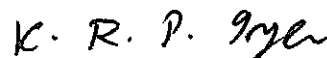
Total Dissolved Chromium, for sample PE-01-183, was re-analyzed by EPA 200.7 due to the discrepancy between the Total Dissolved Chromium and Hexavalent Chromium results. The result from the re-analysis is reported.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


for Mona Nassimi
Manager, Analytical Services



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

TRUESDAIL LABORATORIES, INC.

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

Attention: Shawn Duffy

Sample: Two (2) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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

Laboratory No.: 995497

Date: July 7, 2011

Collected: June 7, 2011

Received: June 7, 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 200.7	Total Chromium	Ethel Suico
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky
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

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

P.O. No.: 408401.01.DM

Laboratory No.: 995497

Date Received: June 7, 2011

Revision 1; July 8, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995497-001	PE-01-183	E120.1	NONE	6/7/2011	10:30	EC	5180	umhos/cm	2.00
995497-001	PE-01-183	E200.7	LABFLT	6/7/2011	10:30	Chromium	11.0	ug/L	1.0
995497-001	PE-01-183	E218.6	LABFLT	6/7/2011	10:30	Chromium, hexavalent	9.5	ug/L	0.20
995497-001	PE-01-183	SM2540C	NONE	6/7/2011	10:30	Total Dissolved Solids	3190	mg/L	125
995497-002	TW-03D-183	E120.1	NONE	6/7/2011	10:30	EC	8530	umhos/cm	2.00
995497-002	TW-03D-183	E200.8	LABFLT	6/7/2011	10:30	Chromium	1090	ug/L	2.0
995497-002	TW-03D-183	SM2540C	NONE	6/7/2011	10:30	Total Dissolved Solids	5120	mg/L	125
995497-002	TW-03D-183	SM3500-CrB	LABFLT	6/7/2011	10:30	Chromium, hexavalent	1030	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.

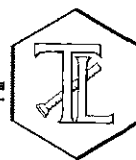
Quality Control data will always have three (3) significant figures.

005

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

TRUESDAIL LABORATORIES, INC.

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

REPORT

Client: CH2MHill

155 Grand Avenue, Suite 800
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 995497

Page 1 of 10

Printed 7/7/2011

Samples Received on 6/7/2011 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-183	995497-001	06/07/2011 10:30	Water
TW-03D-183	995497-002	06/07/2011 10:30	Water

Specific Conductivity - EPA 120.1

Batch 06EC11D

6/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-001 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	5180
995497-002 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	8530

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 995499-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	954	953	0.105	0 - 10

Duplicate

Lab ID = 995499-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	950.	952	0.210	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703	706	99.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

MRCCS - Secondary

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

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011



Client: CH2MHill

Project Name: PG&E Topock Project

Page 3 of 10

Project Number: 408401.01.DM

Printed 7/7/2011

Chrome VI by EPA 218.6

Batch 06CrH11D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-001 Chromium, Hexavalent	ug/L	06/08/2011 09:46	1.05	0.0210	0.20	9.5

Method Blank

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

Duplicate

Lab ID = 995497-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	9.43	9.47	0.455	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.89	5.00	97.7	90 - 110

Matrix Spike

Lab ID = 995451-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.06	8.26(5.30)	96.3	90 - 110

Matrix Spike

Lab ID = 995451-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.4	16.4(10.6)	99.7	90 - 110

Matrix Spike

Lab ID = 995451-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.62	7.89(5.30)	94.8	90 - 110

Matrix Spike

Lab ID = 995451-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.23	9.76(5.30)	90.0	90 - 110

Matrix Spike

Lab ID = 995451-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.75	9.66(5.30)	102.	90 - 110

Matrix Spike

Lab ID = 995451-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.76	9.76(5.30)	99.9	90 - 110

Matrix Spike

Lab ID = 995451-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.87	9.94(5.30)	98.7	90 - 110



Client: CH2MHill

Project Name: PG&E Topock Project

Page 4 of 10

Project Number: 408401.01.DM

Printed 7/7/2011

Matrix Spike						Lab ID = 995452-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.13(1.06)	97.8	90 - 110
Matrix Spike						Lab ID = 995452-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.06	1.11(1.06)	95.8	90 - 110
Matrix Spike						Lab ID = 995494-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.71	7.00(5.30)	94.5	90 - 110
Matrix Spike						Lab ID = 995494-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.88	6.91(5.30)	99.3	90 - 110
Matrix Spike						Lab ID = 995494-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.49	6.85(5.30)	93.1	90 - 110
Matrix Spike						Lab ID = 995494-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.15	7.29(5.30)	97.4	90 - 110
Matrix Spike						Lab ID = 995497-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	19.4	20.1(10.6)	93.7	90 - 110
Matrix Spike						Lab ID = 995498-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.46	5.45(5.25)	100.	90 - 110
Matrix Spike						Lab ID = 995498-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.12(1.06)	104.	90 - 110
Matrix Spike						Lab ID = 995498-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	1900	1930(1050)	97.1	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.91	5.00	98.1	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.62	10.0	96.2	95 - 105


Client: CH2MHill
Project Name: PG&E Topock Project
Page 5 of 10
Project Number: 408401.01.DM
Printed 7/7/2011
MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.81	10.0	98.1	95 - 105

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.58	10.0	95.8	95 - 105

MRCVS - Primary

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

Chromium, Hexavalent by SM 3500-Cr B

Batch 06CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-002 Chromium, Hexavalent	ug/L	06/16/2011 16:03	10.0	35.0	100.	1030

Method Blank

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

Duplicate

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	1040	1030	0.860	0 - 20

Lab Control Sample

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

Matrix Spike

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	2120	2030(1000)	109.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	65.4	60.0	109	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	64.1	60.0	107.	90 - 110

*Report Continued***Client: CH2MHill****Project Name: PG&E Topock Project****Page 6 of 10****Project Number: 408401.01.DM****Printed 7/7/2011**

Total Dissolved Solids by SM 2540 C		Batch 06TDS11C			6/8/2011	
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-001 Total Dissolved Solids	mg/L	06/08/2011	1.00	0.434	125	3190
995497-002 Total Dissolved Solids	mg/L	06/08/2011	1.00	0.434	125	5120

Method Blank

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

Duplicate

Lab ID = 995498-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4750	4680	1.48	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	469	500.	93.8	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: CH2MHill

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 7/8/2011

Revised

Metals by EPA 200.8, Dissolved

Batch 061611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-002 Chromium	ug/L	06/16/2011 11:56	10.0	0.220	2.0	1090

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	10.0	1080	1090	0.829	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.7	50.0	101.	85 - 115

Matrix Spike

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	1610	1590(500.)	103.	75 - 125

Matrix Spike Duplicate

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	10.0	1590	1590(500.)	101.	75 - 125

MRCSS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.7	50.0	103.	90 - 110

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



Client: CH2MHill

Project Name: PG&E Topock Project

Page 8 of 10

Project Number: 408401.01.DM

Printed 7/8/2011

Revised

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.8	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.0310	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.0163	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.0	50.0	102.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.9	80 - 120

Serial Dilution

Lab ID = 995497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	1070	1090	1.57	0 - 10



Client: CH2MHill

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 7/7/2011

Metals by 200.7, Dissolved

Batch 070711A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995497-001 Chromium	ug/L	07/07/2011 14:55	1.00	0.325	1.0	11.0

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 995497-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	1.00	10.9	11.0	1.10	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.7	85 - 115

Matrix Spike

Lab ID = 995497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	57.7	61.0(50.0)	93.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.7	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.3	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	48.1	50.0	96.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.0	50.0	96.1	80 - 120



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: CH2MHill

Project Name: PG&E Topock Project

Page 10 of 10

Project Number: 408401.01.DM

Printed 7/7/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 

Mona Nassimi

Manager, Analytical Services



Calculations

Batch: 06TDS11C

Date Calculated: 6/13/11

[illegible]

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name


Analyst Signature

Reviewer Printed Name

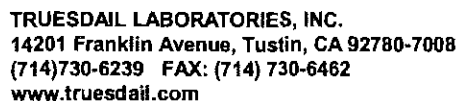
Reviewer Signature

TDS/EC CHECK

Date Calculated: 6/13/11

[illegible]

ky



[IM3Plant-EW-183]

COC Number

TURNAROUND TIME

10 Days

DATE 06/07/11

PAGE 1 OF 1

[illegible]

CHAIN OF CUSTODY SIGNATURE RECORD					SAMPLE CONDITIONS						
Signature (Relinquished)	<i>C. Lantz</i>	Printed Name	<i>C. Lantz</i>	Company/ Agency	<i>CH2M HILL</i>	Date/ Time	<i>6-7-11 15:33</i>	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	<i>40°C</i> °F
Signature (Received)	<i>Rafael Davila</i>	Printed Name	<i>Rafael</i>	Company/ Agency	<i>T. L. I</i>	Date/ Time	<i>6-7-11 15:33</i>	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	<i>Rafael Davila</i>	Printed Name	<i>Rafael</i>	Company/ Agency	<i>T. L. I</i>	Date/ Time	<i>6-7-11 22:00</i>	SPECIAL REQUIREMENTS:			
Signature (Received)	<i>Lucile</i>	Printed Name	<i>Shirley</i>	Company/ Agency	<i>TLI</i>	Date/ Time	<i>6/7/11 22:00</i>				
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time					
Signature (Received)		Printed Name		Company/ Agency		Date/ Time					

054

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log



Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
995481	71	72	06/08/11	M.M	Yes	3:10
995480	Solid					
49711-2	21	22			NO	-
49811-2						-
4991						-
995499(1-14)	<1	<2			Yes	3:10
995220(1)	<1	<2	6/03/11	KK	NO	NO
995519(1-11)	<1	<2	6/09/11	M.M	Yes	NO
995497(1-2)	<1	72	6/10/11	ES	NO	yes @ 10:00 am
995498(1-2)	<1	72				
995496-2	<1	72				
995537	Solid		6/10/11	M.M	Yes	7:10
995586	71	72	6/13/11	M.M	Yes	yes @ 13:00
995631(1-2)	<1	<2	6/16/11	M.M	Yes	-
632(1)						-
633(4-5)						-
995667	71	<2			Yes	yes @ 10:00
995672	<1	72	6/16/11	ES	NO	yes @ 1:00 pm
995691	<1	72	6/20/11	M.M	Yes	-
995692		<2				-
995720						-
995694						-
995695						-
995696(1-4)						-
700542(55-72)	<1	<2	6/20/11	M.M	NO	-
700593(55-72)	<1	<2	6/20/11	M.M	NO	-
995754	<1	72	6/21/11	M.M	Yes	Yes @ 10:00
995727(124)	<1	72	6/22/11	ES	NO	@ 10:00 am
995749	<1	<2				-
750						-
751						-
752						-
753						-
995763	<1	72	6/23/11	ES	NO	@ 10:00 am
995773(789)						
995761(1-3)						
995805(1-2)	<1	<2	6/23/11	M.M	Yes	
995806(1-7)						-
995807(1-3)						-
995810	71	<2				-
995820(1-13)	<1	<2	6/24/11	KK	Yes	-
995821(1-6)						-
995822(1-2)						-
995830(1-3)	<1	>2	6/27/11	KK	NO	Yes @ 3:00 pm
995838(1-4)	<1	>2	6/28/11	KK	-	Yes @ 8:20 am
995840(1-3)	<1	>2	6/28/11	KK	-	Yes @ 8:20 am
995853(1)	<1	<2	6/29/11	KK	-	-
995863(1-3)	<1	>2			-	Yes @ 8:30 am
995864	<1	>2			-	Yes @ 8:30 am



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 995497

Date Delivered: 06/07/11 Time: 22:00 By: ☐ Mail ☒ Field Service ☐ Client

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

April 21, 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.: N005596

RE: PG&E Topock


Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on April 04, 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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N005596

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 5310C:

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. Duplicate 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 on QC samples N005596-001EMS and N005596-001EMSD 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 1,2,4-Trimethylbenzene and Styrene ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N005596
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005596-001A	MW-58BR-LWR-160-176	Water	4/4/2011 1:50:00 PM	4/4/2011	
N005596-001B	MW-58BR-LWR-160-176	Water	4/4/2011 1:50:00 PM	4/4/2011	
N005596-001C	MW-58BR-LWR-160-176	Water	4/4/2011 1:50:00 PM	4/4/2011	
N005596-001D	MW-58BR-LWR-160-176	Water	4/4/2011 1:50:00 PM	4/4/2011	
N005596-001E	MW-58BR-LWR-160-176	Water	4/4/2011 1:50:00 PM	4/4/2011	
N005596-002A	TB-Packer-176-02	Water	4/4/2011 1:00:00 PM	4/4/2011	

Page 1 of 1



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

TOTAL FILTERABLE RESIDUE**SM2540C**

RunID: WETCHEM_110407C	QC Batch: 36628				PrepDate: 4/7/2011	Analyst: CEI
Total Dissolved Solids (Residue, Filterable)	5600	100	100	mg/L	1	4/7/2011

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



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL

Work Order: N005596

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: MB-36628	SampType: MBLK	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/7/2011	RunNo: 79662						
Client ID: PBW	Batch ID: 36628	TestNo: SM2540C		Analysis Date: 4/7/2011	SeqNo: 1256555						
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-36628	SampType: LCS	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/7/2011	RunNo: 79662						
Client ID: LCSW	Batch ID: 36628	TestNo: SM2540C		Analysis Date: 4/7/2011	SeqNo: 1256556						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 933.000 10 1000 0 93.3 80 120

Sample ID: N005596-001C-DUP	SampType: DUP	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/7/2011	RunNo: 79662						
Client ID: ZZZZZZ	Batch ID: 36628	TestNo: SM2540C		Analysis Date: 4/7/2011	SeqNo: 1256558						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 5560.000 100 5620 1.07 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: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

HEXAVALENT CHROMIUM BY IC**EPA 218.6**

RunID: IC1_110405A	QC Batch: R79591	PrepDate:	Analyst: QBM
Hexavalent Chromium	100 0.28 2.0	ug/L	10 4/5/2011 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



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: MB-R79591	SampType: MBLK	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79591						
Client ID: PBW	Batch ID: R79591	TestNo: EPA 218.6		Analysis Date: 4/5/2011	SeqNo: 1254413						
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-R79591	SampType: LCS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79591						
Client ID: LCSW	Batch ID: R79591	TestNo: EPA 218.6		Analysis Date: 4/5/2011	SeqNo: 1254414						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.942	0.20	5.000	0	98.8	90	110				

Sample ID: N005594-001AMS	SampType: MS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79591						
Client ID: ZZZZZZ	Batch ID: R79591	TestNo: EPA 218.6		Analysis Date: 4/5/2011	SeqNo: 1254417						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.081	0.20	5.000	3.017	101	90	110				

Sample ID: N005596-001ADUP	SampType: DUP	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79591						
Client ID: ZZZZZZ	Batch ID: R79591	TestNo: EPA 218.6		Analysis Date: 4/5/2011	SeqNo: 1254418						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	100.193	2.0						101.5	1.28	20	

Sample ID: N005596-001AMS	SampType: MS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79591						
Client ID: ZZZZZZ	Batch ID: R79591	TestNo: EPA 218.6		Analysis Date: 4/5/2011	SeqNo: 1254419						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	149.682	2.0	50.00	101.5	96.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			



Advanced Technology
Laboratories, Inc

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CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: N005596-001AMSD		SampType: MSD		TestCode: 218.6_WPGE		Units: ug/L		Prep Date:		RunNo: 79591	
Client ID: ZZZZZZ		Batch ID: R79591		TestNo: EPA 218.6		Analysis Date: 4/5/2011		SeqNo: 1254420			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	150.877	2.0	50.00	101.5	98.8	90	110	149.7	0.795	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: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: IC2_110405A	QC Batch: R79675				PrepDate:		Analyst: QBM
Chloride	2900	32		250	mg/L	500	4/5/2011 11:30 AM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: IC2_110405A	QC Batch: R79675				PrepDate:		Analyst: QBM
Nitrate as N	1.1	0.022		1.0	mg/L	2	4/5/2011 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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Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: MB-R79675_CL	SampType: MBLK	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: PBW	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257157						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: LCS-R79675_CL	SampType: LCS	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: LCSW	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257158						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.343	0.50	2.500	0	93.7	90	110				

Sample ID: N005596-001CDUP	SampType: DUP	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257160						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2960.000	250						2935	0.848	20	

Sample ID: N005596-001CMS	SampType: MS	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257161						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4242.500	250	1250	2935	105	80	120				

Sample ID: N005596-001CMSD	SampType: MSD	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257162						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4232.500	250	1250	2935	104	80	120	4242	0.236	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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Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R79675_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:				RunNo: 79675			
Client ID: PBW	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011				SeqNo: 1257169			
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-R79675_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: LCSW	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257170						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 2.401 0.50 2.500 0 96.0 90 110

Sample ID: N005596-001CDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257172						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 1.066 1.0 1.072 0.561 20

Sample ID: N005596-001CMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257173						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 5.878 1.0 5.000 1.072 96.1 80 120

Sample ID: N005596-001CMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79675						
Client ID: ZZZZZZ	Batch ID: R79675	TestNo: EPA 300.0		Analysis Date: 4/5/2011	SeqNo: 1257174						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 5.806 1.0 5.000 1.072 94.7 80 120 5.878 1.23 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: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			EPA 6010B			
RunID: ICP1_110405B	QC Batch: 36608			PrepDate: 4/5/2011 Analyst: KAB			
Chromium	110	0.44	2.0	ug/L	2	4/5/2011 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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Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36608	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79601						
Client ID: PBW	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254711						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	ND	1.0									
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Sample ID: LCS3-36608	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79601						
Client ID: LCSW	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254712						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	48.628	1.0	50.00	0	97.3	85	115				
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Sample ID: N005596-001B-MS3	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79601						
Client ID: ZZZZZZ	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254718						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	155.914	2.0	50.00	106.6	98.7	75	125				
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Sample ID: N005596-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79601						
Client ID: ZZZZZZ	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254719						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	153.889	2.0	50.00	106.6	94.6	75	125	155.9	1.31	20	
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Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

II 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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Las Vegas, NV 89118

Tel: 702 307-2659

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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110405A	QC Batch: 36604			PrepDate: 4/5/2011		Analyst: JT	
Arsenic	1.6	0.0025	0.10	ug/L	1	4/5/2011 03:13 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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Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: MB-36604	SampType: MBLK	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79594						
Client ID: PBW	Batch ID: 36604	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254551						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.015	0.10									
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Sample ID: LCS-36604	SampType: LCS	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79594						
Client ID: LCSW	Batch ID: 36604	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254552						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	9.962	0.10	10.00	0	99.6	85	115				
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Sample ID: N005594-001B-MS	SampType: MS	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79594						
Client ID: ZZZZZZ	Batch ID: 36604	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254556						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	23.421	0.10	10.00	13.09	103	75	125				
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Sample ID: N005594-001B-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/5/2011	RunNo: 79594						
Client ID: ZZZZZZ	Batch ID: 36604	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254557						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	22.659	0.10	10.00	13.09	95.7	75	125	23.42	3.31	20	
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Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	II	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS**EPA 8260B**

RunID: MS1_110405A

QC Batch: D11VW048

PrepDate:

Analyst: QBM

1,1,1,2-Tetrachloroethane	ND	0.061	1.0	ug/L	1	4/5/2011 01:19 PM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	4/5/2011 01:19 PM
1,1,2,2-Tetrachloroethane	ND	0.054	1.0	ug/L	1	4/5/2011 01:19 PM
1,1,2-Trichloroethane	ND	0.083	1.0	ug/L	1	4/5/2011 01:19 PM
1,1-Dichloroethane	ND	0.099	1.0	ug/L	1	4/5/2011 01:19 PM
1,1-Dichloroethene	ND	0.094	1.0	ug/L	1	4/5/2011 01:19 PM
1,1-Dichloropropene	ND	0.082	1.0	ug/L	1	4/5/2011 01:19 PM
1,2,3-Trichlorobenzene	ND	0.10	1.0	ug/L	1	4/5/2011 01:19 PM
1,2,3-Trichloropropane	ND	0.12	1.0	ug/L	1	4/5/2011 01:19 PM
1,2,4-Trichlorobenzene	ND	0.12	1.0	ug/L	1	4/5/2011 01:19 PM
1,2,4-Trimethylbenzene	ND	0.095	1.0	ug/L	1	4/5/2011 01:19 PM
1,2-Dibromo-3-chloropropane	ND	0.15	2.0	ug/L	1	4/5/2011 01:19 PM
1,2-Dibromoethane	ND	0.14	1.0	ug/L	1	4/5/2011 01:19 PM
1,2-Dichlorobenzene	ND	0.070	1.0	ug/L	1	4/5/2011 01:19 PM
1,2-Dichloroethane	ND	0.17	1.0	ug/L	1	4/5/2011 01:19 PM
1,2-Dichloropropane	ND	0.085	1.0	ug/L	1	4/5/2011 01:19 PM
1,3,5-Trimethylbenzene	ND	0.087	1.0	ug/L	1	4/5/2011 01:19 PM
1,3-Dichlorobenzene	ND	0.090	1.0	ug/L	1	4/5/2011 01:19 PM
1,3-Dichloropropane	ND	0.074	1.0	ug/L	1	4/5/2011 01:19 PM
1,4-Dichlorobenzene	ND	0.092	1.0	ug/L	1	4/5/2011 01:19 PM
2,2-Dichloropropane	ND	0.061	1.0	ug/L	1	4/5/2011 01:19 PM
2-Butanone	ND	1.0	10	ug/L	1	4/5/2011 01:19 PM
2-Chlorotoluene	ND	0.080	1.0	ug/L	1	4/5/2011 01:19 PM
4-Chlorotoluene	ND	0.10	1.0	ug/L	1	4/5/2011 01:19 PM
4-Isopropyltoluene	ND	0.080	1.0	ug/L	1	4/5/2011 01:19 PM
4-Methyl-2-pentanone	ND	0.76	10	ug/L	1	4/5/2011 01:19 PM
Acetone	ND	1.6	10	ug/L	1	4/5/2011 01:19 PM
Acrolein	ND	4.3	20	ug/L	1	4/5/2011 01:19 PM
Acrylonitrile	ND	0.61	20	ug/L	1	4/5/2011 01:19 PM
Benzene	ND	0.075	1.0	ug/L	1	4/5/2011 01:19 PM
Bromobenzene	ND	0.082	1.0	ug/L	1	4/5/2011 01:19 PM
Bromochloromethane	ND	0.15	1.0	ug/L	1	4/5/2011 01:19 PM
Bromodichloromethane	ND	0.063	1.0	ug/L	1	4/5/2011 01:19 PM
Bromoform	ND	0.086	1.0	ug/L	1	4/5/2011 01:19 PM
Bromomethane	ND	0.13	1.0	ug/L	1	4/5/2011 01:19 PM
Carbon disulfide	ND	0.054	1.0	ug/L	1	4/5/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-001

Client Sample ID: MW-58BR-LWR-160-176
Collection Date: 4/4/2011 1:50:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS**EPA 8260B**

RunID: MS1_110405A	QC Batch: D11VW048	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.10	1.0	ug/L	1	4/5/2011 01:19 PM
Chlorobenzene	ND	0.092	1.0	ug/L	1	4/5/2011 01:19 PM
Chloroethane	ND	0.14	1.0	ug/L	1	4/5/2011 01:19 PM
Chloroform	ND	0.058	1.0	ug/L	1	4/5/2011 01:19 PM
Chloromethane	ND	0.054	1.0	ug/L	1	4/5/2011 01:19 PM
cis-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	4/5/2011 01:19 PM
cis-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/5/2011 01:19 PM
Dibromochloromethane	ND	0.061	1.0	ug/L	1	4/5/2011 01:19 PM
Dibromomethane	ND	0.15	1.0	ug/L	1	4/5/2011 01:19 PM
Dichlorodifluoromethane	ND	0.12	1.0	ug/L	1	4/5/2011 01:19 PM
Ethylbenzene	ND	0.051	1.0	ug/L	1	4/5/2011 01:19 PM
Freon-113	ND	0.080	1.0	ug/L	1	4/5/2011 01:19 PM
Hexachlorobutadiene	ND	0.17	1.0	ug/L	1	4/5/2011 01:19 PM
Isopropylbenzene	ND	0.057	1.0	ug/L	1	4/5/2011 01:19 PM
m,p-Xylene	ND	0.17	1.0	ug/L	1	4/5/2011 01:19 PM
Methylene chloride	ND	0.10	5.0	ug/L	1	4/5/2011 01:19 PM
MTBE	ND	0.089	1.0	ug/L	1	4/5/2011 01:19 PM
n-Butylbenzene	ND	0.082	1.0	ug/L	1	4/5/2011 01:19 PM
n-Propylbenzene	ND	0.087	1.0	ug/L	1	4/5/2011 01:19 PM
Naphthalene	ND	0.056	1.0	ug/L	1	4/5/2011 01:19 PM
o-Xylene	ND	0.077	1.0	ug/L	1	4/5/2011 01:19 PM
sec-Butylbenzene	ND	0.098	1.0	ug/L	1	4/5/2011 01:19 PM
Styrene	ND	0.072	1.0	ug/L	1	4/5/2011 01:19 PM
tert-Butylbenzene	ND	0.062	1.0	ug/L	1	4/5/2011 01:19 PM
Tetrachloroethene	ND	0.13	1.0	ug/L	1	4/5/2011 01:19 PM
Toluene	ND	0.12	2.5	ug/L	1	4/5/2011 01:19 PM
trans-1,2-Dichloroethene	ND	0.094	1.0	ug/L	1	4/5/2011 01:19 PM
trans-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/5/2011 01:19 PM
Trichloroethene	ND	0.060	1.0	ug/L	1	4/5/2011 01:19 PM
Trichlorofluoromethane	ND	0.097	1.0	ug/L	1	4/5/2011 01:19 PM
Vinyl chloride	ND	0.12	1.0	ug/L	1	4/5/2011 01:19 PM
Xylenes, Total	ND	1.5	2.0	ug/L	1	4/5/2011 01:19 PM
Surr: 1,2-Dichloroethane-d4	84.0	0	72-119	%REC	1	4/5/2011 01:19 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	4/5/2011 01:19 PM
Surr: Dibromofluoromethane	91.6	0	85-115	%REC	1	4/5/2011 01:19 PM
Surr: Toluene-d8	107	0	81-120	%REC	1	4/5/2011 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		



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-002

Client Sample ID: TB-Packer-176-02
Collection Date: 4/4/2011 1:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS**EPA 8260B**

RunID: MS1_110405A	QC Batch: D11VW048	PrepDate:	Analyst: QBM
1,1,1,2-Tetrachloroethane	ND 0.061	1.0 ug/L	1 4/5/2011 01:42 PM
1,1,1-Trichloroethane	ND 0.068	1.0 ug/L	1 4/5/2011 01:42 PM
1,1,2,2-Tetrachloroethane	ND 0.054	1.0 ug/L	1 4/5/2011 01:42 PM
1,1,2-Trichloroethane	ND 0.083	1.0 ug/L	1 4/5/2011 01:42 PM
1,1-Dichloroethane	ND 0.099	1.0 ug/L	1 4/5/2011 01:42 PM
1,1-Dichloroethene	ND 0.094	1.0 ug/L	1 4/5/2011 01:42 PM
1,1-Dichloropropene	ND 0.082	1.0 ug/L	1 4/5/2011 01:42 PM
1,2,3-Trichlorobenzene	ND 0.10	1.0 ug/L	1 4/5/2011 01:42 PM
1,2,3-Trichloropropane	ND 0.12	1.0 ug/L	1 4/5/2011 01:42 PM
1,2,4-Trichlorobenzene	ND 0.12	1.0 ug/L	1 4/5/2011 01:42 PM
1,2,4-Trimethylbenzene	ND 0.095	1.0 ug/L	1 4/5/2011 01:42 PM
1,2-Dibromo-3-chloropropane	ND 0.15	2.0 ug/L	1 4/5/2011 01:42 PM
1,2-Dibromoethane	ND 0.14	1.0 ug/L	1 4/5/2011 01:42 PM
1,2-Dichlorobenzene	ND 0.070	1.0 ug/L	1 4/5/2011 01:42 PM
1,2-Dichloroethane	ND 0.17	1.0 ug/L	1 4/5/2011 01:42 PM
1,2-Dichloropropane	ND 0.085	1.0 ug/L	1 4/5/2011 01:42 PM
1,3,5-Trimethylbenzene	ND 0.087	1.0 ug/L	1 4/5/2011 01:42 PM
1,3-Dichlorobenzene	ND 0.090	1.0 ug/L	1 4/5/2011 01:42 PM
1,3-Dichloropropane	ND 0.074	1.0 ug/L	1 4/5/2011 01:42 PM
1,4-Dichlorobenzene	ND 0.092	1.0 ug/L	1 4/5/2011 01:42 PM
2,2-Dichloropropane	ND 0.061	1.0 ug/L	1 4/5/2011 01:42 PM
2-Butanone	ND 1.0	10 ug/L	1 4/5/2011 01:42 PM
2-Chlorotoluene	ND 0.080	1.0 ug/L	1 4/5/2011 01:42 PM
4-Chlorotoluene	ND 0.10	1.0 ug/L	1 4/5/2011 01:42 PM
4-Isopropyltoluene	ND 0.080	1.0 ug/L	1 4/5/2011 01:42 PM
4-Methyl-2-pentanone	ND 0.76	10 ug/L	1 4/5/2011 01:42 PM
Acetone	ND 1.6	10 ug/L	1 4/5/2011 01:42 PM
Acrolein	ND 4.3	20 ug/L	1 4/5/2011 01:42 PM
Acrylonitrile	ND 0.61	20 ug/L	1 4/5/2011 01:42 PM
Benzene	ND 0.075	1.0 ug/L	1 4/5/2011 01:42 PM
Bromobenzene	ND 0.082	1.0 ug/L	1 4/5/2011 01:42 PM
Bromochloromethane	ND 0.15	1.0 ug/L	1 4/5/2011 01:42 PM
Bromodichloromethane	ND 0.063	1.0 ug/L	1 4/5/2011 01:42 PM
Bromoform	ND 0.086	1.0 ug/L	1 4/5/2011 01:42 PM
Bromomethane	ND 0.13	1.0 ug/L	1 4/5/2011 01:42 PM
Carbon disulfide	ND 0.054	1.0 ug/L	1 4/5/2011 01:42 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 Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 21-Apr-11

CLIENT: CH2M HILL
Lab Order: N005596
Project: PG&E Topock
Lab ID: N005596-002

Client Sample ID: TB-Packer-176-02
Collection Date: 4/4/2011 1:00:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS**EPA 8260B**

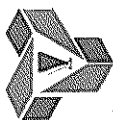
RunID: MS1_110405A	QC Batch: D11VW048	PrepDate:	Analyst: QBM			
Carbon tetrachloride	ND	0.10	1.0	ug/L	1	4/5/2011 01:42 PM
Chlorobenzene	ND	0.092	1.0	ug/L	1	4/5/2011 01:42 PM
Chloroethane	ND	0.14	1.0	ug/L	1	4/5/2011 01:42 PM
Chloroform	ND	0.058	1.0	ug/L	1	4/5/2011 01:42 PM
Chloromethane	ND	0.054	1.0	ug/L	1	4/5/2011 01:42 PM
cis-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	4/5/2011 01:42 PM
cis-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/5/2011 01:42 PM
Dibromochloromethane	ND	0.061	1.0	ug/L	1	4/5/2011 01:42 PM
Dibromomethane	ND	0.15	1.0	ug/L	1	4/5/2011 01:42 PM
Dichlorodifluoromethane	ND	0.12	1.0	ug/L	1	4/5/2011 01:42 PM
Ethylbenzene	ND	0.051	1.0	ug/L	1	4/5/2011 01:42 PM
Freon-113	ND	0.080	1.0	ug/L	1	4/5/2011 01:42 PM
Hexachlorobutadiene	ND	0.17	1.0	ug/L	1	4/5/2011 01:42 PM
Isopropylbenzene	ND	0.057	1.0	ug/L	1	4/5/2011 01:42 PM
m,p-Xylene	ND	0.17	1.0	ug/L	1	4/5/2011 01:42 PM
Methylene chloride	ND	0.10	5.0	ug/L	1	4/5/2011 01:42 PM
MTBE	ND	0.089	1.0	ug/L	1	4/5/2011 01:42 PM
n-Butylbenzene	ND	0.082	1.0	ug/L	1	4/5/2011 01:42 PM
n-Propylbenzene	ND	0.087	1.0	ug/L	1	4/5/2011 01:42 PM
Naphthalene	ND	0.056	1.0	ug/L	1	4/5/2011 01:42 PM
o-Xylene	ND	0.077	1.0	ug/L	1	4/5/2011 01:42 PM
sec-Butylbenzene	ND	0.098	1.0	ug/L	1	4/5/2011 01:42 PM
Styrene	ND	0.072	1.0	ug/L	1	4/5/2011 01:42 PM
tert-Butylbenzene	ND	0.062	1.0	ug/L	1	4/5/2011 01:42 PM
Tetrachloroethene	ND	0.13	1.0	ug/L	1	4/5/2011 01:42 PM
Toluene	ND	0.12	2.5	ug/L	1	4/5/2011 01:42 PM
trans-1,2-Dichloroethene	ND	0.094	1.0	ug/L	1	4/5/2011 01:42 PM
trans-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/5/2011 01:42 PM
Trichloroethene	ND	0.060	1.0	ug/L	1	4/5/2011 01:42 PM
Trichlorofluoromethane	ND	0.097	1.0	ug/L	1	4/5/2011 01:42 PM
Vinyl chloride	ND	0.12	1.0	ug/L	1	4/5/2011 01:42 PM
Xylenes, Total	ND	1.5	2.0	ug/L	1	4/5/2011 01:42 PM
Surr: 1,2-Dichloroethane-d4	89.8	0	72-119	%REC	1	4/5/2011 01:42 PM
Surr: 4-Bromofluorobenzene	110	0	76-119	%REC	1	4/5/2011 01:42 PM
Surr: Dibromofluoromethane	95.9	0	85-115	%REC	1	4/5/2011 01:42 PM
Surr: Toluene-d8	109	0	81-120	%REC	1	4/5/2011 01:42 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 Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 21-Apr-11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110405LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: LCSW	Batch ID: D11VW048	TestNo: EPA 8260B		Analysis Date: 4/5/2011	SeqNo: 1254368						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	25.550	1.0	25.00	0	102	81	129				
1,1,1-Trichloroethane	19.560	1.0	25.00	0	78.2	67	132				
1,1,2,2-Tetrachloroethane	25.090	1.0	25.00	0	100	63	128				
1,1,2-Trichloroethane	25.330	1.0	25.00	0	101	75	125				
1,1-Dichloroethane	23.720	1.0	25.00	0	94.9	69	133				
1,1-Dichloroethene	25.240	1.0	25.00	0	101	68	130				
1,1-Dichloropropene	22.620	1.0	25.00	0	90.5	73	132				
1,2,3-Trichlorobenzene	29.370	1.0	25.00	0	117	67	137				
1,2,3-Trichloropropane	24.260	1.0	25.00	0	97.0	73	124				
1,2,4-Trichlorobenzene	29.420	1.0	25.00	0	118	66	134				
1,2,4-Trimethylbenzene	27.160	1.0	25.00	0	109	74	132				
1,2-Dibromo-3-chloropropane	25.010	2.0	25.00	0	100	50	132				
1,2-Dibromoethane	26.190	1.0	25.00	0	105	80	121				
1,2-Dichlorobenzene	26.710	1.0	25.00	0	107	71	122				
1,2-Dichloroethane	24.700	1.0	25.00	0	98.8	69	132				
1,2-Dichloropropane	23.000	1.0	25.00	0	92.0	75	125				
1,3,5-Trimethylbenzene	26.500	1.0	25.00	0	106	74	131				
1,3-Dichlorobenzene	27.000	1.0	25.00	0	108	75	124				
1,3-Dichloropropane	25.380	1.0	25.00	0	102	73	126				
1,4-Dichlorobenzene	26.840	1.0	25.00	0	107	74	123				
2,2-Dichloropropane	18.340	1.0	25.00	0	73.4	69	137				
2-Butanone	276.630	10	250.0	0	111	49	136				
2-Chlorotoluene	24.140	1.0	25.00	0	96.6	73	126				
4-Chlorotoluene	25.700	1.0	25.00	0	103	74	128				
4-Isopropyltoluene	26.850	1.0	25.00	0	107	73	130				
4-Methyl-2-pentanone	259.680	10	250.0	0	104	58	134				
Acetone	315.590	10	250.0	0	126	40	135				
Acrolein	240.630	20	250.0	0	96.3	75	125				
Acrylonitrile	253.020	20	250.0	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

II Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

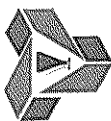
Sample ID: D110405LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: LCSW	Batch ID: D11VW048	TestNo: EPA 8260B	Analysis Date: 4/5/2011	SeqNo: 1254368							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.310	1.0	25.00	0	97.2	81	122				
Bromobenzene	26.440	1.0	25.00	0	106	76	124				
Bromochloromethane	26.030	1.0	25.00	0	104	65	129				
Bromodichloromethane	21.350	1.0	25.00	0	85.4	76	121				
Bromoform	22.610	1.0	25.00	0	90.4	69	128				
Bromomethane	24.180	1.0	25.00	0	96.7	53	141				
Carbon disulfide	21.610	1.0	25.00	0	86.4	75	125				
Carbon tetrachloride	19.120	1.0	25.00	0	76.5	66	138				
Chlorobenzene	26.140	1.0	25.00	0	105	81	122				
Chloroethane	19.000	1.0	25.00	0	76.0	58	133				
Chloroform	24.730	1.0	25.00	0	98.9	69	128				
Chloromethane	21.900	1.0	25.00	0	87.6	56	131				
cis-1,2-Dichloroethene	25.400	1.0	25.00	0	102	72	126				
cis-1,3-Dichloropropene	23.160	1.0	25.00	0	92.6	69	131				
Dibromochloromethane	23.360	1.0	25.00	0	93.4	66	133				
Dibromomethane	26.060	1.0	25.00	0	104	76	125				
Dichlorodifluoromethane	22.630	1.0	25.00	0	90.5	53	153				
Ethylbenzene	25.810	1.0	25.00	0	103	73	127				
Freon-113	21.870	1.0	25.00	0	87.5	75	125				
Hexachlorobutadiene	28.470	1.0	25.00	0	114	67	131				
Isopropylbenzene	25.860	1.0	25.00	0	103	75	127				
m,p-Xylene	52.340	1.0	50.00	0	105	76	128				
Methylene chloride	23.500	5.0	25.00	0	94.0	63	137				
MTBE	23.070	1.0	25.00	0	92.3	65	123				
n-Butylbenzene	27.690	1.0	25.00	0	111	69	137				
n-Propylbenzene	26.030	1.0	25.00	0	104	72	129				
Naphthalene	28.390	1.0	25.00	0	114	54	138				
o-Xylene	25.330	1.0	25.00	0	101	80	121				
sec-Butylbenzene	26.150	1.0	25.00	0	105	72	127				
Styrene	25.930	1.0	25.00	0	104	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



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110405LCS	SampType: LCS	TestCode: 8260_WP_LL		Units: ug/L	Prep Date:			RunNo: 79589			
Client ID: LCSW	Batch ID: D11VW048	TestNo: EPA 8260B		Analysis Date: 4/5/2011			SeqNo: 1254368				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	25.540	1.0	25.00	0	102	70	129				
Tetrachloroethene	26.540	1.0	25.00	0	106	66	128				
Toluene	24.730	2.5	25.00	0	98.9	77	122				
trans-1,2-Dichloroethene	25.460	1.0	25.00	0	102	63	137				
trans-1,3-Dichloropropene	22.460	1.0	25.00	0	89.8	59	135				
Trichloroethene	24.470	1.0	25.00	0	97.9	70	127				
Trichlorofluoromethane	23.440	1.0	25.00	0	93.8	57	129				
Vinyl chloride	20.260	1.0	25.00	0	81.0	50	134				
Xylenes, Total	77.670	2.0	75.00	0	104	75	125				
Surr: 1,2-Dichloroethane-d4	23.590		25.00		94.4	72	119				
Surr: 4-Bromofluorobenzene	25.150		25.00		101	76	119				
Surr: Dibromofluoromethane	25.400		25.00		102	85	115				
Surr: Toluene-d8	24.940		25.00		99.8	81	120				

Sample ID: N005596-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: ZZZZZZ	Batch ID: D11VW048	TestNo: EPA 8260B		Analysis Date: 4/5/2011	SeqNo: 1254369						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	25.490	1.0	25.00	0	102	81	129				
1,1,1-Trichloroethane	18.800	1.0	25.00	0	75.2	67	132				
1,1,2,2-Tetrachloroethane	20.830	1.0	25.00	0	83.3	63	128				
1,1,2-Trichloroethane	22.660	1.0	25.00	0	90.6	75	125				
1,1-Dichloroethane	22.710	1.0	25.00	0	90.8	69	133				
1,1-Dichloroethene	24.100	1.0	25.00	0	96.4	68	130				
1,1-Dichloropropene	21.960	1.0	25.00	0	87.8	73	132				
1,2,3-Trichlorobenzene	26.700	1.0	25.00	0	107	67	137				
1,2,3-Trichloropropane	20.000	1.0	25.00	0	80.0	73	124				
1,2,4-Trichlorobenzene	28.160	1.0	25.00	0	113	66	134				
1,2,4-Trimethylbenzene	24.050	1.0	25.00	0	96.2	74	132				
1,2-Dibromo-3-chloropropane	19.990	2.0	25.00	0	80.0	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



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005596-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: ZZZZZZ	Batch ID: D11VW048	TestNo: EPA 8260B	Analysis Date: 4/5/2011	SeqNo: 1254369							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	21.890	1.0	25.00	0	87.6	80	121				
1,2-Dichlorobenzene	25.400	1.0	25.00	0	102	71	122				
1,2-Dichloroethane	22.120	1.0	25.00	0	88.5	69	132				
1,2-Dichloropropane	22.450	1.0	25.00	0	89.8	75	125				
1,3,5-Trimethylbenzene	25.220	1.0	25.00	0	101	74	131				
1,3-Dichlorobenzene	26.280	1.0	25.00	0	105	75	124				
1,3-Dichloropropane	23.930	1.0	25.00	0	95.7	73	126				
1,4-Dichlorobenzene	25.740	1.0	25.00	0	103	74	123				
2,2-Dichloropropane	17.310	1.0	25.00	0	69.2	69	137				
2-Butanone	90.890	10	250.0	0	36.4	49	136				S
2-Chlorotoluene	26.070	1.0	25.00	0	104	73	126				
4-Chlorotoluene	25.510	1.0	25.00	0	102	74	128				
4-Isopropyltoluene	26.760	1.0	25.00	0	107	73	130				
4-Methyl-2-pentanone	193.010	10	250.0	0	77.2	58	134				
Acetone	70.620	10	250.0	0	28.2	40	135				S
Acrolein	177.700	20	250.0	0	71.1	75	125				S
Acrylonitrile	205.470	20	250.0	0	82.2	75	125				
Benzene	23.890	1.0	25.00	0	95.6	81	122				
Bromobenzene	25.260	1.0	25.00	0	101	76	124				
Bromochloromethane	24.100	1.0	25.00	0	96.4	65	129				
Bromodichloromethane	20.810	1.0	25.00	0	83.2	76	121				
Bromoform	19.910	1.0	25.00	0	79.6	69	128				
Bromomethane	23.700	1.0	25.00	0	94.8	53	141				
Carbon disulfide	21.020	1.0	25.00	0	84.1	75	125				
Carbon tetrachloride	18.880	1.0	25.00	0	75.5	66	138				
Chlorobenzene	25.870	1.0	25.00	0	103	81	122				
Chloroethane	19.010	1.0	25.00	0	76.0	58	133				
Chloroform	23.640	1.0	25.00	0	94.6	69	128				
Chloromethane	21.630	1.0	25.00	0	86.5	56	131				
cis-1,2-Dichloroethene	24.560	1.0	25.00	0	98.2	72	126				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005596-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: ZZZZZZ	Batch ID: D11VW048	TestNo: EPA 8260B	Analysis Date: 4/5/2011	SeqNo: 1254369							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	21.970	1.0	25.00	0	87.9	69	131				
Dibromochloromethane	22.410	1.0	25.00	0	89.6	66	133				
Dibromomethane	22.790	1.0	25.00	0	91.2	76	125				
Dichlorodifluoromethane	22.380	1.0	25.00	0	89.5	53	153				
Ethylbenzene	25.680	1.0	25.00	0	103	73	127				
Freon-113	20.490	1.0	25.00	0	82.0	75	125				
Hexachlorobutadiene	28.830	1.0	25.00	0	115	67	131				
Isopropylbenzene	26.480	1.0	25.00	0	106	75	127				
m,p-Xylene	51.410	1.0	50.00	0	103	76	128				
Methylene chloride	21.430	5.0	25.00	0	85.7	63	137				
MTBE	21.580	1.0	25.00	0	86.3	65	123				
n-Butylbenzene	27.930	1.0	25.00	0	112	69	137				
n-Propylbenzene	25.960	1.0	25.00	0	104	72	129				
Naphthalene	22.250	1.0	25.00	0	89.0	54	138				
o-Xylene	24.830	1.0	25.00	0	99.3	80	121				
sec-Butylbenzene	26.410	1.0	25.00	0	106	72	127				
Styrene	19.280	1.0	25.00	0	77.1	65	134				
tert-Butylbenzene	25.950	1.0	25.00	0	104	70	129				
Tetrachloroethene	26.980	1.0	25.00	0	108	66	128				
Toluene	23.740	2.5	25.00	0	95.0	77	122				
trans-1,2-Dichloroethene	23.810	1.0	25.00	0	95.2	63	137				
trans-1,3-Dichloropropene	20.670	1.0	25.00	0	82.7	59	135				
Trichloroethene	23.820	1.0	25.00	0	95.3	70	127				
Trichlorofluoromethane	22.750	1.0	25.00	0	91.0	57	129				
Vinyl chloride	19.840	1.0	25.00	0	79.4	50	134				
Xylenes, Total	76.240	2.0	75.00	0	102	75	125				
Surr: 1,2-Dichloroethane-d4	21.370		25.00		85.5	72	119				
Surr: 4-Bromofluorobenzene	25.150		25.00		101	76	119				
Surr: Dibromofluoromethane	24.650		25.00		98.6	85	115				
Surr: Toluene-d8	24.500		25.00		98.0	81	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPG

Sample ID: N005596-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: ZZZZZZ	Batch ID: D11VW048	TestNo: EPA 8260B	Analysis Date: 4/5/2011	SeqNo: 1254370							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	25.840	1.0	25.00	0	103	81	129	25.49	1.36	20	
1,1,1-Trichloroethane	19.300	1.0	25.00	0	77.2	67	132	18.80	2.62	20	
1,1,2,2-Tetrachloroethane	21.130	1.0	25.00	0	84.5	63	128	20.83	1.43	20	
1,1,2-Trichloroethane	22.210	1.0	25.00	0	88.8	75	125	22.66	2.01	20	
1,1-Dichloroethane	22.890	1.0	25.00	0	91.6	69	133	22.71	0.789	20	
1,1-Dichloroethene	24.260	1.0	25.00	0	97.0	68	130	24.10	0.662	20	
1,1-Dichloropropene	22.670	1.0	25.00	0	90.7	73	132	21.96	3.18	20	
1,2,3-Trichlorobenzene	27.310	1.0	25.00	0	109	67	137	26.70	2.26	20	
1,2,3-Trichloropropane	19.760	1.0	25.00	0	79.0	73	124	20.00	1.21	20	
1,2,4-Trichlorobenzene	28.830	1.0	25.00	0	115	66	134	28.16	2.35	20	
1,2,4-Trimethylbenzene	19.660	1.0	25.00	0	78.6	74	132	24.05	20.1	20	R
1,2-Dibromo-3-chloropropane	19.560	2.0	25.00	0	78.2	50	132	19.99	2.17	20	
1,2-Dibromoethane	21.810	1.0	25.00	0	87.2	80	121	21.89	0.366	20	
1,2-Dichlorobenzene	25.670	1.0	25.00	0	103	71	122	25.40	1.06	20	
1,2-Dichloroethane	21.710	1.0	25.00	0	86.8	69	132	22.12	1.87	20	
1,2-Dichloropropane	22.230	1.0	25.00	0	88.9	75	125	22.45	0.985	20	
1,3,5-Trimethylbenzene	24.080	1.0	25.00	0	96.3	74	131	25.22	4.62	20	
1,3-Dichlorobenzene	26.660	1.0	25.00	0	107	75	124	26.28	1.44	20	
1,3-Dichloropropane	23.220	1.0	25.00	0	92.9	73	126	23.93	3.01	20	
1,4-Dichlorobenzene	26.410	1.0	25.00	0	106	74	123	25.74	2.57	20	
2,2-Dichloropropane	17.240	1.0	25.00	0	69.0	69	137	17.31	0.405	20	S
2-Butanone	85.810	10	250.0	0	34.3	49	136	90.89	5.75	20	S
2-Chlorotoluene	26.340	1.0	25.00	0	105	73	126	26.07	1.03	20	
4-Chlorotoluene	25.750	1.0	25.00	0	103	74	128	25.51	0.936	20	
4-Isopropyltoluene	26.580	1.0	25.00	0	106	73	130	26.76	0.675	20	
4-Methyl-2-pentanone	183.630	10	250.0	0	73.5	58	134	193.0	4.98	20	
Acetone	60.380	10	250.0	0	24.2	40	135	70.62	15.6	20	S
Acrolein	158.260	20	250.0	0	63.3	75	125	177.7	11.6	20	S
Acrylonitrile	190.140	20	250.0	0	76.1	75	125	205.5	7.75	20	
Benzene	24.080	1.0	25.00	0	96.3	81	122	23.89	0.792	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

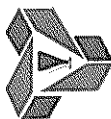
Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691



CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005596-001EMSD		SampType: MSD		TestCode: 8260_WP_LL		Units: ug/L		Prep Date:		RunNo: 79589	
Client ID: ZZZZZZ		Batch ID: D11VW048		TestNo: EPA 8260B				Analysis Date: 4/5/2011		SeqNo: 1254370	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	25.570	1.0	25.00	0	102	76	124	25.26	1.22	20	
Bromochloromethane	23.680	1.0	25.00	0	94.7	65	129	24.10	1.76	20	
Bromodichloromethane	20.490	1.0	25.00	0	82.0	76	121	20.81	1.55	20	
Bromoform	20.270	1.0	25.00	0	81.1	69	128	19.91	1.79	20	
Bromomethane	24.000	1.0	25.00	0	96.0	53	141	23.70	1.26	20	
Carbon disulfide	21.460	1.0	25.00	0	85.8	75	125	21.02	2.07	20	
Carbon tetrachloride	19.560	1.0	25.00	0	78.2	66	138	18.88	3.54	20	
Chlorobenzene	26.150	1.0	25.00	0	105	81	122	25.87	1.08	20	
Chloroethane	18.780	1.0	25.00	0	75.1	58	133	19.01	1.22	20	
Chloroform	23.670	1.0	25.00	0	94.7	69	128	23.64	0.127	20	
Chloromethane	22.280	1.0	25.00	0	89.1	56	131	21.63	2.96	20	
cis-1,2-Dichloroethene	25.010	1.0	25.00	0	100	72	126	24.56	1.82	20	
cis-1,3-Dichloropropene	21.760	1.0	25.00	0	87.0	69	131	21.97	0.960	20	
Dibromochloromethane	22.060	1.0	25.00	0	88.2	66	133	22.41	1.57	20	
Dibromomethane	21.980	1.0	25.00	0	87.9	76	125	22.79	3.62	20	
Dichlorodifluoromethane	23.180	1.0	25.00	0	92.7	53	153	22.38	3.51	20	
Ethylbenzene	25.780	1.0	25.00	0	103	73	127	25.68	0.389	20	
Freon-113	21.060	1.0	25.00	0	84.2	75	125	20.49	2.74	20	
Hexachlorobutadiene	29.580	1.0	25.00	0	118	67	131	28.83	2.57	20	
Isopropylbenzene	26.360	1.0	25.00	0	105	75	127	26.48	0.454	20	
m,p-Xylene	51.060	1.0	50.00	0	102	76	128	51.41	0.683	20	
Methylene chloride	21.760	5.0	25.00	0	87.0	63	137	21.43	1.53	20	
MTBE	20.600	1.0	25.00	0	82.4	65	123	21.58	4.65	20	
n-Butylbenzene	28.200	1.0	25.00	0	113	69	137	27.93	0.962	20	
n-Propylbenzene	26.360	1.0	25.00	0	105	72	129	25.96	1.53	20	
Naphthalene	21.170	1.0	25.00	0	84.7	54	138	22.25	4.97	20	
o-Xylene	24.840	1.0	25.00	0	99.4	80	121	24.83	0.0403	20	
sec-Butylbenzene	26.880	1.0	25.00	0	108	72	127	26.41	1.76	20	
Styrene	13.010	1.0	25.00	0	52.0	65	134	19.28	38.8	20	SR
tert-Butylbenzene	26.260	1.0	25.00	0	105	70	129	25.95	1.19	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005596-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: ZZZZZZ	Batch ID: D11VW048	TestNo: EPA 8260B		Analysis Date: 4/5/2011	SeqNo: 1254370						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	27.570	1.0	25.00	0	110	66	128	26.98	2.16	20	
Toluene	23.980	2.5	25.00	0	95.9	77	122	23.74	1.01	20	
trans-1,2-Dichloroethene	24.680	1.0	25.00	0	98.7	63	137	23.81	3.59	20	
trans-1,3-Dichloropropene	19.990	1.0	25.00	0	80.0	59	135	20.67	3.34	20	
Trichloroethene	24.360	1.0	25.00	0	97.4	70	127	23.82	2.24	20	
Trichlorofluoromethane	22.650	1.0	25.00	0	90.6	57	129	22.75	0.441	20	
Vinyl chloride	20.340	1.0	25.00	0	81.4	50	134	19.84	2.49	20	
Xylenes, Total	75.900	2.0	75.00	0	101	75	125	76.24	0.447	20	
Surr: 1,2-Dichloroethane-d4	21.000		25.00		84.0	72	119		0		
Surr: 4-Bromofluorobenzene	25.240		25.00		101	76	119		0		
Surr: Dibromofluoromethane	24.870		25.00		99.5	85	115		0		
Surr: Toluene-d8	24.850		25.00		99.4	81	120		0		

Sample ID: D110405MB2	SampType: MBLK	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: PBW	Batch ID: D11VW048	TestNo: EPA 8260B		Analysis Date: 4/5/2011	SeqNo: 1254371						
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: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

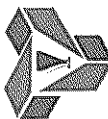
Sample ID: D110405MB2		SampType: MBLK		TestCode: 8260_WP_LL Units: ug/L		Prep Date:		RunNo: 79589			
Client ID: PBW		Batch ID: D11VW048		TestNo: EPA 8260B		Analysis Date: 4/5/2011		SeqNo: 1254371			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	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	1.100	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
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CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPG

Sample ID: D110405MB2	SampType: MBLK	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79589						
Client ID: PBW	Batch ID: D11VW048	TestNo: EPA 8260B	Analysis Date: 4/5/2011	SeqNo: 1254371							
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	0.370	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									
Tetrachloroethene	ND	1.0									
Toluene	ND	2.5									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-Dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 1,2-Dichloroethane-d4	21.780		25.00		87.1	72	119				
Surr: 4-Bromofluorobenzene	27.050		25.00		108	76	119				
Surr: Dibromofluoromethane	23.440		25.00		93.8	85	115				
Surr: Toluene-d8	27.250		25.00		109	81	120				

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
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Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691

COC Number

TURNAROUND TIME

DATE 4-4-1

PAGE 1 OF 1

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PAGE 1 OF

[illegible]

SPECIAL REQUIREMENTS:

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.

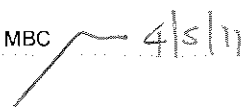
If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Sample Receipt Checklist

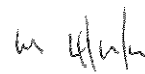
Cooler Received/Opened On: 4/4/2011 Workorder: N005596
 Rep sample Temp (Deg C): 2.2 IR Gun ID: 1
 Temp Blank: ☐ Yes ☒ No
 Carrier name: ATL
 Last 4 digits of Tracking No.: na Packing Material Used: Bubble Wrap
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

1. Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present
2. Custody seals intact, signed, dated on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
3. Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
4. Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
5. Sampler's name present in COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
6. Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
7. Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
8. Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
9. Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
10. Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
11. All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA
13. Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA
15. Did the bottle labels indicate correct preservatives used?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA
16. Were there Non-Conformance issues at login?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Was Client notified?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Comments:

Checklist Completed By: MBC 

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 **N005596-001C**, TDS concentration in mg/L is calculated as follows:

$$\begin{aligned} \text{TDS, mg/L} &= \frac{(15.7022 - 15.6460) * 1000000}{10} \\ &= 5620 \text{ mg/L} \end{aligned}$$

Reporting result in two significant figures,

$$\text{TDS} = 5600 \text{ mg/L}$$



Sample Calculation

METHOD: EPA 218.6

TEST NAME: HEXAVALENT CHROMIUM BY IC

MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in $\mu\text{g/L}$, in the original sample as follows:

$$\text{Cr}^{+6}, \mu\text{g/L} = A * \text{DF}$$

where:

A = $\mu\text{g/L}$, IC Cr^{+6} calculated concentration

DF = dilution factor

For N005596-001A, concentration in $\mu\text{g/L}$ is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 10.148645 * 10 \\ &= 101.48645 \mu\text{g/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 100$$

Autish

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:

$$\text{Chloride, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005596-001C**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Chloride, mg/L} &= 5.870 * 500 \\ &= 2935 \text{ mg/L}\end{aligned}$$

Reporting **N005596-001C**, results in two significant figures,

$$\text{Chloride, mg/L} = 2900 \text{ mg/L}$$

Amish

SAMPLE CALCULATION

METHOD: EPA 6010B

TEST NAME: METALS BY ICP

MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in mg/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A \cdot C \cdot DF \cdot 1000}{B}$$

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 N005596-001B, concentration in ug/L are calculated as follows:

$$Cr, \text{ ug/L} = \frac{0.05329 \text{ mg/L} \cdot 0.025 \text{ L} \cdot 2 \cdot 1000}{0.025 \text{ L}}$$

$$Cr = 106.58 \text{ ug/L}$$

Reporting result in two significant figures,

$$Cr = 110 \text{ ug/L}$$

76- 4/7/2011 ✓

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 4/5/2011
 Digestion Date: 4/5/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: Water
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005596-001B
 Batch # : 36608

Analyte	A	B	Difference	% D
Chromium	106.6	101.476	5.12400	4.8

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

CLIENT: CH2M HILL

Work Order: N005596

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005596-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79601						
Client ID: ZZZZZZ	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	101.476	10						106.6	4.90	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: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005596-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79601						
Client ID: ZZZZZZ	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254722						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1073.103	2.0	1000	105.6	96.7	75	125				

Sample ID: N005596-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79601						
Client ID: ZZZZZZ	Batch ID: 36608	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254723						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2596.341	5.0	2500	105.6	99.6	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:

$$\text{Arsenic, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005596-001B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 1.615 * 1 * (1) \\ &= 1.615 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 1.6$$



Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005596
 Test Method: EPA 6020
 Analysis Date: 04/05/11

Dilution Test Summary

Matrix: Aqueous
 Batch No.: 36604

Instrument ID: ICP-MS #2
 Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005527-001B-DT 5X	Arsenic	ug/L	13.33476585		13.08932824	1.88%	10

9
4/12/11

CLIENT: CH2M HILL
Work Order: N005596
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: N005594-001B-PS 2	SampType: PS	TestCode: 6020_WD_As	Units: ug/L	Prep Date:	RunNo: 79594						
Client ID: ZZZZZZ	Batch ID: 36604	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/5/2011	SeqNo: 1254555						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	32.864	0.20	20.00	13.09	98.9	75	125				

Handwritten signature

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
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 8260B

TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS

MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_x, \text{ug/L} = \frac{A_x * C_{IS}}{\text{Ave RF} * A_{IS}}$$

where:

A_x = Area of the TOTAL ion for the compound being measured

C_{IS} = Concentration of the specific internal standard in ug/L

A_{IS} = Area of the characteristic ion of the specific internal standard

C_x = Concentration of the compound being measured in ug/L

N005596-001E

For Dibromofluoromethane the corresponding Internal Standard is Pentafluorobenzene

Ave RF	0.391
Area of Dibromofluoromethane	180075
Area of Internal Standard	502536
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of Dibromofluoromethane (ug/L)} = \frac{180075 * 25.00 \text{ug/L}}{0.391 * 502536}$$

$$\text{Conc of Dibromofluoromethane (ug/L)} = 22.91128756$$

Reporting result in three significant figures,

Concentration of Dibromofluoromethane = 22.9 ug/L

Auth

May 03, 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.: N005635

RE: PG&E Topock

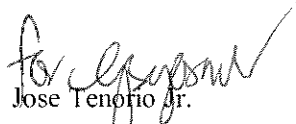
Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on April 13, 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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N005635

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 5310C :

Matrix Spike(MS) and Matrix Spike Duplicate(MSD) were not performed due to limited sample. LCS/LCSD was used instead to measure precision.

Analytical Comments for EPA 8260B:

Acetone recovery biased high on Laboratory Control Sample (LCS). Sample results were non-detect (ND) for this analyte therefore reanalysis of the sample was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N005635-001EMS, N005635-001EMSD and N005636-009AMS 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 2-Butanone, Acetone, Acrolein, Acrylonitrile and Styrene ; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



Advanced Technology Laboratories, Inc.**Date:** 03-May-11

CLIENT: CH2M HILL
Project: PG&E Topock
Lab Order: N005635

Work Order Sample Summary**Contract No:**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005635-001A	MW-64BR-UPR-150-176	Water	4/12/2011 2:47:00 PM	4/13/2011	
N005635-001B	MW-64BR-UPR-150-176	Water	4/12/2011 2:47:00 PM	4/13/2011	
N005635-001C	MW-64BR-UPR-150-176	Water	4/12/2011 2:47:00 PM	4/13/2011	
N005635-001D	MW-64BR-UPR-150-176	Water	4/12/2011 2:47:00 PM	4/13/2011	
N005635-001E	MW-64BR-UPR-150-176	Water	4/12/2011 2:47:00 PM	4/13/2011	
N005635-002A	TB-Packer-176-03	Water	4/12/2011 1:00:00 PM	4/13/2011	



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 03-May-11

CLIENT: CH2M HILL
Lab Order: N005635
Project: PG&E Topock
Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
Collection Date: 4/12/2011 2:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE**SM2540C**

RunID: WETCHEM_110414D	QC Batch: 36676					PrepDate: 4/14/2011	Analyst: CEI
Total Dissolved Solids (Residue, Filterable)	7800	100	100		mg/L	1	4/14/2011

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 Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL

Work Order: N005635

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: MB-36676	SampType: MBLK	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/14/2011	RunNo: 79708						
Client ID: PBW	Batch ID: 36676	TestNo: SM2540C		Analysis Date: 4/14/2011	SeqNo: 1257792						
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-36676	SampType: LCS	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/14/2011	RunNo: 79708						
Client ID: LCSW	Batch ID: 36676	TestNo: SM2540C		Analysis Date: 4/14/2011	SeqNo: 1257793						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	934.000	10	1000	0	93.4	80	120				

Sample ID: N005635-001C-DUP	SampType: DUP	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 4/14/2011	RunNo: 79708						
Client ID: ZZZZZZ	Batch ID: 36676	TestNo: SM2540C		Analysis Date: 4/14/2011	SeqNo: 1257796						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	7590.000	100						7830	3.11	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: 03-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-64BR-UPR-150-176

Lab Order: N005635

Collection Date: 4/12/2011 2:47:00 PM

Project: PG&E Topock

Matrix: WATER

Lab ID: N005635-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: IC1_110418A	QC Batch: R79728		PrepDate:		Analyst: QBM		
Hexavalent Chromium	130	0.28	2.0	ug/L	10	4/18/2011 11:53 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

Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: MB-R79728	SampType: MBLK	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79728						
Client ID: PBW	Batch ID: R79728	TestNo: EPA 218.6	Analysis Date: 4/18/2011	SeqNo: 1258232							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.20
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Sample ID: LCS-R79728	SampType: LCS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79728						
Client ID: LCSW	Batch ID: R79728	TestNo: EPA 218.6		Analysis Date: 4/18/2011	SeqNo: 1258233						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110
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Sample ID: N005651-001ADUP	SampType: DUP	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79728						
Client ID: ZZZZZZ	Batch ID: R79728	TestNo: EPA 218.6		Analysis Date: 4/18/2011	SeqNo: 1258235						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	7140.850	200						6955	2.63	20
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Sample ID: N005651-001AMS	SampType: MS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79728						
Client ID: ZZZZZZ	Batch ID: R79728	TestNo: EPA 218.6		Analysis Date: 4/18/2011	SeqNo: 1258236						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	11955.094	200	5000	6955	100	90	110
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Sample ID: N005651-001AMSD	SampType: MSD	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79728						
Client ID: ZZZZZZ	Batch ID: R79728	TestNo: EPA 218.6		Analysis Date: 4/18/2011	SeqNo: 1258237						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	11902.023	200	5000	6955	98.9	90	110	11960	0.445	20
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Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			

Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691



CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: N005635-001AMS		SampType: MS		TestCode: 218.6_WPGE		Units: ug/L		Prep Date:		RunNo: 79728	
Client ID: ZZZZZZ		Batch ID: R79728		TestNo: EPA 218.6		Analysis Date: 4/18/2011		SeqNo: 1258314			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	183.381	2.0	50.00	134.0	98.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 03-May-11

CLIENT: CH2M HILL
Lab Order: N005635
Project: PG&E Topock
Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
Collection Date: 4/12/2011 2:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110414A	QC Batch: R79801				PrepDate:		Analyst: QBM
Chloride	3500	63	500	mg/L	1000	4/14/2011 09:59 AM	

ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110414A	QC Batch: R79801				PrepDate:		Analyst: QBM
Nitrate as N	3.4	0.022	1.0	mg/L	2	4/14/2011 10:44 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



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL

Work Order: N005635

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: MB-R79801_CL	SampType: MBLK	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79801						
Client ID: PBW	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260380						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	ND	0.50									
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Sample ID: LCS-R79801_CL	SampType: LCS	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79801						
Client ID: LCSW	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260381						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	2.366	0.50	2.500	0	94.6	90	110				
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Sample ID: N005635-001CDUP	SampType: DUP	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79801						
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260383						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	3583.000	500						3536	1.32	20	
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Sample ID: N005635-001CMS	SampType: MS	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79801						
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260384						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	6045.000	500	2500	3536	100	80	120				
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Sample ID: N005635-001CMSD	SampType: MSD	TestCode: 300_W_CLP	Units: mg/L	Prep Date:	RunNo: 79801						
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260385						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	6062.000	500	2500	3536	101	80	120	6045	0.281	20	
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Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R79801_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79801
Client ID: PBW	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260390
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate as N	ND	0.50			
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Sample ID: LCS-R79801_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79801
Client ID: LCSW	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260391
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate as N	2.399	0.50	2.500	0	96.0 90 110
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Sample ID: N005635-001CDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79801
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260393
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate as N	3.538	1.0			3.430 3.10 20
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Sample ID: N005635-001CMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79801
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260394
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate as N	8.552	1.0	5.000	3.430	102 80 120
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Sample ID: N005635-001CMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 79801
Client ID: ZZZZZZ	Batch ID: R79801	TestNo: EPA 300.0		Analysis Date: 4/14/2011	SeqNo: 1260395
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate as N	8.578	1.0	5.000	3.430	103 80 120 8.552 0.304 20
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Qualifiers:

B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit	R RPD outside accepted recovery limits	S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out	Calculations are based on raw values	

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 03-May-11

CLIENT: CH2M HILL
Lab Order: N005635
Project: PG&E Topock
Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
Collection Date: 4/12/2011 2:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			EPA 6010B			
RunID: ICP1_110419A	QC Batch: 36699			PrepDate: 4/15/2011		Analyst: KAB	
Chromium	140	0.22	1.0	ug/L	1	4/19/2011 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



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL

Work Order: N005635

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36699	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/15/2011	RunNo: 79743						
Client ID: PBW	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258660						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	ND	1.0									
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Sample ID: LCS-36699	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/15/2011	RunNo: 79743						
Client ID: LCSW	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	459.957	1.0	500.0	0	92.0	85	115				
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Sample ID: N005635-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/15/2011	RunNo: 79743						
Client ID: ZZZZZZ	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258664						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	604.616	1.0	500.0	138.6	93.2	75	125				
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Sample ID: N005635-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 4/15/2011	RunNo: 79743						
Client ID: ZZZZZZ	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258665						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium	605.604	1.0	500.0	138.6	93.4	75	125	604.6	0.163	20	
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Qualifiers:

B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 DO Surrogate Diluted Out

E Value above quantitation range
 R RPD outside accepted recovery limits
 Calculations are based on raw values

H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 03-May-11

CLIENT: CH2M HILL
Lab Order: N005635
Project: PG&E Topock
Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
Collection Date: 4/12/2011 2:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110418B	QC Batch: 36710			PrepDate: 4/18/2011 Analyst: JT			
Arsenic	3.1	0.0025	0.10	ug/L	1	4/19/2011 12:53 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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Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: MB-36710	SampType: MBLK	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/18/2011	RunNo: 79740						
Client ID: PBW	Batch ID: 36710	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/18/2011	SeqNo: 1260559						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.029	0.10									
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Sample ID: LCS-36710	SampType: LCS	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/18/2011	RunNo: 79740						
Client ID: LCSW	Batch ID: 36710	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/18/2011	SeqNo: 1260560						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.288	0.10	10.00	0.02900	103	85	115				
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Sample ID: N005651-001B-MS	SampType: MS	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/18/2011	RunNo: 79740						
Client ID: ZZZZZZ	Batch ID: 36710	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1260571						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	15.357	0.10	10.00	5.660	97.0	75	125				
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Sample ID: N005651-001B-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: ug/L	Prep Date: 4/18/2011	RunNo: 79740						
Client ID: ZZZZZZ	Batch ID: 36710	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1260572						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	15.249	0.10	10.00	5.660	95.9	75	125	15.36	0.708	20	
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Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			

Advanced Technology
Laboratories, Inc

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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 03-May-11

CLIENT: CH2M HILL
 Lab Order: N005635
 Project: PG&E Topock
 Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
 Collection Date: 4/12/2011 2:47:00 PM
 Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS1_110415B	QC Batch: D11VW051	PrepDate:	Analyst: QBM			
1,1,1,2-Tetrachloroethane	ND	0.061	1.0	ug/L	1	4/15/2011 03:40 PM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	4/15/2011 03:40 PM
1,1,2,2-Tetrachloroethane	ND	0.054	1.0	ug/L	1	4/15/2011 03:40 PM
1,1,2-Trichloroethane	ND	0.083	1.0	ug/L	1	4/15/2011 03:40 PM
1,1-Dichloroethane	ND	0.099	1.0	ug/L	1	4/15/2011 03:40 PM
1,1-Dichloroethene	ND	0.094	1.0	ug/L	1	4/15/2011 03:40 PM
1,1-Dichloropropene	ND	0.082	1.0	ug/L	1	4/15/2011 03:40 PM
1,2,3-Trichlorobenzene	ND	0.10	1.0	ug/L	1	4/15/2011 03:40 PM
1,2,3-Trichloropropane	ND	0.12	1.0	ug/L	1	4/15/2011 03:40 PM
1,2,4-Trichlorobenzene	ND	0.12	1.0	ug/L	1	4/15/2011 03:40 PM
1,2,4-Trimethylbenzene	ND	0.095	1.0	ug/L	1	4/15/2011 03:40 PM
1,2-Dibromo-3-chloropropane	ND	0.15	2.0	ug/L	1	4/15/2011 03:40 PM
1,2-Dibromoethane	ND	0.14	1.0	ug/L	1	4/15/2011 03:40 PM
1,2-Dichlorobenzene	ND	0.070	1.0	ug/L	1	4/15/2011 03:40 PM
1,2-Dichloroethane	ND	0.17	1.0	ug/L	1	4/15/2011 03:40 PM
1,2-Dichloropropane	ND	0.085	1.0	ug/L	1	4/15/2011 03:40 PM
1,3,5-Trimethylbenzene	ND	0.087	1.0	ug/L	1	4/15/2011 03:40 PM
1,3-Dichlorobenzene	ND	0.090	1.0	ug/L	1	4/15/2011 03:40 PM
1,3-Dichloropropane	ND	0.074	1.0	ug/L	1	4/15/2011 03:40 PM
1,4-Dichlorobenzene	ND	0.092	1.0	ug/L	1	4/15/2011 03:40 PM
2,2-Dichloropropane	ND	0.061	1.0	ug/L	1	4/15/2011 03:40 PM
2-Butanone	ND	1.0	10	ug/L	1	4/15/2011 03:40 PM
2-Chlorotoluene	ND	0.080	1.0	ug/L	1	4/15/2011 03:40 PM
4-Chlorotoluene	ND	0.10	1.0	ug/L	1	4/15/2011 03:40 PM
4-Isopropyltoluene	ND	0.080	1.0	ug/L	1	4/15/2011 03:40 PM
4-Methyl-2-pentanone	ND	0.76	10	ug/L	1	4/15/2011 03:40 PM
Acetone	ND	1.6	10	ug/L	1	4/15/2011 03:40 PM
Acrolein	ND	4.3	20	ug/L	1	4/15/2011 03:40 PM
Acrylonitrile	ND	0.61	20	ug/L	1	4/15/2011 03:40 PM
Benzene	ND	0.075	1.0	ug/L	1	4/15/2011 03:40 PM
Bromobenzene	ND	0.082	1.0	ug/L	1	4/15/2011 03:40 PM
Bromochloromethane	ND	0.15	1.0	ug/L	1	4/15/2011 03:40 PM
Bromodichloromethane	ND	0.063	1.0	ug/L	1	4/15/2011 03:40 PM
Bromoform	ND	0.086	1.0	ug/L	1	4/15/2011 03:40 PM
Bromomethane	ND	0.13	1.0	ug/L	1	4/15/2011 03:40 PM
Carbon disulfide	1.1	0.054	1.0	ug/L	1	4/15/2011 03:40 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



Advanced Technology
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3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 03-May-11

CLIENT: CH2M HILL
Lab Order: N005635
Project: PG&E Topock
Lab ID: N005635-001

Client Sample ID: MW-64BR-UPR-150-176
Collection Date: 4/12/2011 2:47:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: MS1_110415B	QC Batch: D11VW051				PrepDate:		Analyst: QBM
Carbon tetrachloride	ND	0.10	1.0	ug/L	1	4/15/2011 03:40 PM	
Chlorobenzene	ND	0.092	1.0	ug/L	1	4/15/2011 03:40 PM	
Chloroethane	ND	0.14	1.0	ug/L	1	4/15/2011 03:40 PM	
Chloroform	ND	0.058	1.0	ug/L	1	4/15/2011 03:40 PM	
Chloromethane	ND	0.054	1.0	ug/L	1	4/15/2011 03:40 PM	
cis-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	4/15/2011 03:40 PM	
cis-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/15/2011 03:40 PM	
Dibromochloromethane	ND	0.061	1.0	ug/L	1	4/15/2011 03:40 PM	
Dibromomethane	ND	0.15	1.0	ug/L	1	4/15/2011 03:40 PM	
Dichlorodifluoromethane	ND	0.12	1.0	ug/L	1	4/15/2011 03:40 PM	
Ethylbenzene	ND	0.051	1.0	ug/L	1	4/15/2011 03:40 PM	
Freon-113	ND	0.080	1.0	ug/L	1	4/15/2011 03:40 PM	
Hexachlorobutadiene	ND	0.17	1.0	ug/L	1	4/15/2011 03:40 PM	
Isopropylbenzene	ND	0.057	1.0	ug/L	1	4/15/2011 03:40 PM	
m,p-Xylene	ND	0.17	1.0	ug/L	1	4/15/2011 03:40 PM	
Methylene chloride	ND	0.10	5.0	ug/L	1	4/15/2011 03:40 PM	
MTBE	ND	0.089	1.0	ug/L	1	4/15/2011 03:40 PM	
n-Butylbenzene	ND	0.082	1.0	ug/L	1	4/15/2011 03:40 PM	
n-Propylbenzene	ND	0.087	1.0	ug/L	1	4/15/2011 03:40 PM	
Naphthalene	ND	0.056	1.0	ug/L	1	4/15/2011 03:40 PM	
o-Xylene	ND	0.077	1.0	ug/L	1	4/15/2011 03:40 PM	
sec-Butylbenzene	ND	0.098	1.0	ug/L	1	4/15/2011 03:40 PM	
Styrene	ND	0.072	1.0	ug/L	1	4/15/2011 03:40 PM	
tert-Butylbenzene	ND	0.062	1.0	ug/L	1	4/15/2011 03:40 PM	
Tetrachloroethene	ND	0.13	1.0	ug/L	1	4/15/2011 03:40 PM	
Toluene	58	0.12	2.5	ug/L	1	4/15/2011 03:40 PM	
trans-1,2-Dichloroethene	ND	0.094	1.0	ug/L	1	4/15/2011 03:40 PM	
trans-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/15/2011 03:40 PM	
Trichloroethene	ND	0.060	1.0	ug/L	1	4/15/2011 03:40 PM	
Trichlorofluoromethane	ND	0.097	1.0	ug/L	1	4/15/2011 03:40 PM	
Vinyl chloride	ND	0.12	1.0	ug/L	1	4/15/2011 03:40 PM	
Xylenes, Total	ND	1.5	2.0	ug/L	1	4/15/2011 03:40 PM	
Surr: 1,2-Dichloroethane-d4	83.8	0	72-119	%REC	1	4/15/2011 03:40 PM	
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	4/15/2011 03:40 PM	
Surr: Dibromofluoromethane	90.3	0	85-115	%REC	1	4/15/2011 03:40 PM	
Surr: Toluene-d8	111	0	81-120	%REC	1	4/15/2011 03:40 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



Advanced Technology
Laboratories, Inc

3151 W. Post Road Las Vegas, NV 89118 Tel: 702 307-2659 Fax: 702 307-2691



Advanced Technology Laboratories, Inc.

Date: 03-May-11

CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110415LCS		SampType: LCS		TestCode: 8260_WP_LL		Units: ug/L		Prep Date:		RunNo: 79750	
Client ID: LCSW		Batch ID: D11VW051		TestNo: EPA 8260B		Analysis Date: 4/15/2011		SeqNo: 1258745			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	24.690	1.0	25.00	0	98.8	81	129				
1,1,1-Trichloroethane	20.130	1.0	25.00	0	80.5	67	132				
1,1,2,2-Tetrachloroethane	26.320	1.0	25.00	0	105	63	128				
1,1,2-Trichloroethane	25.630	1.0	25.00	0	103	75	125				
1,1-Dichloroethane	25.810	1.0	25.00	0	103	69	133				
1,1-Dichloroethene	26.090	1.0	25.00	0	104	68	130				
1,1-Dichloropropene	23.640	1.0	25.00	0	94.6	73	132				
1,2,3-Trichlorobenzene	28.310	1.0	25.00	0	113	67	137				
1,2,3-Trichloropropane	25.480	1.0	25.00	0	102	73	124				
1,2,4-Trichlorobenzene	28.390	1.0	25.00	0	114	66	134				
1,2,4-Trimethylbenzene	27.540	1.0	25.00	0	110	74	132				
1,2-Dibromo-3-chloropropane	23.750	2.0	25.00	0	95.0	50	132				
1,2-Dibromoethane	25.810	1.0	25.00	0	103	80	121				
1,2-Dichlorobenzene	26.530	1.0	25.00	0	106	71	122				
1,2-Dichloroethane	24.710	1.0	25.00	0	98.8	69	132				
1,2-Dichloropropane	24.390	1.0	25.00	0	97.6	75	125				
1,3,5-Trimethylbenzene	26.690	1.0	25.00	0	107	74	131				
1,3-Dichlorobenzene	26.710	1.0	25.00	0	107	75	124				
1,3-Dichloropropane	25.670	1.0	25.00	0	103	73	126				
1,4-Dichlorobenzene	26.310	1.0	25.00	0	105	74	123				
2,2-Dichloropropane	17.880	1.0	25.00	0	71.5	69	137				
2-Butanone	315.440	10	250.0	0	126	49	136				
2-Chlorotoluene	27.070	1.0	25.00	0	108	73	126				
4-Chlorotoluene	26.460	1.0	25.00	0	106	74	128				
4-Isopropyltoluene	27.260	1.0	25.00	0	109	73	130				
4-Methyl-2-pentanone	272.110	10	250.0	0	109	58	134				
Acetone	361.220	10	250.0	0	144	40	135				S
Acrolein	252.210	20	250.0	0	101	75	125				
Acrylonitrile	299.470	20	250.0	0	120	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			

Advanced Technology
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Las Vegas, NV 89118

Tel: 702 307-2659

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CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110415LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: LCSW	Batch ID: D11VW051	TestNo: EPA 8260B	Analysis Date: 4/15/2011	SeqNo: 1258745							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.370	1.0	25.00	0	101	81	122				
Bromobenzene	25.880	1.0	25.00	0	104	76	124				
Bromochloromethane	26.200	1.0	25.00	0	105	65	129				
Bromodichloromethane	21.920	1.0	25.00	0	87.7	76	121				
Bromoform	23.490	1.0	25.00	0	94.0	69	128				
Bromomethane	34.770	1.0	25.00	0	139	53	141				
Carbon disulfide	22.980	1.0	25.00	0	91.9	75	125				
Carbon tetrachloride	18.880	1.0	25.00	0	75.5	66	138				
Chlorobenzene	26.080	1.0	25.00	0	104	81	122				
Chloroethane	25.910	1.0	25.00	0	104	58	133				
Chloroform	26.370	1.0	25.00	0	105	69	128				
Chloromethane	27.300	1.0	25.00	0	109	56	131				
cis-1,2-Dichloroethene	26.560	1.0	25.00	0	106	72	126				
cis-1,3-Dichloropropene	22.940	1.0	25.00	0	91.8	69	131				
Dibromochloromethane	23.750	1.0	25.00	0	95.0	66	133				
Dibromomethane	25.670	1.0	25.00	0	103	76	125				
Dichlorodifluoromethane	23.190	1.0	25.00	0	92.8	53	153				
Ethylbenzene	26.190	1.0	25.00	0	105	73	127				
Freon-113	23.080	1.0	25.00	0	92.3	75	125				
Hexachlorobutadiene	26.890	1.0	25.00	0	108	67	131				
Isopropylbenzene	26.520	1.0	25.00	0	106	75	127				
m,p-Xylene	52.990	1.0	50.00	0	106	76	128				
Methylene chloride	25.930	5.0	25.00	0	104	63	137				
MTBE	23.940	1.0	25.00	0	95.8	65	123				
n-Butylbenzene	28.970	1.0	25.00	0	116	69	137				
n-Propylbenzene	26.760	1.0	25.00	0	107	72	129				
Naphthalene	28.930	1.0	25.00	0	116	54	138				
o-Xylene	25.660	1.0	25.00	0	103	80	121				
sec-Butylbenzene	26.710	1.0	25.00	0	107	72	127				
Styrene	26.590	1.0	25.00	0	106	65	134				

Qualifiers:

B	Analyte detected in 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: N005635
 Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

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Sample ID: D110415LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: LCSW	Batch ID: D11VW051	TestNo: EPA 8260B		Analysis Date: 4/15/2011	SeqNo: 1258745						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

tert-Butylbenzene	25.810	1.0	25.00	0	103	70	129				
Tetrachloroethene	25.670	1.0	25.00	0	103	66	128				
Toluene	24.990	2.5	25.00	0	100	77	122				
trans-1,2-Dichloroethene	26.820	1.0	25.00	0	107	63	137				
trans-1,3-Dichloropropene	22.080	1.0	25.00	0	88.3	59	135				
Trichloroethene	24.030	1.0	25.00	0	96.1	70	127				
Trichlorofluoromethane	26.090	1.0	25.00	0	104	57	129				
Vinyl chloride	26.600	1.0	25.00	0	106	50	134				
Xylenes, Total	78.650	2.0	75.00	0	105	75	125				
Surr: 1,2-Dichloroethane-d4	25.410		25.00		102	72	119				
Surr: 4-Bromofluorobenzene	25.350		25.00		101	76	119				
Surr: Dibromofluoromethane	26.840		25.00		107	85	115				
Surr: Toluene-d8	25.430		25.00		102	81	120				

Sample ID: N005635-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B		Analysis Date: 4/15/2011	SeqNo: 1258746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	23.710	1.0	25.00	0	94.8	81	129				
1,1,1-Trichloroethane	18.770	1.0	25.00	0	75.1	67	132				
1,1,2,2-Tetrachloroethane	21.880	1.0	25.00	0	87.5	63	128				
1,1,2-Trichloroethane	20.960	1.0	25.00	0	83.8	75	125				
1,1-Dichloroethane	24.270	1.0	25.00	0	97.1	69	133				
1,1-Dichloroethene	24.470	1.0	25.00	0	97.9	68	130				
1,1-Dichloropropene	22.610	1.0	25.00	0	90.4	73	132				
1,2,3-Trichlorobenzene	25.760	1.0	25.00	0	103	67	137				
1,2,3-Trichloropropane	20.990	1.0	25.00	0	84.0	73	124				
1,2,4-Trichlorobenzene	27.440	1.0	25.00	0	110	66	134				
1,2,4-Trimethylbenzene	24.950	1.0	25.00	0	99.8	74	132				
1,2-Dibromo-3-chloropropane	17.890	2.0	25.00	0	71.6	50	132				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		



CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005635-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B	Analysis Date: 4/15/2011	SeqNo: 1258746							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	20.280	1.0	25.00	0	81.1	80	121				
1,2-Dichlorobenzene	25.400	1.0	25.00	0	102	71	122				
1,2-Dichloroethane	19.970	1.0	25.00	0	79.9	69	132				
1,2-Dichloropropane	22.240	1.0	25.00	0	89.0	75	125				
1,3,5-Trimethylbenzene	26.300	1.0	25.00	0	105	74	131				
1,3-Dichlorobenzene	26.590	1.0	25.00	0	106	75	124				
1,3-Dichloropropane	22.210	1.0	25.00	0	88.8	73	126				
1,4-Dichlorobenzene	26.070	1.0	25.00	0	104	74	123				
2,2-Dichloropropane	16.380	1.0	25.00	0	65.5	69	137				S
2-Butanone	84.550	10	250.0	0	33.8	49	136				S
2-Chlorotoluene	27.210	1.0	25.00	0	109	73	126				
4-Chlorotoluene	26.380	1.0	25.00	0	106	74	128				
4-Isopropyltoluene	27.360	1.0	25.00	0	109	73	130				
4-Methyl-2-pentanone	171.890	10	250.0	0	68.8	58	134				
Acetone	55.050	10	250.0	0	22.0	40	135				S
Acrolein	149.050	20	250.0	0	59.6	75	125				S
Acrylonitrile	181.830	20	250.0	0	72.7	75	125				S
Benzene	24.290	1.0	25.00	0	97.2	81	122				
Bromobenzene	25.210	1.0	25.00	0	101	76	124				
Bromochloromethane	22.200	1.0	25.00	0	88.8	65	129				
Bromodichloromethane	19.750	1.0	25.00	0	79.0	76	121				
Bromoform	19.760	1.0	25.00	0	79.0	69	128				
Bromomethane	32.810	1.0	25.00	0	131	53	141				
Carbon disulfide	23.560	1.0	25.00	1.110	89.8	75	125				
Carbon tetrachloride	17.850	1.0	25.00	0	71.4	66	138				
Chlorobenzene	25.570	1.0	25.00	0	102	81	122				
Chloroethane	24.820	1.0	25.00	0	99.3	58	133				
Chloroform	24.040	1.0	25.00	0	96.2	69	128				
Chloromethane	26.220	1.0	25.00	0	105	56	131				
cis-1,2-Dichloroethene	24.500	1.0	25.00	0	98.0	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

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CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005635-001EMS		SampType: MS		TestCode: 8260_WP_LL		Units: ug/L		Prep Date:		RunNo: 79750	
Client ID: ZZZZZZ		Batch ID: D11VW051		TestNo: EPA 8260B				Analysis Date: 4/15/2011		SeqNo: 1258746	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	20.260	1.0	25.00	0	81.0	69	131				
Dibromochloromethane	21.090	1.0	25.00	0	84.4	66	133				
Dibromomethane	20.560	1.0	25.00	0	82.2	76	125				
Dichlorodifluoromethane	22.040	1.0	25.00	0	88.2	53	153				
Ethylbenzene	26.070	1.0	25.00	0	104	73	127				
Freon-113	20.900	1.0	25.00	0	83.6	75	125				
Hexachlorobutadiene	27.400	1.0	25.00	0	110	67	131				
Isopropylbenzene	28.440	1.0	25.00	0	114	75	127				
m,p-Xylene	52.170	1.0	50.00	0	104	76	128				
Methylene chloride	23.230	5.0	25.00	0	92.9	63	137				
MTBE	19.090	1.0	25.00	0	76.4	65	123				
n-Butylbenzene	29.340	1.0	25.00	0	117	69	137				
n-Propylbenzene	27.140	1.0	25.00	0	109	72	129				
Naphthalene	22.600	1.0	25.00	0	90.4	54	138				
o-Xylene	25.130	1.0	25.00	0	101	80	121				
sec-Butylbenzene	27.080	1.0	25.00	0	108	72	127				
Styrene	20.830	1.0	25.00	0	83.3	65	134				
tert-Butylbenzene	26.410	1.0	25.00	0	106	70	129				
Tetrachloroethene	25.920	1.0	25.00	0	104	66	128				
Toluene	88.590	2.5	25.00	57.78	123	77	122				S
trans-1,2-Dichloroethene	24.400	1.0	25.00	0	97.6	63	137				
trans-1,3-Dichloropropene	18.580	1.0	25.00	0	74.3	59	135				
Trichloroethene	23.320	1.0	25.00	0	93.3	70	127				
Trichlorofluoromethane	24.850	1.0	25.00	0	99.4	57	129				
Vinyl chloride	24.950	1.0	25.00	0	99.8	50	134				
Xylenes, Total	77.300	2.0	75.00	0	103	75	125				
Surr: 1,2-Dichloroethane-d4	21.090		25.00		84.4	72	119				
Surr: 4-Bromofluorobenzene	24.800		25.00		99.2	76	119				
Surr: Dibromofluoromethane	24.660		25.00		98.6	85	115				
Surr: Toluene-d8	25.690		25.00		103	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		



CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005635-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B	Analysis Date: 4/15/2011	SeqNo: 1258747							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	23.800	1.0	25.00	0	95.2	81	129	23.71	0.379	20	
1,1,1-Trichloroethane	19.250	1.0	25.00	0	77.0	67	132	18.77	2.52	20	
1,1,2,2-Tetrachloroethane	21.650	1.0	25.00	0	86.6	63	128	21.88	1.06	20	
1,1,2-Trichloroethane	22.240	1.0	25.00	0	89.0	75	125	20.96	5.93	20	
1,1-Dichloroethane	24.510	1.0	25.00	0	98.0	69	133	24.27	0.984	20	
1,1-Dichloroethene	24.970	1.0	25.00	0	99.9	68	130	24.47	2.02	20	
1,1-Dichloropropene	23.240	1.0	25.00	0	93.0	73	132	22.61	2.75	20	
1,2,3-Trichlorobenzene	25.640	1.0	25.00	0	103	67	137	25.76	0.467	20	
1,2,3-Trichloropropane	20.920	1.0	25.00	0	83.7	73	124	20.99	0.334	20	
1,2,4-Trichlorobenzene	27.040	1.0	25.00	0	108	66	134	27.44	1.47	20	
1,2,4-Trimethylbenzene	20.640	1.0	25.00	0	82.6	74	132	24.95	18.9	20	
1,2-Dibromo-3-chloropropane	17.290	2.0	25.00	0	69.2	50	132	17.89	3.41	20	
1,2-Dibromoethane	20.700	1.0	25.00	0	82.8	80	121	20.28	2.05	20	
1,2-Dichlorobenzene	25.240	1.0	25.00	0	101	71	122	25.40	0.632	20	
1,2-Dichloroethane	21.140	1.0	25.00	0	84.6	69	132	19.97	5.69	20	
1,2-Dichloropropane	22.920	1.0	25.00	0	91.7	75	125	22.24	3.01	20	
1,3,5-Trimethylbenzene	25.020	1.0	25.00	0	100	74	131	26.30	4.99	20	
1,3-Dichlorobenzene	26.680	1.0	25.00	0	107	75	124	26.59	0.338	20	
1,3-Dichloropropane	22.860	1.0	25.00	0	91.4	73	126	22.21	2.88	20	
1,4-Dichlorobenzene	26.180	1.0	25.00	0	105	74	123	26.07	0.421	20	
2,2-Dichloropropane	16.620	1.0	25.00	0	66.5	69	137	16.38	1.45	20	S
2-Butanone	104.290	10	250.0	0	41.7	49	136	84.55	20.9	20	SR
2-Chlorotoluene	27.220	1.0	25.00	0	109	73	126	27.21	0.0367	20	
4-Chlorotoluene	26.630	1.0	25.00	0	107	74	128	26.38	0.943	20	
4-Isopropyltoluene	27.120	1.0	25.00	0	108	73	130	27.36	0.881	20	
4-Methyl-2-pentanone	191.580	10	250.0	0	76.6	58	134	171.9	10.8	20	
Acetone	76.570	10	250.0	0	30.6	40	135	55.05	32.7	20	SR
Acrolein	201.610	20	250.0	0	80.6	75	125	149.0	30.0	20	R
Acrylonitrile	243.040	20	250.0	0	97.2	75	125	181.8	28.8	20	R
Benzene	24.710	1.0	25.00	0	98.8	81	122	24.29	1.71	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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

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Sample ID: N005635-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B	Analysis Date: 4/15/2011	SeqNo: 1258747							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	25.190	1.0	25.00	0	101	76	124	25.21	0.0794	20	
Bromochloromethane	23.040	1.0	25.00	0	92.2	65	129	22.20	3.71	20	
Bromodichloromethane	20.340	1.0	25.00	0	81.4	76	121	19.75	2.94	20	
Bromoform	19.610	1.0	25.00	0	78.4	69	128	19.76	0.762	20	
Bromomethane	32.450	1.0	25.00	0	130	53	141	32.81	1.10	20	
Carbon disulfide	23.780	1.0	25.00	1.110	90.7	75	125	23.56	0.929	20	
Carbon tetrachloride	18.490	1.0	25.00	0	74.0	66	138	17.85	3.52	20	
Chlorobenzene	25.690	1.0	25.00	0	103	81	122	25.57	0.468	20	
Chloroethane	24.350	1.0	25.00	0	97.4	58	133	24.82	1.91	20	
Chloroform	24.210	1.0	25.00	0	96.8	69	128	24.04	0.705	20	
Chloromethane	26.110	1.0	25.00	0	104	56	131	26.22	0.420	20	
cis-1,2-Dichloroethene	25.390	1.0	25.00	0	102	72	126	24.50	3.57	20	
cis-1,3-Dichloropropene	21.010	1.0	25.00	0	84.0	69	131	20.26	3.63	20	
Dibromochloromethane	21.420	1.0	25.00	0	85.7	66	133	21.09	1.55	20	
Dibromomethane	21.430	1.0	25.00	0	85.7	76	125	20.56	4.14	20	
Dichlorodifluoromethane	22.050	1.0	25.00	0	88.2	53	153	22.04	0.0454	20	
Ethylbenzene	26.190	1.0	25.00	0	105	73	127	26.07	0.459	20	
Freon-113	21.500	1.0	25.00	0	86.0	75	125	20.90	2.83	20	
Hexachlorobutadiene	27.260	1.0	25.00	0	109	67	131	27.40	0.512	20	
Isopropylbenzene	28.750	1.0	25.00	0	115	75	127	28.44	1.08	20	
m,p-Xylene	51.260	1.0	50.00	0	103	76	128	52.17	1.76	20	
Methylene chloride	23.310	5.0	25.00	0	93.2	63	137	23.23	0.344	20	
MTBE	20.540	1.0	25.00	0	82.2	65	123	19.09	7.32	20	
n-Butylbenzene	29.400	1.0	25.00	0	118	69	137	29.34	0.204	20	
n-Propylbenzene	27.510	1.0	25.00	0	110	72	129	27.14	1.35	20	
Naphthalene	20.490	1.0	25.00	0	82.0	54	138	22.60	9.79	20	
o-Xylene	24.640	1.0	25.00	0	98.6	80	121	25.13	1.97	20	
sec-Butylbenzene	27.610	1.0	25.00	0	110	72	127	27.08	1.94	20	
Styrene	14.390	1.0	25.00	0	57.6	65	134	20.83	36.6	20	SR
tert-Butylbenzene	26.860	1.0	25.00	0	107	70	129	26.41	1.69	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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Advanced Technology
Laboratories, Inc

3151 W. Post Road

Las Vegas, NV 89118

Tel: 702 307-2659

Fax: 702 307-2691

Sample ID: N005635-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B		Analysis Date: 4/15/2011	SeqNo: 1258747						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	26.220	1.0	25.00	0	105	66	128	25.92	1.15	20	
Toluene	85.880	2.5	25.00	57.78	112	77	122	88.59	3.11	20	
trans-1,2-Dichloroethene	24.740	1.0	25.00	0	99.0	63	137	24.40	1.38	20	
trans-1,3-Dichloropropene	18.810	1.0	25.00	0	75.2	59	135	18.58	1.23	20	
Trichloroethene	23.540	1.0	25.00	0	94.2	70	127	23.32	0.939	20	
Trichlorofluoromethane	24.260	1.0	25.00	0	97.0	57	129	24.85	2.40	20	
Vinyl chloride	25.090	1.0	25.00	0	100	50	134	24.95	0.560	20	
Xylenes, Total	75.900	2.0	75.00	0	101	75	125	77.30	1.83	20	
Surr: 1,2-Dichloroethane-d4	22.100		25.00		88.4	72	119		0		
Surr: 4-Bromofluorobenzene	24.700		25.00		98.8	76	119		0		
Surr: Dibromofluoromethane	25.320		25.00		101	85	115		0		
Surr: Toluene-d8	25.280		25.00		101	81	120		0		

Sample ID: N005636-009AMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B		Analysis Date: 4/15/2011	SeqNo: 1258748						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	23.720	1.0	25.00	0	94.9	81	129				
1,1,1-Trichloroethane	19.380	1.0	25.00	0	77.5	67	132				
1,1,2,2-Tetrachloroethane	21.720	1.0	25.00	0	86.9	63	128				
1,1,2-Trichloroethane	21.370	1.0	25.00	0	85.5	75	125				
1,1-Dichloroethane	25.050	1.0	25.00	0	100	69	133				
1,1-Dichloroethene	25.800	1.0	25.00	0	103	68	130				
1,1-Dichloropropene	23.620	1.0	25.00	0	94.5	73	132				
1,2,3-Trichlorobenzene	25.950	1.0	25.00	0	104	67	137				
1,2,3-Trichloropropane	21.160	1.0	25.00	0	84.6	73	124				
1,2,4-Trichlorobenzene	26.960	1.0	25.00	0	108	66	134				
1,2,4-Trimethylbenzene	26.890	1.0	25.00	0	108	74	132				
1,2-Dibromo-3-chloropropane	18.340	2.0	25.00	0	73.4	50	132				
1,2-Dibromoethane	20.580	1.0	25.00	0	82.3	80	121				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005636-009AMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B	Analysis Date: 4/15/2011	SeqNo: 1258748							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	25.560	1.0	25.00	0	102	71	122				
1,2-Dichloroethane	20.630	1.0	25.00	0	82.5	69	132				
1,2-Dichloropropane	23.190	1.0	25.00	0	92.8	75	125				
1,3,5-Trimethylbenzene	27.340	1.0	25.00	0	109	74	131				
1,3-Dichlorobenzene	26.880	1.0	25.00	0	108	75	124				
1,3-Dichloropropane	21.640	1.0	25.00	0	86.6	73	126				
1,4-Dichlorobenzene	26.260	1.0	25.00	0	105	74	123				
2,2-Dichloropropane	17.240	1.0	25.00	0	69.0	69	137				S
2-Butanone	82.320	10	250.0	0	32.9	49	136				S
2-Chlorotoluene	27.860	1.0	25.00	0	111	73	126				
4-Chlorotoluene	27.030	1.0	25.00	0	108	74	128				
4-Isopropyltoluene	28.130	1.0	25.00	0	113	73	130				
4-Methyl-2-pentanone	171.090	10	250.0	0	68.4	58	134				
Acetone	50.170	10	250.0	0	20.1	40	135				S
Acrolein	149.160	20	250.0	0	59.7	75	125				S
Acrylonitrile	183.740	20	250.0	0	73.5	75	125				S
Benzene	25.010	1.0	25.00	0	100	81	122				
Bromobenzene	25.450	1.0	25.00	0	102	76	124				
Bromochloromethane	22.680	1.0	25.00	0	90.7	65	129				
Bromodichloromethane	20.130	1.0	25.00	0	80.5	76	121				
Bromoform	19.700	1.0	25.00	0	78.8	69	128				
Bromomethane	33.320	1.0	25.00	0	133	53	141				
Carbon disulfide	23.060	1.0	25.00	0	92.2	75	125				
Carbon tetrachloride	18.700	1.0	25.00	0	74.8	66	138				
Chlorobenzene	26.200	1.0	25.00	0	105	81	122				
Chloroethane	25.540	1.0	25.00	0	102	58	133				
Chloroform	24.750	1.0	25.00	0	99.0	69	128				
Chloromethane	27.090	1.0	25.00	0	108	56	131				
cis-1,2-Dichloroethene	25.540	1.0	25.00	0	102	72	126				
cis-1,3-Dichloropropene	20.550	1.0	25.00	0	82.2	69	131				

Qualifiers:

B	Analyte detected in 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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005636-009AMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79750						
Client ID: ZZZZZZ	Batch ID: D11VW051	TestNo: EPA 8260B		Analysis Date: 4/15/2011	SeqNo: 1258748						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	20.930	1.0	25.00	0	83.7	66	133				
Dibromomethane	20.890	1.0	25.00	0	83.6	76	125				
Dichlorodifluoromethane	22.820	1.0	25.00	0	91.3	53	153				
Ethylbenzene	26.830	1.0	25.00	0	107	73	127				
Freon-113	22.290	1.0	25.00	0	89.2	75	125				
Hexachlorobutadiene	28.240	1.0	25.00	0	113	67	131				
Isopropylbenzene	27.780	1.0	25.00	0	111	75	127				
m,p-Xylene	53.950	1.0	50.00	0	108	76	128				
Methylene chloride	24.160	5.0	25.00	0	96.6	63	137				
MTBE	18.900	1.0	25.00	0	75.6	65	123				
n-Butylbenzene	30.000	1.0	25.00	0	120	69	137				
n-Propylbenzene	28.080	1.0	25.00	0	112	72	129				
Naphthalene	23.110	1.0	25.00	0	92.4	54	138				
o-Xylene	25.960	1.0	25.00	0	104	80	121				
sec-Butylbenzene	28.120	1.0	25.00	0	112	72	127				
Styrene	23.100	1.0	25.00	0	92.4	65	134				
tert-Butylbenzene	27.130	1.0	25.00	0	109	70	129				
Tetrachloroethene	26.720	1.0	25.00	0	107	66	128				
Toluene	25.260	2.5	25.00	0	101	77	122				
trans-1,2-Dichloroethene	25.840	1.0	25.00	0	103	63	137				
trans-1,3-Dichloropropene	18.650	1.0	25.00	0	74.6	59	135				
Trichloroethene	24.300	1.0	25.00	0	97.2	70	127				
Trichlorofluoromethane	24.930	1.0	25.00	0	99.7	57	129				
Vinyl chloride	25.890	1.0	25.00	0	104	50	134				
Xylenes, Total	79.910	2.0	75.00	0	107	75	125				
Surr: 1,2-Dichloroethane-d4	21.130		25.00		84.5	72	119				
Surr: 4-Bromofluorobenzene	25.240		25.00		101	76	119				
Surr: Dibromofluoromethane	25.040		25.00		100	85	115				
Surr: Toluene-d8	25.950		25.00		104	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		



CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110415MB2		SampType: MBLK		TestCode: 8260_WP_LL		Units: ug/L		Prep Date:		RunNo: 79750	
Client ID: PBW		Batch ID: D11VW051		TestNo: EPA 8260B				Analysis Date: 4/15/2011		SeqNo: 1258749	
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									
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									

Qualifiers:

B	Analyte detected in 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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110415MB2		SampType: MBLK		TestCode: 8260_WP_LL Units: ug/L		Prep Date:		RunNo: 79750			
Client ID: PBW		Batch ID: D11VW051		TestNo: EPA 8260B		Analysis Date: 4/15/2011		SeqNo: 1258749			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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									
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	ND	1.0									
o-Xylene	ND	1.0									
sec-Butylbenzene	ND	1.0									
Styrene	ND	1.0									
tert-Butylbenzene	ND	1.0									

Qualifiers:

B	Analyte detected in 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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110415MB2		SampType: MBLK		TestCode: 8260_WP_LL		Units: ug/L		Prep Date:		RunNo: 79750	
Client ID: PBW		Batch ID: D11VW051		TestNo: EPA 8260B				Analysis Date: 4/15/2011		SeqNo: 1258749	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	23.280		25.00		93.1	72	119				
Surr: 4-Bromofluorobenzene	26.910		25.00		108	76	119				
Surr: Dibromofluoromethane	23.930		25.00		95.7	85	115				
Surr: Toluene-d8	28.490		25.00		114	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME

DATE 4-12-11 PAGE 1 OF 1

COMPANY <u>CH2M Hill</u>				<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> Cr-6 418.6 field Metals 6010 BFF C-As Anions 300.0 NO₃-Cl- TDS 5m 2540C TOC 5m 5310C VOC's 8260 B </div>												NUMBER OF CONTAINERS		COMMENTS	
PROJECT NAME <u>PG&E Topock</u>																			
PHONE <u>(530) 229-3303</u> FAX <u>(530) 339-3303</u>																			
ADDRESS <u>155 Grand Ave Ste 1000</u> <u>Oakland, CA 94612</u>																			
P.O. NUMBER <u>405681. MP 02. EM</u> TEAM <u>1</u>																			
SAMPLERS (SIGNATURE) <u>[Signature]</u>																			
SAMPLE I.D.	DATE	TIME	DESCRIPTION																
mw-64BR-UPR-150-176	4-12-11	1447	water	X	X	X	X	X	X								8	NO 5635-1	
TB-Packer-176-03		1300							X								1	Hold -2	

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished) <u>[Signature]</u>	Printed Name <u>Barry Colton</u>	Company/ Agency <u>CH2M Hill</u>	Date/ Time <u>4-13-11 1530</u>
Signature (Received) <u>[Signature]</u>	Printed Name <u>Philander Galarza</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>4/13/11 1530</u>
Signature (Relinquished) <u>[Signature]</u>	Printed Name <u>Philander Galarza</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>4/13/11 1810</u>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED 2.2°C ☒ COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

PAGE 1 OF

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name Barry Colton	Company/ Agency CH&M Hill	Date/ Time 4-13-11 1530	RECEIVED	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/>
Signature (Received)	Printed Name Philander Galdon	Company/ Agency ATL	Date/ Time 4/13/11 1530	CUSTODY SEALED	YES <input type="checkbox"/> NO <input type="checkbox"/>
Signature (Relinquished)	Printed Name Philander Galdon	Company/ Agency ATL	Date/ Time 4/13/11 1810	SPECIAL REQUIREMENTS:	
Signature (Received)	Printed Name NSIBUENSA	Company/ Agency ATL	Date/ Time 4/13/11 1810		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time		

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: 4/13/2011 Workorder: N005635
Rep sample Temp (Deg C): 2.2 IR Gun ID: IR 1
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

- | | | | |
|---|---|--|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments: Trip Blank TB-Packer-176-03 has headspace >5mm

Checklist Completed B

NS

4/14/11

Reviewed By:

4/14/11

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 **N005635-001C**, TDS concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{TDS, mg/L} &= \frac{(15.7245 - 15.6462) * 1000000}{10} \\ &= 7830 \text{ mg/L}\end{aligned}$$

Reporting result in two significant figures,

$$\text{TDS} = 7800 \text{ mg/L}$$

Sample Calculation

METHOD: EPA 218.6

TEST NAME: HEXAVALENT CHROMIUM BY IC

MATRIX: Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in $\mu\text{g/L}$, in the original sample as follows:

$$\text{Cr}^{+6}, \mu\text{g/L} = A * \text{DF}$$

where:

A = $\mu\text{g/L}$, IC Cr^{+6} calculated concentration

DF = dilution factor

For N005635-001A, concentration in $\mu\text{g/L}$ is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 13.399322 * 10 \\ &= 133.99322 \mu\text{g/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 130$$

subh

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:

$$\text{Chloride, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005635-001C**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Chloride, mg/L} &= 3.536 * 1000 \\ &= 3536 \text{ mg/L}\end{aligned}$$

Reporting **N005635-001C**, results in two significant figures,

$$\text{Chloride, mg/L} = 3500 \text{ mg/L}$$

As/2/2

SAMPLE CALCULATION

METHOD: EPA 6010B

TEST NAME: METALS BY ICP

MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in mg/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A * C * DF * 1000}{B}$$

where:

M= concentration of the metal in ug/L

A= mg/L, ICP calculated concentration

B= volume of sample, Liter

C= final volume of digestate, Liter

DF= dilution factor

For N005635-001B, concentration in ug/L are calculated as follows:

$$Cr, \text{ ug/L} = \frac{0.13862 \text{ mg/L} * 0.025 \text{ L} * 1000}{0.025 \text{ L}}$$

$$Cr = 138.62 \text{ ug/L}$$

Reporting result in two significant figures,

$$Cr = 140 \text{ ug/L}$$

f. 4/20/2011

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 4/19/2011
 Digestion Date: 4/15/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: WATER
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005635-001B
 Batch # : 36699

Analyte	A	B	Difference	% D
Chromium	138.6	144.124	-5.52400	-4.0

FORMULA:

$$\%D = \frac{(A-B) \times 100}{A}$$

where:

% D = % Difference

A= ug/L, ICP calculated concentration of the original sample

B= ug/L, ICP calculated concentration @5x dilution

CLIENT: CH2M HILL

Work Order: N005635

Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005635-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79743						
Client ID: ZZZZZZ	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258663						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	144.124	5.0						138.6	3.89	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: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005635-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79743						
Client ID: ZZZZZZ	Batch ID: 36699	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/19/2011	SeqNo: 1258666						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1099.625	2.0	1000	138.6	96.1	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:

$$\text{Arsenic, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005635-001B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 3.1158 * 1 * (1) \\ &= 3.1158 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 3.1$$

Handwritten signature/initials

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005635
Test Method: EPA 6020
Analysis Date: 04/18/11

Dilution Test Summary

Matrix: Aqueous
Batch No.: 36710

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments: Analyzed By: Jojo Tenorio

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005651-001B DT 5X	Arsenic	ug/L	5.661057187		5.660151616	0.02%	10

CLIENT: CH2M HILL
Work Order: N005635
Project: PG&E Topock

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: N005651-001B-PS 2	SampType: PS	TestCode: 6020_WD_As	Units: ug/L	Prep Date:	RunNo: 79740						
Client ID: ZZZZZZ	Batch ID: 36710	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/18/2011	SeqNo: 1260565						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.060	0.20	20.00	5.660	97.0	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

SAMPLE CALCULATION

METHOD: EPA 8260B

TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS

MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X, \text{ug/L} = \frac{A_X * C_{IS}}{\text{Ave RF} * A_{IS}}$$

where:

A_X = Area of the TOTAL ion for the compound being measured

C_{IS} = Concentration of the specific internal standard in ug/L

A_{IS} = Area of the characteristic ion of the specific internal standard

C_X = Concentration of the compound being measured in ug/L

N005635-001E

For Carbon Disulfide the corresponding Internal Standard is Pentafluorobenzene

Ave RF	1.317
Area of Carbon Disulfide	29420
Area of Internal Standard	502065
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of Carbon Disulfide (ug/L)} = \frac{29420 * 25.00 \text{ug/L}}{1.317 * 502065}$$

$$\text{Conc of Carbon Disulfide (ug/L)} = 1.112338464$$

Reporting result in three significant figures,

Concentration of Carbon Disulfide = 1.11 ug/L

MS 4/20/11

SUMMARY OF SURROGATE RECOVERIES



Spikes and Surrogates Report

RunID: MS1_110415B

Analyst: Quennie Manimtim

RunNo: 79750

Surrogates

SeqNo	SampleID	TestCode	SampType	BatchID	DF			
1258743	25ppb-MIDPOINT	8260_WP_LLPG	CCV	D11VW051	1			
	<i>Rpt Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual:</i>	<i>Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	25.37	101.48%	80	120		
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	25.47	101.88%	80	120		
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	25.56	102.24%	80	120		
<input checked="" type="checkbox"/>	Toluene-d8	25	25.34	101.36%	80	120		
Total Out:								0
1258744	25ppb-CCV	8260_WP_LLPG	CCV	D11VW051	1			
	<i>Rpt Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual:</i>	<i>Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	24.99	99.96%	80	120		
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	25.88	103.52%	80	120		
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	26.67	106.68%	80	120		
<input checked="" type="checkbox"/>	Toluene-d8	25	26.33	105.32%	80	120		
Total Out:								0
1258745	D110415LCS	8260_WP_LLPG	LCS	D11VW051	1			
	<i>Rpt Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual:</i>	<i>Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	25.41	101.64%	72	119		
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	25.35	101.40%	76	119		
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	26.84	107.36%	85	115		
<input checked="" type="checkbox"/>	Toluene-d8	25	25.43	101.72%	81	120		
Total Out:								0
1258746	N005635-001EMS	8260_WP_LLPG	MS	D11VW051	1			
	<i>Rpt Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual:</i>	<i>Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	21.09	84.36%	72	119		
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	24.8	99.20%	76	119		
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	24.66	98.64%	85	115		
<input checked="" type="checkbox"/>	Toluene-d8	25	25.69	102.76%	81	120		
Total Out:								0
1258747	N005635-001EMSD	8260_WP_LLPG	MSD	D11VW051	1			
	<i>Rpt Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual:</i>	<i>Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	22.1	88.40%	72	119		
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	24.7	98.80%	76	119		
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	25.32	101.28%	85	115		
<input checked="" type="checkbox"/>	Toluene-d8	25	25.28	101.12%	81	120		
Total Out:								0

Spikes and Surrogates Report

RunID: MS1_110415B

Analyst: Quennie Manimtim

RunNo: 79750

Surrogates

SeqNo	SampleID	TestCode	SampType	BatchID	DF		
1258748	N005636-009AMS	8260_WP_LLPG	MS	D11VW051	1		
<i>Rpt</i>	<i>Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual: Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	21.13	84.52%	72	119	
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	25.24	100.96%	76	119	
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	25.04	100.16%	85	115	
<input checked="" type="checkbox"/>	Toluene-d8	25	25.95	103.80%	81	120	
Total Out:							0
1258749	D110415MB2	8260_WP_LLPG	MBLK	D11VW051	1		
<i>Rpt</i>	<i>Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual: Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	23.28	93.12%	72	119	
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	26.91	107.64%	76	119	
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	23.93	95.72%	85	115	
<input checked="" type="checkbox"/>	Toluene-d8	25	28.49	113.96%	81	120	
Total Out:							0
1258750	N005636-009A	8260_WP_LLPG	SAMP	D11VW051	1		
<i>Rpt</i>	<i>Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual: Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	23.23	92.92%	72	119	
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	26.97	107.88%	76	119	
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	24.74	98.96%	85	115	
<input checked="" type="checkbox"/>	Toluene-d8	25	27.86	111.44%	81	120	
Total Out:							0
1258751	N005635-001E	8260_WP_LLPG	SAMP	D11VW051	1		
<i>Rpt</i>	<i>Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual: Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	20.96	83.84%	72	119	
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	26.36	105.44%	76	119	
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	22.58	90.32%	85	115	
<input checked="" type="checkbox"/>	Toluene-d8	25	27.8	111.20%	81	120	
Total Out:							0
1258752	N005635-002A	8260_WP_LLPG	SAMP	D11VW051	1		
<i>Rpt</i>	<i>Analyte:</i>	<i>SpkVal:</i>	<i>CalcVal:</i>	<i>REC:</i>	<i>LowLimit:</i>	<i>HighLimit:</i>	<i>Qual: Out:</i>
<input checked="" type="checkbox"/>	1,2-Dichloroethane-d4	25	23.24	92.96%	72	119	
<input checked="" type="checkbox"/>	4-Bromofluorobenzene	25	25.95	103.80%	76	119	
<input checked="" type="checkbox"/>	Dibromofluoromethane	25	24.11	96.44%	85	115	
<input checked="" type="checkbox"/>	Toluene-d8	25	26.86	107.44%	81	120	
Total Out:							0

INTERNAL STANDARD AREAS AND RT SUMMARY



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: MS1_110415B CCV Name: 25ppb-MIDPOINT
Run No: 79750 CCV SeqNo: 1258743
Lab File ID (Standard): D0324009.D Date Analyzed: 3/24/2011
Instrument ID: MS1 Time Analyzed: 14:55
GC Column: DB-624 ID (mm): 53 Length (M):

	IS1 PFB		IS2 DFB		IS3 CBZ		IS4 (DCB)		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12 HOUR STD	491355	3.995	547858	4.341	590106	6.264	376221	7.919	
UPPER LIMIT	982710	4.495	1095716	4.841	1180212	6.764	752442	8.419	
LOWER LIMIT	245678	3.495	273929	3.841	295053	5.764	188111	7.419	
SAMPLE									
NO.									
01	25ppb-CCV	537228	3.993	622023	4.339	669161	6.262	426988	7.917

IS1 PFB = Pentafluorobenzene

IS3 CBZ = Chlorobenzene-d5

IS2 DFB = 1,4-Difluorobenzene

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: MS1_110415B CCV Name: 25ppb-CCV
 Run No: 79750 CCV SeqNo: 1258744
 Lab File ID (Standard): D0415002.D Date Analyzed: 4/15/2011
 Instrument ID: MS1 Time Analyzed: 12:07
 GC Column: DB-624 ID (mm): 53 Length (M):

	IS1 PFB		IS2 DFB		IS3 CBZ		IS4 (DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	537228	3.993	622023	4.339	669161	6.262	426988	7.917
UPPER LIMIT	1074456	4.493	1244046	4.839	1338322	6.762	853976	8.417
LOWER LIMIT	268614	3.493	311012	3.839	334581	5.762	213494	7.417
SAMPLE NO.								
01 D110415LCS	533044	3.993	623757	4.34	675463	6.263	428335	7.917
02 N005635-001EMS	537357	3.991	623522	4.338	653919	6.265	403572	7.919
03 N005635-001EMSD	533073	3.993	614376	4.34	636525	6.263	391092	7.917
04 N005636-009AMS	516564	3.992	586439	4.338	622865	6.266	387935	7.92
05 D110415MB2	502144	3.991	564721	4.341	623941	6.265	385460	7.919
06 N005636-009A	493621	3.992	556719	4.338	592662	6.262	367699	7.92
07 N005635-001E	502065	3.99	563365	4.341	607233	6.264	370301	7.918
08 N005635-002A	465997	3.992	527933	4.339	562601	6.262	347291	7.916

IS1 PFB = Pentafluorobenzene

IS3 CBZ = Chlorobenzene-d5

IS2 DFB = 1,4-Difluorobenzene

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

May 13, 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.: N005679

RE: PG&E Topock, 405681.MP.02.GM

Attention: Shawn P. Duffy

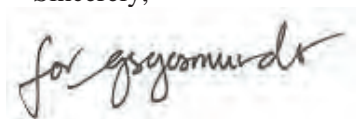
Enclosed are the results for sample(s) received on April 21, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock, 405681.MP.02.GM
Lab Order: N005679

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 8260B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes on QC samples N005679-001EMS and N005679-001EMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



Advanced Technology Laboratories, Inc.

Date: 13-May-11

CLIENT: CH2M HILL
Project: PG&E Topock, 405681.MP.02.GM
Lab Order: N005679
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005679-001A	MW-64BR-LWR-150-176	Water	4/20/2011 12:35:00 PM	4/21/2011	5/10/2011
N005679-001B	MW-64BR-LWR-150-176	Water	4/20/2011 12:35:00 PM	4/21/2011	5/10/2011
N005679-001C	MW-64BR-LWR-150-176	Water	4/20/2011 12:35:00 PM	4/21/2011	5/10/2011
N005679-001D	MW-64BR-LWR-150-176	Water	4/20/2011 12:35:00 PM	4/21/2011	5/10/2011
N005679-001E	MW-64BR-LWR-150-176	Water	4/20/2011 12:35:00 PM	4/21/2011	5/10/2011
N005679-002A	TB-Packer-176-04	Water	4/20/2011 12:00:00 PM	4/21/2011	5/10/2011



Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 13-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001C		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE

SM2540C

RunID: WETCHEM_110425C	QC Batch: 36747	PrepDate: 4/25/2011	Analyst: CEI
Total Dissolved Solids (Residue, Filterable)	9600	100	100
	mg/L	1	4/25/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected 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: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: MB-36747	SampType: MBLK	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 4/25/2011				RunNo: 79837	
Client ID: PBW	Batch ID: 36747	TestNo: SM2540C				Analysis Date: 4/25/2011				SeqNo: 1261281	
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-36747	SampType: LCS	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 4/25/2011				RunNo: 79837	
Client ID: LCSW	Batch ID: 36747	TestNo: SM2540C				Analysis Date: 4/25/2011				SeqNo: 1261282	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	966.000	10	1000	0	96.6	80	120				

Sample ID: N005679-001C-DUP	SampType: DUP	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 4/25/2011				RunNo: 79837	
Client ID: ZZZZZZ	Batch ID: 36747	TestNo: SM2540C				Analysis Date: 4/25/2011				SeqNo: 1261284	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	9870.000	100						9580	2.98	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: 13-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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HEXAVALENT CHROMIUM BY IC

EPA 218.6

RunID: IC1_110422A	QC Batch: R79877	PrepDate:	Analyst: QBM
Hexavalent Chromium	2.1 0.28	2.0 ug/L	10 4/22/2011 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
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: MB-R79877	SampType: MBLK	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79877
Client ID: PBW	Batch ID: R79877	TestNo: EPA 218.6		Analysis Date: 4/22/2011	SeqNo: 1262262
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-R79877	SampType: LCS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79877
Client ID: LCSW	Batch ID: R79877	TestNo: EPA 218.6		Analysis Date: 4/22/2011	SeqNo: 1262263
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	4.975	0.20	5.000	0	99.5 90 110

Sample ID: N005679-001ADUP	SampType: DUP	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79877
Client ID: ZZZZZZ	Batch ID: R79877	TestNo: EPA 218.6		Analysis Date: 4/22/2011	SeqNo: 1262267
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	2.087	2.0			2.090 0.161 20

Sample ID: N005679-001AMS	SampType: MS	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79877
Client ID: ZZZZZZ	Batch ID: R79877	TestNo: EPA 218.6		Analysis Date: 4/22/2011	SeqNo: 1262268
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	11.683	2.0	10.00	2.090	95.9 90 110

Sample ID: N005679-001AMSD	SampType: MSD	TestCode: 218.6_WPGE	Units: ug/L	Prep Date:	RunNo: 79877
Client ID: ZZZZZZ	Batch ID: R79877	TestNo: EPA 218.6		Analysis Date: 4/22/2011	SeqNo: 1262269
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	11.929	2.0	10.00	2.090	98.4 90 110 11.68 2.09 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: 13-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001C		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY

EPA 300.0

RunID: IC2_110422A	QC Batch: R79883	PrepDate:	Analyst: QBM
Chloride	5500 63	500 mg/L	1000 4/22/2011 10:08 AM

ANIONS BY ION CHROMATOGRAPHY

EPA 300.0

RunID: IC2_110422A	QC Batch: R79883	PrepDate:	Analyst: QBM
Nitrate as N	ND 0.055	2.5 mg/L	5 4/22/2011 10:53 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		



CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: MB-R79883_CL	SampType: MBLK	TestCode: 300_W_CLPG Units: mg/L				Prep Date:				RunNo: 79883		
Client ID: PBW	Batch ID: R79883	TestNo: EPA 300.0				Analysis Date: 4/22/2011				SeqNo: 1262382		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	ND	0.50										

Sample ID: LCS-R79883_CL	SampType: LCS	TestCode: 300_W_CLPG Units: mg/L				Prep Date:				RunNo: 79883		
Client ID: LCSW	Batch ID: R79883	TestNo: EPA 300.0				Analysis Date: 4/22/2011				SeqNo: 1262383		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	2.406	0.50	2.500	0	96.2	90	110					

Sample ID: N005679-001CDUP	SampType: DUP	TestCode: 300_W_CLPG Units: mg/L				Prep Date:				RunNo: 79883		
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0				Analysis Date: 4/22/2011				SeqNo: 1262385		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	5425.000	500						5492	1.23	20		

Sample ID: N005679-001CMS	SampType: MS	TestCode: 300_W_CLPG Units: mg/L				Prep Date:				RunNo: 79883		
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0				Analysis Date: 4/22/2011				SeqNo: 1262386		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	8026.000	500	2500	5492	101	80	120					

Sample ID: N005679-001CMSD	SampType: MSD	TestCode: 300_W_CLPG Units: mg/L				Prep Date:				RunNo: 79883		
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0				Analysis Date: 4/22/2011				SeqNo: 1262387		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	8012.000	500	2500	5492	101	80	120	8026	0.175	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: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R79883_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:					RunNo: 79883		
Client ID: PBW	Batch ID: R79883	TestNo: EPA 300.0		Analysis Date: 4/22/2011					SeqNo: 1262394		
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-R79883-NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:				RunNo: 79883			
Client ID: LCSW	Batch ID: R79883	TestNo: EPA 300.0		Analysis Date: 4/22/2011				SeqNo: 1262395			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 2.469 0.50 2.500 0 98.8 90 110

Sample ID: N005679-001CDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:				RunNo: 79883			
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0	Analysis Date: 4/22/2011				SeqNo: 1262397				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 0.375 2.5 0.3700 0 20

Sample ID: N005679-001CMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:				RunNo: 79883			
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0	Analysis Date: 4/22/2011				SeqNo: 1262398				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 12.135 2.5 12.50 0.3700 94.1 80 120

Sample ID: N005679-001CMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:					RunNo: 79883		
Client ID: ZZZZZZ	Batch ID: R79883	TestNo: EPA 300.0	Analysis Date: 4/22/2011					SeqNo: 1262399			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 12.100 2.5 12.50 0.3700 93.8 80 120 12.14 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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REVISION 1, 05/14/11

Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 13-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001B		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP

EPA 3010A

EPA 6010B

RunID: ICP1_110426A	QC Batch: 36742	PrepDate: 4/22/2011	Analyst: KAB
Chromium	3.2 0.22	1.0	ug/L 1 4/26/2011 09:43 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		



CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36742	SampType: MBLK	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/22/2011	RunNo: 79813
Client ID: PBW	Batch ID: 36742	TestNo: EPA 6010B EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260727	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	0.507	1.0			

Sample ID: LCS-36742	SampType: LCS	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/22/2011	RunNo: 79813
Client ID: LCSW	Batch ID: 36742	TestNo: EPA 6010B EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260728	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	489.925	1.0	500.0	0	98.0 85 115

Sample ID: N005679-001B-MS	SampType: MS	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/22/2011	RunNo: 79813
Client ID: ZZZZZZ	Batch ID: 36742	TestNo: EPA 6010B EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260730	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	470.243	1.0	500.0	3.219	93.4 75 125

Sample ID: N005679-001B-MSD	SampType: MSD	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/22/2011	RunNo: 79813
Client ID: ZZZZZZ	Batch ID: 36742	TestNo: EPA 6010B EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260731	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	470.733	1.0	500.0	3.219	93.5 75 125 470.2 0.104 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: 13-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001B		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP-MS

EPA 3010A

EPA 6020

RunID: ICP7_110425A	QC Batch: 36744	PrepDate: 4/22/2011	Analyst: JT
Arsenic	3.9 0.0025 0.10	µg/L	1 4/25/2011 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		



CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: MB-36744	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 4/22/2011	RunNo: 79800						
Client ID: PBW	Batch ID: 36744	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2011	SeqNo: 1264454						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.026	0.10									

Sample ID: LCS-36744	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 4/22/2011	RunNo: 79800						
Client ID: LCSW	Batch ID: 36744	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2011	SeqNo: 1264455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.113	0.10	10.00	0	101	85	115				

Sample ID: N005686-001A-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 4/22/2011	RunNo: 79800						
Client ID: ZZZZZZ	Batch ID: 36744	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2011	SeqNo: 1264459						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.843	0.10	10.00	0.04315	98.0	75	125				

Sample ID: N005686-001A-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 4/22/2011	RunNo: 79800						
Client ID: ZZZZZZ	Batch ID: 36744	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2011	SeqNo: 1264460						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.989	0.10	10.00	0.04315	99.5	75	125	9.843	1.47	20	

REVISION 1, 05/14/11

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



Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 14-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001E		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS1_110425B	QC Batch: D11VW054	PrepDate:	Analyst: QBM
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1,1,1,2-Tetrachloroethane	ND	0.061	1.0	ug/L	1	4/25/2011 01:38 PM
1,1,1-Trichloroethane	ND	0.068	1.0	ug/L	1	4/25/2011 01:38 PM
1,1,2,2-Tetrachloroethane	ND	0.054	1.0	ug/L	1	4/25/2011 01:38 PM
1,1,2-Trichloroethane	ND	0.083	1.0	ug/L	1	4/25/2011 01:38 PM
1,1-Dichloroethane	ND	0.099	1.0	ug/L	1	4/25/2011 01:38 PM
1,1-Dichloroethene	ND	0.094	1.0	ug/L	1	4/25/2011 01:38 PM
1,1-Dichloropropene	ND	0.082	1.0	ug/L	1	4/25/2011 01:38 PM
1,2,3-Trichlorobenzene	ND	0.10	1.0	ug/L	1	4/25/2011 01:38 PM
1,2,3-Trichloropropane	ND	0.12	1.0	ug/L	1	4/25/2011 01:38 PM
1,2,4-Trichlorobenzene	ND	0.12	1.0	ug/L	1	4/25/2011 01:38 PM
1,2,4-Trimethylbenzene	ND	0.095	1.0	ug/L	1	4/25/2011 01:38 PM
1,2-Dibromo-3-chloropropane	ND	0.15	2.0	ug/L	1	4/25/2011 01:38 PM
1,2-Dibromoethane	ND	0.14	1.0	ug/L	1	4/25/2011 01:38 PM
1,2-Dichlorobenzene	ND	0.070	1.0	ug/L	1	4/25/2011 01:38 PM
1,2-Dichloroethane	ND	0.17	1.0	ug/L	1	4/25/2011 01:38 PM
1,2-Dichloropropane	ND	0.085	1.0	ug/L	1	4/25/2011 01:38 PM
1,3,5-Trimethylbenzene	ND	0.087	1.0	ug/L	1	4/25/2011 01:38 PM
1,3-Dichlorobenzene	ND	0.090	1.0	ug/L	1	4/25/2011 01:38 PM
1,3-Dichloropropane	ND	0.074	1.0	ug/L	1	4/25/2011 01:38 PM
1,4-Dichlorobenzene	ND	0.092	1.0	ug/L	1	4/25/2011 01:38 PM
2,2-Dichloropropane	ND	0.061	1.0	ug/L	1	4/25/2011 01:38 PM
2-Butanone	ND	1.0	10	ug/L	1	4/25/2011 01:38 PM
2-Chlorotoluene	ND	0.080	1.0	ug/L	1	4/25/2011 01:38 PM
4-Chlorotoluene	ND	0.10	1.0	ug/L	1	4/25/2011 01:38 PM
4-Isopropyltoluene	ND	0.080	1.0	ug/L	1	4/25/2011 01:38 PM
4-Methyl-2-pentanone	ND	0.76	10	ug/L	1	4/25/2011 01:38 PM
Acetone	15	1.6	10	ug/L	1	4/25/2011 01:38 PM
Acrolein	ND	4.3	20	ug/L	1	4/25/2011 01:38 PM
Acrylonitrile	ND	0.61	20	ug/L	1	4/25/2011 01:38 PM
Benzene	ND	0.075	1.0	ug/L	1	4/25/2011 01:38 PM
Bromobenzene	ND	0.082	1.0	ug/L	1	4/25/2011 01:38 PM
Bromochloromethane	ND	0.15	1.0	ug/L	1	4/25/2011 01:38 PM
Bromodichloromethane	ND	0.063	1.0	ug/L	1	4/25/2011 01:38 PM
Bromoform	ND	0.086	1.0	ug/L	1	4/25/2011 01:38 PM
Bromomethane	ND	0.13	1.0	ug/L	1	4/25/2011 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		



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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 14-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001E		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS1_110425B	QC Batch: D11VW054	PrepDate:	Analyst: QBM
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Carbon disulfide	ND	0.054	1.0	ug/L	1	4/25/2011 01:38 PM
Carbon tetrachloride	ND	0.10	1.0	ug/L	1	4/25/2011 01:38 PM
Chlorobenzene	ND	0.092	1.0	ug/L	1	4/25/2011 01:38 PM
Chloroethane	ND	0.14	1.0	ug/L	1	4/25/2011 01:38 PM
Chloroform	ND	0.058	1.0	ug/L	1	4/25/2011 01:38 PM
Chloromethane	ND	0.054	1.0	ug/L	1	4/25/2011 01:38 PM
cis-1,2-Dichloroethene	ND	0.11	1.0	ug/L	1	4/25/2011 01:38 PM
cis-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/25/2011 01:38 PM
Dibromochloromethane	ND	0.061	1.0	ug/L	1	4/25/2011 01:38 PM
Dibromomethane	ND	0.15	1.0	ug/L	1	4/25/2011 01:38 PM
Dichlorodifluoromethane	ND	0.12	1.0	ug/L	1	4/25/2011 01:38 PM
Ethylbenzene	ND	0.051	1.0	ug/L	1	4/25/2011 01:38 PM
Freon-113	ND	0.080	1.0	ug/L	1	4/25/2011 01:38 PM
Hexachlorobutadiene	ND	0.17	1.0	ug/L	1	4/25/2011 01:38 PM
Isopropylbenzene	ND	0.057	1.0	ug/L	1	4/25/2011 01:38 PM
m,p-Xylene	ND	0.17	1.0	ug/L	1	4/25/2011 01:38 PM
Methylene chloride	ND	0.10	5.0	ug/L	1	4/25/2011 01:38 PM
MTBE	ND	0.089	1.0	ug/L	1	4/25/2011 01:38 PM
n-Butylbenzene	ND	0.082	1.0	ug/L	1	4/25/2011 01:38 PM
n-Propylbenzene	ND	0.087	1.0	ug/L	1	4/25/2011 01:38 PM
Naphthalene	ND	0.056	1.0	ug/L	1	4/25/2011 01:38 PM
o-Xylene	ND	0.077	1.0	ug/L	1	4/25/2011 01:38 PM
sec-Butylbenzene	ND	0.098	1.0	ug/L	1	4/25/2011 01:38 PM
Styrene	ND	0.072	1.0	ug/L	1	4/25/2011 01:38 PM
tert-Butylbenzene	ND	0.062	1.0	ug/L	1	4/25/2011 01:38 PM
Tetrachloroethene	ND	0.13	1.0	ug/L	1	4/25/2011 01:38 PM
Toluene	14	0.12	2.5	ug/L	1	4/25/2011 01:38 PM
trans-1,2-Dichloroethene	ND	0.094	1.0	ug/L	1	4/25/2011 01:38 PM
trans-1,3-Dichloropropene	ND	0.10	1.0	ug/L	1	4/25/2011 01:38 PM
Trichloroethene	ND	0.060	1.0	ug/L	1	4/25/2011 01:38 PM
Trichlorofluoromethane	ND	0.097	1.0	ug/L	1	4/25/2011 01:38 PM
Vinyl chloride	ND	0.12	1.0	ug/L	1	4/25/2011 01:38 PM
Xylenes, Total	ND	1.5	2.0	ug/L	1	4/25/2011 01:38 PM
Surr: 1,2-Dichloroethane-d4	79.9	0	72-119	%REC	1	4/25/2011 01:38 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	4/25/2011 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: 14-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-64BR-LWR-150-176
Lab Order:	N005679	Collection Date:	4/20/2011 12:35:00 PM
Project:	PG&E Topock, 405681.MP.02.GM	Matrix:	WATER
Lab ID:	N005679-001E		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS BY GC/MS

EPA 8260B

RunID: MS1_110425B	QC Batch: D11VW054	PrepDate:	Analyst: QBM
Surr: Dibromofluoromethane	85.0 0	85-115 %REC	1 4/25/2011 01:38 PM
Surr: Toluene-d8	107 0	81-120 %REC	1 4/25/2011 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		



CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110425LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79850						
Client ID: LCSW	Batch ID: D11VW054	TestNo: EPA 8260B	Analysis Date: 4/25/2011	SeqNo: 1261544							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	27.170	1.0	25.00	0	109	81	129				
1,1,1-Trichloroethane	20.410	1.0	25.00	0	81.6	67	132				
1,1,2,2-Tetrachloroethane	26.710	1.0	25.00	0	107	63	128				
1,1,2-Trichloroethane	26.070	1.0	25.00	0	104	75	125				
1,1-Dichloroethane	25.190	1.0	25.00	0	101	69	133				
1,1-Dichloroethene	25.540	1.0	25.00	0	102	68	130				
1,1-Dichloropropene	24.640	1.0	25.00	0	98.6	73	132				
1,2,3-Trichlorobenzene	30.520	1.0	25.00	0	122	67	137				
1,2,3-Trichloropropane	26.840	1.0	25.00	0	107	73	124				
1,2,4-Trichlorobenzene	31.610	1.0	25.00	0	126	66	134				
1,2,4-Trimethylbenzene	29.370	1.0	25.00	0	117	74	132				
1,2-Dibromo-3-chloropropane	25.770	2.0	25.00	0	103	50	132				
1,2-Dibromoethane	25.600	1.0	25.00	0	102	80	121				
1,2-Dichlorobenzene	28.200	1.0	25.00	0	113	71	122				
1,2-Dichloroethane	25.940	1.0	25.00	0	104	69	132				
1,2-Dichloropropane	24.270	1.0	25.00	0	97.1	75	125				
1,3,5-Trimethylbenzene	28.430	1.0	25.00	0	114	74	131				
1,3-Dichlorobenzene	28.820	1.0	25.00	0	115	75	124				
1,3-Dichloropropane	26.050	1.0	25.00	0	104	73	126				
1,4-Dichlorobenzene	28.530	1.0	25.00	0	114	74	123				
2,2-Dichloropropane	17.800	1.0	25.00	0	71.2	69	137				
2-Butanone	246.140	10	250.0	0	98.5	49	136				
2-Chlorotoluene	28.460	1.0	25.00	0	114	73	126				
4-Chlorotoluene	27.680	1.0	25.00	0	111	74	128				
4-Isopropyltoluene	29.160	1.0	25.00	0	117	73	130				
4-Methyl-2-pentanone	269.610	10	250.0	0	108	58	134				
Acetone	260.770	10	250.0	0	104	40	135				
Acrolein	197.040	20	250.0	0	78.8	75	125				
Acrylonitrile	286.560	20	250.0	0	115	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: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110425LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: LCSW	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261544			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.870	1.0	25.00	0	103	81	122				S
Bromobenzene	27.530	1.0	25.00	0	110	76	124				
Bromochloromethane	25.560	1.0	25.00	0	102	65	129				
Bromodichloromethane	22.770	1.0	25.00	0	91.1	76	121				
Bromoform	25.820	1.0	25.00	0	103	69	128				
Bromomethane	37.470	1.0	25.00	0	150	53	141				
Carbon disulfide	22.360	1.0	25.00	0	89.4	75	125				
Carbon tetrachloride	20.420	1.0	25.00	0	81.7	66	138				
Chlorobenzene	27.350	1.0	25.00	0	109	81	122				
Chloroethane	26.480	1.0	25.00	0	106	58	133				
Chloroform	26.530	1.0	25.00	0	106	69	128				
Chloromethane	23.670	1.0	25.00	0	94.7	56	131				
cis-1,2-Dichloroethene	26.460	1.0	25.00	0	106	72	126				
cis-1,3-Dichloropropene	23.220	1.0	25.00	0	92.9	69	131				
Dibromochloromethane	25.420	1.0	25.00	0	102	66	133				
Dibromomethane	25.850	1.0	25.00	0	103	76	125				
Dichlorodifluoromethane	19.610	1.0	25.00	0	78.4	53	153				
Ethylbenzene	27.120	1.0	25.00	0	108	73	127				
Freon-113	22.560	1.0	25.00	0	90.2	75	125				
Hexachlorobutadiene	29.930	1.0	25.00	0	120	67	131				
Isopropylbenzene	27.980	1.0	25.00	0	112	75	127				
m,p-Xylene	55.940	1.0	50.00	0	112	76	128				
Methylene chloride	25.030	5.0	25.00	0	100	63	137				
MTBE	21.700	1.0	25.00	0	86.8	65	123				
n-Butylbenzene	30.420	1.0	25.00	0	122	69	137				
n-Propylbenzene	28.060	1.0	25.00	0	112	72	129				
Naphthalene	30.370	1.0	25.00	0	121	54	138				
o-Xylene	26.870	1.0	25.00	0	107	80	121				
sec-Butylbenzene	28.390	1.0	25.00	0	114	72	127				
Styrene	27.550	1.0	25.00	0	110	65	134				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



Advanced Technology
Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110425LCS	SampType: LCS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: LCSW	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261544			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	27.750	1.0	25.00	0	111	70	129				
Tetrachloroethene	27.830	1.0	25.00	0	111	66	128				
Toluene	26.240	2.5	25.00	0	105	77	122				
trans-1,2-Dichloroethene	26.280	1.0	25.00	0	105	63	137				
trans-1,3-Dichloropropene	22.940	1.0	25.00	0	91.8	59	135				
Trichloroethene	25.390	1.0	25.00	0	102	70	127				
Trichlorofluoromethane	28.790	1.0	25.00	0	115	57	129				
Vinyl chloride	25.010	1.0	25.00	0	100	50	134				
Xylenes, Total	82.810	2.0	75.00	0	110	75	125				
Surr: 1,2-Dichloroethane-d4	24.490		25.00		98.0	72	119				
Surr: 4-Bromofluorobenzene	25.140		25.00		101	76	119				
Surr: Dibromofluoromethane	25.540		25.00		102	85	115				
Surr: Toluene-d8	25.590		25.00		102	81	120				

Sample ID: N005679-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79850						
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B	Analysis Date: 4/25/2011	SeqNo: 1261545							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	25.970	1.0	25.00	0	104	81	129				
1,1,1-Trichloroethane	19.030	1.0	25.00	0	76.1	67	132				
1,1,2,2-Tetrachloroethane	22.130	1.0	25.00	0	88.5	63	128				
1,1,2-Trichloroethane	21.730	1.0	25.00	0	86.9	75	125				
1,1-Dichloroethane	22.860	1.0	25.00	0	91.4	69	133				
1,1-Dichloroethene	23.670	1.0	25.00	0	94.7	68	130				
1,1-Dichloropropene	23.590	1.0	25.00	0	94.4	73	132				
1,2,3-Trichlorobenzene	27.730	1.0	25.00	0	111	67	137				
1,2,3-Trichloropropane	21.320	1.0	25.00	0	85.3	73	124				
1,2,4-Trichlorobenzene	29.460	1.0	25.00	0	118	66	134				
1,2,4-Trimethylbenzene	25.360	1.0	25.00	0	101	74	132				
1,2-Dibromo-3-chloropropane	19.620	2.0	25.00	0	78.5	50	132				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



Advanced Technology
Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005679-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261545			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	21.170	1.0	25.00	0	84.7	80	121				
1,2-Dichlorobenzene	26.700	1.0	25.00	0	107	71	122				
1,2-Dichloroethane	21.080	1.0	25.00	0	84.3	69	132				
1,2-Dichloropropane	22.410	1.0	25.00	0	89.6	75	125				
1,3,5-Trimethylbenzene	26.650	1.0	25.00	0	107	74	131				
1,3-Dichlorobenzene	28.080	1.0	25.00	0	112	75	124				
1,3-Dichloropropane	22.430	1.0	25.00	0	89.7	73	126				
1,4-Dichlorobenzene	27.590	1.0	25.00	0	110	74	123				
2,2-Dichloropropane	16.320	1.0	25.00	0	65.3	69	137				S
2-Butanone	77.930	10	250.0	0	31.2	49	136				S
2-Chlorotoluene	28.090	1.0	25.00	0	112	73	126				
4-Chlorotoluene	27.540	1.0	25.00	0	110	74	128				
4-Isopropyltoluene	28.810	1.0	25.00	0	115	73	130				
4-Methyl-2-pentanone	174.640	10	250.0	0	69.9	58	134				
Acetone	72.920	10	250.0	15.07	23.1	40	135				S
Acrolein	141.800	20	250.0	0	56.7	75	125				S
Acrylonitrile	206.800	20	250.0	0	82.7	75	125				
Benzene	24.610	1.0	25.00	0	98.4	81	122				
Bromobenzene	26.210	1.0	25.00	0	105	76	124				
Bromochloromethane	21.590	1.0	25.00	0	86.4	65	129				
Bromodichloromethane	20.510	1.0	25.00	0	82.0	76	121				
Bromoform	22.040	1.0	25.00	0	88.2	69	128				
Bromomethane	35.510	1.0	25.00	0	142	53	141				S
Carbon disulfide	21.280	1.0	25.00	0	85.1	75	125				
Carbon tetrachloride	19.590	1.0	25.00	0	78.4	66	138				
Chlorobenzene	26.570	1.0	25.00	0	106	81	122				
Chloroethane	25.020	1.0	25.00	0	100	58	133				
Chloroform	23.490	1.0	25.00	0	94.0	69	128				
Chloromethane	23.340	1.0	25.00	0	93.4	56	131				
cis-1,2-Dichloroethene	23.730	1.0	25.00	0	94.9	72	126				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			



Advanced Technology
 Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005679-001EMS	SampType: MS	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261545			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	21.220	1.0	25.00	0	84.9	69	131				
Dibromochloromethane	22.720	1.0	25.00	0	90.9	66	133				
Dibromomethane	20.690	1.0	25.00	0	82.8	76	125				
Dichlorodifluoromethane	19.560	1.0	25.00	0	78.2	53	153				
Ethylbenzene	27.240	1.0	25.00	0	109	73	127				
Freon-113	20.650	1.0	25.00	0	82.6	75	125				
Hexachlorobutadiene	29.730	1.0	25.00	0	119	67	131				
Isopropylbenzene	28.230	1.0	25.00	0	113	75	127				
m,p-Xylene	54.720	1.0	50.00	0	109	76	128				
Methylene chloride	22.200	5.0	25.00	0	88.8	63	137				
MTBE	18.030	1.0	25.00	0	72.1	65	123				
n-Butylbenzene	30.600	1.0	25.00	0	122	69	137				
n-Propylbenzene	28.060	1.0	25.00	0	112	72	129				
Naphthalene	23.910	1.0	25.00	0	95.6	54	138				
o-Xylene	26.140	1.0	25.00	0	105	80	121				
sec-Butylbenzene	28.400	1.0	25.00	0	114	72	127				
Styrene	20.640	1.0	25.00	0	82.6	65	134				
tert-Butylbenzene	27.820	1.0	25.00	0	111	70	129				
Tetrachloroethene	27.830	1.0	25.00	0	111	66	128				
Toluene	41.360	2.5	25.00	14.03	109	77	122				
trans-1,2-Dichloroethene	23.890	1.0	25.00	0	95.6	63	137				
trans-1,3-Dichloropropene	19.810	1.0	25.00	0	79.2	59	135				
Trichloroethene	24.470	1.0	25.00	0	97.9	70	127				
Trichlorofluoromethane	27.100	1.0	25.00	0	108	57	129				
Vinyl chloride	23.750	1.0	25.00	0	95.0	50	134				
Xylenes, Total	80.860	2.0	75.00	0	108	75	125				
Surr: 1,2-Dichloroethane-d4	20.470		25.00		81.9	72	119				
Surr: 4-Bromofluorobenzene	25.110		25.00		100	76	119				
Surr: Dibromofluoromethane	23.470		25.00		93.9	85	115				
Surr: Toluene-d8	25.600		25.00		102	81	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



Advanced Technology
Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005679-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:					RunNo: 79850			
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B			Analysis Date: 4/25/2011					SeqNo: 1261546		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1,2-Tetrachloroethane	26.160	1.0	25.00	0	105	81	129	25.97	0.729	20	SR	
1,1,1-Trichloroethane	19.120	1.0	25.00	0	76.5	67	132	19.03	0.472	20		
1,1,2,2-Tetrachloroethane	22.400	1.0	25.00	0	89.6	63	128	22.13	1.21	20		
1,1,2-Trichloroethane	21.370	1.0	25.00	0	85.5	75	125	21.73	1.67	20		
1,1-Dichloroethane	22.830	1.0	25.00	0	91.3	69	133	22.86	0.131	20		
1,1-Dichloroethene	23.190	1.0	25.00	0	92.8	68	130	23.67	2.05	20		
1,1-Dichloropropene	23.470	1.0	25.00	0	93.9	73	132	23.59	0.510	20		
1,2,3-Trichlorobenzene	26.240	1.0	25.00	0	105	67	137	27.73	5.52	20		
1,2,3-Trichloropropane	21.940	1.0	25.00	0	87.8	73	124	21.32	2.87	20		
1,2,4-Trichlorobenzene	28.040	1.0	25.00	0	112	66	134	29.46	4.94	20		
1,2,4-Trimethylbenzene	18.040	1.0	25.00	0	72.2	74	132	25.36	33.7	20		
1,2-Dibromo-3-chloropropane	19.430	2.0	25.00	0	77.7	50	132	19.62	0.973	20		
1,2-Dibromoethane	20.350	1.0	25.00	0	81.4	80	121	21.17	3.95	20		
1,2-Dichlorobenzene	26.810	1.0	25.00	0	107	71	122	26.70	0.411	20		
1,2-Dichloroethane	20.710	1.0	25.00	0	82.8	69	132	21.08	1.77	20		
1,2-Dichloropropane	22.190	1.0	25.00	0	88.8	75	125	22.41	0.987	20		
1,3,5-Trimethylbenzene	24.470	1.0	25.00	0	97.9	74	131	26.65	8.53	20		
1,3-Dichlorobenzene	28.380	1.0	25.00	0	114	75	124	28.08	1.06	20		
1,3-Dichloropropane	22.600	1.0	25.00	0	90.4	73	126	22.43	0.755	20		
1,4-Dichlorobenzene	27.590	1.0	25.00	0	110	74	123	27.59	0	20		
2,2-Dichloropropane	16.170	1.0	25.00	0	64.7	69	137	16.32	0.923	20	S	
2-Butanone	75.890	10	250.0	0	30.4	49	136	77.93	2.65	20	S	
2-Chlorotoluene	28.480	1.0	25.00	0	114	73	126	28.09	1.38	20		
4-Chlorotoluene	27.780	1.0	25.00	0	111	74	128	27.54	0.868	20		
4-Isopropyltoluene	27.830	1.0	25.00	0	111	73	130	28.81	3.46	20		
4-Methyl-2-pentanone	171.410	10	250.0	0	68.6	58	134	174.6	1.87	20		
Acetone	71.820	10	250.0	15.07	22.7	40	135	72.92	1.52	20	S	
Acrolein	136.510	20	250.0	0	54.6	75	125	141.8	3.80	20	S	
Acrylonitrile	202.690	20	250.0	0	81.1	75	125	206.8	2.01	20		
Benzene	24.470	1.0	25.00	0	97.9	81	122	24.61	0.570	20		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			



Advanced Technology
Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005679-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261546			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	26.820	1.0	25.00	0	107	76	124	26.21	2.30	20	
Bromochloromethane	21.450	1.0	25.00	0	85.8	65	129	21.59	0.651	20	
Bromodichloromethane	20.440	1.0	25.00	0	81.8	76	121	20.51	0.342	20	
Bromoform	21.780	1.0	25.00	0	87.1	69	128	22.04	1.19	20	
Bromomethane	35.120	1.0	25.00	0	140	53	141	35.51	1.10	20	
Carbon disulfide	21.240	1.0	25.00	0	85.0	75	125	21.28	0.188	20	
Carbon tetrachloride	19.490	1.0	25.00	0	78.0	66	138	19.59	0.512	20	
Chlorobenzene	26.560	1.0	25.00	0	106	81	122	26.57	0.0376	20	
Chloroethane	24.560	1.0	25.00	0	98.2	58	133	25.02	1.86	20	
Chloroform	23.100	1.0	25.00	0	92.4	69	128	23.49	1.67	20	
Chloromethane	22.360	1.0	25.00	0	89.4	56	131	23.34	4.29	20	
cis-1,2-Dichloroethene	23.680	1.0	25.00	0	94.7	72	126	23.73	0.211	20	
cis-1,3-Dichloropropene	20.670	1.0	25.00	0	82.7	69	131	21.22	2.63	20	
Dibromochloromethane	22.970	1.0	25.00	0	91.9	66	133	22.72	1.09	20	
Dibromomethane	20.350	1.0	25.00	0	81.4	76	125	20.69	1.66	20	
Dichlorodifluoromethane	18.670	1.0	25.00	0	74.7	53	153	19.56	4.66	20	
Ethylbenzene	27.010	1.0	25.00	0	108	73	127	27.24	0.848	20	
Freon-113	20.650	1.0	25.00	0	82.6	75	125	20.65	0	20	
Hexachlorobutadiene	28.660	1.0	25.00	0	115	67	131	29.73	3.67	20	
Isopropylbenzene	28.930	1.0	25.00	0	116	75	127	28.23	2.45	20	
m,p-Xylene	51.830	1.0	50.00	0	104	76	128	54.72	5.42	20	
Methylene chloride	21.920	5.0	25.00	0	87.7	63	137	22.20	1.27	20	
MTBE	18.130	1.0	25.00	0	72.5	65	123	18.03	0.553	20	
n-Butylbenzene	30.410	1.0	25.00	0	122	69	137	30.60	0.623	20	
n-Propylbenzene	28.430	1.0	25.00	0	114	72	129	28.06	1.31	20	
Naphthalene	20.340	1.0	25.00	0	81.4	54	138	23.91	16.1	20	
o-Xylene	25.290	1.0	25.00	0	101	80	121	26.14	3.31	20	
sec-Butylbenzene	28.580	1.0	25.00	0	114	72	127	28.40	0.632	20	
Styrene	10.410	1.0	25.00	0	41.6	65	134	20.64	65.9	20	SR
tert-Butylbenzene	28.210	1.0	25.00	0	113	70	129	27.82	1.39	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out

E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values

H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference



Advanced Technology
Laboratories, Inc.

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

REVISION 1, 05/14/11

CLIENT: CH2M HILL
 Work Order: N005679
 Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: N005679-001EMSD	SampType: MSD	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:				RunNo: 79850			
Client ID: ZZZZZZ	Batch ID: D11VW054	TestNo: EPA 8260B		Analysis Date: 4/25/2011				SeqNo: 1261546			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	28.280	1.0	25.00	0	113	66	128	27.83	1.60	20	
Toluene	40.140	2.5	25.00	14.03	104	77	122	41.36	2.99	20	
trans-1,2-Dichloroethene	23.560	1.0	25.00	0	94.2	63	137	23.89	1.39	20	
trans-1,3-Dichloropropene	18.950	1.0	25.00	0	75.8	59	135	19.81	4.44	20	
Trichloroethene	24.610	1.0	25.00	0	98.4	70	127	24.47	0.570	20	
Trichlorofluoromethane	27.180	1.0	25.00	0	109	57	129	27.10	0.295	20	
Vinyl chloride	23.560	1.0	25.00	0	94.2	50	134	23.75	0.803	20	
Xylenes, Total	77.120	2.0	75.00	0	103	75	125	80.86	4.73	20	
Surr: 1,2-Dichloroethane-d4	20.190		25.00		80.8	72	119		0		
Surr: 4-Bromofluorobenzene	24.600		25.00		98.4	76	119		0		
Surr: Dibromofluoromethane	23.440		25.00		93.8	85	115		0		
Surr: Toluene-d8	25.070		25.00		100	81	120		0		

Sample ID: D110425MB2	SampType: MBLK	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79850						
Client ID: PBW	Batch ID: D11VW054	TestNo: EPA 8260B	Analysis Date: 4/25/2011	SeqNo: 1261547							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,1-Dichloropropene	ND	1.0									
1,2,3-Trichlorobenzene	ND	1.0									
1,2,3-Trichloropropane	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
1,2-Dibromoethane	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			



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REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110425MB2	SampType: MBLK	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79850						
Client ID: PBW	Batch ID: D11VW054	TestNo: EPA 8260B	Analysis Date: 4/25/2011	SeqNo: 1261547							
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
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E Value above quantitation range
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REVISION 1, 05/14/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_WP_LLPGE

Sample ID: D110425MB2	SampType: MBLK	TestCode: 8260_WP_LL	Units: ug/L	Prep Date:	RunNo: 79850						
Client ID: PBW	Batch ID: D11VW054	TestNo: EPA 8260B	Analysis Date: 4/25/2011	SeqNo: 1261547							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.0									
Dibromomethane	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
Ethylbenzene	ND	1.0									
Freon-113	ND	1.0									
Hexachlorobutadiene	ND	1.0									
Isopropylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
Methylene chloride	ND	5.0									
MTBE	ND	1.0									
n-Butylbenzene	ND	1.0									
n-Propylbenzene	ND	1.0									
Naphthalene	0.310	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	22.950		25.00		91.8	72	119				
Surr: 4-Bromofluorobenzene	25.460		25.00		102	76	119				
Surr: Dibromofluoromethane	22.400		25.00		89.6	85	115				
Surr: Toluene-d8	25.570		25.00		102	81	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		



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REVISION 1, 05/14/11

CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME

DATE 4-20-11 PAGE 1 OF 1

COMPANY CH2M Hill
 PROJECT NAME PG&E Topock
 PHONE (530) 229-3303 FAX (530) 339-3303
 ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 405681 MP. 02. CM TEAM 1

SAMPLERS (SIGNATURE) Bsh

SAMPLE I.D. DATE TIME DESCRIPTION

~~MW-64BR-150-LWR-176~~ 4-20-11 1235 water

TB-Packer-176-04 1 1200 1

Please change the sample ID
 from MW-64BR-150-LWR-176
 to MW-64BR-LWR-150-176

SPD

Cr-6 218.6 field
 Metals 6010 BFF
 Anions 300.0 NO₃-CI-
 TDS 5m 2540C
 TOC 5m 5310C
 VOC's 8260 B

NUMBER OF CONTAINERS

8

1

Hold

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name <u>Barry Collier</u>	Company/ Agency <u>CH2M Hill</u>	Date/ Time <u>4-21-11 11:25</u>
Signature (Received)	Printed Name <u>Philander Galan</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>4/21/11/11:25</u>
Signature (Relinquished)	Printed Name <u>Philander Galan</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>4/21/11/11:25</u>
Signature (Received)	Printed Name <u>MBCARTIN</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>4/21/11 12:17</u>
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☒ 2.2°C WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

Please make the corrections detailed in red above.

5/13/2011

REVISION 1, 05/13/11

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: 4/21/2011

Workorder: N005679

Rep sample Temp (Deg C): 2.2

IR Gun ID: 1

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 <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed By

MBC

4/22/11

Reviewed By:

ws 4/20/11

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 **N005679-001C**, TDS concentration in mg/L is calculated as follows:

$$\begin{aligned} \text{TDS, mg/L} &= \frac{(15.5882 - 15.4924) * 1000000}{10} \\ &= 9580 \text{ mg/L} \end{aligned}$$

Reporting result in two significant figures,

$$\text{TDS} = 9600 \text{ mg/L}$$

MS for
5/10/14

Sample Calculation

METHOD: EPA 218.6

TEST NAME: HEXAVALENT CHROMIUM BY IC

MATRIX: Water

FORMULA:
$$Cr^{+6}, \mu g/L = \frac{A * DF}{V}$$

Calculate the Hexavalent Chromium concentration, in $\mu g/L$, in the original sample as follows:

$$Cr^{+6}, \mu g/L = A * DF$$

where:

A = $\mu g/L$, IC Cr^{+6} calculated concentration

DF = dilution factor

For N005679-001A, concentration in $\mu g/L$ is calculated as follows:

$$\begin{aligned} Cr^{+6}, \mu g/L &= 0.209020 * 10 \\ &= 2.09020 \mu g/L \end{aligned}$$

Reporting results in two significant figures,

$$Cr^{+6}, \mu g/L = 2.1$$

AST/14

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:

$$\text{Chloride, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005679-001C**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Chloride, mg/L} &= 5.492 * 1000 \\ &= 5492 \text{ mg/L}\end{aligned}$$

Reporting **N005679-001C**, results in two significant figures,

$$\text{Chloride, mg/L} = 5500 \text{ mg/L}$$

ms 5/6/11

SAMPLE CALCULATION

METHOD: EPA 6010B

TEST NAME: METALS BY ICP

MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in mg/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A \cdot C \cdot DF \cdot 1000}{B}$$

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 N005679-001B, concentration in ug/L are calculated as follows:

$$Cr, \text{ ug/L} = \frac{0.00322 \text{ mg/L} \cdot 0.025 \text{ L} \cdot 1000}{0.025 \text{ L}}$$

$$Cr = 3.22 \text{ ug/L}$$

Reporting result in two significant figures,

$$Cr = 3.2 \text{ ug/L}$$

4.6.4.2017

CLIENT: CH2M HILL

Work Order: N005679

Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005679-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79813						
Client ID: ZZZZZZ	Batch ID: 36742	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260732						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	974.776	2.0	1000	3.219	97.2	75	125				

Sample ID: N005679-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79813						
Client ID: ZZZZZZ	Batch ID: 36742	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 4/26/2011	SeqNo: 1260733						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2468.839	5.0	2500	3.219	98.6	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:

$$\text{Arsenic, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005679-001B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 3.880 * 1 * (1) \\ &= 3.88 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 3.9$$

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005679
Test Method: EPA 6020
Analysis Date: 04/25/11

Dilution Test Summary

Matrix: Aqueous
Batch No.: 36744

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable to As. The calc. Values are < 25X the RL.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005651-001B-DT 5X	Arsenic	ug/L	0.015107654	NA	0.043153155		10

BI
5/1/11

CLIENT: CH2M HILL
Work Order: N005679
Project: PG&E Topock, 405681.MP.02.GM

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005686-001A-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 79800						
Client ID: ZZZZZZ	Batch ID: 36744	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2011	SeqNo: 1264458						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.931	0.20	20.00	0.04315	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 8260B

TEST NAME: VOLATILE ORGANIC COMPOUNDS BY GC/MS

MATRIX: WATER

CALCULATION OF TARGET PARAMETERS

Calculate the target analyte concentrations using internal standard quantitation

$$C_X, \text{ug/L} = \frac{A_X * C_{IS}}{\text{Ave RF} * A_{IS}}$$

where:

A_X = Area of the TOTAL ion for the compound being measured

C_{IS} = Concentration of the specific internal standard in ug/L

A_{IS} = Area of the characteristic ion of the specific internal standard

C_X = Concentration of the compound being measured in ug/L

N005679-001E

For Toluene the corresponding Internal Standard is 1,4-Difluorobenzene

Ave RF	1.905
Area of Toluene	498151
Area of Internal Standard	466044
Conc of Internal Standard (ug/L)	25.00

$$\text{Conc of Toluene (ug/L)} = \frac{498151 * 25.00 \text{ug/L}}{1.905 * 466044}$$

$$\text{Conc of Toluene (ug/L)} = 14.02746242$$

Reporting result in three significant figures,

Concentration of Toluene = 14.0 ug/L

14.0 ug/L

May 23, 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.: N005735

RE: PG&E Topock, 405681.MP.02.GM.04

Attention: Shawn P. Duffy

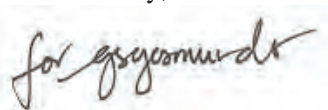
Enclosed are the results for sample(s) received on May 02, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock, 405681.MP.02.GM.04
Lab Order: N005735

CASE NARRATIVE

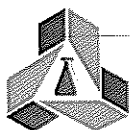
SAMPLE RECEIVING/GENERAL COMMENTS:

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.



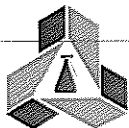
Advanced Technology Laboratories, Inc.

Date: 18-May-11

CLIENT: CH2M HILL
Project: PG&E Topock, 405681.MP.02.GM.04
Lab Order: N005735

Work Order Sample Summary**Contract No:**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005735-001A	MW-27-085-177	Water	4/28/2011 1:05:00 PM	5/2/2011	
N005735-001B	MW-27-085-177	Water	4/28/2011 1:05:00 PM	5/2/2011	
N005735-002A	MW-34-080-177	Water	4/28/2011 3:58:00 PM	5/2/2011	
N005735-002B	MW-34-080-177	Water	4/28/2011 3:58:00 PM	5/2/2011	
N005735-003A	MW-34-100-177	Water	4/28/2011 2:22:00 PM	5/2/2011	
N005735-003B	MW-34-100-177	Water	4/28/2011 2:22:00 PM	5/2/2011	
N005735-004A	MW-93-177	Water	4/28/2011 12:30:00 PM	5/2/2011	
N005735-004B	MW-93-177	Water	4/28/2011 12:30:00 PM	5/2/2011	
N005735-005A	MW-94-177	Water	4/28/2011 2:05:00 PM	5/2/2011	
N005735-005B	MW-94-177	Water	4/28/2011 2:05:00 PM	5/2/2011	
N005735-006A	MW-29-177	Water	4/29/2011 12:44:00 PM	5/2/2011	
N005735-006B	MW-29-177	Water	4/29/2011 12:44:00 PM	5/2/2011	
N005735-007A	MW-42-055-177	Water	4/29/2011 8:31:00 AM	5/2/2011	
N005735-007B	MW-42-055-177	Water	4/29/2011 8:31:00 AM	5/2/2011	
N005735-008A	MW-42-065-177	Water	4/29/2011 9:16:00 AM	5/2/2011	
N005735-008B	MW-42-065-177	Water	4/29/2011 9:16:00 AM	5/2/2011	
N005735-009A	MW-43-025-177	Water	4/29/2011 10:13:00 AM	5/2/2011	
N005735-009B	MW-43-025-177	Water	4/29/2011 10:13:00 AM	5/2/2011	
N005735-010A	MW-43-090-177	Water	4/29/2011 11:37:00 AM	5/2/2011	
N005735-010B	MW-43-090-177	Water	4/29/2011 11:37:00 AM	5/2/2011	



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Page 1 of 1

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-27-085-177
Lab Order:	N005735	Collection Date:	4/28/2011 1:05:00 PM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI			
Specific Conductance	13000	0.10	0.10	umhos/cm	1	5/3/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-34-080-177
Lab Order:	N005735	Collection Date:	4/28/2011 3:58:00 PM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI
Specific Conductance	7600 0.10 0.10	umhos/cm 1	5/3/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-34-100-177**Lab Order:** N005735**Collection Date:** 4/28/2011 2:22:00 PM**Project:** PG&E Topock, 405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005735-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E

QC Batch: R79912

PrepDate:

Analyst: CEI

Specific Conductance

16000

0.10

0.10

umhos/cm

1

5/3/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-93-177
Lab Order:	N005735	Collection Date:	4/28/2011 12:30:00 PM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI
Specific Conductance	13000 0.10 0.10	umhos/cm 1	5/3/2011

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-94-177

Lab Order: N005735

Collection Date: 4/28/2011 2:05:00 PM

Project: PG&E Topock, 405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005735-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E

QC Batch: R79912

PrepDate:

Analyst: CEI

Specific Conductance

16000

0.10

0.10

umhos/cm

1

5/3/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-29-177

Lab Order: N005735

Collection Date: 4/29/2011 12:44:00 PM

Project: PG&E Topock, 405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005735-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E

QC Batch: R79912

PrepDate:

Analyst: CEI

Specific Conductance

2200

0.10

0.10

umhos/cm

1

5/3/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-42-055-177
Lab Order:	N005735	Collection Date:	4/29/2011 8:31:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI			
Specific Conductance	7500	0.10	0.10	umhos/cm	1	5/3/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-42-065-177
Lab Order:	N005735	Collection Date:	4/29/2011 9:16:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI			
Specific Conductance	9500	0.10	0.10	umhos/cm	1	5/3/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-43-025-177
Lab Order:	N005735	Collection Date:	4/29/2011 10:13:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI
Specific Conductance	1200 0.10 0.10	umhos/cm 1	5/3/2011

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-43-090-177
Lab Order:	N005735	Collection Date:	4/29/2011 11:37:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110503E	QC Batch: R79912	PrepDate:	Analyst: CEI
Specific Conductance	17000 0.10 0.10	umhos/cm 1	5/3/2011

Qualifiers:	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N005735
Project: PG&E Topock, 405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT**TestCode: 120.1_WPGE**

Sample ID: LCS-R79912	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79912						
Client ID: LCSW	Batch ID: R79912	TestNo: EPA 120.1	Analysis Date: 5/3/2011	SeqNo: 1263322							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9620.000	0.10	9985	0	96.3	85	115				

Sample ID: N005735-001BDUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79912						
Client ID: ZZZZZZ	Batch ID: R79912	TestNo: EPA 120.1	Analysis Date: 5/3/2011	SeqNo: 1263333							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	13240.000	0.10						13250	0.0755	10	

Sample ID: N005735-001BMS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79912						
Client ID: ZZZZZZ	Batch ID: R79912	TestNo: EPA 120.1	Analysis Date: 5/3/2011	SeqNo: 1263334							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	23120.000	0.20	9985	13250	98.8	75	125				

Sample ID: N005735-001BMSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79912						
Client ID: ZZZZZZ	Batch ID: R79912	TestNo: EPA 120.1	Analysis Date: 5/3/2011	SeqNo: 1263335							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	23400.000	0.20	9985	13250	102	75	125	23120	1.20	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: 18-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-27-085-177**Lab Order:** N005735**Collection Date:** 4/28/2011 1:05:00 PM**Project:** PG&E Topock, 405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005735-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate: 5/3/2011 Analyst: JT			
Arsenic	1.4	0.012	0.50	µg/L	5	5/3/2011 02:40 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



*Advanced Technology
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3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-34-080-177

Lab Order: N005735

Collection Date: 4/28/2011 3:58:00 PM

Project: PG&E Topock, 405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005735-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate: 5/3/2011		Analyst: JT	
Arsenic	1.4	0.0025	0.10	µg/L	1	5/3/2011 02:59 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-34-100-177**Lab Order:** N005735**Collection Date:** 4/28/2011 2:22:00 PM**Project:** PG&E Topock, 405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005735-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:		5/3/2011	Analyst: JT
Arsenic	1.4	0.0025	0.10	µg/L		1	5/3/2011 03:04 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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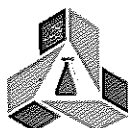
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-93-177**Lab Order:** N005735**Collection Date:** 4/28/2011 12:30:00 PM**Project:** PG&E Topock, 405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005735-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate: 5/3/2011		Analyst: JT	
Arsenic	1.4	0.0025	0.10	µg/L	1	5/3/2011 03:09 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-94-177
Lab Order:	N005735	Collection Date:	4/28/2011 2:05:00 PM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:		5/3/2011	Analyst: JT
Arsenic	1.3	0.0025	0.10		µg/L	1	5/3/2011 03:23 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-29-177

Lab Order: N005735

Collection Date: 4/29/2011 12:44:00 PM

Project: PG&E Topock, 405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005735-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:		5/3/2011	Analyst: JT
Arsenic	9.0	0.025	0.10	µg/L	1	5/3/2011 03:28 PM	
Manganese	400	0.46	2.5	µg/L	5	5/3/2011 04:53 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-42-055-177

Lab Order: N005735

Collection Date: 4/29/2011 8:31:00 AM

Project: PG&E Topock, 405681.MP.02.GM.04

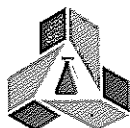
Matrix: WATER

Lab ID: N005735-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate: 5/3/2011		Analyst: JT	
Arsenic	13	0.0025	0.10	µg/L	1	5/3/2011 03:33 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-42-065-177
Lab Order:	N005735	Collection Date:	4/29/2011 9:16:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:		5/3/2011	Analyst: JT
Arsenic	2.2	0.025	0.10	µg/L	1	5/3/2011 03:38 PM	
Manganese	1600	2.3	12	µg/L	25	5/3/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 18-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-43-025-177**Lab Order:** N005735**Collection Date:** 4/29/2011 10:13:00 AM**Project:** PG&E Topock, 405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005735-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:	5/3/2011	Analyst: JT	
Arsenic	20	0.025	0.10	µg/L	1	5/3/2011 03:43 PM	
Manganese	270	0.46	2.5	µg/L	5	5/3/2011 05:12 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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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 23-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-43-090-177
Lab Order:	N005735	Collection Date:	4/29/2011 11:37:00 AM
Project:	PG&E Topock, 405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005735-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110503C	QC Batch: 36812			PrepDate:		5/3/2011	Analyst: JT
Arsenic	3.3	0.12	0.50	µg/L	5	5/3/2011 05:17 PM	
Manganese	1000	0.46	2.5	µg/L	5	5/3/2011 05:17 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
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CLIENT: CH2M HILL
 Work Order: N005735
 Project: PG&E Topock, 405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: MB-36812	SampType: MBLK	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: PBW	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.041	0.10									

Sample ID: LCS-36812	SampType: LCS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: LCSW	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268467						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.398	0.10	10.00	0	104	85	115				

Sample ID: N005735-001A-MS	SampType: MS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: ZZZZZZ	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268491						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.128	0.50	10.00	1.438	107	75	125				

Sample ID: N005735-001A-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: ZZZZZZ	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268492						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.066	0.50	10.00	1.438	106	75	125	12.13	0.514	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: N005735
Project: PG&E Topock, 405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020WDAsMnHink

Sample ID: MB-36812	SampType: MBLK	TestCode: 6020WDAsM	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: PBW	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268519						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.041	0.10									
Manganese	ND	0.50									

Sample ID: LCS-36812	SampType: LCS	TestCode: 6020WDAsM	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: LCSW	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268520						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.398	0.10	10.00	0	104	85	115				
Manganese	113.289	0.50	100.0	0	113	85	115				

Sample ID: N005735-001A-MS	SampType: MS	TestCode: 6020WDA	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: ZZZZZZ	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268544						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.128	0.50	10.00	1.438	107	75	125				
Manganese	217.662	2.5	100.0	133.0	84.7	75	125				

Sample ID: N005735-001A-MSD	SampType: MSD	TestCode: 6020WDAsM	Units: µg/L	Prep Date: 5/3/2011	RunNo: 80072						
Client ID: ZZZZZZ	Batch ID: 36812	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/3/2011	SeqNo: 1268545						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.066	0.50	10.00	1.438	106	75	125	12.13	0.514	20	
Manganese	223.255	2.5	100.0	133.0	90.3	75	125	217.7	2.54	20	

Qualifiers:

- | | | |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| ND Not Detected at the Reporting Limit | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out | Calculations are based on raw values | |



Advanced Technology
 Laboratories, Inc.

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Project Name PG&E Topock				Container:	500 ml Poly	500 ml Poly	1 Liter Poly		Number of Containers	COMMENTS
Location Topock				Preservatives:	HNO3, 4°C	HNO3, 4°C	4°C			
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	NA			
Project Manager Jay Piper				Holding Time:	180	180	2			
Sample Manager Shawn Duffy										
Task Order					Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mn	Specific Conductance (E120.1)			
Project 2011-GMP-177-Q2										
Turnaround Time 10 Days										
Shipping Date: 5/2/2011										
COC Number: 2										
	DATE	TIME	MATRIX							
1	MW-27-085-177	4/28/2011	13:05	Water	X		X	NOV 27 38 - 001	2	
2	MW-34-080-177	4/28/2011	15:58	Water	X		X	- 002	2	
3	MW-34-100-177	4/28/2011	14:22	Water	X		X	- 003	2	
4	MW-93-177	4/28/2011	12:30	Water	X		X	- 004	2	
5	MW-94-177	4/28/2011	14:05	Water	X		X	- 005	2	
6	MW-29-177	4/29/2011	12:44	Water	X	X	X	- 006	2	2
7	MW-42-055-177	4/29/2011	8:31	Water	X		X	- 007	2	
8	MW-42-065-177	4/29/2011	9:16	Water	X	X	X	- 008	2	2
9	MW-43-025-177	4/29/2011	10:13	Water	X	X	X	- 009	2	2
10	MW-43-090-177	4/29/2011	11:37	Water	X	X	X	- 010	2	2
TOTAL NUMBER OF CONTAINERS									24	

Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: FedEx

On Ice: yes / no 1.2°C 12#1

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:

Sample Custody
and
Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/2/2011 COC Number: 2				Container: 500 ml Poly Preservatives: HNO ₃ , 4°C Filtered: Field Holding Time: 180	500 ml Poly HNO ₃ , 4°C Field 180	1 Liter Poly 4°C NA 2	Arsenic (6020) Field Filtered Metals (6020A) Field Filtered Mn Specific Conductance (E120-1)			
DATE	TIME	Matrix								
MW-27-085-177	4/28/2011	13:05	Water	X		X				
MW-34-080-177	4/28/2011	15:58	Water	X		X				
MW-34-100-177	4/28/2011	14:22	Water	X		X				
MW-93-177	4/28/2011	12:30	Water	X		X				
MW-94-177	4/28/2011	14:05	Water	X		X				
MW-29-177	4/29/2011	12:44	Water	X	X	X	2			
MW-42-055-177	4/29/2011	8:31	Water	X		X	2			
MW-42-065-177	4/29/2011	9:16	Water	X	X	X	2			
MW-43-025-177	4/29/2011	10:13	Water	X	X	X	2			
MW-43-090-177	4/29/2011	11:37	Water	X	X	X	2			
TOTAL NUMBER OF CONTAINERS							24			

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: FedEx

On Ice: yes / no 1.2°C 12#1

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATO

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marion

Special Instructions:

April 28 - May 13, 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: 5/2/2011

Workorder: N005735

Rep sample Temp (Deg C): 1.2

IR Gun ID: IR#1

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.:

Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed By GG *GG 5/2/11*

Reviewed By: *WS 5/3/11*

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:

$$\text{Arsenic, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005735-001B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 0.28761 * 5 * (1) \\ &= 1.4438 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 1.4$$



Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005735
Test Method: EPA 6020
Analysis Date: 05/03/11

Dilution Test Summary

Matrix: Aqueous
Batch No.: 36812

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable to As & Mn. The calc. Values are < 25X the RL.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005735-001A-DT 25X	Arsenic	ug/L	0	NA	1.438032847	-100.00%	10
N005735-001A-DT 25X	Manganese	ug/L	126.7494628	NA	132.9757139	-4.68%	10

CA
5/18/11

m

5/18/11

CLIENT: CH2M HILL
Work Order: N005735
Project: PG&E Topock, 405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: N005735-001A-PS 5		SampType: PS	TestCode: 6020_WD_As		Units: µg/L	Prep Date:			RunNo: 80072		
Client ID: ZZZZZZ		Batch ID: 36812	TestNo: EPA 6020		EPA 3010A	Analysis Date: 5/3/2011			SeqNo: 1268490		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	53.303	0.50	50.00	1.438	104	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: N005735
Project: PG&E Topock, 405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020WDAsMnHink

Sample ID: N005735-001A-PS 5		SampType: PS	TestCode: 6020WDAsM		Units: µg/L	Prep Date:			RunNo: 80072		
Client ID: ZZZZZZ		Batch ID: 36812	TestNo: EPA 6020		EPA 3010A	Analysis Date: 5/3/2011			SeqNo: 1268543		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	53.303	0.50	50.00	1.438	104	75	125				
Manganese	581.071	2.5	500.0	133.0	89.6	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 | | |

May 20, 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.: N005743

RE: PG&E Topock, 405681.MP.02.GM.04


Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 03, 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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005743

CASE NARRATIVE

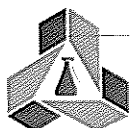
SAMPLE RECEIVING/GENERAL COMMENTS:

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.



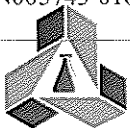
Advanced Technology Laboratories, Inc.

Date: 20-May-11

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005743
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005743-001A	MW-16-177	Water	5/2/2011 2:59:00 PM	5/3/2011	
N005743-001B	MW-16-177	Water	5/2/2011 2:59:00 PM	5/3/2011	
N005743-002A	MW-17-177	Water	5/3/2011 1:16:00 PM	5/3/2011	
N005743-002B	MW-17-177	Water	5/3/2011 1:16:00 PM	5/3/2011	
N005743-003A	MW-28-025-177	Water	5/2/2011 11:32:00 AM	5/3/2011	
N005743-003B	MW-28-025-177	Water	5/2/2011 11:32:00 AM	5/3/2011	
N005743-004A	MW-28-090-177	Water	5/2/2011 12:26:00 PM	5/3/2011	
N005743-004B	MW-28-090-177	Water	5/2/2011 12:26:00 PM	5/3/2011	
N005743-005A	MW-30-030-177	Water	5/3/2011 1:22:00 PM	5/3/2011	
N005743-005B	MW-30-030-177	Water	5/3/2011 1:22:00 PM	5/3/2011	
N005743-006A	MW-32-035-177	Water	5/2/2011 1:51:00 PM	5/3/2011	
N005743-006B	MW-32-035-177	Water	5/2/2011 1:51:00 PM	5/3/2011	
N005743-007A	MW-33-040-177	Water	5/2/2011 3:06:00 PM	5/3/2011	
N005743-007B	MW-33-040-177	Water	5/2/2011 3:06:00 PM	5/3/2011	
N005743-008A	MW-36-090-177	Water	5/2/2011 3:05:00 PM	5/3/2011	
N005743-008B	MW-36-090-177	Water	5/2/2011 3:05:00 PM	5/3/2011	
N005743-009A	MW-36-100-177	Water	5/3/2011 2:12:00 PM	5/3/2011	
N005743-009B	MW-36-100-177	Water	5/3/2011 2:12:00 PM	5/3/2011	
N005743-010A	MW-41D-177	Water	5/2/2011 12:43:00 PM	5/3/2011	
N005743-011A	MW-44-070-177	Water	5/3/2011 9:25:00 AM	5/3/2011	
N005743-011B	MW-44-070-177	Water	5/3/2011 9:25:00 AM	5/3/2011	
N005743-012A	MW-44-115-177	Water	5/3/2011 10:01:00 AM	5/3/2011	
N005743-012B	MW-44-115-177	Water	5/3/2011 10:01:00 AM	5/3/2011	
N005743-013A	MW-44-125-177	Water	5/3/2011 12:18:00 PM	5/3/2011	
N005743-013B	MW-44-125-177	Water	5/3/2011 12:18:00 PM	5/3/2011	
N005743-014A	MW-46-175-177	Water	5/3/2011 4:06:00 PM	5/3/2011	
N005743-014B	MW-46-175-177	Water	5/3/2011 4:06:00 PM	5/3/2011	
N005743-015A	MW-50-095-177	Water	5/3/2011 2:21:00 PM	5/3/2011	
N005743-016A	MW-57-185-177	Water	5/3/2011 11:46:00 AM	5/3/2011	



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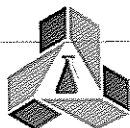
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Page 1 of 2

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005743
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005743-016B	MW-57-185-177	Water	5/3/2011 11:46:00 AM	5/3/2011	
N005743-017A	MW-63-065-177	Water	5/3/2011 9:12:00 AM	5/3/2011	
N005743-017B	MW-63-065-177	Water	5/3/2011 9:12:00 AM	5/3/2011	
N005743-018A	MW-95-177	Water	5/3/2011 11:52:00 AM	5/3/2011	
N005743-018B	MW-95-177	Water	5/3/2011 11:52:00 AM	5/3/2011	
N005743-019A	MW-96-177	Water	5/3/2011 3:53:00 PM	5/3/2011	
N005743-019B	MW-96-177	Water	5/3/2011 3:53:00 PM	5/3/2011	



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-16-177**Lab Order:** N005743**Collection Date:** 5/2/2011 2:59:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504D**QC Batch:** R79957**PrepDate:****Analyst:** CEI

Specific Conductance

1100

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-17-177**Lab Order:** N005743**Collection Date:** 5/3/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504D**QC Batch:** R79957**PrepDate:****Analyst:** CEI

Specific Conductance

1500

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-28-025-177**Lab Order:** N005743**Collection Date:** 5/2/2011 11:32:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504D

QC Batch: R79957

PrepDate:

Analyst: CEI

Specific Conductance

1000 0.10

0.10

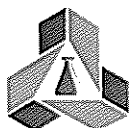
umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

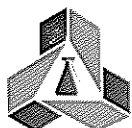
CLIENT:	CH2M HILL	Client Sample ID:	MW-28-090-177
Lab Order:	N005743	Collection Date:	5/2/2011 12:26:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504D	QC Batch: R79957	PrepDate:	Analyst: CEI			
Specific Conductance	7100	0.10	0.10	umhos/cm	1	5/4/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-30-030-177

Lab Order: N005743

Collection Date: 5/3/2011 1:22:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504D

QC Batch: R79957

PrepDate:

Analyst: CEI

Specific Conductance

12000

0.10

0.10

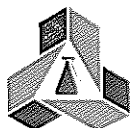
umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-32-035-177**Lab Order:** N005743**Collection Date:** 5/2/2011 1:51:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504D**QC Batch:** R79957**PrepDate:****Analyst:** CEI

Specific Conductance

17000

0.10

0.10

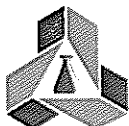
umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-33-040-177**Lab Order:** N005743**Collection Date:** 5/2/2011 3:06:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504D

QC Batch: R79957

PrepDate:

Analyst: CEI

Specific Conductance

5900 0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-36-090-177**Lab Order:** N005743**Collection Date:** 5/2/2011 3:05:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504D**QC Batch:** R79957**PrepDate:****Analyst:** CEI

Specific Conductance

1300

0.10

0.10

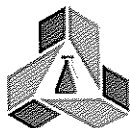
umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-36-100-177

Lab Order: N005743

Collection Date: 5/3/2011 2:12:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504D

QC Batch: R79957

PrepDate:

Analyst: CEI

Specific Conductance

9700

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-41D-177**Lab Order:** N005743**Collection Date:** 5/2/2011 12:43:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-010

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504D**QC Batch:** R79957**PrepDate:****Analyst:** CEI

Specific Conductance

18000

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-44-070-177

Lab Order: N005743

Collection Date: 5/3/2011 9:25:00 AM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-011

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504E

QC Batch: R79958

PrepDate:

Analyst: CEI

Specific Conductance

2500

0.10

0.10

umhos/cm

1

5/4/2011

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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Laboratories, Inc.*

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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-115-177**Lab Order:** N005743**Collection Date:** 5/3/2011 10:01:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-012

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504E**QC Batch:** R79958**PrepDate:****Analyst:** CEI

Specific Conductance

11000

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-125-177**Lab Order:** N005743**Collection Date:** 5/3/2011 12:18:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**RunID: **WETCHEM_110504E**QC Batch: **R79958**

PrepDate:

Analyst: **CEI**

Specific Conductance

11000

0.10

0.10

umhos/cm

1

5/4/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-46-175-177**Lab Order:** N005743**Collection Date:** 5/3/2011 4:06:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504E

QC Batch: R79958

PrepDate:

Analyst: CEI

Specific Conductance

16000

0.10

0.10

umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-50-095-177**Lab Order:** N005743**Collection Date:** 5/3/2011 2:21:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-015

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504E

QC Batch: R79958

PrepDate:

Analyst: CEI

Specific Conductance

5000

0.10

0.10

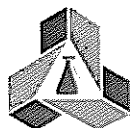
umhos/cm

1

5/4/2011

Qualifiers: B Analyte detected in the associated Method Blank
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Laboratories, Inc.*

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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-57-185-177
Lab Order:	N005743	Collection Date:	5/3/2011 11:46:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504E	QC Batch: R79958	PrepDate:	Analyst: CEI			
Specific Conductance	17000	0.10	0.10	umhos/cm	1	5/4/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-63-065-177**Lab Order:** N005743**Collection Date:** 5/3/2011 9:12:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110504E

QC Batch: R79958

PrepDate:

Analyst: CEI

Specific Conductance

7200

0.10

0.10

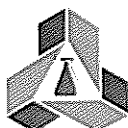
umhos/cm

1

5/4/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-95-177**Lab Order:** N005743**Collection Date:** 5/3/2011 11:52:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-018

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504E**QC Batch:** R79958**PrepDate:****Analyst:** CEI

Specific Conductance

10000

0.10

0.10

umhos/cm

1

5/4/2011

Qualifiers:

B Analyte detected in the associated Method Blank

E Value above quantitation range

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-96-177**Lab Order:** N005743**Collection Date:** 5/3/2011 3:53:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-019

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504E**QC Batch:** R79958**PrepDate:****Analyst:** CEI

Specific Conductance

16000

0.10

0.10

umhos/cm

1

5/4/2011

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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CLIENT: CH2M HILL
 Work Order: N005743
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79957	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79957						
Client ID: LCSW	Batch ID: R79957	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264811						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1415.000	0.10	1411	0	100	85	115				

Sample ID: N005743-001A-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79957						
Client ID: ZZZZZZ	Batch ID: R79957	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264823						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1079.000	0.10						1092	1.20	10	

Sample ID: N005743-001A-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79957						
Client ID: ZZZZZZ	Batch ID: R79957	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264824						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2568.000	0.20	1411	1092	105	75	125				

Sample ID: N005743-001A-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79957						
Client ID: ZZZZZZ	Batch ID: R79957	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264826						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2576.000	0.20	1411	1092	105	75	125	2568	0.311	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79958	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: LCSW	Batch ID: R79958	TestNo: EPA 120.1	Analysis Date: 5/4/2011	SeqNo: 1264850							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1405.000	0.10	1411	0	99.6	85	115				

Sample ID: N005743-011A-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1	Analysis Date: 5/4/2011	SeqNo: 1264853							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2500.000	0.10						2540	1.59	10	

Sample ID: N005743-011A-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1	Analysis Date: 5/4/2011	SeqNo: 1264854							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3674.000	0.20	1411	2540	80.4	75	125				

Sample ID: N005743-011A-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1	Analysis Date: 5/4/2011	SeqNo: 1264855							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3662.000	0.20	1411	2540	79.5	75	125	3674	0.327	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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-30-030-177**Lab Order:** N005743**Collection Date:** 5/3/2011 1:22:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A

QC Batch: R80000

PrepDate:

Analyst: QBM

Nitrate as N

ND 0.022

1.0

mg/L

2

5/4/2011 11:49 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: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-36-100-177**Lab Order:** N005743**Collection Date:** 5/3/2011 2:12:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110504A**QC Batch:** R80000**PrepDate:****Analyst:** QBM

Nitrate as N

ND 0.022

1.0

mg/L

2

5/4/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-44-115-177
Lab Order:	N005743	Collection Date:	5/3/2011 10:01:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A	QC Batch: R80000	PrepDate:	Analyst: QBM
Nitrate as N	ND 0.022	1.0 mg/L	2 5/4/2011 10:20 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-125-177**Lab Order:** N005743**Collection Date:** 5/3/2011 12:18:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110504A**QC Batch:** R80000**PrepDate:****Analyst:** QBM

Nitrate as N

ND

0.022

1.0

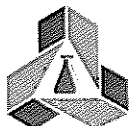
mg/L

2

5/4/2011 10:31 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: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-46-175-177**Lab Order:** N005743**Collection Date:** 5/3/2011 4:06:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110504A**QC Batch:** R80000**PrepDate:****Analyst:** QBM

Nitrate as N

ND

0.055

2.5

mg/L

5

5/4/2011 10:42 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: 20-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-57-185-177

Lab Order: N005743

Collection Date: 5/3/2011 11:46:00 AM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-016

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A

QC Batch: R80000

PrepDate:

Analyst: QBM

Nitrate as N

ND 0.055

2.5

mg/L

5

5/4/2011 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: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-63-065-177**Lab Order:** N005743**Collection Date:** 5/3/2011 9:12:00 AM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A

QC Batch: R80000

PrepDate:

Analyst: QBM

Nitrate as N

1.0 0.011

0.50

mg/L

1

5/4/2011 11:04 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

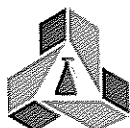
CLIENT:	CH2M HILL	Client Sample ID:	MW-95-177
Lab Order:	N005743	Collection Date:	5/3/2011 11:52:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A	QC Batch: R80000	PrepDate:	Analyst: QBM
Nitrate as N	0.55 0.011 0.50	mg/L	1 5/4/2011 11:16 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-96-177**Lab Order:** N005743**Collection Date:** 5/3/2011 3:53:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-019

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A

QC Batch: R80000

PrepDate:

Analyst: QBM

Nitrate as N

ND 0.055

2.5

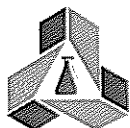
mg/L

5

5/4/2011 12:00 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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CLIENT: CH2M HILL
 Work Order: N005743
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R80000_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: PBW	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266297						
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-R80000_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: LCSW	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266298						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.408	0.50	2.500	0	96.3	90	110				

Sample ID: N005744-001BDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266311						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.066	1.0						2.066	0	20	

Sample ID: N005743-017AMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.470	0.50	2.500	1.016	98.2	80	120				

Sample ID: N005745-003CMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266316						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.365	0.50	2.500	1.774	104	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: N005745-003CMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266317						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.438	0.50	2.500	1.774	107	80	120	4.365	1.66	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: 20-May-11

CLIENT: CH2M HILL
Lab Order: N005743
Project: PG&E Topock,405681.MP.02.GM.04
Lab ID: N005743-001

Client Sample ID: MW-16-177
Collection Date: 5/2/2011 2:59:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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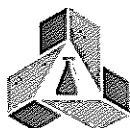
DISSOLVED METALS BY ICP**EPA 3010A****EPA 6010B**

RunID: ICP1_110507A	QC Batch: 36827			PrepDate: 5/4/2011	Analyst: KAB	
Aluminum	ND	8.4	50	ug/L	1	5/7/2011 09:12 AM
Antimony	ND	5.4	10	ug/L	1	5/7/2011 09:12 AM
Barium	30	0.20	3.0	ug/L	1	5/7/2011 09:12 AM
Beryllium	ND	0.090	1.0	ug/L	1	5/7/2011 09:12 AM
Boron	310	13	100	ug/L	1	5/7/2011 09:12 AM
Cadmium	ND	0.23	3.0	ug/L	1	5/7/2011 09:12 AM
Cobalt	ND	0.31	3.0	ug/L	1	5/7/2011 09:12 AM
Copper	ND	0.53	5.0	ug/L	1	5/7/2011 09:12 AM
iron	30	14	20	ug/L	1	5/9/2011 12:50 PM
Lead	ND	1.5	10	ug/L	1	5/7/2011 09:12 AM
Manganese	ND	1.7	10	ug/L	1	5/9/2011 12:50 PM
Molybdenum	13	0.49	5.0	ug/L	1	5/7/2011 09:12 AM
Nickel	ND	1.1	5.0	ug/L	1	5/7/2011 09:12 AM
Silver	ND	0.72	3.0	ug/L	1	5/7/2011 09:12 AM
Vanadium	35	0.19	3.0	ug/L	1	5/7/2011 09:12 AM
Zinc	ND	4.6	10	ug/L	1	5/7/2011 09:12 AM

DISSOLVED METALS BY ICP**EPA 3010A****EPA 6010B**

RunID: ICP1_110509A	QC Batch: 36858			PrepDate: 5/7/2011	Analyst: KAB	
Calcium	28	0.12	0.50	mg/L	1	5/9/2011 12:50 PM
Magnesium	5.0	0.0063	0.10	mg/L	1	5/9/2011 12:50 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-17-177**Lab Order:** N005743**Collection Date:** 5/3/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A				EPA 6010B			
RunID: ICP1_110507A	QC Batch: 36827			PrepDate:	5/4/2011	Analyst: KAB	
Aluminum	ND	8.4	50	ug/L	1	5/7/2011 09:17 AM	
Antimony	ND	5.4	10	ug/L	1	5/7/2011 09:17 AM	
Barium	25	0.20	3.0	ug/L	1	5/7/2011 09:17 AM	
Beryllium	ND	0.090	1.0	ug/L	1	5/7/2011 09:17 AM	
Boron	230	13	100	ug/L	1	5/7/2011 09:17 AM	
Cadmium	ND	0.23	3.0	ug/L	1	5/7/2011 09:17 AM	
Cobalt	ND	0.31	3.0	ug/L	1	5/7/2011 09:17 AM	
Copper	ND	0.53	5.0	ug/L	1	5/7/2011 09:17 AM	
Iron	ND	14	20	ug/L	1	5/9/2011 12:53 PM	
Lead	ND	1.5	10	ug/L	1	5/7/2011 09:17 AM	
Manganese	ND	1.7	10	ug/L	1	5/9/2011 12:53 PM	
Molybdenum	15	0.49	5.0	ug/L	1	5/7/2011 09:17 AM	
Nickel	ND	1.1	5.0	ug/L	1	5/7/2011 09:17 AM	
Silver	ND	0.72	3.0	ug/L	1	5/7/2011 09:17 AM	
Vanadium	4.9	0.19	3.0	ug/L	1	5/7/2011 09:17 AM	
Zinc	21	4.6	10	ug/L	1	5/7/2011 09:17 AM	

DISSOLVED METALS BY ICP

EPA 3010A				EPA 6010B			
RunID: ICP1_110509A	QC Batch: 36858			PrepDate:	5/7/2011	Analyst: KAB	
Calcium	89	0.12	0.50	mg/L	1	5/9/2011 12:53 PM	
Magnesium	12	0.0063	0.10	mg/L	1	5/9/2011 12:53 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

Work Order: N005743

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36827	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/4/2011	RunNo: 79941						
Client ID: PBW	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264333						
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									
Boron	ND	100									
Cadmium	ND	3.0									
Cobalt	ND	3.0									
Copper	1.255	5.0									
Lead	ND	10									
Molybdenum	2.624	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: LCS-36827	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/4/2011	RunNo: 79941						
Client ID: LCSW	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9958.321	50	10000	0	99.6	85	115				
Antimony	484.795	10	500.0	0	97.0	85	115				
Barium	503.589	3.0	500.0	0	101	85	115				
Beryllium	485.619	1.0	500.0	0	97.1	85	115				
Boron	4753.587	100	5000	0	95.1	85	115				
Cadmium	491.979	3.0	500.0	0	98.4	85	115				
Cobalt	502.844	3.0	500.0	0	101	85	115				
Copper	512.870	5.0	500.0	0	103	85	115				
Lead	493.614	10	500.0	0	98.7	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: LCS-36827	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/4/2011	RunNo: 79941						
Client ID: LCSW	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264334						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	497.699	5.0	500.0	0	99.5	85	115				
Nickel	503.439	5.0	500.0	0	101	85	115				
Silver	488.807	3.0	500.0	0	97.8	85	115				
Vanadium	500.005	3.0	500.0	0	100	85	115				
Zinc	491.236	10	500.0	0	98.2	85	115				

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/4/2011	RunNo: 79941						
Client ID: ZZZZZZ	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264340						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10030.832	50	10000	14.20	100	75	125				
Antimony	505.325	10	500.0	0	101	75	125				
Barium	531.628	3.0	500.0	30.10	100	75	125				
Beryllium	501.989	1.0	500.0	0	100	75	125				
Boron	5279.490	100	5000	310.3	99.4	75	125				
Cadmium	499.640	3.0	500.0	0	99.9	75	125				
Cobalt	508.407	3.0	500.0	0	102	75	125				
Copper	528.857	5.0	500.0	2.222	105	75	125				
Lead	491.826	10	500.0	1.990	98.0	75	125				
Molybdenum	521.922	5.0	500.0	12.70	102	75	125				
Nickel	519.573	5.0	500.0	2.440	103	75	125				
Silver	504.873	3.0	500.0	0	101	75	125				
Vanadium	555.641	3.0	500.0	35.14	104	75	125				
Zinc	506.896	10	500.0	6.373	100	75	125				

Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/4/2011	RunNo: 79941						
Client ID: ZZZZZZ	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264341						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10126.560	50	10000	14.20	101	75	125	10030	0.950	20	

Qualifiers:

- | | | | | | |
|----|---|--------------------------------------|--------------------------------------|----|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | II | 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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005743-001B-MSD		SampType: MSD	TestCode: 6010_WDPG		Units: ug/L	Prep Date: 5/4/2011		RunNo: 79941			
Client ID: ZZZZZZ		Batch ID: 36827	TestNo: EPA 6010B		EPA 3010A	Analysis Date: 5/7/2011		SeqNo: 1264341			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	512.886	10	500.0	0	103	75	125	505.3	1.49	20	
Barium	536.960	3.0	500.0	30.10	101	75	125	531.6	0.998	20	
Beryllium	501.293	1.0	500.0	0	100	75	125	502.0	0.139	20	
Boron	5316.669	100	5000	310.3	100	75	125	5279	0.702	20	
Cadmium	503.435	3.0	500.0	0	101	75	125	499.6	0.757	20	
Cobalt	514.680	3.0	500.0	0	103	75	125	508.4	1.23	20	
Copper	532.041	5.0	500.0	2.222	106	75	125	528.9	0.600	20	
Lead	498.766	10	500.0	1.990	99.4	75	125	491.8	1.40	20	
Molybdenum	528.563	5.0	500.0	12.70	103	75	125	521.9	1.26	20	
Nickel	523.856	5.0	500.0	2.440	104	75	125	519.6	0.821	20	
Silver	509.186	3.0	500.0	0	102	75	125	504.9	0.851	20	
Vanadium	560.984	3.0	500.0	35.14	105	75	125	555.6	0.957	20	
Zinc	507.245	10	500.0	6.373	100	75	125	506.9	0.0689	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36858	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: PBW	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1264799						
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-36858	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: LCSW	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1264800						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9870.875	20	10000	0	98.7	85	115				
Manganese	993.560	10	1000	0	99.4	85	115				

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1264803						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9900.496	20	10000	30.42	98.7	75	125				
Manganese	964.666	10	1000	0	96.5	75	125				

Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1264804						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9881.637	20	10000	30.42	98.5	75	125	9900	0.191	20	
Manganese	982.345	10	1000	0	98.2	75	125	964.7	1.82	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: MB-36858	SampType: MBLK	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: PBW	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268692						
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-36858	SampType: LCS	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: LCSW	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268693						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.688	0.50	10.00	0	96.9	85	115				
Magnesium	9.755	0.10	10.00	0	97.6	85	115				

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268696						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	37.052	0.50	10.00	27.85	92.1	75	125				
Magnesium	14.450	0.10	10.00	5.004	94.5	75	125				

Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: mg/L	Prep Date: 5/7/2011	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268697						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	36.858	0.50	10.00	27.85	90.1	75	125	37.05	0.525	20	
Magnesium	14.397	0.10	10.00	5.004	93.9	75	125	14.45	0.365	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: 20-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-16-177

Lab Order: N005743

Collection Date: 5/2/2011 2:59:00 PM

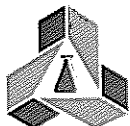
Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate: 5/4/2011		Analyst: JT	
Arsenic	10	0.0025	0.10	µg/L	1	5/5/2011 06:26 PM	
Selenium	1.6	0.29	0.50	µg/L	1	5/5/2011 06:26 PM	
Thallium	ND	0.015	0.50	µg/L	1	5/5/2011 06:26 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-17-177**Lab Order:** N005743**Collection Date:** 5/3/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	1.3	0.0025	0.10	µg/L	1	5/5/2011 07:10 PM	
Selenium	11	0.29	0.50	µg/L	1	5/5/2011 07:10 PM	
Thallium	ND	0.015	0.50	µg/L	1	5/5/2011 07:10 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-28-025-177
Lab Order:	N005743	Collection Date:	5/2/2011 11:32:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505E	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	2.0	0.0025	0.10		µg/L	1	5/5/2011 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: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-28-090-177**Lab Order:** N005743**Collection Date:** 5/2/2011 12:26:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505E	QC Batch: 36831			PrepDate: 5/4/2011 Analyst: JT			
Arsenic	2.0	0.0025	0.10	µg/L	1	5/5/2011 07:30 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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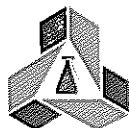
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-30-030-177
Lab Order:	N005743	Collection Date:	5/3/2011 1:22:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Molybdenum	24	0.24		2.5	µg/L	5	5/5/2011 07:44 PM
Selenium	ND	1.4		2.5	µg/L	5	5/5/2011 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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Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-32-035-177**Lab Order:** N005743**Collection Date:** 5/2/2011 1:51:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate: 5/4/2011 Analyst: JT			
Arsenic	26	0.0025	0.10	µg/L	1	5/5/2011 07:49 PM	
Manganese	2200	1.8	10	µg/L	20	5/6/2011 08:44 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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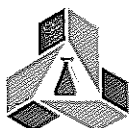
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-33-040-177**Lab Order:** N005743**Collection Date:** 5/2/2011 3:06:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505E	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	19	0.0025	0.10	µg/L		1	5/5/2011 08:13 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-36-090-177

Lab Order: N005743

Collection Date: 5/2/2011 3:05:00 PM

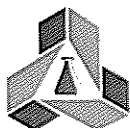
Project: PG&E Topock.405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005743-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505E	QC Batch: 36831			PrepDate: 5/4/2011 Analyst: JT			
Arsenic	19	0.0025	0.10	µg/L	1	5/5/2011 08:23 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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Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-36-100-177**Lab Order:** N005743**Collection Date:** 5/3/2011 2:12:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	6.3	0.0025	0.10	µg/L	1	5/5/2011 08:33 PM	
Manganese	75	0.091	0.50	µg/L	1	5/5/2011 08:33 PM	
Molybdenum	42	0.047	0.50	µg/L	1	5/5/2011 08:33 PM	
Selenium	0.77	0.29	0.50	µg/L	1	5/5/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-070-177**Lab Order:** N005743**Collection Date:** 5/3/2011 9:25:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-011

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED ICP-MS METALS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505E	QC Batch: 36831			PrepDate: 5/4/2011 Analyst: JT			
Arsenic	3.3	0.0025	0.10	µg/L	1	5/5/2011 08:43 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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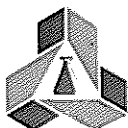
Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-115-177**Lab Order:** N005743**Collection Date:** 5/3/2011 10:01:00 AM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-012

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	5.6	0.0025	0.10	µg/L	1	5/5/2011 08:52 PM	
Manganese	5.2	0.091	0.50	µg/L	1	5/5/2011 08:52 PM	
Molybdenum	83	0.24	2.5	µg/L	5	5/5/2011 09:12 PM	
Selenium	ND	1.4	2.5	µg/L	5	5/5/2011 09:12 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



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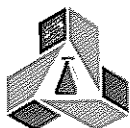
Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-44-125-177**Lab Order:** N005743**Collection Date:** 5/3/2011 12:18:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Arsenic	3.7	0.0025	0.10	µg/L	1	5/5/2011 09:17 PM	
Manganese	480	0.46	2.5	µg/L	5	5/5/2011 09:21 PM	
Molybdenum	83	0.047	0.50	µg/L	1	5/5/2011 09:17 PM	
Selenium	0.81	0.29	0.50	µg/L	1	5/5/2011 09:17 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-46-175-177
Lab Order:	N005743	Collection Date:	5/3/2011 4:06:00 PM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:	5/4/2011	Analyst: JT	
Molybdenum	170	0.24	2.5	µg/L	5	5/5/2011 09:31 PM	
Selenium	2.9	1.4	2.5	µg/L	5	5/5/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-57-185-177**Lab Order:** N005743**Collection Date:** 5/3/2011 11:46:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-016

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP-MS**EPA 3010A****EPA 6020****RunID:** ICP7_110505B**QC Batch:** 36831**PrepDate:** 5/4/2011 **Analyst:** JT

Arsenic	12	0.0025	0.10	µg/L	1	5/5/2011 09:36 PM
Manganese	540	0.46	2.5	µg/L	5	5/5/2011 09:41 PM
Molybdenum	88	0.24	2.5	µg/L	5	5/5/2011 09:41 PM
Selenium	3.3	1.4	2.5	µg/L	5	5/5/2011 09:41 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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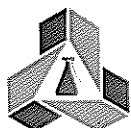
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-63-065-177**Lab Order:** N005743**Collection Date:** 5/3/2011 9:12:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831				PrepDate:	5/4/2011	Analyst: JT
Arsenic	1.6	0.0025	0.10		µg/L	1	5/5/2011 09:46 PM
Manganese	43	0.091	0.50		µg/L	1	5/5/2011 09:46 PM
Molybdenum	27	0.047	0.50		µg/L	1	5/5/2011 09:46 PM
Selenium	1.8	0.29	0.50		µg/L	1	5/5/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-95-177
Lab Order:	N005743	Collection Date:	5/3/2011 11:52:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005743-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP-MS**EPA 3010A****EPA 6020**

RunID: ICP7_110505B	QC Batch: 36831	PrepDate: 5/4/2011	Analyst: JT			
Arsenic	3.4	0.0025	0.10	µg/L	1	5/5/2011 09:56 PM
Manganese	750	0.46	2.5	µg/L	5	5/5/2011 10:15 PM
Molybdenum	130	0.24	2.5	µg/L	5	5/5/2011 10:15 PM
Selenium	ND	1.4	2.5	µg/L	5	5/5/2011 10:15 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

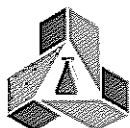
Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-96-177**Lab Order:** N005743**Collection Date:** 5/3/2011 3:53:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-019

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Molybdenum	170	0.24	2.5	µg/L	5	5/5/2011 10:25 PM	
Selenium	4.9	1.4	2.5	µg/L	5	5/5/2011 10:25 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



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CLIENT: CH2M HILL

Work Order: N005743

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: MB-36831	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: PBW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268935						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.020	0.10									
Manganese	0.368	0.50									
Molybdenum	0.123	0.50									
Selenium	ND	0.50									
Thallium	0.031	0.50									

Sample ID: LCS-36831	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: LCSW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268936						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.009	0.10	10.00	0	100	85	115				
Manganese	107.008	0.50	100.0	0	107	85	115				
Molybdenum	10.057	0.50	10.00	0	101	85	115				
Selenium	9.754	0.50	10.00	0	97.5	85	115				
Thallium	10.175	0.50	10.00	0	102	85	115				

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: ZZZZZZ	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268941						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	20.461	0.10	10.00	10.29	102	75	125				
Manganese	101.028	0.50	100.0	1.226	99.8	75	125				
Molybdenum	23.130	0.50	10.00	12.36	108	75	125				
Selenium	10.828	0.50	10.00	1.635	91.9	75	125				
Thallium	10.374	0.50	10.00	0.06034	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



CLIENT: CH2M HILL
Work Order: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005743-001B-MSD		SampType: MSD		TestCode: 6020_DIS		Units: µg/L		Prep Date: 5/4/2011		RunNo: 80091	
Client ID: ZZZZZZ		Batch ID: 36831		TestNo: EPA 6020		EPA 3010A		Analysis Date: 5/5/2011		SeqNo: 1268942	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.647	0.10	10.00	10.29	104	75	125	20.46	0.904	20	
Manganese	102.723	0.50	100.0	1.226	101	75	125	101.0	1.66	20	
Molybdenum	23.386	0.50	10.00	12.36	110	75	125	23.13	1.10	20	
Selenium	10.839	0.50	10.00	1.635	92.0	75	125	10.83	0.0961	20	
Thallium	10.476	0.50	10.00	0.06034	104	75	125	10.37	0.987	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: MB-36831	SampType: MBLK	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80094						
Client ID: PBW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1269058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.020	0.10									
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Sample ID: LCS-36831	SampType: LCS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80094						
Client ID: LCSW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1269059						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.009	0.10	10.00	0	100	85	115				
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Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80094						
Client ID: ZZZZZZ	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1269064						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	20.461	0.10	10.00	10.29	102	75	125				
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Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 6020_WD_As	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80094						
Client ID: ZZZZZZ	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1269065						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	20.647	0.10	10.00	10.29	104	75	125	20.46	0.904	20	
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Qualifiers:

B	Analyte detected in 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-16-177**Lab Order:** N005743**Collection Date:** 5/2/2011 2:59:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**EPA 7470A****RunID:** AA1_110505A**QC Batch:** 36835**PrepDate:** 5/5/2011 **Analyst:** CEI

Mercury

ND 0.091

0.20

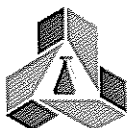
µg/L

1

5/5/2011

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.**

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-17-177**Lab Order:** N005743**Collection Date:** 5/3/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005743-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**EPA 7470A****RunID:** AA1_110505A**QC Batch:** 36835**PrepDate:** 5/5/2011 **Analyst:** CEI

Mercury

ND 0.091

0.20

µg/L

1

5/5/2011

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.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
 Work Order: N005743
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: LCS-36835	SampType: LCS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/5/2011	RunNo: 79969						
Client ID: LCSW	Batch ID: 36835	TestNo: EPA 7470A		Analysis Date: 5/5/2011	SeqNo: 1264966						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	10.183	0.20	10.00	0	102	85	115				

Sample ID: MB-36835	SampType: MBLK	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/5/2011	RunNo: 79969						
Client ID: PBW	Batch ID: 36835	TestNo: EPA 7470A		Analysis Date: 5/5/2011	SeqNo: 1264967						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/5/2011	RunNo: 79969						
Client ID: ZZZZZZ	Batch ID: 36835	TestNo: EPA 7470A		Analysis Date: 5/5/2011	SeqNo: 1264969						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	19.270	0.20	20.00	0	96.3	75	125				

Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/5/2011	RunNo: 79969						
Client ID: ZZZZZZ	Batch ID: 36835	TestNo: EPA 7470A		Analysis Date: 5/5/2011	SeqNo: 1264970						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	19.941	0.20	20.00	0	99.7	75	125	19.27	3.43	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



COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 1 of 7

Project Name PG&E Topock **Location** Topock

Task Order Project: 2011-GMP-177-Q2

Project Number 405681.MP.02.GM.04

Project Manager Jay Piper

Sample Manager Shawn Duffy

Turnaround Time 10 Days

PO Number 405681.MP.02.GM.02





[illegible]

N005743

2

-3

MS = Matrix Spike **SD = Matrix Spike Duplicate**

	Signatures	Date/Time
Approved by		5-3-11
Sampled by		1652
Relinquished by		
Received by		05/03/2011
Relinquished by		
Received by		

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORIES

Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marion

Special Instructions:
April 28 - May 13, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 2 of 7

Project Name	PG&E Topock	Location	Topock
---------------------	------------------------	-----------------	---------------

Task Order **Project: 2011-GMP-177-Q2**

Project Number 405681.MP.02.GM.04

Project Manager Jay Piper




Sample Manager Shawn Duffy

Turnaround Time 10 Days

PO Number 405681.MP.02.GM.02

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
MW-28-090-177	02-May-11	12:26	N	Water																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Approved by		5-3-11
Sampled by		1652
Relinquished by		05/03 @ 1652
Received by		
Relinquished by		
Received by		

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORIES

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and
Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

NO25743-4

5

-6-

COC Number: 5

5/3/2011 4:32:38 PM

Page 3 of 7

Total Containers: 3

Shawn Duffy
(530) 229-3303

N005734-7

3

9

COC Number: 5

5/3/2011 4:32:38 PM

Page 4 of 7

PO Number 405681.MP.02.GM.02

MWV-41D-177

02-May-11 12:43 N Water

Field Filtered: ☐ 1 4°C

Total Containers: 1

MW-44-070-177

03-May-11 9:25 N Water

Field Filtered: ☐ 1 4°C

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MWV-44-115-177

03-May-11 10:01 N Water

Nitrate

Field Filtered: ☐ 1 4°C

Field Filtered: ☒ 1 HNO3, 4°C

Mo, Se, Ni

Field Filtered: ☒ 1 HNO3, 4°C

Total Containers: 3

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

DateTime

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

COC Number: 5

5/3/2011 4:32:38 PM Page 5 of 7

Sample ID	Sample Date/Time	Type	Matrix	# Containers	Preserv
-----------	------------------	------	--------	--------------	---------

MW-44-125-177

03-May-11 12:18 N Water

Nitrate

Field Filtered: ☐ 1 4°C

Field Filtered: ☒ 1 HNO3, 4°C

Mo, Se, Mn

Field Filtered: ☒ 1 HNO3, 4°C

Total Containers: 3

MW-46-175-177

03-May-11 16:06 N Water

Nitrate

Field Filtered: ☐ 1 4°C

Mo,Se

Field Filtered: ☒ 1 HNO3, 4°C

Total Containers: 2

MW-50-095-177

03-May-11 14:21 N Water

Field Filtered: ☐ 1 4°C

Total Containers: 1

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by ✓

Signatures

Date/Time

5-3-11

1652

6/3/11 1052

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marion

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 6 of 7

Project Name PG&E Topock **Location** Topock

Task Order Project: 2011-GMP-177-Q2

Project Number 405681.MP.02.GM.04

Project Manager Jay Piper

Sample Manager Shawn Duffy

Turnaround Time 10 Days




PO Number 405681.MP.02.GM.02

[illegible]

W005743-16

-17

MS = Matrix Spike SD = Matrix Spike Duplicate

	Signatures	Date/Time
Approved by		5-3-11
Sampled by		1652
Relinquished by		
Received by		5/3/11 @ 1652
Relinquished by		
Received by		

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marion

Special Instructions:
April 28 - May 13, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

Chain of Custody Record

COC Number: 5

CH2MHILL

5/3/2011 4:32:39 PM Page 7 of 7

Project Name PG&E Topock Location Topock
 Task Order Project: 2011-GMP-177-Q2
 Project Number 405681.MP.02.GM.04
 Project Manager Jay Piper
 Sample Manager Shawn Duffy
 Turnaround Time 10 Days
 PO Number 405681.MP.02.GM.02

Sample ID Sample Date/Time Type Matrix # Containers Preserv

MW-95-177

03-May-11 11:52 N Water

Nitrate

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Mo, Se, Mn

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 3

MW-96-177

03-May-11 15:53 N Water

Nitrate

Field Filtered: ☐ 1 4°C

Mo, Se


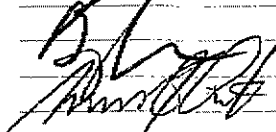
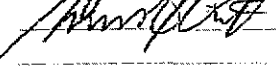
Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

N005743-18

-19

MS = Matrix Spike SD = Matrix Spike Duplicate

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		5-3-11	Method of Shipment:	courier		April 28 - May 13, 2011
Sampled by		1652	On Ice:	yes / no		
Relinquished by		5/3/11 @ 1652	Airbill No:		Sample Custody	
Received by			Lab Name:	ADVANCED TECHNOLOGY LABORA	and	Report Copy to
Relinquished by			Lab Phone:	(702) 307-2659	Marlon	Shawn Duffy
Received by						(530) 229-3303

Chain of Custody Record

COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 1 of 7

Project Name PG&E Topock Location Topock
Task Order Project: 2011-GMP-177-Q2
Project Number 405681.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy
Turnaround Time 10 Days
PO Number 405681.MP.02.GM.02

Sample ID Sample Date/Time Type Matrix # Containers Preserv

MW-16-177

02-May-11 14:59

N Water

Field Filtered: ☐ 1 4°C

Bkg: AlSbAsBaBeBCaCdCoCuFePbMgMnHgMoNiSeAgTlVZn

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-17-177

03-May-11 13:16

N Water

Field Filtered: ☐ 1 4°C

Bkg: AlSbAsBaBeBCaCdCoCuFePbMgMnHgMoNiSeAgTlVZn

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-28-025-177

02-May-11 11:32

N Water

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: ☒ yes ☐ no 4.1, 1.2

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORA

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

Chain of Custody Record

COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 2 of 7

Project Name PG&E Topock Location Topock
Task Order Project: 2011-GMP-177-Q2
Project Number 405681.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy
Turnaround Time 10 Days
PO Number 405681.MP.02.GM.02

Sample ID Sample Date/Time Type Matrix # Containers Preserv

MW-28-090-177

02-May-11 12:26

N Water

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-30-030-177

03-May-11 13:22

N Water

Nitrate

Field Filtered: ☐ 1 4°C

Mo, Se

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-32-035-177

02-May-11 13:51

N Water

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Mn

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 3

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Signatures

Date/Time

5-3-11
1652

05/03/2011

Shipping Details

Method of Shipment: courier

On Ice: ☒ yes ☐ no

41.1.2 °C

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORA

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

Chain of Custody Record

COC Number: 5

CH2MHILL

5/3/2011 4:32:38 PM

Page 3 of 7

Project Name PG&E Topock Location Topock
Task Order Project: 2011-GMP-177-Q2
Project Number 405681.MP.02.GM.04
Project Manager Jay Piper
Sample Manager Shawn Duffy
Turnaround Time 10 Days
PO Number 405681.MP.02.GM.02

Sample ID Sample Date/Time Type Matrix # Containers Preserv

MW-33-040-177

02-May-11 15:06

N Water

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-36-090-177

02-May-11 15:05

N Water

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 2

MW-36-100-177

03-May-11 14:12

N Water

Nitrate

Field Filtered: ☐ 1 4°CField Filtered: ☒ 1 HNO₃, 4°C

Mo,Se,Mn

Field Filtered: ☒ 1 HNO₃, 4°C

Total Containers: 3

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: ☒ yes ☐ no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORA

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

COC Number: 5

CH2NHLL

5/3/2011 4:32:38 PM

Page 4 of 7

PO Number 405681.MP.02.GM.02

MW-41D-177

02-May-11 12:43

N Water

Field Filtered: ☐ 1 4°C

Total Containers: 1

MW-44-070-177

03-May-11 9:25

N Water

Field Filtered: ☐ 1 4°C

Field Filtered: ☒ 1 HNO3, 4°C

Total Containers: 2

MW-44-115-177

03-May-11 10:01

N Water

Nitrate

Field Filtered: ☐ 1 4°C

Field Filtered: ☒ 1 HNO3, 4°C

Mo, Se, Mn

Field Filtered: ☒ 1 HNO3, 4°C

Total Containers: 3

MS = Matrix Spike SD = Matrix Spike Duplicate

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORA

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and
Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

COC Number: 5

CHENHILL

5/3/2011 4:32:39 PM

Page 7 of 7

PO Number 405681.MP.02.GM.02

Total Containers: 3

Total Containers: 2

Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: yes / no

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORA

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and
Marlon

Special Instructions:

April 28 - May 13, 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: 5/3/2011

Workorder: N005743

Rep sample Temp (Deg C): 4.1,1.2

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

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed B

NS

5/4/11

Reviewed By:

5/4/11

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:

$$\text{Nitrate, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005743-017A**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Nitrate, mg/L} &= 1.016 * 1 \\ &= 1.016 \text{ mg/L}\end{aligned}$$

Reporting **N005743-017A**, results in two significant figures,

$$\text{Nitrate, mg/L} = 1.0 \text{ mg/L}$$

Ashtu

SAMPLE CALCULATION

METHOD: EPA 6010B

TEST NAME: METALS BY ICP

MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in ug/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A * C * DF * 1000}{B}$$

where:

M= concentration of the metal in ug/L

A= mg/L, ICP calculated concentration

B= volume of sample, Liter

C= final volume of digestate, Liter

DF= dilution factor

For N005743-001B, concentration in ug/L are calculated as follows:

$$Ba, \text{ ug/L} = \frac{0.03010 \text{ mg/L} * 0.025 \text{ L} * 1 * 1000}{0.025 \text{ L}}$$

$$Ba = 30.10 \text{ ug/L}$$

Reporting result in two significant figures,

$$Ba = 30 \text{ ug/L}$$

f 5/10/2011 ✓

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 5/7/2011
 Digestion Date: 5/4/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: Water
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005743-001B
 Batch # : 36827

Analyte	A	B	Difference	% D
Barium	30.1	31.41	-1.31000	-4.4
Boron	310.3	554.184	-243.88400	-78.6
Vanadium	35.14	35.935	-0.79500	-2.3

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

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 5/9/2011
 Digestion Date: 5/7/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: Water
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005743-001B
 Batch # : 36858

Analyte	A	B	Difference	% D
Calcium	27.85	27.338	0.51200	1.8
Magnesium	5.004	5.187232	-0.18323	-3.7

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

CLIENT: CH2M HILL
Work Order: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005743-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79941						
Client ID: ZZZZZZ	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264342						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	31.410	15						30.10	4.26	10	
Boron	554.184	500						310.3	56.4	10	R
Vanadium	35.935	15						35.14	2.25	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N005743-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268699						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	27.338	2.5						27.85	1.84	10	
Magnesium	5.187	0.50						5.004	3.59	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		

CLIENT: CH2M HILL

Work Order: N005743

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005743-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79941						
Client ID: ZZZZZZ	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20780.115	100	20000	14.20	104	75	125				
Antimony	1086.964	20	1000	0	109	75	125				
Barium	1084.274	6.0	1000	30.10	105	75	125				
Beryllium	1063.861	2.0	1000	0	106	75	125				
Boron	10986.846	200	10000	310.3	107	75	125				
Cadmium	1098.857	6.0	1000	0	110	75	125				
Cobalt	1098.902	6.0	1000	0	110	75	125				
Copper	1073.174	10	1000	2.222	107	75	125				
Lead	1090.134	20	1000	1.990	109	75	125				
Molybdenum	1091.101	10	1000	12.70	108	75	125				
Nickel	1118.774	10	1000	2.440	112	75	125				
Silver	1043.875	6.0	1000	0	104	75	125				
Vanadium	1114.932	6.0	1000	35.14	108	75	125				
Zinc	1122.724	20	1000	6.373	112	75	125				

Sample ID: N005743-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79941						
Client ID: ZZZZZZ	Batch ID: 36827	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/7/2011	SeqNo: 1264347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	51552.145	250	50000	14.20	103	75	125				
Antimony	2694.341	50	2500	0	108	75	125				
Barium	2656.887	15	2500	30.10	105	75	125				
Beryllium	2609.031	5.0	2500	0	104	75	125				
Boron	26797.012	500	25000	310.3	106	75	125				
Cadmium	2731.769	15	2500	0	109	75	125				
Cobalt	2714.407	15	2500	0	109	75	125				
Copper	2628.490	25	2500	2.222	105	75	125				
Lead	2713.590	50	2500	1.990	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

CLIENT: CH2M HILL
Work Order: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005743-001BPS		SampType: PS		TestCode: 6010_WDPG		Units: ug/L		Prep Date:		RunNo: 79941	
Client ID: ZZZZZZ		Batch ID: 36827		TestNo: EPA 6010B EPA 3010A		Analysis Date: 5/7/2011		SeqNo: 1264347			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	2662.665	25	2500	12.70	106	75	125				
Nickel	2756.969	25	2500	2.440	110	75	125				
Silver	2582.320	15	2500	0	103	75	125				
Vanadium	2688.727	15	2500	35.14	106	75	125				
Zinc	2785.225	50	2500	6.373	111	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005743-001BPS		SampType: PS		TestCode: 6010_WDPG		Units: ug/L		Prep Date:		RunNo: 79956	
Client ID: ZZZZZZ		Batch ID: 36858		TestNo: EPA 6010B		EPA 3010A		Analysis Date: 5/9/2011		SeqNo: 1264805	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19721.784	40	20000	30.42	98.5	75	125				
Manganese	1929.709	20	2000	0	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: N005743-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: mg/L	Prep Date:	RunNo: 79956						
Client ID: ZZZZZZ	Batch ID: 36858	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/9/2011	SeqNo: 1268707						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	46.505	1.0	20.00	27.85	93.3	75	125				
Magnesium	24.184	0.20	20.00	5.004	95.9	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	II	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 mg/L, in the original sample as follows:

$$\text{Arsenic, mg/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005743-001B**, the concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 10.2864 * 1 * (25/25) \\ &= 10.2864 \text{ mg/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 10$$

Q
slah

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005743
Test Method: EPA 6020
Analysis Date: 05/05/11

Dilution Test Summary

Matrix: Aqueous
Batch No.: 36831

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable to Mn & Tl. The calc. Values are < 25X the RL.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005743-001B-DT 5X	Arsenic	ug/L	11.10124398		10.28640717	7.92%	10
N005743-001B-DT 5X	Manganese	ug/L	1.593625887	NA	1.225816316	30.01%	10
N005743-001B-DT 5X	Molybdenum	ug/L	12.82707954		12.36165095	3.77%	10
N005743-001B-DT 5X	Selenium	ug/L	1.745793673		1.635411536	6.75%	10
N005743-001B-DT 5X	Thallium	ug/L	0.101159281	NA	0.060335367	67.66%	10

g/ah

CLIENT: CH2M HILL

Work Order: N005743

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005743-001B-PS 2		SampType: PS		TestCode: 6020_DIS		Units: µg/L		Prep Date:		RunNo: 80091	
Client ID: ZZZZZZ		Batch ID: 36831		TestNo: EPA 6020		EPA 3010A		Analysis Date: 5/5/2011		SeqNo: 1268940	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	30.371	0.20	20.00	10.29	100	75	125				
Manganese	196.323	1.0	200.0	1.226	97.5	75	125				
Molybdenum	33.715	1.0	20.00	12.36	107	75	125				
Selenium	20.147	1.0	20.00	1.635	92.6	75	125				
Thallium	20.255	1.0	20.00	0.06034	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: N005743
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_WD_AsPGE

Sample ID: N005743-001B-PS 2		SampType: PS		TestCode: 6020_WD_As		Units: µg/L		Prep Date:		RunNo: 80094	
Client ID: ZZZZZZ		Batch ID: 36831		TestNo: EPA 6020		EPA 3010A		Analysis Date: 5/5/2011		SeqNo: 1269063	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	30.371	0.20	20.00	10.29	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

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:

$$\text{Mercury, ug/L} = A * DF * PF * 0.5$$

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 conversion factor.

For Sample **N005743-001B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Mercury, ug/L} &= 0.0 * 1 * (50/25) * 0.5 \\ &= 0.0 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Mercury, ug/L} = 0.0$$

$$\text{Mercury, ug/L} = \text{ND}$$



May 20, 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.: N005744

RE: PG&E Topock,405681.MP.02.GM.04

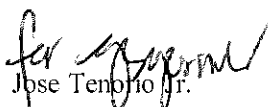
Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 03, 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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005744

CASE NARRATIVE

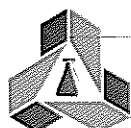
SAMPLE RECEIVING/GENERAL COMMENTS:

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.



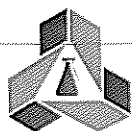
Advanced Technology Laboratories, Inc.

Date: 20-May-11

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005744
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005744-001A	MW-21-177	Water	5/3/2011	5/3/2011	
N005744-001B	MW-21-177	Water	5/3/2011	5/3/2011	



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Page 1 of 1

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-21-177**Lab Order:** N005744**Collection Date:** 5/3/2011**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005744-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110504E**QC Batch:** R79958**PrepDate:****Analyst:** CEI

Specific Conductance

9000

0.10

0.10

umhos/cm

1

5/4/2011

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.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
 Work Order: N005744
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79958	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: LCSW	Batch ID: R79958	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264850						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1405.000	0.10	1411	0	99.6	85	115				

Sample ID: N005743-011A-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264853						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2500.000	0.10						2540	1.59	10	

Sample ID: N005743-011A-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264854						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3674.000	0.20	1411	2540	80.4	75	125				

Sample ID: N005743-011A-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79958						
Client ID: ZZZZZZ	Batch ID: R79958	TestNo: EPA 120.1		Analysis Date: 5/4/2011	SeqNo: 1264855						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	3662.000	0.20	1411	2540	79.5	75	125	3674	0.327	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: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-21-177
Lab Order:	N005744	Collection Date:	5/3/2011
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005744-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110504A	QC Batch: R80000	PrepDate:	Analyst: QBM
Nitrate as N	2.1 0.022 1.0	mg/L 2	5/4/2011 12:11 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		

*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N005744
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT**TestCode: 300W_NO3PGE**

Sample ID: MB-R80000_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: PBW	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266297						
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-R80000_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: LCSW	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266298						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.408	0.50	2.500	0	96.3	90	110				

Sample ID: N005744-001BDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266311						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.066	1.0						2.066	0	20	

Sample ID: N005743-017AMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266315						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.470	0.50	2.500	1.016	98.2	80	120				

Sample ID: N005745-003CMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266316						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.365	0.50	2.500	1.774	104	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: N005744
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: N005745-003CMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80000						
Client ID: ZZZZZZ	Batch ID: R80000	TestNo: EPA 300.0		Analysis Date: 5/4/2011	SeqNo: 1266317						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.438	0.50	2.500	1.774	107	80	120	4.365	1.66	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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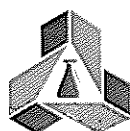
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 20-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-21-177
Lab Order:	N005744	Collection Date:	5/3/2011
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005744-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110505B	QC Batch: 36831			PrepDate:		5/4/2011	Analyst: JT
Molybdenum	59	0.047	0.50	µg/L	1	5/5/2011 10:30 PM	
Selenium	21	0.29	0.50	µg/L	1	5/5/2011 10:30 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		



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL

Work Order: N005744

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: MB-36831	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: PBW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268935						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.123	0.50									
Selenium	ND	0.50									

Sample ID: LCS-36831	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: LCSW	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268936						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.057	0.50	10.00	0	101	85	115				
Selenium	9.754	0.50	10.00	0	97.5	85	115				

Sample ID: N005743-001B-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: ZZZZZZ	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268941						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.130	0.50	10.00	12.36	108	75	125				
Selenium	10.828	0.50	10.00	1.635	91.9	75	125				

Sample ID: N005743-001B-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/4/2011	RunNo: 80091						
Client ID: ZZZZZZ	Batch ID: 36831	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/5/2011	SeqNo: 1268942						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.386	0.50	10.00	12.36	110	75	125	23.13	1.10	20	
Selenium	10.839	0.50	10.00	1.635	92.0	75	125	10.83	0.0961	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



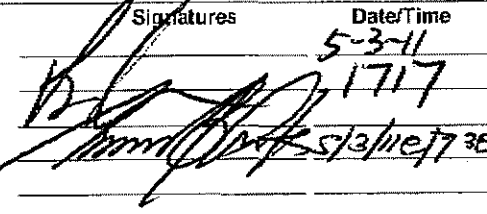
CH2MHILL

CHAIN OF CUSTODY RECORD

5/3/2011 5:05:07 PM

Page 1 OF 1

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/3/2011 COC Number: 6				Container: 500 ml Poly 1 Liter Poly 1 Liter Poly	Preservatives: HNO ₃ , 4°C 4°C 4°C	Filtered: Field NA NA	Holding Time: 180 2 2	Metals (6020A) Field Filtered Mo, Se Specific Conductance (E120.1) Anions (E300.0) Nitrate	Number of Containers 2	COMMENTS 005744
DATE MW-21-177	TIME 5/3/2011	Matrix Water	X	X	X					
TOTAL NUMBER OF CONTAINERS						2				

Approved by Sampled by Relinquished by Received by Relinquished by Received by	Signatures  Date/Time 5-3-11 1717 5/3/11 1738	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: April 28 - May 13, 2011 Report Copy to Shawn Duffy (530) 229-3303
---	--	---	--	---

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/3/2011 COC Number: 6				Container: 500 ml Poly Preservatives: HNO3, 4°C Filtered: Field Holding Time: 180	1 Liter Poly 4°C 1 Liter Poly 4°C NA 2	1 Liter Poly 4°C NA NA 2		Number of Containers	COMMENTS
DATE TIME Matrix	Metals (6020A) Field Filtered Mo, Se Specific Conductance (E120.1) Anions (E300.0) Nitrate								
MW-21-177	5/3/2011		Water	X	X	X		2	
TOTAL NUMBER OF CONTAINERS								2	

Signatures Date/Time		Shipping Details		ATTN: Sample Custody and Marlon	Special Instructions: April 28 - May 13, 2011 Report Copy to Shawn Duffy (530) 229-3303
Approved by	5-3-11	Method of Shipment:	courier		
Sampled by	5/3/11 1717	On Ice:	yes no 4.1, 1.2		
Relinquished by	5/3/11 1738	Airbill No.			
Received by		Lab Name:	ADVANCED TECHNOLOGY LABORATO		
Relinquished by		Lab Phone:	(702) 307-2659		

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: 5/3/2011 Workorder: N005744
Rep sample Temp (Deg C): 4.1,1.2 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

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH < 2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

sampling time not indicated on COC; on sample container
if was collected 5/3/11 @ 1717

Checklist Completed By

NS 5/4/11

Reviewed By:

g 5/4/11

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:

$$\text{Nitrate, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005744-001B**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Nitrate, mg/L} &= 1.033 * 2 \\ &= 2.066 \text{ mg/L}\end{aligned}$$

Reporting **N005744-001B**, results in two significant figures,

$$\text{Nitrate, mg/L} = 2.1 \text{ mg/L}$$

ms 5/12/11

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:

$$\text{Arsenic, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005744-001A**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Molybdenum, ug/L} &= 59.3754 * 1 * (25/25) \\ &= 59.3754 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Molybdenum, ug/L} = 59$$

NS for
5/20/11

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005744
Test Method: EPA 6020
Analysis Date: 05/05/11

Dilution Test Summary

Matrix: Aqueous
Batch No.: 36831

Instrument ID: ICP-MS #2
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005743-001B-DT 5X	Molybdenum	ug/L	12.82707954		12.36165095	3.77%	10
N005743-001B-DT 5X	Selenium	ug/L	1.745793673		1.635411536	6.75%	10

CLIENT: CH2M HILL
Work Order: N005744
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT**TestCode: 6020_DIS**

Sample ID: N005743-001B-PS 2		SampType: PS		TestCode: 6020_DIS		Units: µg/L		Prep Date:		RunNo: 80091		
Client ID: ZZZZZZ		Batch ID: 36831		TestNo: EPA 6020		EPA 3010A		Analysis Date: 5/5/2011		SeqNo: 1268940		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Molybdenum	33.715	1.0	20.00	12.36	107	75	125					
Selenium	20.147	1.0	20.00	1.635	92.6	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

June 23, 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.: N005759

RE: PG&E Topock, 405681.MP.02.GM.04

Attention: Shawn P. Duffy

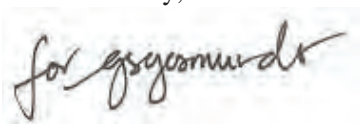
Enclosed are the results for sample(s) received on May 05, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.

Date: 31-May-11

CLIENT: CH2M HILL

Project: PG&E Topock,405681.MP.02.GM.04

Lab Order: N005759

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

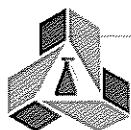
Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

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 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Molybdenum on QC sample N005760-001B-MS and for Manganese on QC sample N005760-001B-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



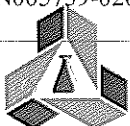
Advanced Technology Laboratories, Inc.

Date: 31-May-11

CLIENT: CH2M HILL
Project: PG&E Topock,405681.MP.02.GM.04
Lab Order: N005759
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005759-001A	MW-22-177	Water	5/3/2011 3:55:00 PM	5/5/2011	
N005759-001B	MW-22-177	Water	5/3/2011 3:55:00 PM	5/5/2011	
N005759-002A	MW-47-055-177	Water	5/3/2011 4:52:00 PM	5/5/2011	
N005759-003A	MW-47-115-177	Water	5/3/2011 4:03:00 PM	5/5/2011	
N005759-004A	MW-52D-177	Water	5/3/2011 11:35:00 AM	5/5/2011	
N005759-004B	MW-52D-177	Water	5/3/2011 11:35:00 AM	5/5/2011	
N005759-005A	MW-52M-177	Water	5/3/2011 10:45:00 AM	5/5/2011	
N005759-005B	MW-52M-177	Water	5/3/2011 10:45:00 AM	5/5/2011	
N005759-006A	MW-52S-177	Water	5/3/2011 9:40:00 AM	5/5/2011	
N005759-006B	MW-52S-177	Water	5/3/2011 9:40:00 AM	5/5/2011	
N005759-007A	MW-53D-177	Water	5/3/2011 1:15:00 PM	5/5/2011	
N005759-007B	MW-53D-177	Water	5/3/2011 1:15:00 PM	5/5/2011	
N005759-008A	MW-53M-177	Water	5/3/2011 2:35:00 PM	5/5/2011	
N005759-008B	MW-53M-177	Water	5/3/2011 2:35:00 PM	5/5/2011	
N005759-009A	MW-19-177	Water	5/4/2011 2:45:00 PM	5/5/2011	
N005759-010A	MW-23-060-177	Water	5/4/2011 10:06:00 AM	5/5/2011	
N005759-010B	MW-23-060-177	Water	5/4/2011 10:06:00 AM	5/5/2011	
N005759-011A	MW-23-080-177	Water	5/4/2011 11:33:00 AM	5/5/2011	
N005759-011B	MW-23-080-177	Water	5/4/2011 11:33:00 AM	5/5/2011	
N005759-012A	MW-31-060-177	Water	5/4/2011 4:06:00 PM	5/5/2011	
N005759-013A	MW-33-090-177	Water	5/4/2011 2:08:00 PM	5/5/2011	
N005759-014A	MW-33-150-177	Water	5/4/2011 10:45:00 AM	5/5/2011	
N005759-015A	MW-33-210-177	Water	5/4/2011 12:03:00 PM	5/5/2011	
N005759-016A	MW-35-060-177	Water	5/4/2011 12:39:00 PM	5/5/2011	
N005759-017A	MW-35-135-177	Water	5/4/2011 1:35:00 PM	5/5/2011	
N005759-018A	MW-46-205-177	Water	5/4/2011 9:23:00 AM	5/5/2011	
N005759-019A	MW-48-177	Water	5/4/2011 3:21:00 PM	5/5/2011	
N005759-020A	MW-92-177	Water	5/4/2011 11:32:00 AM	5/5/2011	
N005759-020B	MW-92-177	Water	5/4/2011 11:32:00 AM	5/5/2011	



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Laboratories, Inc.*

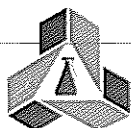
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Page 1 of 2

CLIENT: CH2M HILL
Project: PG&E Topock.405681.MP.02.GM.04
Lab Order: N005759
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005759-021A	MW-37D-177	Water	5/5/2011 9:06:00 AM	5/5/2011	
N005759-021B	MW-37D-177	Water	5/5/2011 9:06:00 AM	5/5/2011	
N005759-022A	MW-40D-177	Water	5/5/2011 10:12:00 AM	5/5/2011	
N005759-022B	MW-40D-177	Water	5/5/2011 10:12:00 AM	5/5/2011	
N005759-023A	MW-57-070-177	Water	5/5/2011 12:39:00 PM	5/5/2011	
N005759-024A	MW-62-065-177	Water	5/5/2011 11:23:00 AM	5/5/2011	
N005759-025A	MW-62-110-177	Water	5/5/2011 1:16:00 PM	5/5/2011	
N005759-025B	MW-62-110-177	Water	5/5/2011 1:16:00 PM	5/5/2011	
N005759-026A	MW-62-190-177	Water	5/5/2011 1:25:00 PM	5/5/2011	
N005759-026B	MW-62-190-177	Water	5/5/2011 1:25:00 PM	5/5/2011	
N005759-027A	MW-97-177	Water	5/5/2011 12:41:00 PM	5/5/2011	



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-22-177**Lab Order:** N005759**Collection Date:** 5/3/2011 3:55:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

14000

0.10

0.10

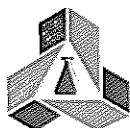
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-47-055-177**Lab Order:** N005759**Collection Date:** 5/3/2011 4:52:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

4300

0.10

0.10

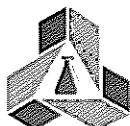
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-47-115-177**Lab Order:** N005759**Collection Date:** 5/3/2011 4:03:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

12000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-52D-177**Lab Order:** N005759**Collection Date:** 5/3/2011 11:35:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

18000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-52M-177**Lab Order:** N005759**Collection Date:** 5/3/2011 10:45:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

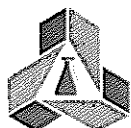
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-52S-177

Lab Order: N005759

Collection Date: 5/3/2011 9:40:00 AM

Project: PG&E Topock.405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

10000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-53D-177**Lab Order:** N005759**Collection Date:** 5/3/2011 1:15:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506H

QC Batch: R79962

PrepDate:

Analyst: CEI

Specific Conductance

32000

0.10

0.10

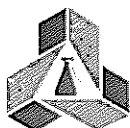
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-53M-177**Lab Order:** N005759**Collection Date:** 5/3/2011 2:35:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

18000

0.10

0.10

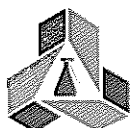
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-19-177**Lab Order:** N005759**Collection Date:** 5/4/2011 2:45:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

2200

0.10

0.10

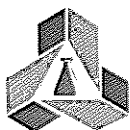
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-23-060-177**Lab Order:** N005759**Collection Date:** 5/4/2011 10:06:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-010

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-23-080-177**Lab Order:** N005759**Collection Date:** 5/4/2011 11:33:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-011

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506E

QC Batch: R79959

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

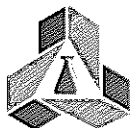
umhos/cm

1

5/6/2011

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
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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-31-060-177**Lab Order:** N005759**Collection Date:** 5/4/2011 4:06:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-012

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

3800

0.10

0.10

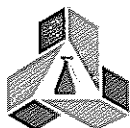
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-33-090-177**Lab Order:** N005759**Collection Date:** 5/4/2011 2:08:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

9600

0.10

0.10

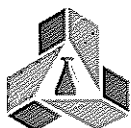
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-33-150-177**Lab Order:** N005759**Collection Date:** 5/4/2011 10:45:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

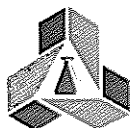
umhos/cm

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5/6/2011

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
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DO Surrogate Diluted Out

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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-33-210-177**Lab Order:** N005759**Collection Date:** 5/4/2011 12:03:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-015

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110506F**QC Batch:** R79960**PrepDate:****Analyst:** CEI

Specific Conductance

1700

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0.10

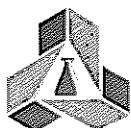
umhos/cm

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5/6/2011

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
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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-35-060-177**Lab Order:** N005759**Collection Date:** 5/4/2011 12:39:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-016

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

6700

0.10

0.10

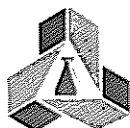
umhos/cm

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5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-35-135-177

Lab Order: N005759

Collection Date: 5/4/2011 1:35:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

9800

0.10

0.10

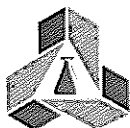
umhos/cm

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5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-46-205-177**Lab Order:** N005759**Collection Date:** 5/4/2011 9:23:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-018

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

18000

0.10

0.10

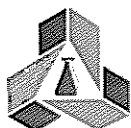
umhos/cm

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5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-48-177**Lab Order:** N005759**Collection Date:** 5/4/2011 3:21:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-019

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

16000

0.10

0.10

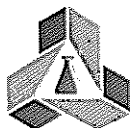
umhos/cm

1

5/6/2011

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
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3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-92-177**Lab Order:** N005759**Collection Date:** 5/4/2011 11:32:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-020

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

16000

0.10

0.10

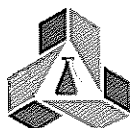
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-37D-177**Lab Order:** N005759**Collection Date:** 5/5/2011 9:06:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-021

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506F

QC Batch: R79960

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-40D-177**Lab Order:** N005759**Collection Date:** 5/5/2011 10:12:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-022

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506G

QC Batch: R79961

PrepDate:

Analyst: CEI

Specific Conductance

14000

0.10

0.10

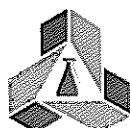
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-57-070-177**Lab Order:** N005759**Collection Date:** 5/5/2011 12:39:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-023

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506G

QC Batch: R79961

PrepDate:

Analyst: CEI

Specific Conductance

2400

0.10

0.10

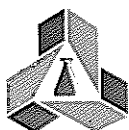
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-065-177**Lab Order:** N005759**Collection Date:** 5/5/2011 11:23:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-024

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110506G**QC Batch:** R79961**PrepDate:****Analyst:** CEI

Specific Conductance

6000

0.10

0.10

umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-110-177**Lab Order:** N005759**Collection Date:** 5/5/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-025

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506G

QC Batch: R79961

PrepDate:

Analyst: CEI

Specific Conductance

8500

0.10

0.10

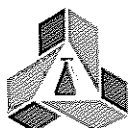
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-190-177**Lab Order:** N005759**Collection Date:** 5/5/2011 1:25:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-026

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506G

QC Batch: R79961

PrepDate:

Analyst: CEI

Specific Conductance

17000

0.10

0.10

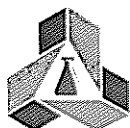
umhos/cm

1

5/6/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-97-177**Lab Order:** N005759**Collection Date:** 5/5/2011 12:41:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-027

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110506G

QC Batch: R79961

PrepDate:

Analyst: CEI

Specific Conductance

2400

0.10

0.10

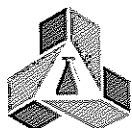
umhos/cm

1

5/6/2011

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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CLIENT: CH2M HILL

Work Order: N005759

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79959	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79959						
Client ID: LCSW	Batch ID: R79959	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264866							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9955.000	0.10	9985	0	99.7	85	115				

Sample ID: N005759-001B-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79959						
Client ID: ZZZZZZ	Batch ID: R79959	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264878							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	14530.000	0.10						14500	0.207	10	

Sample ID: N005759-001B-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79959						
Client ID: ZZZZZZ	Batch ID: R79959	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264879							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24220.000	0.20	9985	14500	97.3	75	125				

Sample ID: N005759-001B-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79959						
Client ID: ZZZZZZ	Batch ID: R79959	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264880							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24180.000	0.20	9985	14500	96.9	75	125	24220	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



CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79960	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:				RunNo: 79960			
Client ID: LCSW	Batch ID: R79960	TestNo: EPA 120.1			Analysis Date: 5/6/2011				SeqNo: 1264881		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9580.000	0.10	9985	0	95.9	85	115				

Sample ID: N005759-013B-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:				RunNo: 79960			
Client ID: ZZZZZZ	Batch ID: R79960	TestNo: EPA 120.1			Analysis Date: 5/6/2011				SeqNo: 1264893		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9620.000	0.10						9580	0.417	10	

Sample ID: N005759-013B-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:				RunNo: 79960			
Client ID: ZZZZZZ	Batch ID: R79960	TestNo: EPA 120.1			Analysis Date: 5/6/2011				SeqNo: 1264894		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19280.000	0.20	9985	9580	97.1	75	125				

Sample ID: N005759-013B-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:				RunNo: 79960			
Client ID: ZZZZZZ	Batch ID: R79960	TestNo: EPA 120.1			Analysis Date: 5/6/2011				SeqNo: 1264895		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	19260.000	0.20	9985	9580	96.9	75	125	19280	0.104	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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CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79961	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79961						
Client ID: LCSW	Batch ID: R79961	TestNo: EPA 120.1		Analysis Date: 5/6/2011	SeqNo: 1264896						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9560.000	0.10	9985	0	95.7	85	115				

Sample ID: N005759-022B-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79961						
Client ID: ZZZZZZ	Batch ID: R79961	TestNo: EPA 120.1		Analysis Date: 5/6/2011	SeqNo: 1264903						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	14500.000	0.10						14500	0	10	

Sample ID: N005759-022B-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79961						
Client ID: ZZZZZZ	Batch ID: R79961	TestNo: EPA 120.1		Analysis Date: 5/6/2011	SeqNo: 1264904						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24280.000	0.20	9985	14500	97.9	75	125				

Sample ID: N005759-022B-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79961						
Client ID: ZZZZZZ	Batch ID: R79961	TestNo: EPA 120.1		Analysis Date: 5/6/2011	SeqNo: 1264905						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	24240.000	0.20	9985	14500	97.5	75	125	24280	0.165	10	

Qualifiers:

- | | | | | | |
|----|---|--------------------------------------|--------------------------------------|----|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | II | 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: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79962	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79962						
Client ID: LCSW	Batch ID: R79962	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264906							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	101500.000	0.10	100100	0	101	85	115				

Sample ID: N005759-007B-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79962						
Client ID: ZZZZZZ	Batch ID: R79962	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264909							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	31700.000	0.10						31600	0.316	10	

Sample ID: N005759-007B-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79962						
Client ID: ZZZZZZ	Batch ID: R79962	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264910							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	140800.000	0.20	100100	31600	109	75	125				

Sample ID: N005759-007B-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79962						
Client ID: ZZZZZZ	Batch ID: R79962	TestNo: EPA 120.1	Analysis Date: 5/6/2011	SeqNo: 1264911							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	140200.000	0.20	100100	31600	108	75	125	140800	0.427	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			



Advanced Technology
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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-37D-177**Lab Order:** N005759**Collection Date:** 5/5/2011 9:06:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-021

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110506A

QC Batch: R80020

PrepDate:

Analyst: QBM

Nitrate as N

ND 0.055

2.5

mg/L

5

5/6/2011 10:49 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: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-40D-177

Lab Order: N005759

Collection Date: 5/5/2011 10:12:00 AM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-022

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110506A

QC Batch: R80020

PrepDate:

Analyst: QBM

Nitrate as N

2.7

0.055

2.5

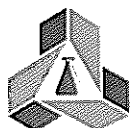
mg/L

5

5/6/2011 11:00 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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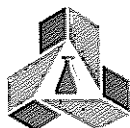
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-110-177**Lab Order:** N005759**Collection Date:** 5/5/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-025

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: IC2_110506A	QC Batch: R80020		PrepDate:		Analyst: QBM		
Nitrate as N	2.5	0.022	1.0	mg/L	2	5/6/2011 11:11 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: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-62-190-177

Lab Order: N005759

Collection Date: 5/5/2011 1:25:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-026

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110506A

QC Batch: R80020

PrepDate:

Analyst: QBM

Nitrate as N

ND 0.055

2.5

mg/L

5

5/6/2011 11:22 AM

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out

E Value above quantitation range
ND Not Detected at the Reporting Limit
Results are wet unless otherwise specified



*Advanced Technology
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3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
 Work Order: N005759
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R80020_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80020						
Client ID: PBW	Batch ID: R80020	TestNo: EPA 300.0		Analysis Date: 5/6/2011	SeqNo: 1266869						
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-R80020_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80020						
Client ID: LCSW	Batch ID: R80020	TestNo: EPA 300.0		Analysis Date: 5/6/2011	SeqNo: 1266870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 2.394 0.50 2.500 0 95.8 90 110

Sample ID: N005759-021BDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80020						
Client ID: ZZZZZZ	Batch ID: R80020	TestNo: EPA 300.0		Analysis Date: 5/6/2011	SeqNo: 1266875						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 0.590 2.5 0.6150 0 20

Sample ID: N005759-022BMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:					RunNo: 80020		
Client ID: ZZZZZZ	Batch ID: R80020	TestNo: EPA 300.0	Analysis Date: 5/6/2011					SeqNo: 1266876			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 14.860 2.5 12.50 2.715 97.2 80 120

Sample ID: N005759-022BMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80020						
Client ID: ZZZZZZ	Batch ID: R80020	TestNo: EPA 300.0		Analysis Date: 5/6/2011	SeqNo: 1266877						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

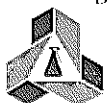
Nitrate as N 14.705 2.5 12.50 2.715 95.9 80 120 14.86 1.05 20

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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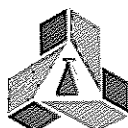
ANALYTICAL RESULTS

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-22-177
Lab Order:	N005759	Collection Date:	5/3/2011 3:55:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005759-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			EPA 6010B			
RunID: ICP1_110510B	QC Batch: 36860			PrepDate:	5/9/2011	Analyst: KAB	
Antimony	ND	5.4	10	ug/L	1	5/10/2011 01:05 PM	
Barium	60	0.20	3.0	ug/L	1	5/10/2011 01:05 PM	
Beryllium	ND	0.090	1.0	ug/L	1	5/10/2011 01:05 PM	
Cadmium	ND	0.23	3.0	ug/L	1	5/10/2011 01:05 PM	
Cobalt	ND	0.31	3.0	ug/L	1	5/10/2011 01:05 PM	
Copper	ND	0.53	5.0	ug/L	1	5/10/2011 01:05 PM	
Lead	ND	1.5	10	ug/L	1	5/10/2011 01:05 PM	
Molybdenum	28	0.49	5.0	ug/L	1	5/10/2011 01:05 PM	
Nickel	ND	1.1	5.0	ug/L	1	5/10/2011 01:05 PM	
Silver	ND	0.72	3.0	ug/L	1	5/10/2011 02:30 PM	
Vanadium	ND	0.19	3.0	ug/L	1	5/10/2011 01:05 PM	
Zinc	ND	4.6	10	ug/L	1	5/10/2011 01:05 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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CLIENT: CH2M HILL
 Work Order: N005759
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36860	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: PBW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265683						
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	0.728	5.0									
Lead	ND	10									
Molybdenum	4.264	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: LCS-36860	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: LCSW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	485.904	10	500.0	0	97.2	85	115				
Barium	504.671	3.0	500.0	0	101	85	115				
Beryllium	487.380	1.0	500.0	0	97.5	85	115				
Cadmium	493.691	3.0	500.0	0	98.7	85	115				
Cobalt	504.067	3.0	500.0	0	101	85	115				
Copper	505.595	5.0	500.0	0	101	85	115				
Lead	494.642	10	500.0	0	98.9	85	115				
Molybdenum	493.697	5.0	500.0	0	98.7	85	115				
Nickel	497.182	5.0	500.0	0	99.4	85	115				
Silver	486.717	3.0	500.0	0	97.3	85	115				
Vanadium	493.824	3.0	500.0	0	98.8	85	115				

Qualifiers:

B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 DO Surrogate Diluted Out

E Value above quantitation range
 R RPD outside accepted recovery limits
 Calculations are based on raw values

H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference



CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: LCS-36860	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: LCSW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc	489.148	10	500.0	0	97.8	85	115				
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Sample ID: N005760-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265688						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	515.533	10	500.0	0	103	75	125				
Barium	610.732	3.0	500.0	122.5	97.6	75	125				
Beryllium	496.178	1.0	500.0	0	99.2	75	125				
Cadmium	498.362	3.0	500.0	0.3380	99.6	75	125				
Cobalt	494.151	3.0	500.0	0	98.8	75	125				
Copper	531.570	5.0	500.0	0	106	75	125				
Lead	477.809	10	500.0	1.665	95.2	75	125				
Molybdenum	572.187	5.0	500.0	69.76	100	75	125				
Nickel	493.104	5.0	500.0	0	98.6	75	125				
Silver	513.570	3.0	500.0	0	103	75	125				
Vanadium	506.001	3.0	500.0	0	101	75	125				
Zinc	510.795	10	500.0	9.389	100	75	125				

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	512.266	10	500.0	0	102	75	125	515.5	0.636	20	
Barium	604.591	3.0	500.0	122.5	96.4	75	125	610.7	1.01	20	
Beryllium	496.766	1.0	500.0	0	99.4	75	125	496.2	0.118	20	
Cadmium	492.457	3.0	500.0	0.3380	98.4	75	125	498.4	1.19	20	
Cobalt	489.711	3.0	500.0	0	97.9	75	125	494.2	0.902	20	
Copper	526.590	5.0	500.0	0	105	75	125	531.6	0.941	20	
Lead	474.960	10	500.0	1.665	94.7	75	125	477.8	0.598	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	II	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out	Calculations are based on raw values			



Advanced Technology
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3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	568.223	5.0	500.0	69.76	99.7	75	125	572.2	0.695	20	
Nickel	488.986	5.0	500.0	0	97.8	75	125	493.1	0.839	20	
Silver	507.802	3.0	500.0	0	102	75	125	513.6	1.13	20	
Vanadium	501.203	3.0	500.0	0	100	75	125	506.0	0.953	20	
Zinc	505.744	10	500.0	9.389	99.3	75	125	510.8	0.994	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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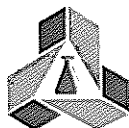
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-22-177**Lab Order:** N005759**Collection Date:** 5/3/2011 3:55:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-001

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	12	0.012	0.50	µg/L	5	5/10/2011 08:43 PM	
Manganese	2300	2.3	12	µg/L	25	5/10/2011 08:48 PM	
Selenium	ND	1.4	2.5	µg/L	5	5/10/2011 08:43 PM	
Thallium	ND	0.38	12	µg/L	25	5/10/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-52D-177**Lab Order:** N005759**Collection Date:** 5/3/2011 11:35:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	3.3	0.012	0.50	µg/L	5	5/10/2011 08:58 PM	
Manganese	280	0.46	2.5	µg/L	5	5/10/2011 08:58 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-52M-177

Lab Order: N005759

Collection Date: 5/3/2011 10:45:00 AM

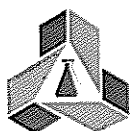
Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36843			PrepDate: 5/6/2011		Analyst: JT	
Arsenic	1.2	0.012	0.50	µg/L	5	5/10/2011 09:22 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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Advanced Technology Laboratories, Inc.

ANALYTICAL RESULTS

Print Date: 23-Jun-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-52S-177
Lab Order:	N005759	Collection Date:	5/3/2011 9:40:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005759-006A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36843			PrepDate: 5/6/2011		Analyst: JT	
Arsenic	0.50	0.012	0.50	µg/L	5	5/10/2011 09:37 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		



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-53D-177

Lab Order: N005759

Collection Date: 5/3/2011 1:15:00 PM

Project: PG&E Topock.405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005759-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36843			PrepDate: 5/6/2011		Analyst: JT	
Arsenic	3.2	0.062	2.5	µg/L	25	5/10/2011 09:56 PM	
Manganese	1900	2.3	12	µg/L	25	5/10/2011 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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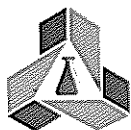
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-53M-177**Lab Order:** N005759**Collection Date:** 5/3/2011 2:35:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate: 5/6/2011 Analyst: JT			
Arsenic	0.96	0.012	0.50	µg/L	5	5/11/2011 12:40 PM	
Manganese	400	0.46	2.5	µg/L	5	5/11/2011 12:40 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: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-23-060-177
Lab Order:	N005759	Collection Date:	5/4/2011 10:06:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005759-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate:	5/6/2011	Analyst: JT	
Arsenic	2.5	0.012	0.50	µg/L	5	5/11/2011 12:55 PM	
Manganese	0.51	0.091	0.50	µg/L	1	5/11/2011 12:50 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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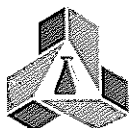
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-23-080-177**Lab Order:** N005759**Collection Date:** 5/4/2011 11:33:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-011

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	3.3	0.012	0.50	µg/L	5	5/11/2011 01:14 PM	
Manganese	ND	0.091	0.50	µg/L	1	5/11/2011 01:09 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-92-177
Lab Order:	N005759	Collection Date:	5/4/2011 11:32:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005759-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	3.4	0.012	0.50	µg/L	5	5/11/2011 01:39 PM	
Manganese	ND	0.46	2.5	µg/L	5	5/11/2011 01:39 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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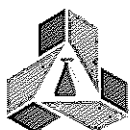
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-37D-177**Lab Order:** N005759**Collection Date:** 5/5/2011 9:06:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-021

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate: 5/6/2011 Analyst: JT			
Molybdenum	47	0.24	2.5	µg/L	5	5/11/2011 04:53 PM	
Selenium	ND	1.4	2.5	µg/L	5	5/11/2011 04:53 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-40D-177**Lab Order:** N005759**Collection Date:** 5/5/2011 10:12:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-022

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	4.3	0.012	0.50	µg/L	5	5/11/2011 03:23 PM	
Manganese	5.6	0.091	0.50	µg/L	1	5/11/2011 03:16 PM	
Molybdenum	48	0.24	2.5	µg/L	5	5/11/2011 03:23 PM	
Selenium	ND	1.4	2.5	µg/L	5	5/11/2011 03:23 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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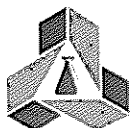
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-110-177**Lab Order:** N005759**Collection Date:** 5/5/2011 1:16:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-025

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110511A	QC Batch: 36843			PrepDate:		5/6/2011	Analyst: JT
Arsenic	14	0.0025	0.10	µg/L	1	5/11/2011 03:37 PM	
Manganese	240	0.46	2.5	µg/L	5	5/11/2011 03:44 PM	
Molybdenum	60	0.24	2.5	µg/L	5	5/11/2011 03:44 PM	
Selenium	2.5	0.29	0.50	µg/L	1	5/11/2011 03:37 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-62-190-177**Lab Order:** N005759**Collection Date:** 5/5/2011 1:25:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005759-026

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP-MS**EPA 3010A****EPA 6020**

RunID: ICP7_110511A

QC Batch: 36843

PrepDate: 5/6/2011 Analyst: JT

Arsenic	6.5	0.012	0.50	µg/L	5	5/11/2011 04:05 PM
Manganese	1000	2.3	12	µg/L	25	5/11/2011 04:12 PM
Molybdenum	82	0.24	2.5	µg/L	5	5/11/2011 04:05 PM
Selenium	ND	1.4	2.5	µg/L	5	5/11/2011 04:05 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



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CLIENT: CH2M HILL
 Work Order: N005759
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: MB-36843	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: PBW	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271370						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: LCS-36843	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: LCSW	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271371						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	9.843	0.10	10.00	0	98.4	85	115				
Manganese	106.061	0.50	100.0	0	106	85	115				
Molybdenum	9.869	0.50	10.00	0	98.7	85	115				
Selenium	9.498	0.50	10.00	0	95.0	85	115				
Thallium	10.219	0.50	10.00	0	102	85	115				

Sample ID: N005760-001B-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271376						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.851	0.10	10.00	0.5007	104	75	125				
Molybdenum	96.832	0.50	10.00	83.56	133	75	125				S
Selenium	18.324	0.50	10.00	8.650	96.7	75	125				
Thallium	10.809	0.50	10.00	0.09284	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

11 Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference



CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005760-001B-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271377						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	567.433	2.5	100.0	477.6	89.8	75	125				
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Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271378						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.622	0.10	10.00	0.5007	101	75	125	10.85	2.14	20	
Molybdenum	95.498	0.50	10.00	83.56	119	75	125	96.83	1.39	20	
Selenium	18.484	0.50	10.00	8.650	98.3	75	125	18.32	0.871	20	
Thallium	10.798	0.50	10.00	0.09284	107	75	125	10.81	0.102	20	

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271379						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	547.020	2.5	100.0	477.6	69.4	75	125	567.4	3.66	20	S
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Qualifiers:

B	Analyte detected in 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

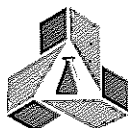
CLIENT:	CH2M HILL	Client Sample ID:	MW-22-177
Lab Order:	N005759	Collection Date:	5/3/2011 3:55:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005759-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**EPA 7470A**

RunID: AA1_110506B	QC Batch: 36844	PrepDate:	5/6/2011	Analyst: CEI
Mercury	ND 0.091	0.20	µg/L	1 5/6/2011

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N005759
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: LCS-36844	SampType: LCS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 79970						
Client ID: LCSW	Batch ID: 36844	TestNo: EPA 7470A		Analysis Date: 5/6/2011	SeqNo: 1264985						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.745	0.20	10.00	0	97.4	85	115				

Sample ID: MB-36844	SampType: MBLK	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 79970						
Client ID: PBW	Batch ID: 36844	TestNo: EPA 7470A		Analysis Date: 5/6/2011	SeqNo: 1264986						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: N005760-001B-MS	SampType: MS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 79970						
Client ID: ZZZZZZ	Batch ID: 36844	TestNo: EPA 7470A		Analysis Date: 5/6/2011	SeqNo: 1264989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	18.417	0.20	20.00	0	92.1	75	125				

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/6/2011	RunNo: 79970						
Client ID: ZZZZZZ	Batch ID: 36844	TestNo: EPA 7470A		Analysis Date: 5/6/2011	SeqNo: 1264990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	18.733	0.20	20.00	0	93.7	75	125	18.42	1.70	20	

Qualifiers:

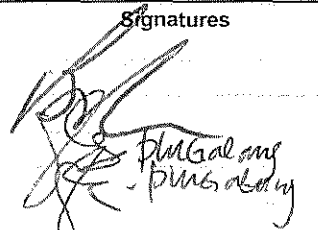
B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 DO Surrogate Diluted Out

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



Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/5/2011 COC Number: 8				Container: 500 ml Poly Preservatives: HNO ₃ , 4°C Filtered: Field Holding Time: 180		500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	1 Liter Poly	1 Liter Poly			
						HNO ₃ , 4°C	HNO ₃ , 4°C	HNO ₃ , 4°C	HNO ₃ , 4°C	HNO ₃ , 4°C	4°C	4°C			
						Field	Field	Field	Field	Field	NA	NA			
						180	180	180	180	180	2	2			
						Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (6020A) Field Filtered T22: SbAsBaBeCdCoCuPbHgMnNi	Metals (SW6010B/SW6020A) Field Filtered	Specific Conductance (E120.1)	Anions (E300.0) Nitrate			
	DATE	TIME	Matrix										Number of Containers	COMMENTS	
MW-22-177	5/3/2011	15:55	Water		X				X	X			2	2 REC	
MW-47-055-177	5/3/2011	16:52	Water						X				1		
MW-47-115-177	5/3/2011	16:03	Water						X				1		
MW-52D-177	5/3/2011	11:35	Water	X	X				X				2	2	
MW-52M-177	5/3/2011	10:45	Water	X					X				2		
MW-52S-177	5/3/2011	9:40	Water	X					X				2		
MW-53D-177	5/3/2011	13:15	Water	X	X				X				2	2	
MW-53M-177	5/3/2011	14:35	Water	X	X				X				2	2	
MW-19-177	5/4/2011	14:45	Water						X				1		
MW-23-060-177	5/4/2011	10:06	Water	X	X				X				2	2	
MW-23-080-177	5/4/2011	11:33	Water	X	X				X				2	2	
MW-31-060-177	5/4/2011	16:06	Water						X				1		
MW-33-090-177	5/4/2011	14:08	Water						X				1		
MW-33-150-177	5/4/2011	10:45	Water						X				1		
MW-33-210-177	5/4/2011	12:03	Water						X				1		

Signatures
 Approved by 
 Sampled by
 Relinquished by
 Received by
 Relinquished by
 Received by

Date/Time
 5-5-11
 1530
 5/5/11 1530
 5/5/11 1750

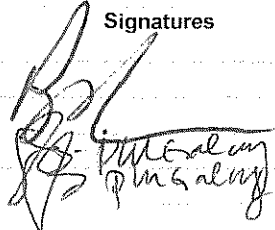
Shipping Details
 Method of Shipment: courier
 On Ice: ~~yes~~ no 2.2°C / 1.6°C
 Airbill No: 1 R#2
 Lab Name: ADVANCED TECHNOLOGY LABORATORY
 Lab Phone: (702) 307-2659

ATTN:
 Sample Custody
 and
 Marlon

Special Instructions:
 April 28 - May 13, 2011

 Report Copy to
 Shawn Duffy
 (530) 229-3303

Project Name PG&E Topock			Container:	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	1 Liter Poly	1 Liter Poly		Number of Containers	COMMENTS		
Location Topock			Preservatives:	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C					
Project Number 405681.MP.02.GM.04			Filtered:	Field	Field	Field	Field	Field	NA	NA					
Project Manager Jay Piper			Holding Time:	180	180	180	180	180	2	2					
Sample Manager Shawn Duffy				Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo, Se	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (SW6010B/SW6020A) Field Filtered T22-SbAsBaBeCdCoCuPbHgMnNi	Specific Conductance (E-120.1)	Anions (E300.0) Nitrate					
Task Order			DATE	TIME	MATRIX										
Project 2011-GMP-177-Q2			MW-35-060-177	5/4/2011	12:39	Water					X		N005759-16	1	
Turnaround Time 10 Days			MW-35-135-177	5/4/2011	13:35	Water					X		17	1	
Shipping Date: 5/5/2011			MW-46-205-177	5/4/2011	9:23	Water					X		18	1	
COC Number: 8			MW-48-177	5/4/2011	15:21	Water					X		19	1	
			MW-92-177	5/4/2011	11:32	Water	X	X			X		20	2	2 BCL
			MW-37D-177	5/5/2011	9:06	Water			X		X	X	21	2	
			MW-40D-177	5/5/2011	10:12	Water	X			X	X	X	22	2	
			MW-57-070-177	5/5/2011	12:39	Water					X		23	1	
			MW-62-065-177	5/5/2011	11:23	Water					X		24	1	
			MW-62-110-177	5/5/2011	13:16	Water	X			X	X	X	25	2	2
			MW-62-190-177	5/5/2011	13:25	Water	X			X	X	X	26	2	2
			MW-97-177	5/5/2011	12:41	Water					X		27	1	
TOTAL NUMBER OF CONTAINERS											49				

Approved by	Signatures	Date/Time	Shipping Details
Sampled by		5-5-11	Method of Shipment: courier
Relinquished by		1530	On Ice: <u>yes</u> / no 2.2°C / 1.6°C
Received by		5/5/11 1530	Airbill No: 112#2
Relinquished by		5/5/11 1750	Lab Name: ADVANCED TECHNOLOGY LABORATO
Received by			Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy

(530) 229-3303

Project Name PG&E Topock			Container:	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	1 Liter Poly	1 Liter Poly		Number of Containers	COMMENTS
Location Topock			Preservatives:	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C			
Project Number 405681.MP.02.GM.04			Filtered:	Field	Field	Field	Field	Field	NA	NA			
Project Manager Jay Piper			Holding Time:	180	180	180	180	180	2	2			
Sample Manager Shawn Duffy				Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo, Se	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (SW6010B/SW6020A) Field Filtered T22: SpAsBaBeCdCoCuPbHgMnNi	Specific Conductance (E120 1)	Anions (E300 0) Nitrate			
Task Order			DATE	TIME	Matrix								
Project 2011-GMP-177-Q2			MW-22-177	5/3/2011	15:55	Water		X		X		2	2 Bec
Turnaround Time 10 Days			MW-47-055-177	5/3/2011	16:52	Water				X		1	
Shipping Date: 5/5/2011			MW-47-115-177	5/3/2011	16:03	Water				X		1	
COC Number: 8			MW-52D-177	5/3/2011	11:35	Water	X	X		X		2	2
			MW-52M-177	5/3/2011	10:45	Water	X			X		2	
			MW-52S-177	5/3/2011	9:40	Water	X			X		2	
			MW-53D-177	5/3/2011	13:15	Water	X	X		X		2	2
			MW-53M-177	5/3/2011	14:35	Water	X	X		X		2	2
			MW-19-177	5/4/2011	14:45	Water				X		1	
			MW-23-060-177	5/4/2011	10:06	Water	X	X		X		2	2
			MW-23-080-177	5/4/2011	11:33	Water	X	X		X		2	2
			MW-31-060-177	5/4/2011	16:06	Water				X		1	
			MW-33-090-177	5/4/2011	14:08	Water				X		1	
			MW-33-150-177	5/4/2011	10:45	Water				X		1	
			MW-33-210-177	5/4/2011	12:03	Water				X		1	

Signatures

Date/Time

Shipping Details

Approved by

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Method of Shipment: courier

On Ice: yes T no 2.2°C / 1.6°C

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and
Marlon

Special Instructions:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy
(530) 229-3303

Project Name PG&E Topock				Container:	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	1 Liter Poly	1 Liter Poly	Number of Containers	COMMENTS
Location Topock				Preservatives:	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C		
Project Number 405681.MP.02.GM.04				Filtered:	Field	Field	Field	Field	Field	NA	NA		
Project Manager Jay Piper				Holding Time:	180	180	180	180	180	2	2		
Sample Manager Shawn Duffy					Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo Se	Metals (6020A) Field Filtered Mo Se, Mn	Metals (SW601.0B/SW6020A) Field Filtered T22 SbAsBaBeCdCoCuPbHgMn	Specific Conductance (E120.1)	Anions (E300.0) Nitrate		
Task Order													
Project 2011-GMP-177-Q2													
Turnaround Time 10 Days													
Shipping Date: 5/5/2011													
COC Number: 8													
DATE	TIME	MATRIX											
MW-35-060-177	5/4/2011	12:39	Water						X			1	
MW-35-135-177	5/4/2011	13:35	Water						X			1	
MW-46-205-177	5/4/2011	9:23	Water						X			1	
MW-48-177	5/4/2011	15:21	Water						X			1	
MW-92-177	5/4/2011	11:32	Water	X	X				X			2	2 Btl
MW-37D-177	5/5/2011	9:06	Water			X			X	X		2	
MW-40D-177	5/5/2011	10:12	Water	X			X		X	X		2	
MW-57-070-177	5/5/2011	12:39	Water						X			1	
MW-62-065-177	5/5/2011	11:23	Water						X			1	
MW-62-110-177	5/5/2011	13:16	Water	X			X		X	X		2	2
MW-62-190-177	5/5/2011	13:25	Water	X			X		X	X		2	2
MW-97-177	5/5/2011	12:41	Water						X			1	
TOTAL NUMBER OF CONTAINERS												49	

Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Signatures

Date/Time

Shipping Details

Method of Shipment: courier

On Ice: yes / no 2.2°C / 1.6°C

Airbill No:

Lab Name: ADVANCED TECHNOLOGY LABORATORY

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and
Marlon

Special Instructions:

April 28 - May 13, 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: 5/5/2011

Workorder: N005759

Rep sample Temp (Deg C): 2.2, 1.6

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

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH < 2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed B

NS 5/6/11

Reviewed By:

eg 5/6/11

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:

$$\text{Nitrate, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005759-022B**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Nitrate, mg/L} &= 0.543 * 5 \\ &= 2.715 \text{ mg/L}\end{aligned}$$

Reporting **N005759-022B**, results in two significant figures,

$$\text{Nitrate, mg/L} = 2.7 \text{ mg/L}$$

ps/lnh

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: METALS BY ICP
MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in mg/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A * C * DF * 1000}{B}$$

where:

M= concentration of the metal in ug/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N005759-001A, concentration in ug/L are calculated as follows:

$$\text{Ba, ug/L} = 0.06040 \frac{\text{mg/L} * 0.025 \text{ L} * 1000}{0.025 \text{ L}}$$

$$\text{Ba} = 60.40 \text{ ug/L}$$

Reporting result in two significant figures,

$$\text{Ba} = 60 \text{ ug/L}$$

f. 5/14/2011

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 5/10/2011
 Digestion Date: 5/9/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: Water
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005760-001B
 Batch # : 36860

Analyte	A	B	Difference	% D
Barium	122.5	126.439	-3.93900	-3.2
Molybdenum	69.76	82.604	-12.84400	-18.4

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

CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265692						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	126.439	15						122.5	3.16	10	
Molybdenum	82.604	25						69.76	16.9	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: N005759

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:				RunNo: 79986			
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011				SeqNo: 1265690			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1025.979	20	1000	0	103	75	125				
Barium	1097.253	6.0	1000	122.5	97.5	75	125				
Beryllium	1005.060	2.0	1000	0	101	75	125				
Cadmium	986.285	6.0	1000	0.3380	98.6	75	125				
Cobalt	997.770	6.0	1000	0	99.8	75	125				
Copper	1062.834	10	1000	0	106	75	125				
Lead	969.189	20	1000	1.665	96.8	75	125				
Molybdenum	1080.898	10	1000	69.76	101	75	125				
Nickel	988.261	10	1000	0	98.8	75	125				
Silver	1015.851	6.0	1000	0	102	75	125				
Vanadium	1021.166	6.0	1000	0	102	75	125				
Zinc	1009.325	20	1000	9.389	100	75	125				

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265691						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2658.941	50	2500	0	106	75	125				
Barium	2673.583	15	2500	122.5	102	75	125				
Beryllium	2621.222	5.0	2500	0	105	75	125				
Cadmium	2684.895	15	2500	0.3380	107	75	125				
Cobalt	2654.883	15	2500	0	106	75	125				
Copper	2615.131	25	2500	0	105	75	125				
Lead	2620.540	50	2500	1.665	105	75	125				
Molybdenum	2696.843	25	2500	69.76	105	75	125				
Nickel	2678.856	25	2500	0	107	75	125				
Silver	2552.244	15	2500	0	102	75	125				
Vanadium	2614.194	15	2500	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: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265691						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2746.490	50	2500	9.389	109	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:

$$\text{Arsenic, mg/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005759-001A**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 2.44015 * 5 * (25/25) \\ &= 12.20075 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 12$$

NSG
5/31/14

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005759
 Test Method: EPA 6020
 Analysis Date: 05/08/11

Dilution Test Summary

Matrix: Aqueous
 Batch No.: 36843

Instrument ID: ICP-MS #2
 Instrument Description: Agilent 7700x

Comments: _____ Analyzed By: Jojo Tenorio

Dilution Test is not applicable to As, Se & Tl. The calc. Values are < 25X the RL. PS @ 2X passes the criteria.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005760-001B-DT 5X	Arsenic	µg/L	0.560757634	NA	0.500727346	11.99%	10
N005760-001B-DT 5X	Manganese	µg/L	477.610259		458.9912567	4.06%	10
N005760-001B-DT 5X	Molybdenum	µg/L	84.75737319		83.5570653	1.44%	10
N005760-001B-DT 5X	Selenium	µg/L	10.28001094	NA	8.650271339	18.84%	10
N005760-001B-DT 5X	Thallium	µg/L	0	NA	0.092839149	-100.00%	10

m1
 5/26/11

CLIENT: CH2M HILL
Work Order: N005759
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005760-001B-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271374						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.833	0.20	20.00	0.5007	96.7	75	125				
Molybdenum	107.274	1.0	20.00	83.56	119	75	125				
Selenium	27.431	1.0	20.00	8.650	93.9	75	125				
Thallium	20.277	1.0	20.00	0.09284	101	75	125				

Sample ID: N005760-001B-PS 5	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36843	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271375						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	959.385	2.5	500.0	477.6	96.4	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:

$$\text{Mercury, ug/L} = A * DF * PF * 0.5$$

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 conversion factor.

For Sample **N005759-001A**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Mercury, ug/L} &= 0.06 * 1 * (50/25) * 0.5 \\ &= 0.06 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Mercury, ug/L} = 0.06$$

$$\text{Mercury, ug/L} = \text{ND}$$

July 05, 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.: N005765

RE: PG&E Topock, 405681.MP.02.GM.04

Attention: Shawn P. Duffy

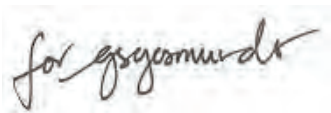
Enclosed are the results for sample(s) received on May 06, 2011 by Advanced Technology Laboratories, Inc. . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories - Las Vegas.



**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,405681.MP.02.GM.04
Lab Order: N005765

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

Samples were received intact with proper chain of custody documentation.

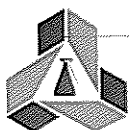
Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

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 6020:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum on QC sample N005765-001A-MSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.



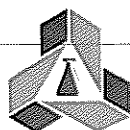
Advanced Technology Laboratories, Inc.

Date: 31-May-11

CLIENT: CH2M HILL
Project: PG&E Topock.405681.MP.02.GM.04
Lab Order: N005765
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N005765-001A	MW-10-177	Water	5/5/2011 3:24:00 PM	5/6/2011	
N005765-001B	MW-10-177	Water	5/5/2011 3:24:00 PM	5/6/2011	
N005765-002A	MW-24BR-177	Water	5/5/2011 1:58:00 PM	5/6/2011	
N005765-003A	MW-26-177	Water	5/5/2011 4:28:00 PM	5/6/2011	
N005765-003B	MW-26-177	Water	5/5/2011 4:28:00 PM	5/6/2011	
N005765-004A	MW-60-125-177	Water	5/5/2011 3:29:00 PM	5/6/2011	
N005765-004B	MW-60-125-177	Water	5/5/2011 3:29:00 PM	5/6/2011	
N005765-005A	MW-61-110-177	Water	5/5/2011 2:02:00 PM	5/6/2011	
N005765-005B	MW-61-110-177	Water	5/5/2011 2:02:00 PM	5/6/2011	
N005765-006A	MW-91-177	Water	5/5/2011 2:52:00 PM	5/6/2011	
N005765-006B	MW-91-177	Water	5/5/2011 2:52:00 PM	5/6/2011	
N005765-007A	TW-01-177	Water	5/5/2011 5:02:00 PM	5/6/2011	
N005765-007B	TW-01-177	Water	5/5/2011 5:02:00 PM	5/6/2011	
N005765-008A	MW-12-177	Water	5/6/2011 8:26:00 AM	5/6/2011	
N005765-008B	MW-12-177	Water	5/6/2011 8:26:00 AM	5/6/2011	
N005765-009A	MW-20-070-177	Water	5/6/2011 9:20:00 AM	5/6/2011	
N005765-009B	MW-20-070-177	Water	5/6/2011 9:20:00 AM	5/6/2011	
N005765-010A	MW-20-100-177	Water	5/6/2011 10:10:00 AM	5/6/2011	
N005765-010B	MW-20-100-177	Water	5/6/2011 10:10:00 AM	5/6/2011	
N005765-011A	MW-20-130-177	Water	5/6/2011 11:25:00 AM	5/6/2011	
N005765-011B	MW-20-130-177	Water	5/6/2011 11:25:00 AM	5/6/2011	
N005765-012A	MW-50-200-177	Water	5/6/2011 11:40:00 AM	5/6/2011	
N005765-013A	MW-51-177	Water	5/6/2011 9:36:00 AM	5/6/2011	
N005765-013B	MW-51-177	Water	5/6/2011 9:36:00 AM	5/6/2011	
N005765-014A	MW-59-100-177	Water	5/6/2011 10:36:00 AM	5/6/2011	
N005765-014B	MW-59-100-177	Water	5/6/2011 10:36:00 AM	5/6/2011	



Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-10-177
Lab Order:	N005765	Collection Date:	5/5/2011 3:24:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A	QC Batch: R79963	PrepDate:	Analyst: CEI
Specific Conductance	3000 0.10 0.10	umhos/cm	1 5/7/2011

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		

*Advanced Technology
Laboratories, Inc.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-24BR-177**Lab Order:** N005765**Collection Date:** 5/5/2011 1:58:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110507A**QC Batch:** R79963**PrepDate:****Analyst:** CEI

Specific Conductance

14000

0.10

0.10

umhos/cm

1

5/7/2011

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.*

3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

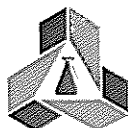
CLIENT:	CH2M HILL	Client Sample ID:	MW-26-177
Lab Order:	N005765	Collection Date:	5/5/2011 4:28:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A	QC Batch: R79963	PrepDate:	Analyst: CEI			
Specific Conductance	4000	0.10	0.10	umhos/cm	1	5/7/2011

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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-60-125-177**Lab Order:** N005765**Collection Date:** 5/5/2011 3:29:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A

QC Batch: R79963

PrepDate:

Analyst: CEI

Specific Conductance

8700

0.10

0.10

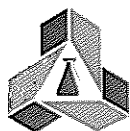
umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-61-110-177**Lab Order:** N005765**Collection Date:** 5/5/2011 2:02:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A

QC Batch: R79963

PrepDate:

Analyst: CEI

Specific Conductance

15000

0.10

0.10

umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-91-177

Lab Order: N005765

Collection Date: 5/5/2011 2:52:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A

QC Batch: R79963

PrepDate:

Analyst: CEI

Specific Conductance

3000

0.10

0.10

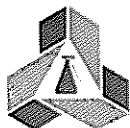
umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: TW-01-177

Lab Order: N005765

Collection Date: 5/5/2011 5:02:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A

QC Batch: R79963

PrepDate:

Analyst: CEI

Specific Conductance

6900

0.10

0.10

umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-12-177
Lab Order:	N005765	Collection Date:	5/6/2011 8:26:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A	QC Batch: R79963	PrepDate:	Analyst: CEI
Specific Conductance	6400 0.10 0.10	umhos/cm	1 5/7/2011

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: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-20-070-177

Lab Order: N005765

Collection Date: 5/6/2011 9:20:00 AM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A

QC Batch: R79963

PrepDate:

Analyst: CEI

Specific Conductance

2700

0.10

0.10

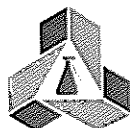
umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-20-100-177
Lab Order:	N005765	Collection Date:	5/6/2011 10:10:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507A	QC Batch: R79963	PrepDate:	Analyst: CEI
Specific Conductance	3100 0.10 0.10	umhos/cm	5/7/2011

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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-20-130-177**Lab Order:** N005765**Collection Date:** 5/6/2011 11:25:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-011

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507B

QC Batch: R79964

PrepDate:

Analyst: CEI

Specific Conductance

12000

0.10

0.10

umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

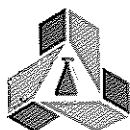
CLIENT:	CH2M HILL	Client Sample ID:	MW-50-200-177
Lab Order:	N005765	Collection Date:	5/6/2011 11:40:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1**

RunID: WETCHEM_110507B	QC Batch: R79964	PrepDate:	Analyst: CEI			
Specific Conductance	18000	0.10	0.10	umhos/cm	1	5/7/2011

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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-51-177**Lab Order:** N005765**Collection Date:** 5/6/2011 9:36:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110507B**QC Batch:** R79964**PrepDate:****Analyst:** CEI

Specific Conductance

10000

0.10

0.10

umhos/cm

1

5/7/2011

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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-59-100-177**Lab Order:** N005765**Collection Date:** 5/6/2011 10:36:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE**EPA 120.1****RunID:** WETCHEM_110507B**QC Batch:** R79964**PrepDate:****Analyst:** CEI

Specific Conductance

10000

0.10

0.10

umhos/cm

1

5/7/2011

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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CLIENT: CH2M HILL
 Work Order: N005765
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79963	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79963						
Client ID: LCSW	Batch ID: R79963	TestNo: EPA 120.1		Analysis Date: 5/7/2011	SeqNo: 1264912						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	1405.000	0.10	1411	0	99.6	85	115				

Sample ID: N005765-001B-DUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79963						
Client ID: ZZZZZZ	Batch ID: R79963	TestNo: EPA 120.1		Analysis Date: 5/7/2011	SeqNo: 1264923						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2970.000	0.10						2980	0.336	10	

Sample ID: N005765-001B-MS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79963						
Client ID: ZZZZZZ	Batch ID: R79963	TestNo: EPA 120.1		Analysis Date: 5/7/2011	SeqNo: 1264924						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4180.000	0.20	1411	2980	85.0	75	125				

Sample ID: N005765-001B-MSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79963						
Client ID: ZZZZZZ	Batch ID: R79963	TestNo: EPA 120.1		Analysis Date: 5/7/2011	SeqNo: 1264925						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	4160.000	0.20	1411	2980	83.6	75	125	4180	0.480	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: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: LCS-R79964	SampType: LCS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79964						
Client ID: LCSW	Batch ID: R79964	TestNo: EPA 120.1	Analysis Date: 5/7/2011	SeqNo: 1264926							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9520.000	0.10	9985	0	95.3	85	115				

Sample ID: N005765-011BDUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79964						
Client ID: ZZZZZZ	Batch ID: R79964	TestNo: EPA 120.1	Analysis Date: 5/7/2011	SeqNo: 1264928							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	11600.000	0.10						11540	0.519	10	

Sample ID: N005765-011BMS	SampType: MS	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79964						
Client ID: ZZZZZZ	Batch ID: R79964	TestNo: EPA 120.1	Analysis Date: 5/7/2011	SeqNo: 1264929							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	21260.000	0.20	9985	11540	97.3	75	125				

Sample ID: N005765-011BMSD	SampType: MSD	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 79964						
Client ID: ZZZZZZ	Batch ID: R79964	TestNo: EPA 120.1	Analysis Date: 5/7/2011	SeqNo: 1264930							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	21160.000	0.20	9985	11540	96.3	75	125	21260	0.471	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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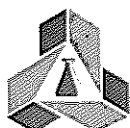
ANALYTICAL RESULTS

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-10-177
Lab Order:	N005765	Collection Date:	5/5/2011 3:24:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: IC2_110509A	QC Batch: R80084		PrepDate:		Analyst: QBM		
Fluoride	7.7	0.23	2.5	mg/L	5	5/9/2011 10:30 AM	
ANIONS BY ION CHROMATOGRAPHY							
				EPA 300.0			
RunID: IC2_110507A	QC Batch: R80021		PrepDate:		Analyst: QBM		
Nitrate as N	11	0.055	2.5	mg/L	5	5/7/2011 08:45 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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-26-177**Lab Order:** N005765**Collection Date:** 5/5/2011 4:28:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110507A**QC Batch:** R80021**PrepDate:****Analyst:** QBM

Nitrate as N

14

0.055

2.5

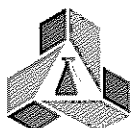
mg/L

5

5/7/2011 08:56 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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-60-125-177**Lab Order:** N005765**Collection Date:** 5/5/2011 3:29:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110507A**QC Batch:** R80021**PrepDate:****Analyst:** QBM

Nitrate as N

3.6 0.022

1.0

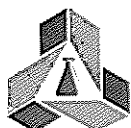
mg/L

2

5/7/2011 09:07 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-61-110-177**Lab Order:** N005765**Collection Date:** 5/5/2011 2:02:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110507A**QC Batch:** R80021**PrepDate:****Analyst:** QBM

Nitrate as N

ND 0.055

2.5

mg/L

5

5/7/2011 09:18 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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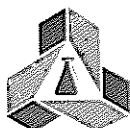
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-91-177
Lab Order:	N005765	Collection Date:	5/5/2011 2:52:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: IC2_110509A	QC Batch: R80084				PrepDate:		Analyst: QBM
Fluoride	7.7	0.23		2.5	mg/L	5	5/9/2011 11:03 AM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: IC2_110507A	QC Batch: R80021				PrepDate:		Analyst: QBM
Nitrate as N	11	0.055		2.5	mg/L	5	5/7/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** TW-01-177**Lab Order:** N005765**Collection Date:** 5/5/2011 5:02:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110507A**QC Batch:** R80021**PrepDate:****Analyst:** QBM

Nitrate as N

24

0.11

5.0

mg/L

10

5/7/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-12-177

Lab Order: N005765

Collection Date: 5/6/2011 8:26:00 AM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY

EPA 300.0

RunID: IC2_110507A

QC Batch: R80021

PrepDate:

Analyst: QBM

Nitrate as N

10 0.055

2.5

mg/L

5

5/7/2011 09:51 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: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-20-070-177**Lab Order:** N005765**Collection Date:** 5/6/2011 9:20:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0****RunID:** IC2_110507A**QC Batch:** R80021**PrepDate:****Analyst:** QBM

Nitrate as N

13 0.055

2.5

mg/L

5

5/7/2011 10:03 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: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-20-100-177
Lab Order:	N005765	Collection Date:	5/6/2011 10:10:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110507A	QC Batch: R80021	PrepDate:	Analyst: QBM
Nitrate as N	18 0.055 2.5	mg/L	5 5/7/2011 11:32 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

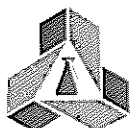
CLIENT:	CH2M HILL	Client Sample ID:	MW-20-130-177
Lab Order:	N005765	Collection Date:	5/6/2011 11:25:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110507A	QC Batch: R80021	PrepDate:	Analyst: QBM
Nitrate as N	11 0.055 2.5	mg/L	5 5/7/2011 11:43 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

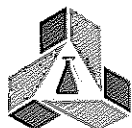
CLIENT:	CH2M HILL	Client Sample ID:	MW-51-177
Lab Order:	N005765	Collection Date:	5/6/2011 9:36:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110507A	QC Batch: R80021	PrepDate:	Analyst: QBM
Nitrate as N	10 0.055 2.5	mg/L	5 5/7/2011 11:54 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-59-100-177
Lab Order:	N005765	Collection Date:	5/6/2011 10:36:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY**EPA 300.0**

RunID: IC2_110507A	QC Batch: R80021	PrepDate:	Analyst: QBM
Nitrate as N	3.8 0.022 1.0	mg/L	2 5/7/2011 12:05 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



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3151 W. Post Road, Las Vegas, NV 89118 Tel: 702-307-2659 Fax: 702-307-2691

CLIENT: CH2M HILL
 Work Order: N005765
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: MB-R80084_F	SampType: MBLK	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 80084						
Client ID: PBW	Batch ID: R80084	TestNo: EPA 300.0		Analysis Date: 5/9/2011	SeqNo: 1268748						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride ND 0.50

Sample ID: LCS-R80084_F	SampType: LCS	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 80084						
Client ID: LCSW	Batch ID: R80084	TestNo: EPA 300.0		Analysis Date: 5/9/2011	SeqNo: 1268749						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 2.425 0.50 2.500 0 97.0 90 110

Sample ID: N005765-001BMS	SampType: MS	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 80084						
Client ID: ZZZZZZ	Batch ID: R80084	TestNo: EPA 300.0		Analysis Date: 5/9/2011	SeqNo: 1268751						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 20.360 2.5 12.50 7.700 101 80 120

Sample ID: N005765-001BMSD	SampType: MSD	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 80084						
Client ID: ZZZZZZ	Batch ID: R80084	TestNo: EPA 300.0		Analysis Date: 5/9/2011	SeqNo: 1268752						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 20.165 2.5 12.50 7.700 99.7 80 120 20.36 0.962 20

Sample ID: N005765-006BDUP	SampType: DUP	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 80084						
Client ID: ZZZZZZ	Batch ID: R80084	TestNo: EPA 300.0		Analysis Date: 5/9/2011	SeqNo: 1268754						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 7.715 2.5 7.670 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



CLIENT: CH2M HILL
Work Order: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: MB-R80021_NO3	SampType: MBLK	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: PBW	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266915						
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-R80021_NO3	SampType: LCS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: LCSW	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266916						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 2.416 0.50 2.500 0 96.6 90 110

Sample ID: N005765-001BMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: ZZZZZZ	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266926						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 23.320 2.5 12.50 10.90 99.3 80 120

Sample ID: N005765-001BMSD	SampType: MSD	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: ZZZZZZ	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266927						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 23.385 2.5 12.50 10.90 99.8 80 120 23.32 0.278 20

Sample ID: N005765-003BDUP	SampType: DUP	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: ZZZZZZ	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266928						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 13.880 2.5 14.06 1.29 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: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 300W_NO3PGE

Sample ID: N005765-008BMS	SampType: MS	TestCode: 300W_NO3P	Units: mg/L	Prep Date:	RunNo: 80021						
Client ID: ZZZZZZ	Batch ID: R80021	TestNo: EPA 300.0		Analysis Date: 5/7/2011	SeqNo: 1266930						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	22.525	2.5	12.50	9.975	100	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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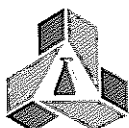
ANALYTICAL RESULTS

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-12-177
Lab Order:	N005765	Collection Date:	5/6/2011 8:26:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			EPA 6010B			
RunID: ICP1_110510B	QC Batch: 36860			PrepDate:		5/9/2011	Analyst: KAB
Antimony	ND	5.4	10	ug/L	1	5/10/2011 01:20 PM	
Barium	59	0.20	3.0	ug/L	1	5/10/2011 01:20 PM	
Beryllium	ND	0.090	1.0	ug/L	1	5/10/2011 01:20 PM	
Cadmium	ND	0.23	3.0	ug/L	1	5/10/2011 01:20 PM	
Cobalt	ND	0.31	3.0	ug/L	1	5/10/2011 01:20 PM	
Copper	ND	0.53	5.0	ug/L	1	5/10/2011 01:20 PM	
Lead	ND	1.5	10	ug/L	1	5/10/2011 01:20 PM	
Molybdenum	13	0.49	5.0	ug/L	1	5/10/2011 01:20 PM	
Nickel	ND	1.1	5.0	ug/L	1	5/10/2011 01:20 PM	
Silver	ND	0.72	3.0	ug/L	1	5/10/2011 01:20 PM	
Vanadium	9.9	0.19	3.0	ug/L	1	5/10/2011 01:20 PM	
Zinc	ND	4.6	10	ug/L	1	5/10/2011 01:20 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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CLIENT: CH2M HILL
 Work Order: N005765
 Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: MB-36860	SampType: MBLK	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: PBW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265683						
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	0.728	5.0									
Lead	ND	10									
Molybdenum	4.264	5.0									
Nickel	ND	5.0									
Silver	ND	3.0									
Vanadium	ND	3.0									
Zinc	ND	10									

Sample ID: LCS-36860	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: LCSW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	485.904	10	500.0	0	97.2	85	115				
Barium	504.671	3.0	500.0	0	101	85	115				
Beryllium	487.380	1.0	500.0	0	97.5	85	115				
Cadmium	493.691	3.0	500.0	0	98.7	85	115				
Cobalt	504.067	3.0	500.0	0	101	85	115				
Copper	505.595	5.0	500.0	0	101	85	115				
Lead	494.642	10	500.0	0	98.9	85	115				
Molybdenum	493.697	5.0	500.0	0	98.7	85	115				
Nickel	497.182	5.0	500.0	0	99.4	85	115				
Silver	486.717	3.0	500.0	0	97.3	85	115				
Vanadium	493.824	3.0	500.0	0	98.8	85	115				

Qualifiers:

B Analyte detected in the associated Method Blank
 ND Not Detected at the Reporting Limit
 DO Surrogate Diluted Out

E Value above quantitation range
 R RPD outside accepted recovery limits
 Calculations are based on raw values

H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference



CLIENT: CH2M HILL
Work Order: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: LCS-36860	SampType: LCS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: LCSW	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc	489.148	10	500.0	0	97.8	85	115				
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Sample ID: N005760-001B-MS	SampType: MS	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265688						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	515.533	10	500.0	0	103	75	125				
Barium	610.732	3.0	500.0	122.5	97.6	75	125				
Beryllium	496.178	1.0	500.0	0	99.2	75	125				
Cadmium	498.362	3.0	500.0	0.3380	99.6	75	125				
Cobalt	494.151	3.0	500.0	0	98.8	75	125				
Copper	531.570	5.0	500.0	0	106	75	125				
Lead	477.809	10	500.0	1.665	95.2	75	125				
Molybdenum	572.187	5.0	500.0	69.76	100	75	125				
Nickel	493.104	5.0	500.0	0	98.6	75	125				
Silver	513.570	3.0	500.0	0	103	75	125				
Vanadium	506.001	3.0	500.0	0	101	75	125				
Zinc	510.795	10	500.0	9.389	100	75	125				

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B EPA 3010A		Analysis Date: 5/10/2011	SeqNo: 1265689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	512.266	10	500.0	0	102	75	125	515.5	0.636	20	
Barium	604.591	3.0	500.0	122.5	96.4	75	125	610.7	1.01	20	
Beryllium	496.766	1.0	500.0	0	99.4	75	125	496.2	0.118	20	
Cadmium	492.457	3.0	500.0	0.3380	98.4	75	125	498.4	1.19	20	
Cobalt	489.711	3.0	500.0	0	97.9	75	125	494.2	0.902	20	
Copper	526.590	5.0	500.0	0	105	75	125	531.6	0.941	20	
Lead	474.960	10	500.0	1.665	94.7	75	125	477.8	0.598	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
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CLIENT: CH2M HILL
Work Order: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001B-MSD	SampType: MSD	TestCode: 6010_WDPG	Units: ug/L	Prep Date: 5/9/2011	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	568.223	5.0	500.0	69.76	99.7	75	125	572.2	0.695	20	
Nickel	488.986	5.0	500.0	0	97.8	75	125	493.1	0.839	20	
Silver	507.802	3.0	500.0	0	102	75	125	513.6	1.13	20	
Vanadium	501.203	3.0	500.0	0	100	75	125	506.0	0.953	20	
Zinc	505.744	10	500.0	9.389	99.3	75	125	510.8	0.994	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: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-10-177
Lab Order:	N005765	Collection Date:	5/5/2011 3:24:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110508C	QC Batch: 36855			PrepDate:	5/7/2011	Analyst: JT	
Molybdenum	64	0.047	0.50	µg/L	1	5/8/2011 11:24 AM	
Selenium	5.5	0.29	0.50	µg/L	1	5/8/2011 11:24 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: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-26-177
Lab Order:	N005765	Collection Date:	5/5/2011 4:28:00 PM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED METALS BY ICP-MS**EPA 3010A****EPA 6020**

RunID: ICP7_110510C	QC Batch: 36855	PrepDate: 5/7/2011	Analyst: JT			
Arsenic	1.4	0.012	0.50	µg/L	5	5/10/2011 05:22 PM
Manganese	16	0.091	0.50	µg/L	1	5/10/2011 05:17 PM
Molybdenum	17	0.24	2.5	µg/L	5	5/10/2011 05:22 PM
Selenium	5.6	1.4	2.5	µg/L	5	5/10/2011 05:22 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-60-125-177**Lab Order:** N005765**Collection Date:** 5/5/2011 3:29:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:		5/7/2011	Analyst: JT
Arsenic	1.8	0.0025	0.10	µg/L	1	5/10/2011 05:42 PM	
Manganese	ND	0.091	0.50	µg/L	1	5/10/2011 05:42 PM	
Molybdenum	32	0.24	2.5	µg/L	5	5/10/2011 05:47 PM	
Selenium	34	0.29	0.50	µg/L	1	5/10/2011 05:42 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-61-110-177**Lab Order:** N005765**Collection Date:** 5/5/2011 2:02:00 PM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:	5/7/2011	Analyst: JT	
Arsenic	3.4	0.012	0.50	µg/L	5	5/10/2011 06:01 PM	
Manganese	360	0.46	2.5	µg/L	5	5/10/2011 06:01 PM	
Molybdenum	23	0.24	2.5	µg/L	5	5/10/2011 06:01 PM	
Selenium	ND	1.4	2.5	µg/L	5	5/10/2011 06:01 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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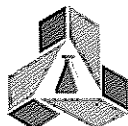
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-91-177**Lab Order:** N005765**Collection Date:** 5/5/2011 2:52:00 PM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:		5/7/2011	Analyst: JT
Molybdenum	61	0.24		2.5	µg/L	5	5/10/2011 06:16 PM
Selenium	5.5	0.29		0.50	µg/L	1	5/10/2011 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: TW-01-177

Lab Order: N005765

Collection Date: 5/5/2011 5:02:00 PM

Project: PG&E Topock,405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:		5/7/2011	Analyst: JT
Molybdenum	14	0.24	2.5	µg/L	5	5/10/2011 06:41 PM	
Selenium	28	1.4	2.5	µg/L	5	5/10/2011 06:41 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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-12-177
Lab Order:	N005765	Collection Date:	5/6/2011 8:26:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate: 5/7/2011 Analyst: JT			
Arsenic	49	0.0025	0.10	µg/L	1	5/10/2011 06:51 PM	
Selenium	9.5	0.29	0.50	µg/L	1	5/10/2011 06:51 PM	
Thallium	ND	0.076	2.5	µg/L	5	5/10/2011 06:55 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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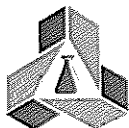
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-20-070-177**Lab Order:** N005765**Collection Date:** 5/6/2011 9:20:00 AM**Project:** PG&E Topock.405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-009

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:		5/7/2011	Analyst: JT
Molybdenum	35	0.047	0.50	µg/L	1	5/10/2011 07:05 PM	
Selenium	9.0	0.29	0.50	µg/L	1	5/10/2011 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: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-20-100-177
Lab Order:	N005765	Collection Date:	5/6/2011 10:10:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:	5/7/2011	Analyst: JT	
Molybdenum	4.2	0.047	0.50	µg/L	1	5/10/2011 07:30 PM	
Selenium	11	0.29	0.50	µg/L	1	5/10/2011 07:30 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: 05-Jul-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-20-130-177
Lab Order:	N005765	Collection Date:	5/6/2011 11:25:00 AM
Project:	PG&E Topock,405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:	5/7/2011	Analyst: JT	
Arsenic	5.1	0.012	0.50	µg/L	5	5/10/2011 07:49 PM	
Manganese	ND	0.46	2.5	µg/L	5	5/10/2011 07:49 PM	
Molybdenum	43	0.24	2.5	µg/L	5	5/10/2011 07:49 PM	
Selenium	16	1.4	2.5	µg/L	5	5/10/2011 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		



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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL

Client Sample ID: MW-51-177

Lab Order: N005765

Collection Date: 5/6/2011 9:36:00 AM

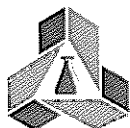
Project: PG&E Topock.405681.MP.02.GM.04

Matrix: WATER

Lab ID: N005765-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate: 5/7/2011		Analyst: JT	
Arsenic	3.9	0.012	0.50	µg/L	5	5/10/2011 08:04 PM	
Manganese	ND	0.46	2.5	µg/L	5	5/10/2011 08:04 PM	
Molybdenum	39	0.24	2.5	µg/L	5	5/10/2011 08:04 PM	
Selenium	13	1.4	2.5	µg/L	5	5/10/2011 08:04 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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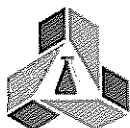
Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT:	CH2M HILL	Client Sample ID:	MW-59-100-177
Lab Order:	N005765	Collection Date:	5/6/2011 10:36:00 AM
Project:	PG&E Topock.405681.MP.02.GM.04	Matrix:	WATER
Lab ID:	N005765-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			EPA 6020			
RunID: ICP7_110510C	QC Batch: 36855			PrepDate:	5/7/2011	Analyst: JT	
Arsenic	2.0	0.012	0.50	µg/L	5	5/10/2011 08:28 PM	
Manganese	3.4	0.46	2.5	µg/L	5	5/10/2011 08:28 PM	
Molybdenum	ND	1.2	12	µg/L	25	5/10/2011 08:33 PM	
Selenium	4.7	1.4	2.5	µg/L	5	5/10/2011 08:28 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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CLIENT: CH2M HILL
 Work Order: N005765
 Project: PG&E Topock.405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: MB-36855	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/7/2011	RunNo: 80167						
Client ID: PBW	Batch ID: 36855	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271351						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.018	0.10									
Manganese	ND	0.50									
Molybdenum	0.102	0.50									
Selenium	ND	0.50									
Thallium	ND	0.50									

Sample ID: LCS-36855	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/7/2011	RunNo: 80167						
Client ID: LCSW	Batch ID: 36855	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.334	0.10	10.00	0	103	85	115				
Manganese	108.841	0.50	100.0	0	109	85	115				
Molybdenum	10.128	0.50	10.00	0	101	85	115				
Selenium	9.889	0.50	10.00	0	98.9	85	115				
Thallium	10.688	0.50	10.00	0	107	85	115				

Sample ID: N005765-001A-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/7/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36855	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271358						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	16.105	0.10	10.00	5.520	106	75	125				
Manganese	93.309	0.50	100.0	0	93.3	75	125				
Molybdenum	76.277	0.50	10.00	64.36	119	75	125				
Selenium	15.010	0.50	10.00	5.462	95.5	75	125				
Thallium	10.697	0.50	10.00	0.04327	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: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005765-001A-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/7/2011	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36855	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271360						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.192	0.10	10.00	5.520	107	75	125	16.10	0.542	20	
Manganese	92.784	0.50	100.0	0	92.8	75	125	93.31	0.564	20	
Molybdenum	77.640	0.50	10.00	64.36	133	75	125	76.28	1.77	20	S
Selenium	14.741	0.50	10.00	5.462	92.8	75	125	15.01	1.81	20	
Thallium	10.683	0.50	10.00	0.04327	106	75	125	10.70	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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Advanced Technology Laboratories, Inc.**ANALYTICAL RESULTS**

Print Date: 31-May-11

CLIENT: CH2M HILL**Client Sample ID:** MW-12-177**Lab Order:** N005765**Collection Date:** 5/6/2011 8:26:00 AM**Project:** PG&E Topock,405681.MP.02.GM.04**Matrix:** WATER**Lab ID:** N005765-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**EPA 7470A****RunID:** AA1_110512A**QC Batch:** 36872**PrepDate:** 5/11/2011 **Analyst:** CEI

Mercury

ND 0.091

0.20

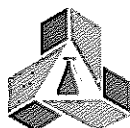
µg/L

1

5/11/2011

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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CLIENT: CH2M HILL

Work Order: N005765

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 7470_W_DISSPGE

Sample ID: LCS-36872	SampType: LCS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/11/2011	RunNo: 80012						
Client ID: LCSW	Batch ID: 36872	TestNo: EPA 7470A		Analysis Date: 5/11/2011	SeqNo: 1266722						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	10.261	0.20	10.00	0	103	85	115				

Sample ID: MB-36872	SampType: MBLK	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/11/2011	RunNo: 80012						
Client ID: PBW	Batch ID: 36872	TestNo: EPA 7470A		Analysis Date: 5/11/2011	SeqNo: 1266723						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID: N005765-008A-MS	SampType: MS	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/11/2011	RunNo: 80012						
Client ID: ZZZZZZ	Batch ID: 36872	TestNo: EPA 7470A		Analysis Date: 5/11/2011	SeqNo: 1266725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	20.367	0.20	20.00	0	102	75	125				

Sample ID: N005765-008A-MSD	SampType: MSD	TestCode: 7470_W_DIS	Units: µg/L	Prep Date: 5/11/2011	RunNo: 80012						
Client ID: ZZZZZZ	Batch ID: 36872	TestNo: EPA 7470A		Analysis Date: 5/11/2011	SeqNo: 1266726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	19.513	0.20	20.00	0	97.6	75	125	20.37	4.28	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

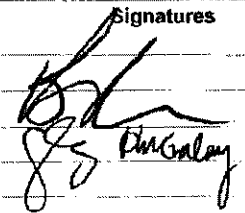
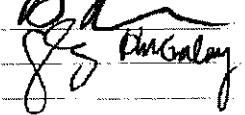
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CHAIN OF CUSTODY RECORD

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Page 1 OF 1

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy			Container: 500 ml Poly Preservatives: HNO ₃ , 4°C Filtered: Field Holding Time: 180	500 ml Poly HNO ₃ , 4°C Field 180	500 ml Poly HNO ₃ , 4°C Field 180	500 ml Poly HNO ₃ , 4°C Field 180	1 Liter Poly 4°C NA 2	1 Liter Poly 4°C NA 2	1 Liter Poly 4°C NA 2	Number of Containers	COMMENTS	
Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/6/2011 COC Number: 12	Ascorbic (8020) Field Filtered	Metals (8020A) Field Filtered Mo, Se, Mn	Metals (8020A) Field Filtered Mo, Se, Mn	Metals (SW6010B/SW8020A) Field Filtered T22:SPASBaBeCdCoCuPbHgMn	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	Anions (E300.0) Nitrate, Fluoride					
DATE	TIME	Matrix										
MW-10-177	5/5/2011	15:24	Water		X			X		X	2	N005765 -1
MW-24BR-177	5/5/2011	13:58	Water					X			1	2
MW-26-177	5/5/2011	18:28	Water	X		X		X	X		2	3
MW-60-126-177	5/5/2011	15:29	Water	X		X		X	X		2	4
MW-61-110-177	5/5/2011	14:02	Water	X		X		X	X		2	5
MW-91-177	5/5/2011	14:52	Water		X			X		X	2	6
TW-61-177	5/5/2011	17:02	Water		X			X	X		2	7
MW-12-177	5/6/2011	8:26	Water				X	X	X		2	8
MW-20-070-177	5/6/2011	9:20	Water		X			X	X		2	9
MW-20-100-177	5/6/2011	10:10	Water		X			X	X		2	10
MW-20-130-177	6/6/2011	11:25	Water	X				X	X		2	11
MW-50-200-177	5/6/2011	11:40	Water					X			1	12
MW-51-177	5/6/2011	9:36	Water	X		X		X	X		2	13
MW-59-100-177	5/6/2011	10:36	Water	X		X		X	X		2	14
TOTAL NUMBER OF CONTAINERS										31		

Approved by	Signatures	Date/Time
Sampled by		5-6-11
Relinquished by		
Received by		5/6/11/7/11
Relinquished by		
Received by		

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:

April 28 - May 13, 2011

Report Copy to

Shawn Duffy

(530) 229-3303

ATL

CHAIN OF CUSTODY RECORD

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Page 1 OF 1

Project Name PG&E Topock Location Topock Project Number 405681.MP.02.GM.04 Project Manager Jay Piper Sample Manager Shawn Duffy Task Order Project 2011-GMP-177-Q2 Turnaround Time 10 Days Shipping Date: 5/6/2011 COC Number: 12				Container: 500 ml Poly HNO3 4°C Filtered: Field Holding Time: 180	500 ml Poly HNO3 4°C Field	500 ml Poly HNO3 4°C Field	500 ml Poly HNO3 4°C Field	500 ml Poly HNO3 4°C Field	1 Liter Poly 4°C NA	1 Liter Poly 4°C NA	1 Liter Poly 4°C NA		Number of Containers	COMMENTS
DATE	TIME	Matrix	Arsenic (6020) Field Filtered	Metals (6020A) Field Filtered Mo Se Mn	Metals (6020A) Field Filtered Mo Se Mn	Metals (6020A) Field Filtered Mo Se Mn	Metals (6020A) Field Filtered Mo Se Mn	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	Anions (E300.0) Nitrate, Fluoride				
MW-10-177	5/5/2011	15:24	Water		X			X		X		2		
MW-24BR-177	5/5/2011	13:58	Water					X				1		
MW-26-177	5/5/2011	16:28	Water	X		X		X	X			2	2	
MW-60-125-177	5/5/2011	15:29	Water	X		X		X	X			2	2	
MW-61-110-177	5/5/2011	14:02	Water	X		X		X	X			2	2	
MW-91-177	5/5/2011	14:52	Water		X			X		X		2		
TW-01-177	5/5/2011	17:02	Water		X			X	X			2		
MW-12-177	5/6/2011	8:26	Water				X	X	X			2		
MW-20-070-177	5/6/2011	9:20	Water		X			X	X			2		
MW-20-100-177	5/6/2011	10:10	Water		X			X	X			2		
MW-20-130-177	5/6/2011	11:25	Water	X				X	X			2		
MW-50-200-177	5/6/2011	11:40	Water					X				1		
MW-51-177	5/6/2011	9:36	Water	X		X		X	X			2	2	
MW-59-100-177	5/6/2011	10:36	Water	X		X		X	X			2	2	
TOTAL NUMBER OF CONTAINERS											31			

Signatures	Date/Time	Shipping Details	ATTN:	Special Instructions:
Approved by Sampled by Relinquished by Received by Relinquished by Received by	5-6-11 5/6/11/1049 5/6/11/1049	Method of Shipment: courier On Ice: yes / no 5.2°C / 3.2°C Airbill No: 1R#2 Lab Name: ADVANCED TECHNOLOGY LABORATORY Lab Phone: (702) 307-2659	Sample Custody and Marlon	April 28 - May 13, 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: 5/6/2011

Workorder: N005765

Rep sample Temp (Deg C): 5.2,3.2

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

- | | | | |
|---|---|-----------------------------|---|
| 1. Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 2. Custody seals intact, signed, dated on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 3. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 4. Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 5. Sampler's name present in COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 6. Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 10. Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 11. All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 12. Temperature of rep sample or Temp Blank within acceptable limit? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 13. Water - VOA vials have zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 14. Water - pH acceptable upon receipt?
Example: pH > 12 for (CN,S); pH<2 for Metals | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 15. Did the bottle labels indicate correct preservatives used? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 16. Were there Non-Conformance issues at login? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Was Client notified? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:

Checklist Completed B

NS

5/6/11

Reviewed By:

g/da/

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:

$$\text{Nitrate, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration

DF = dilution factor

For **N005765-001B**, concentration in mg/L are calculated as follows:

$$\begin{aligned}\text{Nitrate, mg/L} &= 2.181 * 5 \\ &= 10.905 \text{ mg/L}\end{aligned}$$

Reporting **N005765-001B**, results in two significant figures,

$$\text{Nitrate, mg/L} = 11 \text{ mg/L}$$

9/25/19/11

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: METALS BY ICP
MATRIX: WATER

FORMULA:

Calculate the individual metal concentration, in mg/L, in the original sample as follows:

$$M, \text{ ug/L} = \frac{A * C * DF * 1000}{B}$$

where:

M= concentration of the metal in ug/L
A= mg/L, ICP calculated concentration
B= volume of sample, Liter
C= final volume of digestate, Liter
DF= dilution factor

For N005765-008A, concentration in ug/L are calculated as follows:

$$\text{Ba, ug/L} = \frac{0.05890 \text{ mg/L} * 0.025 \text{ L} * 1000}{0.025 \text{ L}}$$

$$\text{Ba} = 58.9 \text{ ug/L}$$

Reporting result in two significant figures,

$$\text{Ba} = 59 \text{ ug/L}$$

k. s/14/2011

DILUTION TEST

Analytical Method: EPA 6010B / 200.7
 Digestion Method: EPA 3010A
 Date of Analysis: 5/10/2011
 Digestion Date: 5/9/2011
 Instrument Name: ICP1
 Analysts: KB

Matrix: Water
 Amount of Sample: 25 mL
 Units: ug/L

Work Order # : N005760-001B
 Batch # : 36860

Analyte	A	B	Difference	% D
Barium	122.5	126.439	-3.93900	-3.2
Molybdenum	69.76	82.604	-12.84400	-18.4

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

CLIENT: CH2M HILL
Work Order: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BDT	SampType: DT	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265692						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	126.439	15						122.5	3.16	10	
Molybdenum	82.604	25						69.76	16.9	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: N005765

Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:				RunNo: 79986			
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011				SeqNo: 1265690			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1025.979	20	1000	0	103	75	125				
Barium	1097.253	6.0	1000	122.5	97.5	75	125				
Beryllium	1005.060	2.0	1000	0	101	75	125				
Cadmium	986.285	6.0	1000	0.3380	98.6	75	125				
Cobalt	997.770	6.0	1000	0	99.8	75	125				
Copper	1062.834	10	1000	0	106	75	125				
Lead	969.189	20	1000	1.665	96.8	75	125				
Molybdenum	1080.898	10	1000	69.76	101	75	125				
Nickel	988.261	10	1000	0	98.8	75	125				
Silver	1015.851	6.0	1000	0	102	75	125				
Vanadium	1021.166	6.0	1000	0	102	75	125				
Zinc	1009.325	20	1000	9.389	100	75	125				

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265691						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2658.941	50	2500	0	106	75	125				
Barium	2673.583	15	2500	122.5	102	75	125				
Beryllium	2621.222	5.0	2500	0	105	75	125				
Cadmium	2684.895	15	2500	0.3380	107	75	125				
Cobalt	2654.883	15	2500	0	106	75	125				
Copper	2615.131	25	2500	0	105	75	125				
Lead	2620.540	50	2500	1.665	105	75	125				
Molybdenum	2696.843	25	2500	69.76	105	75	125				
Nickel	2678.856	25	2500	0	107	75	125				
Silver	2552.244	15	2500	0	102	75	125				
Vanadium	2614.194	15	2500	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: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: N005760-001BPS	SampType: PS	TestCode: 6010_WDPG	Units: ug/L	Prep Date:	RunNo: 79986						
Client ID: ZZZZZZ	Batch ID: 36860	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/10/2011	SeqNo: 1265691						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2746.490	50	2500	9.389	109	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:

$$\text{Arsenic, mg/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N005765-001A**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 5.51987 * 1 * (25/25) \\ &= 5.51987 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 5.5$$

Advanced Technology Laboratories, Inc.

ICP-Metals in Water

Work Order No.: N005765
 Test Method: EPA 6020
 Analysis Date: 05/08/11

Dilution Test Summary

Matrix: Aqueous
 Batch No.: 36855

Instrument ID: ICP-MS #2
 Instrument Description: Agilent 7700x

Comments:

Analyzed By: Jojo Tenorio

Dilution Test is not applicable to TI. The calc. Values are < 25X the RL. PS @ 2X passes the criteria.

Sample ID	Analyte	&Units	Calc.Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N005765-001A-DT 5X	Arsenic	µg/L	5.211659335		5.519872743	-5.58%	10
N005765-001A-DT 5X	Manganese	µg/L	0		0		10
N005765-001A-DT 5X	Molybdenum	µg/L	61.08007449		64.36394451	-5.10%	10
N005765-001A-DT 5X	Selenium	µg/L	5.743605216		5.461716168	5.16%	10
N005765-001A-DT 5X	Thallium	µg/L	0	NA	0.04327046	-100.00%	10

CLIENT: CH2M HILL
Work Order: N005765
Project: PG&E Topock,405681.MP.02.GM.04

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS

Sample ID: N005765-001A-PS 2	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 80167						
Client ID: ZZZZZZ	Batch ID: 36855	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2011	SeqNo: 1271356						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.369	0.20	20.00	5.520	104	75	125				
Manganese	189.240	1.0	200.0	0	94.6	75	125				
Molybdenum	85.826	1.0	20.00	64.36	107	75	125				
Selenium	24.315	1.0	20.00	5.462	94.3	75	125				
Thallium	21.122	1.0	20.00	0.04327	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

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:

$$\text{Mercury, ug/L} = A * DF * PF * 0.5$$

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 conversion factor.

For Sample **N005765-008A**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Mercury, ug/L} &= 0.02 * 1 * (50/25) * 0.5 \\ &= 0.02 \text{ ug/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Mercury, ug/L} = 0.02$$

$$\text{Mercury, ug/L} = \text{ND}$$

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

July 13, 2011

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-RMP-177, SURFACEWATER
MONITORING PROJECT, TLI No.: 995499

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-RMP-177 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 June 7, 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 late arrival of the samples, all samples, except C-MAR-D-177 and C-MAR-S-177, for pH analysis by SM 4500-H B were analyzed past the method specified holding time. Mr. Shawn Duffy approved the analysis.

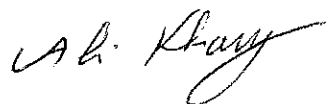
Mr. Shawn Duffy requested that Total Arsenic and Manganese be added to the list of reported analytes for samples 995499-1 through 995499-12.

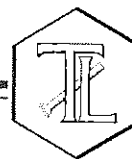
No other violations or non-conformance actions occurred for this data package.

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


for - Mona Nassimi
Manager, Analytical Services


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



Event 2010-RMP-177 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-177	2.00	No			
C-I-3-D-177	2.00	No			
C-I-3-S-177	2.00	No			
C-MAR-D-177	2.00	No			
C-MAR-S-177	2.00	No			
C-R22A-D-177	2.00	No			
C-R22A-S-177	2.00	No			
C-R27-D-177	2.00	No			
C-R27-S-177	2.00	No			
C-TAZ-D-177	2.00	No			
C-TAZ-S-177	2.00	No			
R63-177	2.00	No			
SW1-177	2.00	No			
SW2-177	2.00	No			



Event 2010-RMP-177 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-177	9.50	No			
C-I-3-D-177	9.50	No			
C-I-3-S-177	9.50	No			
C-MAR-D-177	9.50	No			
C-MAR-S-177	9.50	No			
C-R22A-D-177	9.50	No			
C-R22A-S-177	9.50	No			
C-R27-D-177	9.50	No			
C-R27-S-177	9.50	No			
C-TAZ-D-177	9.50	No			
C-TAZ-S-177	9.50	No			
R63-177	9.50	No			
SW1-177	9.50	No			
SW2-177	9.50	No			

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Attention: Shawn Duffy

Laboratory No.: 995499
Date Received: June 7, 2011

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-001	C-BNS-D-177	E120.1	NONE	6/7/2011	12:23	EC	987	umhos/cm	2.00
995499-001	C-BNS-D-177	E218.6	FLDFLT	6/7/2011	12:23	Chromium, hexavalent	ND	ug/L	0.20
995499-001	C-BNS-D-177	E300	NONE	6/7/2011	12:23	Nitrate as N	ND	mg/L	0.500
995499-001	C-BNS-D-177	SM2320B	NONE	6/7/2011	12:23	Alkalinity	127	mg/L	5.00
995499-001	C-BNS-D-177	SM2320B	NONE	6/7/2011	12:23	Bicarbonate	127	mg/L	5.00
995499-001	C-BNS-D-177	SM2320B	NONE	6/7/2011	12:23	Carbonate	ND	mg/L	5.00
995499-001	C-BNS-D-177	SM2540D	NONE	6/7/2011	12:23	Total Suspended Solids	ND	mg/L	2.50
995499-001	C-BNS-D-177	SM4500HB	NONE	6/7/2011	12:23	PH	7.99 J	pH	4.00
995499-001	C-BNS-D-177	SW6010B	NONE-digested	6/7/2011	12:23	Iron	51.8	ug/L	20.0
995499-001	C-BNS-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:23	Iron	ND	ug/L	20.0
995499-001	C-BNS-D-177	SW6010B	NONE-digested	6/7/2011	12:23	Manganese	ND	ug/L	11.1
995499-001	C-BNS-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:23	Molybdenum	ND	ug/L	11.1
995499-001	C-BNS-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:23	Selenium	ND	ug/L	11.1
995499-001	C-BNS-D-177	SW6020	FLDFLT-digested	6/7/2011	12:23	Arsenic	2.8	ug/L	1.0
995499-001	C-BNS-D-177	SW6020	NONE-digested	6/7/2011	12:23	Arsenic	2.7	ug/L	1.0
995499-001	C-BNS-D-177	SW6020	FLDFLT-digested	6/7/2011	12:23	Chromium	ND	ug/L	1.0
995499-001	C-BNS-D-177	SW6020	FLDFLT-digested	6/7/2011	12:23	Manganese	ND	ug/L	10.0

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-002	C-I-3-D-177	E120.1	NONE	6/7/2011	10:37	EC	953	umhos/cm	2.00
995499-002	C-I-3-D-177	E218.6	FLDFLT	6/7/2011	10:37	Chromium, hexavalent	ND	ug/L	0.20
995499-002	C-I-3-D-177	E300	NONE	6/7/2011	10:37	Nitrate as N	ND	mg/L	0.500
995499-002	C-I-3-D-177	SM2320B	NONE	6/7/2011	10:37	Alkalinity	116	mg/L	5.00
995499-002	C-I-3-D-177	SM2320B	NONE	6/7/2011	10:37	Bicarbonate	116	mg/L	5.00
995499-002	C-I-3-D-177	SM2320B	NONE	6/7/2011	10:37	Carbonate	ND	mg/L	5.00
995499-002	C-I-3-D-177	SM2540D	NONE	6/7/2011	10:37	Total Suspended Solids	ND	mg/L	2.50
995499-002	C-I-3-D-177	SM4500HB	NONE	6/7/2011	10:37	PH	8.17 J	pH	4.00
995499-002	C-I-3-D-177	SW6010B	NONE-digested	6/7/2011	10:37	Iron	32.3	ug/L	20.0
995499-002	C-I-3-D-177	SW6010B	FLDFLT-digested	6/7/2011	10:37	Iron	ND	ug/L	20.0
995499-002	C-I-3-D-177	SW6010B	NONE-digested	6/7/2011	10:37	Manganese	ND	ug/L	11.1
995499-002	C-I-3-D-177	SW6010B	FLDFLT-digested	6/7/2011	10:37	Molybdenum	ND	ug/L	11.1
995499-002	C-I-3-D-177	SW6010B	FLDFLT-digested	6/7/2011	10:37	Selenium	ND	ug/L	11.1
995499-002	C-I-3-D-177	SW6020	FLDFLT-digested	6/7/2011	10:37	Arsenic	2.5	ug/L	1.0
995499-002	C-I-3-D-177	SW6020	NONE-digested	6/7/2011	10:37	Arsenic	2.6	ug/L	1.0
995499-002	C-I-3-D-177	SW6020	FLDFLT-digested	6/7/2011	10:37	Chromium	ND	ug/L	1.0
995499-002	C-I-3-D-177	SW6020	FLDFLT-digested	6/7/2011	10:37	Manganese	ND	ug/L	10.0
995499-003	C-I-3-S-177	E120.1	NONE	6/7/2011	10:53	EC	952	umhos/cm	2.00
995499-003	C-I-3-S-177	E218.6	FLDFLT	6/7/2011	10:53	Chromium, hexavalent	ND	ug/L	0.20
995499-003	C-I-3-S-177	E300	NONE	6/7/2011	10:53	Nitrate as N	ND	mg/L	0.500
995499-003	C-I-3-S-177	SM2320B	NONE	6/7/2011	10:53	Alkalinity	125	mg/L	5.00
995499-003	C-I-3-S-177	SM2320B	NONE	6/7/2011	10:53	Bicarbonate	125	mg/L	5.00
995499-003	C-I-3-S-177	SM2320B	NONE	6/7/2011	10:53	Carbonate	ND	mg/L	5.00
995499-003	C-I-3-S-177	SM2540D	NONE	6/7/2011	10:53	Total Suspended Solids	ND	mg/L	2.50
995499-003	C-I-3-S-177	SM4500HB	NONE	6/7/2011	10:53	PH	8.17 J	pH	4.00
995499-003	C-I-3-S-177	SW6010B	NONE-digested	6/7/2011	10:53	Iron	89.5	ug/L	20.0
995499-003	C-I-3-S-177	SW6010B	FLDFLT-digested	6/7/2011	10:53	Iron	ND	ug/L	20.0
995499-003	C-I-3-S-177	SW6010B	NONE-digested	6/7/2011	10:53	Manganese	ND	ug/L	11.1
995499-003	C-I-3-S-177	SW6010B	FLDFLT-digested	6/7/2011	10:53	Molybdenum	ND	ug/L	11.1
995499-003	C-I-3-S-177	SW6010B	FLDFLT-digested	6/7/2011	10:53	Selenium	ND	ug/L	11.1
995499-003	C-I-3-S-177	SW6020	FLDFLT-digested	6/7/2011	10:53	Arsenic	2.8	ug/L	1.0
995499-003	C-I-3-S-177	SW6020	NONE-digested	6/7/2011	10:53	Arsenic	2.6	ug/L	1.0
995499-003	C-I-3-S-177	SW6020	FLDFLT-digested	6/7/2011	10:53	Chromium	ND	ug/L	1.0
995499-003	C-I-3-S-177	SW6020	FLDFLT-digested	6/7/2011	10:53	Manganese	ND	ug/L	10.0

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-004	C-MAR-D-177	E120.1	NONE	6/7/2011	13:25	EC	980	umhos/cm	2.00
995499-004	C-MAR-D-177	E218.6	FLDFLT	6/7/2011	13:25	Chromium, hexavalent	ND	ug/L	0.20
995499-004	C-MAR-D-177	E300	NONE	6/7/2011	13:25	Nitrate as N	ND	mg/L	0.500
995499-004	C-MAR-D-177	SM2320B	NONE	6/7/2011	13:25	Alkalinity	125	mg/L	5.00
995499-004	C-MAR-D-177	SM2320B	NONE	6/7/2011	13:25	Bicarbonate	125	mg/L	5.00
995499-004	C-MAR-D-177	SM2320B	NONE	6/7/2011	13:25	Carbonate	ND	mg/L	5.00
995499-004	C-MAR-D-177	SM2540D	NONE	6/7/2011	13:25	Total Suspended Solids	15.8	mg/L	2.50
995499-004	C-MAR-D-177	SM4500HB	NONE	6/7/2011	13:25	PH	7.83	pH	4.00
995499-004	C-MAR-D-177	SW6010B	NONE-digested	6/7/2011	13:25	Iron	650	ug/L	20.0
995499-004	C-MAR-D-177	SW6010B	FLDFLT-digested	6/7/2011	13:25	Iron	ND	ug/L	20.0
995499-004	C-MAR-D-177	SW6010B	NONE-digested	6/7/2011	13:25	Manganese	32.0	ug/L	11.1
995499-004	C-MAR-D-177	SW6010B	FLDFLT-digested	6/7/2011	13:25	Molybdenum	ND	ug/L	11.1
995499-004	C-MAR-D-177	SW6010B	FLDFLT-digested	6/7/2011	13:25	Selenium	ND	ug/L	11.1
995499-004	C-MAR-D-177	SW6020	FLDFLT-digested	6/7/2011	13:25	Arsenic	2.4	ug/L	1.0
995499-004	C-MAR-D-177	SW6020	NONE-digested	6/7/2011	13:25	Arsenic	2.9	ug/L	1.0
995499-004	C-MAR-D-177	SW6020	FLDFLT-digested	6/7/2011	13:25	Chromium	ND	ug/L	1.0
995499-004	C-MAR-D-177	SW6020	FLDFLT-digested	6/7/2011	13:25	Manganese	16.3	ug/L	10.0
995499-005	C-MAR-S-177	E120.1	NONE	6/7/2011	13:38	EC	970	umhos/cm	2.00
995499-005	C-MAR-S-177	E218.6	FLDFLT	6/7/2011	13:38	Chromium, hexavalent	ND	ug/L	0.20
995499-005	C-MAR-S-177	E300	NONE	6/7/2011	13:38	Nitrate as N	1.88	mg/L	1.00
995499-005	C-MAR-S-177	SM2320B	NONE	6/7/2011	13:38	Alkalinity	135	mg/L	5.00
995499-005	C-MAR-S-177	SM2320B	NONE	6/7/2011	13:38	Bicarbonate	135	mg/L	5.00
995499-005	C-MAR-S-177	SM2320B	NONE	6/7/2011	13:38	Carbonate	ND	mg/L	5.00
995499-005	C-MAR-S-177	SM2540D	NONE	6/7/2011	13:38	Total Suspended Solids	18.8	mg/L	2.50
995499-005	C-MAR-S-177	SM4500HB	NONE	6/7/2011	13:38	PH	7.8	pH	4.00
995499-005	C-MAR-S-177	SW6010B	NONE-digested	6/7/2011	13:38	Iron	675	ug/L	20.0
995499-005	C-MAR-S-177	SW6010B	FLDFLT-digested	6/7/2011	13:38	Iron	40.9	ug/L	20.0
995499-005	C-MAR-S-177	SW6010B	NONE-digested	6/7/2011	13:38	Manganese	33.0	ug/L	11.1
995499-005	C-MAR-S-177	SW6010B	FLDFLT-digested	6/7/2011	13:38	Molybdenum	ND	ug/L	11.1
995499-005	C-MAR-S-177	SW6010B	FLDFLT-digested	6/7/2011	13:38	Selenium	ND	ug/L	11.1
995499-005	C-MAR-S-177	SW6020	FLDFLT-digested	6/7/2011	13:38	Arsenic	2.5	ug/L	1.0
995499-005	C-MAR-S-177	SW6020	NONE-digested	6/7/2011	13:38	Arsenic	3.2	ug/L	1.0
995499-005	C-MAR-S-177	SW6020	FLDFLT-digested	6/7/2011	13:38	Chromium	ND	ug/L	1.0
995499-005	C-MAR-S-177	SW6020	FLDFLT-digested	6/7/2011	13:38	Manganese	17.6	ug/L	10.0

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-006	C-R22A-D-177	E120.1	NONE	6/7/2011	11:43	EC	939	umhos/cm	2.00
995499-006	C-R22A-D-177	E218.6	FLDFLT	6/7/2011	11:43	Chromium, hexavalent	ND	ug/L	0.20
995499-006	C-R22A-D-177	E300	NONE	6/7/2011	11:43	Nitrate as N	ND	mg/L	0.500
995499-006	C-R22A-D-177	SM2320B	NONE	6/7/2011	11:43	Alkalinity	114	mg/L	5.00
995499-006	C-R22A-D-177	SM2320B	NONE	6/7/2011	11:43	Bicarbonate	114	mg/L	5.00
995499-006	C-R22A-D-177	SM2320B	NONE	6/7/2011	11:43	Carbonate	ND	mg/L	5.00
995499-006	C-R22A-D-177	SM2540D	NONE	6/7/2011	11:43	Total Suspended Solids	ND	mg/L	2.50
995499-006	C-R22A-D-177	SM4500HB	NONE	6/7/2011	11:43	PH	8.24 J	pH	4.00
995499-006	C-R22A-D-177	SW6010B	NONE-digested	6/7/2011	11:43	Iron	33.0	ug/L	20.0
995499-006	C-R22A-D-177	SW6010B	FLDFLT-digested	6/7/2011	11:43	Iron	ND	ug/L	20.0
995499-006	C-R22A-D-177	SW6010B	NONE-digested	6/7/2011	11:43	Manganese	ND	ug/L	11.1
995499-006	C-R22A-D-177	SW6010B	FLDFLT-digested	6/7/2011	11:43	Molybdenum	ND	ug/L	11.1
995499-006	C-R22A-D-177	SW6010B	FLDFLT-digested	6/7/2011	11:43	Selenium	ND	ug/L	11.1
995499-006	C-R22A-D-177	SW6020	FLDFLT-digested	6/7/2011	11:43	Arsenic	2.6	ug/L	1.0
995499-006	C-R22A-D-177	SW6020	NONE-digested	6/7/2011	11:43	Arsenic	2.5	ug/L	1.0
995499-006	C-R22A-D-177	SW6020	FLDFLT-digested	6/7/2011	11:43	Chromium	ND	ug/L	1.0
995499-006	C-R22A-D-177	SW6020	FLDFLT-digested	6/7/2011	11:43	Manganese	ND	ug/L	10.0
995499-007	C-R22A-S-177	E120.1	NONE	6/7/2011	11:57	EC	957	umhos/cm	2.00
995499-007	C-R22A-S-177	E218.6	FLDFLT	6/7/2011	11:57	Chromium, hexavalent	ND	ug/L	0.20
995499-007	C-R22A-S-177	E300	NONE	6/7/2011	11:57	Nitrate as N	ND	mg/L	0.500
995499-007	C-R22A-S-177	SM2320B	NONE	6/7/2011	11:57	Alkalinity	126	mg/L	5.00
995499-007	C-R22A-S-177	SM2320B	NONE	6/7/2011	11:57	Bicarbonate	126	mg/L	5.00
995499-007	C-R22A-S-177	SM2320B	NONE	6/7/2011	11:57	Carbonate	ND	mg/L	5.00
995499-007	C-R22A-S-177	SM2540D	NONE	6/7/2011	11:57	Total Suspended Solids	ND	mg/L	2.50
995499-007	C-R22A-S-177	SM4500HB	NONE	6/7/2011	11:57	PH	8.27 J	pH	4.00
995499-007	C-R22A-S-177	SW6010B	NONE-digested	6/7/2011	11:57	Iron	22.9	ug/L	20.0
995499-007	C-R22A-S-177	SW6010B	FLDFLT-digested	6/7/2011	11:57	Iron	ND	ug/L	20.0
995499-007	C-R22A-S-177	SW6010B	NONE-digested	6/7/2011	11:57	Manganese	ND	ug/L	11.1
995499-007	C-R22A-S-177	SW6010B	FLDFLT-digested	6/7/2011	11:57	Molybdenum	ND	ug/L	11.1
995499-007	C-R22A-S-177	SW6010B	FLDFLT-digested	6/7/2011	11:57	Selenium	ND	ug/L	11.1
995499-007	C-R22A-S-177	SW6020	FLDFLT-digested	6/7/2011	11:57	Arsenic	2.8	ug/L	1.0
995499-007	C-R22A-S-177	SW6020	NONE-digested	6/7/2011	11:57	Arsenic	2.6	ug/L	1.0
995499-007	C-R22A-S-177	SW6020	FLDFLT-digested	6/7/2011	11:57	Chromium	ND	ug/L	1.0
995499-007	C-R22A-S-177	SW6020	FLDFLT-digested	6/7/2011	11:57	Manganese	ND	ug/L	10.0

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-008	C-R27-D-177	E120.1	NONE	6/7/2011	12:47	EC	943	umhos/cm	2.00
995499-008	C-R27-D-177	E218.6	FLDFLT	6/7/2011	12:47	Chromium, hexavalent	ND	ug/L	0.20
995499-008	C-R27-D-177	E300	NONE	6/7/2011	12:47	Nitrate as N	ND	mg/L	0.500
995499-008	C-R27-D-177	SM2320B	NONE	6/7/2011	12:47	Alkalinity	125	mg/L	5.00
995499-008	C-R27-D-177	SM2320B	NONE	6/7/2011	12:47	Bicarbonate	125	mg/L	5.00
995499-008	C-R27-D-177	SM2320B	NONE	6/7/2011	12:47	Carbonate	ND	mg/L	5.00
995499-008	C-R27-D-177	SM2540D	NONE	6/7/2011	12:47	Total Suspended Solids	ND	mg/L	2.50
995499-008	C-R27-D-177	SM4500HB	NONE	6/7/2011	12:47	PH	8.23 J	pH	4.00
995499-008	C-R27-D-177	SW6010B	NONE-digested	6/7/2011	12:47	Iron	20.6	ug/L	20.0
995499-008	C-R27-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:47	Iron	ND	ug/L	20.0
995499-008	C-R27-D-177	SW6010B	NONE-digested	6/7/2011	12:47	Manganese	ND	ug/L	11.1
995499-008	C-R27-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:47	Molybdenum	ND	ug/L	11.1
995499-008	C-R27-D-177	SW6010B	FLDFLT-digested	6/7/2011	12:47	Selenium	ND	ug/L	11.1
995499-008	C-R27-D-177	SW6020	FLDFLT-digested	6/7/2011	12:47	Arsenic	2.2	ug/L	1.0
995499-008	C-R27-D-177	SW6020	NONE-digested	6/7/2011	12:47	Arsenic	2.5	ug/L	1.0
995499-008	C-R27-D-177	SW6020	FLDFLT-digested	6/7/2011	12:47	Chromium	ND	ug/L	1.0
995499-008	C-R27-D-177	SW6020	FLDFLT-digested	6/7/2011	12:47	Manganese	ND	ug/L	10.0
995499-009	C-R27-S-177	E120.1	NONE	6/7/2011	13:00	EC	947	umhos/cm	2.00
995499-009	C-R27-S-177	E218.6	FLDFLT	6/7/2011	13:00	Chromium, hexavalent	ND	ug/L	0.20
995499-009	C-R27-S-177	E300	NONE	6/7/2011	13:00	Nitrate as N	ND	mg/L	0.500
995499-009	C-R27-S-177	SM2320B	NONE	6/7/2011	13:00	Alkalinity	132	mg/L	5.00
995499-009	C-R27-S-177	SM2320B	NONE	6/7/2011	13:00	Bicarbonate	132	mg/L	5.00
995499-009	C-R27-S-177	SM2320B	NONE	6/7/2011	13:00	Carbonate	ND	mg/L	5.00
995499-009	C-R27-S-177	SM2540D	NONE	6/7/2011	13:00	Total Suspended Solids	ND	mg/L	2.50
995499-009	C-R27-S-177	SM4500HB	NONE	6/7/2011	13:00	PH	8.23 J	pH	4.00
995499-009	C-R27-S-177	SW6010B	NONE-digested	6/7/2011	13:00	Iron	23.5	ug/L	20.0
995499-009	C-R27-S-177	SW6010B	FLDFLT-digested	6/7/2011	13:00	Iron	ND	ug/L	20.0
995499-009	C-R27-S-177	SW6010B	NONE-digested	6/7/2011	13:00	Manganese	ND	ug/L	11.1
995499-009	C-R27-S-177	SW6010B	FLDFLT-digested	6/7/2011	13:00	Selenium	ND	ug/L	11.1
995499-009	C-R27-S-177	SW6020	FLDFLT-digested	6/7/2011	13:00	Arsenic	2.8	ug/L	1.0
995499-009	C-R27-S-177	SW6020	NONE-digested	6/7/2011	13:00	Arsenic	2.5	ug/L	1.0
995499-009	C-R27-S-177	SW6020	FLDFLT-digested	6/7/2011	13:00	Chromium	ND	ug/L	1.0
995499-009	C-R27-S-177	SW6020	FLDFLT-digested	6/7/2011	13:00	Manganese	ND	ug/L	10.0
995499-009	C-R27-S-177	SW6020	FLDFLT-digested	6/7/2011	13:00	Molybdenum	ND	ug/L	10.0

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Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-010	C-TAZ-D-177	E120.1	NONE	6/7/2011	9:51	EC	958	umhos/cm	2.00
995499-010	C-TAZ-D-177	E218.6	FLDFLT	6/7/2011	9:51	Chromium, hexavalent	ND	ug/L	0.20
995499-010	C-TAZ-D-177	E300	NONE	6/7/2011	9:51	Nitrate as N	ND	mg/L	0.500
995499-010	C-TAZ-D-177	SM2320B	NONE	6/7/2011	9:51	Alkalinity	120	mg/L	5.00
995499-010	C-TAZ-D-177	SM2320B	NONE	6/7/2011	9:51	Bicarbonate	120	mg/L	5.00
995499-010	C-TAZ-D-177	SM2320B	NONE	6/7/2011	9:51	Carbonate	ND	mg/L	5.00
995499-010	C-TAZ-D-177	SM2540D	NONE	6/7/2011	9:51	Total Suspended Solids	ND	mg/L	2.50
995499-010	C-TAZ-D-177	SM4500HB	NONE	6/7/2011	9:51	PH	8.26 J	pH	4.00
995499-010	C-TAZ-D-177	SW6010B	NONE-digested	6/7/2011	9:51	Iron	38.3	ug/L	20.0
995499-010	C-TAZ-D-177	SW6010B	FLDFLT-digested	6/7/2011	9:51	Iron	ND	ug/L	20.0
995499-010	C-TAZ-D-177	SW6010B	NONE-digested	6/7/2011	9:51	Manganese	ND	ug/L	11.1
995499-010	C-TAZ-D-177	SW6010B	FLDFLT-digested	6/7/2011	9:51	Selenium	ND	ug/L	11.1
995499-010	C-TAZ-D-177	SW6020	FLDFLT-digested	6/7/2011	9:51	Arsenic	2.5	ug/L	1.0
995499-010	C-TAZ-D-177	SW6020	NONE-digested	6/7/2011	9:51	Arsenic	2.6	ug/L	1.0
995499-010	C-TAZ-D-177	SW6020	FLDFLT-digested	6/7/2011	9:51	Chromium	ND	ug/L	1.0
995499-010	C-TAZ-D-177	SW6020	FLDFLT-digested	6/7/2011	9:51	Manganese	ND	ug/L	10.0
995499-010	C-TAZ-D-177	SW6020	FLDFLT-digested	6/7/2011	9:51	Molybdenum	ND	ug/L	10.0
995499-011	C-TAZ-S-177	E120.1	NONE	6/7/2011	10:05	EC	955	umhos/cm	2.00
995499-011	C-TAZ-S-177	E218.6	FLDFLT	6/7/2011	10:05	Chromium, hexavalent	ND	ug/L	0.20
995499-011	C-TAZ-S-177	E300	NONE	6/7/2011	10:05	Nitrate as N	ND	mg/L	0.500
995499-011	C-TAZ-S-177	SM2320B	NONE	6/7/2011	10:05	Alkalinity	122	mg/L	5.00
995499-011	C-TAZ-S-177	SM2320B	NONE	6/7/2011	10:05	Bicarbonate	122	mg/L	5.00
995499-011	C-TAZ-S-177	SM2320B	NONE	6/7/2011	10:05	Carbonate	ND	mg/L	5.00
995499-011	C-TAZ-S-177	SM2540D	NONE	6/7/2011	10:05	Total Suspended Solids	ND	mg/L	2.50
995499-011	C-TAZ-S-177	SM4500HB	NONE	6/7/2011	10:05	PH	8.27 J	pH	4.00
995499-011	C-TAZ-S-177	SW6010B	FLDFLT-digested	6/7/2011	10:05	Iron	ND	ug/L	20.0
995499-011	C-TAZ-S-177	SW6010B	NONE-digested	6/7/2011	10:05	Iron	ND	ug/L	20.0
995499-011	C-TAZ-S-177	SW6010B	NONE-digested	6/7/2011	10:05	Manganese	ND	ug/L	11.1
995499-011	C-TAZ-S-177	SW6010B	FLDFLT-digested	6/7/2011	10:05	Selenium	ND	ug/L	11.1
995499-011	C-TAZ-S-177	SW6020	NONE-digested	6/7/2011	10:05	Arsenic	2.6	ug/L	1.0
995499-011	C-TAZ-S-177	SW6020	FLDFLT-digested	6/7/2011	10:05	Arsenic	2.5	ug/L	1.0
995499-011	C-TAZ-S-177	SW6020	FLDFLT-digested	6/7/2011	10:05	Chromium	ND	ug/L	1.0
995499-011	C-TAZ-S-177	SW6020	FLDFLT-digested	6/7/2011	10:05	Manganese	ND	ug/L	10.0
995499-011	C-TAZ-S-177	SW6020	FLDFLT-digested	6/7/2011	10:05	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995499-012	R63-177	E120.1	NONE	6/7/2011	11:17	EC	952	umhos/cm	2.00
995499-012	R63-177	E218.6	FLDFLT	6/7/2011	11:17	Chromium, hexavalent	ND	ug/L	0.20
995499-012	R63-177	E300	NONE	6/7/2011	11:17	Nitrate as N	ND	mg/L	0.500
995499-012	R63-177	SM2320B	NONE	6/7/2011	11:17	Alkalinity	120	mg/L	5.00
995499-012	R63-177	SM2320B	NONE	6/7/2011	11:17	Bicarbonate	120	mg/L	5.00
995499-012	R63-177	SM2320B	NONE	6/7/2011	11:17	Carbonate	ND	mg/L	5.00
995499-012	R63-177	SM2540D	NONE	6/7/2011	11:17	Total Suspended Solids	ND	mg/L	2.50
995499-012	R63-177	SM4500HB	NONE	6/7/2011	11:17	PH	8.33 J	pH	4.00
995499-012	R63-177	SW6010B	NONE-digested	6/7/2011	11:17	Iron	89.0	ug/L	20.0
995499-012	R63-177	SW6010B	FLDFLT-digested	6/7/2011	11:17	Iron	ND	ug/L	20.0
995499-012	R63-177	SW6010B	NONE-digested	6/7/2011	11:17	Manganese	ND	ug/L	11.1
995499-012	R63-177	SW6010B	FLDFLT-digested	6/7/2011	11:17	Selenium	ND	ug/L	11.1
995499-012	R63-177	SW6020	FLDFLT-digested	6/7/2011	11:17	Arsenic	2.4	ug/L	1.0
995499-012	R63-177	SW6020	NONE-digested	6/7/2011	11:17	Arsenic	2.8	ug/L	1.0
995499-012	R63-177	SW6020	FLDFLT-digested	6/7/2011	11:17	Chromium	1.2	ug/L	1.0
995499-012	R63-177	SW6020	FLDFLT-digested	6/7/2011	11:17	Manganese	ND	ug/L	10.0
995499-012	R63-177	SW6020	FLDFLT-digested	6/7/2011	11:17	Molybdenum	ND	ug/L	10.0
995499-013	SW1-177	E120.1	NONE	6/7/2011	8:10	EC	968	umhos/cm	2.00
995499-013	SW1-177	E218.6	FLDFLT	6/7/2011	8:10	Chromium, hexavalent	ND	ug/L	0.20
995499-013	SW1-177	SM4500HB	NONE	6/7/2011	8:10	PH	7.60 J	pH	4.00
995499-013	SW1-177	SW6020	FLDFLT-digested	6/7/2011	8:10	Chromium	ND	ug/L	1.0
995499-014	SW2-177	E120.1	NONE	6/7/2011	8:40	EC	960	umhos/cm	2.00
995499-014	SW2-177	E218.6	FLDFLT	6/7/2011	8:40	Chromium, hexavalent	ND	ug/L	0.20
995499-014	SW2-177	SM4500HB	NONE	6/7/2011	8:40	PH	7.81 J	pH	4.00
995499-014	SW2-177	SW6020	FLDFLT-digested	6/7/2011	8:40	Chromium	ND	ug/L	1.0

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

Results below 0.01ppm will have two (2) significant figures.

Result above or equal to 0.01ppm will have three (3) significant figures.

Quality Control data will always have three (3) significant figures.

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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: 405681.MP.02.RM

Project Number: 405681.MP.02.RM

Laboratory No. 995499

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Samples Received on 6/7/2011 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
C-BNS-D-177	995499-001	06/07/2011 12:23	Water
C-I-3-D-177	995499-002	06/07/2011 10:37	Water
C-I-3-S-177	995499-003	06/07/2011 10:53	Water
C-MAR-D-177	995499-004	06/07/2011 13:25	Water
C-MAR-S-177	995499-005	06/07/2011 13:38	Water
C-R22A-D-177	995499-006	06/07/2011 11:43	Water
C-R22A-S-177	995499-007	06/07/2011 11:57	Water
C-R27-D-177	995499-008	06/07/2011 12:47	Water
C-R27-S-177	995499-009	06/07/2011 13:00	Water
C-TAZ-D-177	995499-010	06/07/2011 09:51	Water
C-TAZ-S-177	995499-011	06/07/2011 10:05	Water
R63-177	995499-012	06/07/2011 11:17	Water
SW1-177	995499-013	06/07/2011 08:10	Water
SW2-177	995499-014	06/07/2011 08:40	Water

Anions By I.C. - EPA 300.0

Batch 06AN11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Nitrate as Nitrogen	mg/L	06/08/2011 16:37	1.00	0.0110	0.500	ND
995499-002 Nitrate as Nitrogen	mg/L	06/08/2011 16:48	1.00	0.0110	0.500	ND
995499-003 Nitrate as Nitrogen	mg/L	06/08/2011 16:58	1.00	0.0110	0.500	ND
995499-004 Nitrate as Nitrogen	mg/L	06/08/2011 17:08	1.00	0.0110	0.500	ND
995499-005 Nitrate as Nitrogen	mg/L	06/08/2011 13:51	5.00	0.0550	1.00	1.88
995499-006 Nitrate as Nitrogen	mg/L	06/08/2011 17:19	1.00	0.0110	0.500	ND
995499-007 Nitrate as Nitrogen	mg/L	06/08/2011 15:14	1.00	0.0110	0.500	ND
995499-008 Nitrate as Nitrogen	mg/L	06/08/2011 15:24	1.00	0.0110	0.500	ND
995499-009 Nitrate as Nitrogen	mg/L	06/08/2011 15:35	1.00	0.0110	0.500	ND
995499-010 Nitrate as Nitrogen	mg/L	06/08/2011 15:45	1.00	0.0110	0.500	ND
995499-011 Nitrate as Nitrogen	mg/L	06/08/2011 15:56	1.00	0.0110	0.500	ND

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Client: E2 Consulting Engineers, Inc.

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995499-012 Nitrate as Nitrogen			mg/L	06/08/2011 16:06	1.00	0.0110	0.500	ND
Method Blank								
Parameter	Unit	DF	Result					
Nitrate as Nitrogen	mg/L	1.00	ND					
Duplicate								
Lab ID = 995496-002								
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	1.01	0.978	3.42	0 - 20		
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	3.99	4.00	99.8	90 - 110		
Matrix Spike								
Lab ID = 995496-002								
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	5.15	4.98(4.00)	104.	85 - 115		
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	3.98	4.00	99.4	90 - 110		
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	2.98	3.00	99.5	90 - 110		
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	2.98	3.00	99.5	90 - 110		
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	2.98	3.00	99.4	90 - 110		
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range		
Nitrate as Nitrogen	mg/L	1.00	3.05	3.00	102.	90 - 110		



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Alkalinity by SM 2320B		Batch 06ALK11B		6/10/2011		
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	127
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	127
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-002 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	116
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	116
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-003 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	125
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-004 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	125
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-005 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	135
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	135
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-006 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	114
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	114
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-007 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	126
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	126
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-008 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	125
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	125
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-009 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	132
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	132
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-010 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	120.
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	120.
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-011 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	122
Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	122
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND
995499-012 Alkalinity as CaCO ₃	mg/L	06/10/2011	1.00	1.68	5.00	120.



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995499-012 Bicarbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	120.
Carbonate (Calculated)	mg/L	06/10/2011	1.00	0.153	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO ₃	mg/L	1.00	ND

Duplicate

Lab ID = 995498-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	136.	136	0.294	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	95.0	100.	95.0	90 - 110

Matrix Spike

Lab ID = 995499-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	215	220.(100.)	95.0	75 - 125



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Specific Conductivity - EPA 120.1			Batch 06EC11D		6/10/2011	
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	987
995499-002 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	953
995499-003 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	952
995499-004 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	980.
995499-005 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	970.
995499-006 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	939
995499-007 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	957
995499-008 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	943
995499-009 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	947
995499-010 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	958
995499-011 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	955
995499-012 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	952

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 995499-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	954	953	0.105	0 - 10

Duplicate

Lab ID = 995499-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	950.	952	0.210	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703	706	99.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

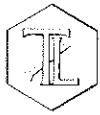
MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	960.	996	96.4	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.RM

Printed 7/12/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	962	996	96.6	90 - 110

Specific Conductivity - EPA 120.1

Batch 06EC11E

6/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-013 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	968
995499-014 Specific Conductivity	umhos/cm	06/10/2011	1.00	0.0380	2.00	960.

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 995499-014

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	960.	960.	0.00	0 - 10

Lab Control Sample

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	970.	996	97.4	90 - 110



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Printed 7/12/2011

Metals by EPA 6010B, Total		Batch 060911A-Th				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Iron	ug/L	06/09/2011 12:48	1.11	1.49	20.0	51.8
Manganese	ug/L	06/09/2011 12:48	1.11	3.58	11.1	ND
995499-002 Iron	ug/L	06/09/2011 13:25	1.11	1.49	20.0	32.3
Manganese	ug/L	06/09/2011 13:25	1.11	3.58	11.1	ND
995499-003 Iron	ug/L	06/09/2011 13:47	1.11	1.49	20.0	89.5
Manganese	ug/L	06/09/2011 13:47	1.11	3.58	11.1	ND
995499-004 Iron	ug/L	06/09/2011 13:53	1.11	1.49	20.0	650.
Manganese	ug/L	06/09/2011 13:53	1.11	3.58	11.1	32.0
995499-005 Iron	ug/L	06/09/2011 13:58	1.11	1.49	20.0	675.
Manganese	ug/L	06/09/2011 13:58	1.11	3.58	11.1	33.0
995499-006 Iron	ug/L	06/09/2011 14:04	1.11	1.49	20.0	33.0
Manganese	ug/L	06/09/2011 14:04	1.11	3.58	11.1	ND
995499-007 Iron	ug/L	06/09/2011 14:10	1.11	1.49	20.0	22.9
Manganese	ug/L	06/09/2011 14:10	1.11	3.58	11.1	ND
995499-008 Iron	ug/L	06/09/2011 14:16	1.11	1.49	20.0	20.6
Manganese	ug/L	06/09/2011 14:16	1.11	3.58	11.1	ND
995499-009 Iron	ug/L	06/09/2011 14:22	1.11	1.49	20.0	23.5
Manganese	ug/L	06/09/2011 14:22	1.11	3.58	11.1	ND
995499-010 Iron	ug/L	06/09/2011 14:28	1.11	1.49	20.0	38.3
Manganese	ug/L	06/09/2011 14:28	1.11	3.58	11.1	ND
995499-012 Iron	ug/L	06/09/2011 14:39	1.11	1.49	20.0	89.0
Manganese	ug/L	06/09/2011 14:39	1.11	3.58	11.1	ND

Method Blank

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

Duplicate

Lab ID = 995499-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	54.2	51.8	4.53	0 - 20
Manganese	ug/L	1.11	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2260	2000	113.	85 - 115
Manganese	ug/L	1.00	2100	2000	105.	85 - 115



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Printed 7/12/2011

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2280	2000	114.	85 - 115
Manganese	ug/L	1.00	2120	2000	106.	85 - 115

Matrix Spike

Lab ID = 995499-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	2360	2270(2220)	104.	75 - 125
Manganese	ug/L	1.11	2230	2220(2220)	100.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5240	5000	105.	90 - 110
Manganese	ug/L	1.00	4960	5000	99.3	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5220	5000	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5420	5000	108.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4920	5000	98.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	4950	5000	99.1	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2230	2000	112.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2310	2000	116.	80 - 120



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Metals by EPA 6010B, Total		Batch: 062011A-Th				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-011 Iron	ug/L	06/20/2011 13:14	1.11	1.49	20.0	ND
Manganese	ug/L	06/20/2011 13:14	1.11	3.58	11.1	ND

Method Blank

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

Duplicate

Lab ID = 995672-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	22.2	86.9	85.9	1.16	0 - 20
Manganese	ug/L	22.2	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2300	2000	115.	85 - 115
Manganese	ug/L	1.00	2210	2000	110.	85 - 115

Matrix Spike

Lab ID = 995672-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	22.2	42800	44500(44400)	96.3	75 - 125
Manganese	ug/L	22.2	41000	44400(44400)	92.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5330	5000	106.	90 - 110
Manganese	ug/L	1.00	5120	5000	102.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

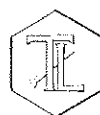
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4680	5000	93.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5190	5000	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5290	5000	106.	90 - 110


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Printed 7/12/2011
Metals by EPA 6020A, Total

Batch 070911A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Arsenic	ug/L	07/09/2011 14:35	4.44	0.391	1.0	2.7
995499-002 Arsenic	ug/L	07/09/2011 14:41	4.44	0.391	1.0	2.6
995499-003 Arsenic	ug/L	07/09/2011 16:01	4.44	0.391	1.0	2.6
995499-004 Arsenic	ug/L	07/09/2011 16:08	4.44	0.391	1.0	2.9
995499-005 Arsenic	ug/L	07/09/2011 16:15	4.44	0.391	1.0	3.2
995499-006 Arsenic	ug/L	07/09/2011 16:21	4.44	0.391	1.0	2.5
995499-007 Arsenic	ug/L	07/09/2011 16:28	4.44	0.391	1.0	2.6
995499-008 Arsenic	ug/L	07/09/2011 16:34	4.44	0.391	1.0	2.5
995499-009 Arsenic	ug/L	07/09/2011 16:41	4.44	0.391	1.0	2.5
995499-010 Arsenic	ug/L	07/09/2011 16:47	4.44	0.391	1.0	2.6
995499-011 Arsenic	ug/L	07/09/2011 17:13	4.44	0.391	1.0	2.6
995499-012 Arsenic	ug/L	07/09/2011 17:20	4.44	0.391	1.0	2.8

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate

Lab ID = 995499-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	2.66	2.61	1.94	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	115	100.	115	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	115.	100.	115.	85 - 115

Matrix Spike

Lab ID = 995499-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	129.	114.(111)	114.	75 - 125

Matrix Spike Duplicate

Lab ID = 995499-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	126.	114.(111)	111.	75 - 125

MRCCS - Secondary

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



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Chrome VI by EPA 218.6

Batch 06CrH11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Chromium, Hexavalent	ug/L	06/10/2011 08:25	1.05	0.0210	0.20	ND
995499-002 Chromium, Hexavalent	ug/L	06/10/2011 08:46	1.05	0.0210	0.20	ND
995499-003 Chromium, Hexavalent	ug/L	06/10/2011 08:56	1.05	0.0210	0.20	ND
995499-004 Chromium, Hexavalent	ug/L	06/10/2011 09:49	1.05	0.0210	0.20	ND
995499-005 Chromium, Hexavalent	ug/L	06/10/2011 10:21	1.05	0.0210	0.20	ND
995499-006 Chromium, Hexavalent	ug/L	06/10/2011 10:31	1.05	0.0210	0.20	ND
995499-007 Chromium, Hexavalent	ug/L	06/10/2011 11:13	1.05	0.0210	0.20	ND
995499-008 Chromium, Hexavalent	ug/L	06/10/2011 11:23	1.05	0.0210	0.20	ND
995499-009 Chromium, Hexavalent	ug/L	06/10/2011 11:33	1.05	0.0210	0.20	ND
995499-010 Chromium, Hexavalent	ug/L	06/10/2011 12:36	1.05	0.0210	0.20	ND
995499-011 Chromium, Hexavalent	ug/L	06/10/2011 12:46	1.05	0.0210	0.20	ND
995499-012 Chromium, Hexavalent	ug/L	06/10/2011 13:18	1.05	0.0210	0.20	ND
995499-013 Chromium, Hexavalent	ug/L	06/10/2011 14:00	1.05	0.0210	0.20	ND
995499-014 Chromium, Hexavalent	ug/L	06/10/2011 14:10	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate

Lab ID = 995499-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.97	5.00	99.3	90 - 110

Matrix Spike

Lab ID = 995499-001

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

Matrix Spike

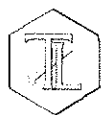
Lab ID = 995499-002

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

Matrix Spike

Lab ID = 995499-003

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



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Matrix Spike

Lab ID = 995499-004

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

Matrix Spike

Lab ID = 995499-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.06(1.06)	108.	90 - 110

Matrix Spike

Lab ID = 995499-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.05	1.06(1.06)	99.4	90 - 110

Matrix Spike

Lab ID = 995499-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.06(1.06)	109.	90 - 110

Matrix Spike

Lab ID = 995499-008

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

Matrix Spike

Lab ID = 995499-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.06(1.06)	108.	90 - 110

Matrix Spike

Lab ID = 995499-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.06(1.06)	106.	90 - 110

Matrix Spike

Lab ID = 995499-011

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

Matrix Spike

Lab ID = 995499-012

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

Matrix Spike

Lab ID = 995499-013

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.06(1.06)	108.	90 - 110

Matrix Spike

Lab ID = 995499-014

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

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110



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Report Continued

Client: E2 Consulting Engineers, Inc.

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Metals by EPA 6020A, Dissolved

Batch 061011A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-009 Arsenic	ug/L	06/10/2011 13:56	4.44	0.391	1.0	2.8
Chromium	ug/L	06/10/2011 13:56	4.44	0.0977	1.0	ND
Manganese	ug/L	06/10/2011 13:56	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/10/2011 13:56	4.44	0.746	10.0	ND
995499-010 Arsenic	ug/L	06/10/2011 14:03	4.44	0.391	1.0	2.5
Chromium	ug/L	06/10/2011 14:03	4.44	0.0977	1.0	ND
Manganese	ug/L	06/10/2011 14:03	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/10/2011 14:03	4.44	0.746	10.0	ND
995499-011 Chromium	ug/L	06/10/2011 14:09	4.44	0.0977	1.0	ND
Manganese	ug/L	06/10/2011 14:09	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/10/2011 14:09	4.44	0.746	10.0	ND
995499-012 Arsenic	ug/L	06/10/2011 14:16	4.44	0.391	1.0	2.4
Chromium	ug/L	06/10/2011 14:16	4.44	0.0977	1.0	1.2
Manganese	ug/L	06/10/2011 14:16	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/10/2011 14:16	4.44	0.746	10.0	ND
995499-013 Chromium	ug/L	06/10/2011 14:23	4.44	0.0977	1.0	ND
995499-014 Chromium	ug/L	06/10/2011 14:29	4.44	0.0977	1.0	ND

Method Blank

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	108.	100.	108.	85 - 115
Chromium	ug/L	5.00	107.	100.	107.	85 - 115
Manganese	ug/L	5.00	99.6	100.	99.6	85 - 115
Molybdenum	ug/L	5.00	102.	100.	102.	85 - 115

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Printed 7/12/2011

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	110.	100.	110.	85 - 115
Chromium	ug/L	5.00	109.	100.	109.	85 - 115
Manganese	ug/L	5.00	96.1	100.	96.1	85 - 115
Molybdenum	ug/L	5.00	105.	100.	105.	85 - 115

Matrix Spike

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	112.	111(111)	101.	75 - 125
Chromium	ug/L	4.44	111	114.(111)	97.6	75 - 125
Manganese	ug/L	4.44	101.	111(111)	91.2	75 - 125
Molybdenum	ug/L	4.44	118.	111(111)	106.	75 - 125

Matrix Spike Duplicate

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	119.	111(111)	107.	75 - 125
Chromium	ug/L	4.44	117.	114.(111)	103.	75 - 125
Manganese	ug/L	4.44	103.	111(111)	93.2	75 - 125
Molybdenum	ug/L	4.44	116.	111(111)	104.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.4	50.0	101.	90 - 110
Chromium	ug/L	1.00	50.3	50.0	101.	90 - 110
Manganese	ug/L	1.00	52.3	50.0	105.	90 - 110
Molybdenum	ug/L	1.00	48.7	50.0	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.6	50.0	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.1	50.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.6	50.0	93.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	95.0	90 - 110
Manganese	ug/L	1.00	48.5	50.0	97.0	90 - 110


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Metals by EPA 6020A, Dissolved			Batch 061411A			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Arsenic	ug/L	06/14/2011 18:15	4.44	0.391	1.0	2.8
Chromium	ug/L	06/14/2011 18:15	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:15	4.44	0.169	10.0	ND
995499-002 Arsenic	ug/L	06/14/2011 18:21	4.44	0.391	1.0	2.5
Chromium	ug/L	06/14/2011 18:21	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:21	4.44	0.169	10.0	ND
995499-003 Arsenic	ug/L	06/14/2011 18:28	4.44	0.391	1.0	2.8
Chromium	ug/L	06/14/2011 18:28	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:28	4.44	0.169	10.0	ND
995499-004 Arsenic	ug/L	06/14/2011 18:35	4.44	0.391	1.0	2.4
Chromium	ug/L	06/14/2011 18:35	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:35	4.44	0.169	10.0	16.3
995499-005 Arsenic	ug/L	06/14/2011 18:41	4.44	0.391	1.0	2.5
Chromium	ug/L	06/14/2011 18:41	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:41	4.44	0.169	10.0	17.6
995499-006 Arsenic	ug/L	06/14/2011 18:48	4.44	0.391	1.0	2.6
Chromium	ug/L	06/14/2011 18:48	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:48	4.44	0.169	10.0	ND
995499-007 Arsenic	ug/L	06/14/2011 18:54	4.44	0.391	1.0	2.8
Chromium	ug/L	06/14/2011 18:54	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 18:54	4.44	0.169	10.0	ND
995499-008 Arsenic	ug/L	06/14/2011 19:01	4.44	0.391	1.0	2.2
Chromium	ug/L	06/14/2011 19:01	4.44	0.0977	1.0	ND
Manganese	ug/L	06/14/2011 19:01	4.44	0.169	10.0	ND

Method Blank

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

Duplicate
Lab ID = 995494-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	10.6	10.3	2.49	0 - 20
Chromium	ug/L	4.44	1.54	1.45	6.08	0 - 20
Manganese	ug/L	4.44	ND	0.00	0	0 - 20

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



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Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	114.	100.	114.	85 - 115
Chromium	ug/L	5.00	111.	100.	111.	85 - 115
Manganese	ug/L	5.00	99.2	100.	99.2	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	108.	100.	108.	85 - 115
Chromium	ug/L	5.00	103.	100.	103.	85 - 115
Manganese	ug/L	5.00	92.1	100.	92.1	85 - 115

Matrix Spike

Lab ID = 995494-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	127.	121.(111)	105.	75 - 125
Chromium	ug/L	4.44	113.	112.(111)	100.	75 - 125
Manganese	ug/L	4.44	110.	111(111)	99.5	75 - 125

MRCVS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.3	50.0	105.	90 - 110
Chromium	ug/L	1.00	51.4	50.0	103.	90 - 110
Manganese	ug/L	1.00	54.3	50.0	108.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.0	50.0	96.1	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.5	50.0	90.9	90 - 110


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Printed 7/12/2011
Metals by EPA 6020A, Dissolved

Batch 061611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-011 Arsenic	ug/L	06/16/2011 15:33	4.44	0.391	1.0	2.5

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	111.	100.	111	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	107.	100.	107.	85 - 115

Matrix Spike

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	112	111(111)	101.	75 - 125

Matrix Spike Duplicate

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	104.	111(111)	93.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.4	50.0	103.	90 - 125

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.6	50.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.2	50.0	96.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.8	50.0	102.	90 - 110



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Metals by EPA 6010B, Dissolved

Batch 062011A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-011 Iron	ug/L	06/20/2011 13:52	1.11	1.49	20.0	ND
Selenium	ug/L	06/20/2011 13:52	1.11	3.57	11.1	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 = 995671-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	307.	302	1.54	0 - 20
Selenium	ug/L	1.11	ND	0.00	0	0 - 20
Manganese	ug/L	1.11	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	113.	100.	113.	85 - 115
Selenium	ug/L	1.00	100.	100.	100.	85 - 115
Manganese	ug/L	1.00	108.	100.	108.	85 - 115

Matrix Spike

Lab ID = 995671-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	2330	2520(2220)	91.5	75 - 125
Selenium	ug/L	1.11	1860	2220(2220)	83.9	75 - 125
Manganese	ug/L	1.11	2030	2220(2220)	91.3	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5330	5000	106.	90 - 110
Selenium	ug/L	1.00	4820	5000	96.4	90 - 110
Manganese	ug/L	1.00	5120	5000	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4680	5000	93.5	90 - 110

MRCVS - Primary

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



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Metals by EPA 6010B, Dissolved

Batch 061511A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Iron	ug/L	06/15/2011 13:24	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 13:24	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 13:24	1.11	3.57	11.1	ND
995499-002 Iron	ug/L	06/15/2011 13:30	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 13:30	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 13:30	1.11	3.57	11.1	ND
995499-003 Iron	ug/L	06/15/2011 13:36	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 13:36	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 13:36	1.11	3.57	11.1	ND
995499-004 Iron	ug/L	06/15/2011 13:41	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 13:41	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 13:41	1.11	3.57	11.1	ND
995499-005 Iron	ug/L	06/15/2011 14:05	1.11	1.49	20.0	40.9
Molybdenum	ug/L	06/15/2011 14:05	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 14:05	1.11	3.57	11.1	ND
995499-006 Iron	ug/L	06/15/2011 14:39	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 14:39	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 14:39	1.11	3.57	11.1	ND
995499-007 Iron	ug/L	06/15/2011 14:45	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 14:45	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 14:45	1.11	3.57	11.1	ND
995499-008 Iron	ug/L	06/15/2011 14:50	1.11	1.49	20.0	ND
Molybdenum	ug/L	06/15/2011 14:50	1.11	4.46	11.1	ND
Selenium	ug/L	06/15/2011 14:50	1.11	3.57	11.1	ND

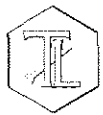
Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND
Selenium	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 995494-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	ND	0.00	0	0 - 20
Selenium	ug/L	1.11	ND	0.00	0	0 - 20
Molybdenum	ug/L	1.11	ND	0.00	0	0 - 20



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Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	115.	100.	115.	85 - 115
Selenium	ug/L	1.00	92.6	100.	92.6	85 - 115
Molybdenum	ug/L	1.00	99.9	100.	99.9	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	110.	100.	110.	85 - 115
Selenium	ug/L	1.00	91.1	100.	91.1	85 - 115
Molybdenum	ug/L	1.00	98.2	100.	98.2	85 - 115

Matrix Spike

Lab ID = 995494-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	117.	111(111)	105.	75 - 125
Selenium	ug/L	1.11	104.	111(111)	93.5	75 - 125
Molybdenum	ug/L	1.11	115.	111(111)	104.	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5290	5000	106.	90 - 110
Selenium	ug/L	1.00	4810	5000	96.2	90 - 110
Molybdenum	ug/L	1.00	4770	5000	95.5	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	4690	5000	93.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	4720	5000	94.5	90 - 110

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Metals by EPA 6010B, Dissolved

Batch 061511B-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-009 Iron	ug/L	06/15/2011 17:00	1.11	1.49	20.0	ND
Selenium	ug/L	06/15/2011 17:00	1.11	3.57	11.1	ND
995499-010 Iron	ug/L	06/15/2011 17:06	1.11	1.49	20.0	ND
Selenium	ug/L	06/15/2011 17:06	1.11	3.57	11.1	ND
995499-012 Iron	ug/L	06/15/2011 17:17	1.11	1.49	20.0	ND
Selenium	ug/L	06/15/2011 17:17	1.11	3.57	11.1	ND

Method Blank

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

Duplicate

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	29.2	29.3	0.342	0 - 20
Selenium	ug/L	1.11	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	102.	100.	102	85 - 115
Selenium	ug/L	1.00	92.9	100.	92.9	85 - 115

Matrix Spike

Lab ID = 995390-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	135.	140.(111)	95.3	75 - 125
Selenium	ug/L	1.11	110.	111(111)	98.9	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5280	5000	106.	90 - 110
Selenium	ug/L	1.00	4730	5000	94.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5190	5000	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5290	5000	106.	90 - 110



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pH by SM 4500-H B

Batch: 06PH11E

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
995499-001 pH	pH	06/08/2011 13:05	1.00	0.0250	4.00	7.99	J
995499-002 pH	pH	06/08/2011 13:10	1.00	0.0250	4.00	8.17	J
995499-003 pH	pH	06/08/2011 13:15	1.00	0.0250	4.00	8.17	J
995499-004 pH	pH	06/08/2011 13:17	1.00	0.0250	4.00	7.83	
995499-005 pH	pH	06/08/2011 13:20	1.00	0.0250	4.00	7.80	
995499-006 pH	pH	06/08/2011 13:23	1.00	0.0250	4.00	8.24	J
995499-007 pH	pH	06/08/2011 13:25	1.00	0.0250	4.00	8.27	J
995499-008 pH	pH	06/08/2011 13:27	1.00	0.0250	4.00	8.23	J
995499-009 pH	pH	06/08/2011 13:30	1.00	0.0250	4.00	8.23	J
995499-010 pH	pH	06/08/2011 13:32	1.00	0.0250	4.00	8.26	J
995499-011 pH	pH	06/08/2011 13:35	1.00	0.0250	4.00	8.27	J
995499-012 pH	pH	06/08/2011 13:37	1.00	0.0250	4.00	8.33	J
995499-013 pH	pH	06/08/2011 13:40	1.00	0.0250	4.00	7.60	J

Duplicate

Lab ID = 995499-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.59	7.60	0.132	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.01	7.00	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.03	7.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.02	7.00	100.	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 37 of 38****Project Number: 405681.MP.02.RM****Printed 7/12/2011****pH by SM 4500-H B**

Batch 06PH11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
995499-014 pH	pH	06/08/2011 13:52	1.00	0.0250	4.00	7.81	J
Duplicate					Lab ID = 995499-014		
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range	
pH	pH	1.00	7.83	7.81	0.256	0 - 20	
Lab Control Sample							
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	7.04	7.00	100.	90 - 110	



TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

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Total Suspended Solids by SM 2540 D		Batch 06TSS11D	6/13/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995499-001 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-002 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-003 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-004 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	15.8
995499-005 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	18.8
995499-006 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-007 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-008 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-009 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-010 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-011 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND
995499-012 Total Suspended Solids	mg/L	06/13/2011	1.00	0.423	2.50	ND

Method Blank

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

Duplicate

Lab ID = 995510-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	82.7	83.7	1.20	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	101	100.	101	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	99.0	100.	99.0	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

Er Gordon



TRUESDAIL LABORATORIES INC.

Total Suspended Solids by SM 2540 D

Calculations

Batch: 06TSS11D
Date Calculated: 6/13/11

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	DF
X47	BLANK	1000	1.4291	1.4291	1.4291	0.0000	No	0.0000	0.0	2.5	ND	1
X50	995499-1	1000	1.4195	1.4197	1.4197	0.0000	No	0.0002	0.2	2.5	ND	1
X51	995499-2	1000	1.4128	1.4131	1.4131	0.0000	No	0.0003	0.3	2.5	ND	1
X52	995499-3	1000	1.4100	1.4101	1.4101	0.0000	No	0.0001	0.1	2.5	ND	1
X53	995499-4	1000	1.4121	1.4279	1.4279	0.0000	No	0.0158	15.8	2.5	15.8	1
X54	995499-5	1000	1.4122	1.4310	1.431	0.0000	No	0.0188	18.8	2.5	18.8	1
X55	995499-6	1000	1.4130	1.4136	1.4136	0.0000	No	0.0006	0.6	2.5	ND	1
X56	995499-7	1000	1.4157	1.4166	1.4166	0.0000	No	0.0009	0.9	2.5	ND	1
X57	995499-8	1000	1.4111	1.4116	1.4116	0.0000	No	0.0005	0.5	2.5	ND	1
X58	995499-9	1000	1.4025	1.4027	1.4027	0.0000	No	0.0002	0.2	2.5	ND	1
X59	995499-10	1000	1.4160	1.4167	1.4167	0.0000	No	0.0007	0.7	2.5	ND	1
X60	995499-11	1000	1.4012	1.4015	1.4015	0.0000	No	0.0003	0.3	2.5	ND	1
X61	995499-12	1000	1.4059	1.4105	1.4105	0.0000	No	0.0046	4.6	2.5	4.6	1
X62	995510	300	1.4044	1.4295	1.4295	0.0000	No	0.0251	83.7	8.3	83.7	1
X63	995510D	300	1.4103	1.4351	1.4351	0.0000	No	0.0248	82.7	8.3	82.7	1
X64	995513-1	500	1.4159	1.4279	1.4279	0.0000	No	0.0120	24.0	5.0	24.0	1
X65	995514	1000	1.4140	1.4150	1.415	0.0000	No	0.0010	1.0	2.5	ND	1
X66	995527	300	1.4050	1.4262	1.4262	0.0000	No	0.0212	70.7	8.3	70.7	1
X67	995533	1000	1.4189	1.4467	1.4467	0.0000	No	0.0278	27.8	2.5	27.8	1
X67	995534	50	1.4236	1.4633	1.4633	0.0000	No	0.0397	794.0	50.0	794.0	1
X69	995534D	50	1.4205	1.4600	1.46	0.0000	No	0.0395	790.0	50.0	790.0	1
X48	LCS-1	100	1.4160	1.4261	1.4261	0.0000	No	0.0101	101.0	25.0	101.0	1
X49	LCS-2	100	1.4150	1.4249	1.4249	0.0000	No	0.0099	99.0	25.0	99.0	1

Calculation as follows:

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

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)

GAUTAM
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature



TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B

Calculations

52 London

Date of Analysis: 6/10/11
 Start of Analysis:
 Date Sampled:

Analytical Batch: 06ALK11B
 Matrix: Water
 Date Calculated: 6/13/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO ₃	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO ₃	RL, ppm	Total Alkalinity Reported Value	HCO ₃ Alkalinity as CaCO ₃ (ppm)	CO ₃ Alkalinity as CaCO ₃ (ppm)	OH Alkalinity as CaCO ₃ (ppm)	Low Alkalinity as CaCO ₃ (ppm)
BLANK	6.98	50	0.02		0.0	0.04		0.8	5	ND	ND	ND	ND	
995443-20	7.84	50	0.02		0.0	4.50		90.0	5	90.0	90.0	ND	ND	
995451-4	7.20	50	0.02		0.0	11.25		225.0	5	225.0	225.0	ND	ND	
995488-2	7.57	50	0.02		0.0	6.80		136.0	5	136.0	136.0	ND	ND	
995489-1	8.15	50	0.02		0.0	6.35		127.0	5	127.0	127.0	ND	ND	
995489-2	8.14	50	0.02		0.0	5.80		116.0	5	116.0	116.0	ND	ND	
995489-3	8.11	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
995489-4	7.82	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
995489-5	7.76	50	0.02		0.0	6.75		135.0	5	135.0	135.0	ND	ND	
995489-6	8.18	50	0.02		0.0	5.70		114.0	5	114.0	114.0	ND	ND	
995489-7	8.18	50	0.02		0.0	6.30		126.0	5	126.0	126.0	ND	ND	
995489-8	8.16	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
995489-9	8.16	50	0.02		0.0	6.60		132.0	5	132.0	132.0	ND	ND	
995489-10	8.18	50	0.02		0.0	6.00		120.0	5	120.0	120.0	ND	ND	
995489-11	8.19	50	0.02		0.0	6.10		122.0	5	122.0	122.0	ND	ND	
995489-12	8.24	50	0.02		0.0	6.00		120.0	5	120.0	120.0	ND	ND	
995489-2 DUP	7.56	50	0.02		0.0	6.82		136.4	5	136.4	136.4	ND	ND	
995489-12MS	9.41	50	0.02	2.3	45.0	10.75		215.0	5	215.0	125.0	90	ND	
LCS1	10.31	50	0.02	2.2	44.0	4.75		95.0	5	95.0	7.0	88	ND	
LCS2														

Calculations as follows:

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

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

ND: Not Detected (below the reporting limit)
 LCS: Laboratory Control Standard
 LCS2: 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

Rec'd 06/07/11
Lab#: 995499

995499

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CHAIN OF CUSTODY RECORD

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Page 1 OF 2

Project Name PG&E Topock				Container:	3X250 ml Poly	250 Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	<p>* Where provided w/3 Cr6 bottles please analyze 1 + hold 2</p>	Number of Containers	COMMENTS
Location Topock				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			
Project Number 405681.MP.02.RM				Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA	NA			
Project Manager Jay Piper				Holding Time:	28	28	180	180	180	2	2	2	2	2			
Sample Manager Shawn Duffy					Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6 - river)	Metals (6010B) Total Fe	Metals (6020A) Field Filtered Chromium	Metals (SW6010B/SW6020A) Field Filtered As, Mn, Fe, Se, Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)			
Task Order				DATE	TIME	Matrix											
Project 2011-RMP-177																	
Turnaround Time 10 Days																	
Shipping Date: 6/7/2011																	
COC Number: 1																	
-1	C-BNS-D-177	6/7/2011	12:23	Water	X		X	X	X	X	X	X	X	X		10	7
-2	C-I-3-D-177	6/7/2011	10:37	Water	X		X	X	X	X	X	X	X	X		10	7
-3	C-I-3-S-177	6/7/2011	10:53	Water	X		X	X	X	X	X	X	X	X		10	7
-4	C-MAR-D-177	6/7/2011	13:25	Water	X		X	X	X	X	X	X	X	X		10	7
-5	C-MAR-S-177	6/7/2011	13:38	Water	X		X	X	X	X	X	X	X	X		10	7
	C-MW-80-177	6/7/2011	10:27	Water		X										1	Hold
	C-MW-81-177	6/7/2011	11:32	Water		X										1	Hold
-6	C-R22A-D-177	6/7/2011	11:43	Water	X		X	X	X	X	X	X	X	X		10	7
-7	C-R22A-S-177	6/7/2011	11:57	Water	X		X	X	X	X	X	X	X	X		10	7
-8	C-R27-D-177	6/7/2011	12:47	Water	X		X	X	X	X	X	X	X	X		10	7
-9	C-R27-S-177	6/7/2011	13:00	Water	X		X	X	X	X	X	X	X	X		10	7
-10	C-TAZ-D-177	6/7/2011	9:51	Water	X		X	X	X	X	X	X	X	X		10	7
-11	C-TAZ-S-177	6/7/2011	10:05	Water	X		X	X	X	X	X	X	X	X		10	7
-12	R63-177	6/7/2011	11:17	Water	X		X	X	X	X	X	X	X	X		10	7
	RMP-AB1-177	6/7/2011	13:45	Water		X										1	Hold

For Sample Conditions
See Form Attached

Signatures
Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Date/Time
6-7-11 16:00
6-7-11 16:00
6-7-11 22:00
6-7-11 22:00
6-7-11 22:00

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:
June 7-9, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

ALERT!!
Level III QC

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CHAIN OF CUSTODY RECORD

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Page 2 OF 2

Project Name PG&E Topock				Container:	3X250 ml Poly	250 Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	* Where provided w/3 Cr6 bottles please analyze 1 + hold 2	Number of Containers	COMMENTS
Location Topock				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			
Project Number 405681.MP.02.RM				Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA				
Project Manager Jay Piper				Holding Time:	28	28	180	180	180	2	2	2	2	2			
Sample Manager Shawn Duffy					Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6 - river)	Metals (6010B) Total Fe	Metals (6020A) Field Filtered Chromium	Metals (SM6010B/SM6020A) Field Filtered As, Mn, Fe, Se, Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500HB)	Alkalinity (SM2320B)	TSS (SM2540)			
Task Order				DATE	TIME	MATRIX											
Project 2011-RMP-177																	
Turnaround Time 10 Days																	
Shipping Date: 6/7/2011																	
COC Number: 1																	
SW1-177				6/7/2011	8:10	Water	X			X		X				5	2
SW2-177				6/7/2011	8:40	Water	X			X		X				5	2
TOTAL NUMBER OF CONTAINERS															211		

ALERT !!
Level III QC
 For Sample Conditions
 See Form Attached

Approved by	Signatures	Date/Time	Shipping Details
Sampled by	<i>[Signature]</i>	6-7-11 1600	Method of Shipment: courier
Relinquished by	<i>[Signature]</i>	6-7-11 16:00	On Ice: yes / no
Received by	<i>Rafael Davila</i>	6-7-11 22:00	Airbill No:
Relinquished by	<i>Rafael Davila</i>	6-7-11 22:00	Lab Name: Truesdall Laboratories, Inc.
Received by	<i>[Signature]</i>	6/7/11 22:00	Lab Phone: (714) 730-6239

ATTN:

Sample Custody

Special Instructions:

June 7-9, 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
06/08/11	995494-3	9.5	N/A	N/A	N/A	SB
↓	↓ -4	↓	↓	↓	↓	↓
06/08/11	995495-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
06/08/11	995496-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
06/08/11	995497-1	7.0	5.00	9.5	9:10	SB
06/08/11	995498-1	7.0	5.00	9.5	9:15	SB
↓	↓ -2	↓	↓	↓	9:20	↓
06/08/11	995499-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
↓	↓ -11	↓	↓	↓	↓	↓
↓	↓ -12	↓	↓	↓	↓	↓
↓	↓ -13	↓	↓	↓	↓	↓
↓	↓ -14	↓	↓	↓	↓	↓
06/09/11	995519-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
995481	71	72	06/08/11	M.M	yes	3:10
995480	Solid					
49711-2	21	22			NO	-
49811-2						-
491						-
995490(1-4)	<1	<2			yes	3:10
995220 (1)	<1	<2	6/03/11	KK	NO	NO
995519(1-11)	<1	<2	6/09/11	M.M	yes	NO
995497(1-2)	<1	72	6/10/11	ES	NO	yes @ 10:00 am
995498(1-2)	<1	72				
995498-2	<1	72				
995537	Solid		6/10/11	M.M	yes	3:10
995586	71	72	6/13/11	M.M	yes	yes @ 13:00
995671(1-2)	<1	<2	6/16/11	M.M	yes	-
612(1)						-
613(1-5)						-
995667	71	<2			yes	yes @ 10:00
995672	<1	72	6/16/11	ES	NO	yes @ 1:00 pm
995691	<1	72	6/20/11	M.M	yes	-
995692	-	<2				-
995720						-
995694						-
995695						-
995696(1-4)						-
700592 (SS-72)	<1	<2	6/20/11	M.M	NO	-
700592 (SS-72)	<1	<2	6/20/11	M.M	NO	-
995754	<1	72	6/19/11	M.M	yes	yes @ 10:00
995727(124)	<1	72	6/22/11	ES	NO	@ 10:00 am
995749	<1	<2				-
750						-
751						-
752						-
753						-
995763	<1	72	6/23/11	ES	NO	@ 10:00 am
995773(789)						
995781(1-3)						
995805(1-2)	<1	<2	6/23/11	M.M	yes	
995806(1-7)						
995807(1-3)						
995810	71	<2				
995820(1-13)	<1	<2	6/24/11	KK	yes	
995821(1-6)						
995822(1-2)						
995830(1-3)	<1	>2	6/27/11	KK	NO	yes @ 3:00 pm
995838(1-4)	<1	>2	6/28/11	KK	-	yes @ 8:20 am
995840(1-3)	<1	>2	6/28/11	KK	-	yes @ 8:20 am
995853(1)	<1	<2	6/29/11	KK	-	
995863(1-3)	<1	>2			-	yes @ 8:30 am
995864	<1	>2			-	yes @ 8:30 am



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 995499

Date Delivered: 06/07/11 Time: 22:00 By: ☐ Mail ☒ Field Service ☐ Client

1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A
2. Does Customer require an acknowledgement of the COC? ☐ Yes ☐ No ☒ N/A
3. Are there any special requirements or notes on the COC? ☐ Yes ☐ No ☒ N/A
4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A
5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A
6. Were samples received in a chilled condition?
Temperature (if yes)? 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: Luda

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

July 13, 2011

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-RMP-177, SURFACEWATER
MONITORING PROJECT, TLI NO.: 995519

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-RMP-177 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 June 8, 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 late arrival of the samples, samples for pH analysis by SM 4500-H B were analyzed past the method specified holding time. Mr. Shawn Duffy approved the analysis.

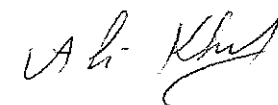
Mr. Shawn Duffy requested that Total Arsenic and Manganese be added to the list of reported analytes for all samples.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Event 2010-RMP-177 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-177	9.50	No			
C-CON-S-177	9.50	No			
C-NR1-D-177	9.50	No			
C-NR1-S-177	9.50	No			
C-NR3-D-177	9.50	No			
C-NR3-S-177	9.50	No			
C-NR4-D-177	9.50	No			
C-NR4-S-177	9.50	No			
R-19-177	9.50	No			
R-28-177	9.50	No			
RRB-177	9.50	No			

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

Event 2010-RMP-177 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-177	2.00	No			
C-CON-S-177	2.00	No			
C-NR1-D-177	2.00	No			
C-NR1-S-177	2.00	No			
C-NR3-D-177	2.00	No			
C-NR3-S-177	2.00	No			
C-NR4-D-177	2.00	No			
C-NR4-S-177	2.00	No			
R-19-177	2.00	No			
R-28-177	2.00	No			
RRB-177	2.00	No			

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 405681.MP.02.RM

P.O. No.: 405681.MP.02.RM

14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
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Laboratory No.: 995519

Date Received: June 8, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-001	C-CON-D-177	E120.1	NONE	6/8/2011	9:20	EC	948	umhos/cm	2.00
995519-001	C-CON-D-177	E218.6	FLDFLT	6/8/2011	9:20	Chromium, hexavalent	ND	ug/L	0.20
995519-001	C-CON-D-177	E300	NONE	6/8/2011	9:20	Nitrate as N	ND	mg/L	0.500
995519-001	C-CON-D-177	SM2320B	NONE	6/8/2011	9:20	Alkalinity	120	mg/L	5.00
995519-001	C-CON-D-177	SM2320B	NONE	6/8/2011	9:20	Bicarbonate	120	mg/L	5.00
995519-001	C-CON-D-177	SM2320B	NONE	6/8/2011	9:20	Carbonate	ND	mg/L	5.00
995519-001	C-CON-D-177	SM2540D	NONE	6/8/2011	9:20	Total Suspended Solids	ND	mg/L	2.50
995519-001	C-CON-D-177	SM4500HB	NONE	6/8/2011	9:20	PH	7.91 J	pH	4.00
995519-001	C-CON-D-177	SW6010B	NONE-digested	6/8/2011	9:20	Iron	24.7	ug/L	20.0
995519-001	C-CON-D-177	SW6010B	FLDFLT-digested	6/8/2011	9:20	Iron	ND	ug/L	20.0
995519-001	C-CON-D-177	SW6010B	NONE-digested	6/8/2011	9:20	Manganese	ND	ug/L	11.1
995519-001	C-CON-D-177	SW6010B	FLDFLT-digested	6/8/2011	9:20	Selenium	ND	ug/L	11.1
995519-001	C-CON-D-177	SW6020	FLDFLT-digested	6/8/2011	9:20	Arsenic	2.4	ug/L	1.0
995519-001	C-CON-D-177	SW6020	NONE-digested	6/8/2011	9:20	Arsenic	2.4	ug/L	1.0
995519-001	C-CON-D-177	SW6020	FLDFLT-digested	6/8/2011	9:20	Chromium	ND	ug/L	1.0
995519-001	C-CON-D-177	SW6020	FLDFLT-digested	6/8/2011	9:20	Manganese	ND	ug/L	10.0
995519-001	C-CON-D-177	SW6020	FLDFLT-digested	6/8/2011	9:20	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-002	C-CON-S-177	E120.1	NONE	6/8/2011	9:36	EC	940	umhos/cm	2.00
995519-002	C-CON-S-177	E218.6	FLDFLT	6/8/2011	9:36	Chromium, hexavalent	ND	ug/L	0.20
995519-002	C-CON-S-177	E300	NONE	6/8/2011	9:36	Nitrate as N	ND	mg/L	0.500
995519-002	C-CON-S-177	SM2320B	NONE	6/8/2011	9:36	Alkalinity	123	mg/L	5.00
995519-002	C-CON-S-177	SM2320B	NONE	6/8/2011	9:36	Bicarbonate	123	mg/L	5.00
995519-002	C-CON-S-177	SM2320B	NONE	6/8/2011	9:36	Carbonate	ND	mg/L	5.00
995519-002	C-CON-S-177	SM2540D	NONE	6/8/2011	9:36	Total Suspended Solids	ND	mg/L	2.50
995519-002	C-CON-S-177	SM4500HB	NONE	6/8/2011	9:36	PH	8.05 J	pH	4.00
995519-002	C-CON-S-177	SW6010B	NONE-digested	6/8/2011	9:36	Iron	25.8	ug/L	20.0
995519-002	C-CON-S-177	SW6010B	FLDFLT-digested	6/8/2011	9:36	Iron	ND	ug/L	20.0
995519-002	C-CON-S-177	SW6010B	NONE-digested	6/8/2011	9:36	Manganese	ND	ug/L	11.1
995519-002	C-CON-S-177	SW6010B	FLDFLT-digested	6/8/2011	9:36	Selenium	ND	ug/L	11.1
995519-002	C-CON-S-177	SW6020	FLDFLT-digested	6/8/2011	9:36	Arsenic	2.5	ug/L	1.0
995519-002	C-CON-S-177	SW6020	NONE-digested	6/8/2011	9:36	Arsenic	2.2	ug/L	1.0
995519-002	C-CON-S-177	SW6020	FLDFLT-digested	6/8/2011	9:36	Chromium	ND	ug/L	1.0
995519-002	C-CON-S-177	SW6020	FLDFLT-digested	6/8/2011	9:36	Manganese	ND	ug/L	10.0
995519-002	C-CON-S-177	SW6020	FLDFLT-digested	6/8/2011	9:36	Molybdenum	ND	ug/L	10.0
995519-003	C-NR1-D-177	E120.1	NONE	6/8/2011	10:06	EC	954	umhos/cm	2.00
995519-003	C-NR1-D-177	E218.6	FLDFLT	6/8/2011	10:06	Chromium, hexavalent	ND	ug/L	0.20
995519-003	C-NR1-D-177	E300	NONE	6/8/2011	10:06	Nitrate as N	ND	mg/L	0.500
995519-003	C-NR1-D-177	SM2320B	NONE	6/8/2011	10:06	Alkalinity	115	mg/L	5.00
995519-003	C-NR1-D-177	SM2320B	NONE	6/8/2011	10:06	Bicarbonate	115	mg/L	5.00
995519-003	C-NR1-D-177	SM2320B	NONE	6/8/2011	10:06	Carbonate	ND	mg/L	5.00
995519-003	C-NR1-D-177	SM2540D	NONE	6/8/2011	10:06	Total Suspended Solids	ND	mg/L	2.500
995519-003	C-NR1-D-177	SM4500HB	NONE	6/8/2011	10:06	PH	8.12 J	pH	4.00
995519-003	C-NR1-D-177	SW6010B	NONE-digested	6/8/2011	10:06	Iron	38.7	ug/L	20.0
995519-003	C-NR1-D-177	SW6010B	FLDFLT-digested	6/8/2011	10:06	Iron	ND	ug/L	20.0
995519-003	C-NR1-D-177	SW6010B	NONE-digested	6/8/2011	10:06	Manganese	ND	ug/L	11.1
995519-003	C-NR1-D-177	SW6010B	FLDFLT-digested	6/8/2011	10:06	Selenium	ND	ug/L	11.1
995519-003	C-NR1-D-177	SW6020	FLDFLT-digested	6/8/2011	10:06	Arsenic	2.3	ug/L	1.0
995519-003	C-NR1-D-177	SW6020	NONE-digested	6/8/2011	10:06	Arsenic	2.7	ug/L	1.0
995519-003	C-NR1-D-177	SW6020	FLDFLT-digested	6/8/2011	10:06	Chromium	ND	ug/L	1.0
995519-003	C-NR1-D-177	SW6020	FLDFLT-digested	6/8/2011	10:06	Manganese	ND	ug/L	10.0
995519-003	C-NR1-D-177	SW6020	FLDFLT-digested	6/8/2011	10:06	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-004	C-NR1-S-177	E120.1	NONE	6/8/2011	10:20	EC	944	umhos/cm	2.00
995519-004	C-NR1-S-177	E218.6	FLDFLT	6/8/2011	10:20	Chromium, hexavalent	ND	ug/L	0.20
995519-004	C-NR1-S-177	E300	NONE	6/8/2011	10:20	Nitrate as N	ND	mg/L	0.500
995519-004	C-NR1-S-177	SM2320B	NONE	6/8/2011	10:20	Alkalinity	108	mg/L	5.00
995519-004	C-NR1-S-177	SM2320B	NONE	6/8/2011	10:20	Bicarbonate	108	mg/L	5.00
995519-004	C-NR1-S-177	SM2320B	NONE	6/8/2011	10:20	Carbonate	ND	mg/L	5.00
995519-004	C-NR1-S-177	SM2540D	NONE	6/8/2011	10:20	Total Suspended Solids	ND	mg/L	2.50
995519-004	C-NR1-S-177	SM4500HB	NONE	6/8/2011	10:20	PH	8.14 J	pH	4.00
995519-004	C-NR1-S-177	SW6010B	NONE-digested	6/8/2011	10:20	Iron	24.0	ug/L	20.0
995519-004	C-NR1-S-177	SW6010B	FLDFLT-digested	6/8/2011	10:20	Iron	ND	ug/L	20.0
995519-004	C-NR1-S-177	SW6010B	NONE-digested	6/8/2011	10:20	Manganese	13.2	ug/L	11.1
995519-004	C-NR1-S-177	SW6010B	FLDFLT-digested	6/8/2011	10:20	Selenium	ND	ug/L	11.1
995519-004	C-NR1-S-177	SW6020	FLDFLT-digested	6/8/2011	10:20	Arsenic	2.0	ug/L	1.0
995519-004	C-NR1-S-177	SW6020	NONE-digested	6/8/2011	10:20	Arsenic	2.4	ug/L	1.0
995519-004	C-NR1-S-177	SW6020	FLDFLT-digested	6/8/2011	10:20	Chromium	ND	ug/L	1.0
995519-004	C-NR1-S-177	SW6020	FLDFLT-digested	6/8/2011	10:20	Manganese	ND	ug/L	10.0
995519-004	C-NR1-S-177	SW6020	FLDFLT-digested	6/8/2011	10:20	Molybdenum	ND	ug/L	10.0
995519-005	C-NR3-D-177	E120.1	NONE	6/8/2011	10:49	EC	950	umhos/cm	2.00
995519-005	C-NR3-D-177	E218.6	FLDFLT	6/8/2011	10:49	Chromium, hexavalent	ND	ug/L	0.20
995519-005	C-NR3-D-177	E300	NONE	6/8/2011	10:49	Nitrate as N	ND	mg/L	0.500
995519-005	C-NR3-D-177	SM2320B	NONE	6/8/2011	10:49	Alkalinity	124	mg/L	5.00
995519-005	C-NR3-D-177	SM2320B	NONE	6/8/2011	10:49	Bicarbonate	124	mg/L	5.00
995519-005	C-NR3-D-177	SM2320B	NONE	6/8/2011	10:49	Carbonate	ND	mg/L	5.00
995519-005	C-NR3-D-177	SM2540D	NONE	6/8/2011	10:49	Total Suspended Solids	ND	mg/L	2.50
995519-005	C-NR3-D-177	SM4500HB	NONE	6/8/2011	10:49	PH	8.13 J	pH	4.00
995519-005	C-NR3-D-177	SW6010B	NONE-digested	6/8/2011	10:49	Iron	20.8	ug/L	20.0
995519-005	C-NR3-D-177	SW6010B	FLDFLT-digested	6/8/2011	10:49	Iron	ND	ug/L	20.0
995519-005	C-NR3-D-177	SW6010B	NONE-digested	6/8/2011	10:49	Manganese	ND	ug/L	11.1
995519-005	C-NR3-D-177	SW6010B	FLDFLT-digested	6/8/2011	10:49	Selenium	ND	ug/L	11.1
995519-005	C-NR3-D-177	SW6020	FLDFLT-digested	6/8/2011	10:49	Arsenic	2.2	ug/L	1.0
995519-005	C-NR3-D-177	SW6020	NONE-digested	6/8/2011	10:49	Arsenic	2.5	ug/L	1.0
995519-005	C-NR3-D-177	SW6020	FLDFLT-digested	6/8/2011	10:49	Chromium	ND	ug/L	1.0
995519-005	C-NR3-D-177	SW6020	FLDFLT-digested	6/8/2011	10:49	Manganese	ND	ug/L	10.0
995519-005	C-NR3-D-177	SW6020	FLDFLT-digested	6/8/2011	10:49	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-006	C-NR3-S-177	E120.1	NONE	6/8/2011	11:01	EC	948	umhos/cm	2.00
995519-006	C-NR3-S-177	E218.6	FLDFLT	6/8/2011	11:01	Chromium, hexavalent	ND	ug/L	0.20
995519-006	C-NR3-S-177	E300	NONE	6/8/2011	11:01	Nitrate as N	ND	mg/L	0.500
995519-006	C-NR3-S-177	SM2320B	NONE	6/8/2011	11:01	Alkalinity	135	mg/L	5.00
995519-006	C-NR3-S-177	SM2320B	NONE	6/8/2011	11:01	Bicarbonate	135	mg/L	5.00
995519-006	C-NR3-S-177	SM2320B	NONE	6/8/2011	11:01	Carbonate	ND	mg/L	5.00
995519-006	C-NR3-S-177	SM2540D	NONE	6/8/2011	11:01	Total Suspended Solids	ND	mg/L	2.50
995519-006	C-NR3-S-177	SM4500HB	NONE	6/8/2011	11:01	PH	8.11 J	pH	4.00
995519-006	C-NR3-S-177	SW6010B	NONE-digested	6/8/2011	11:01	Iron	ND	ug/L	20.0
995519-006	C-NR3-S-177	SW6010B	FLDFLT-digested	6/8/2011	11:01	Iron	ND	ug/L	20.0
995519-006	C-NR3-S-177	SW6010B	NONE-digested	6/8/2011	11:01	Manganese	ND	ug/L	11.1
995519-006	C-NR3-S-177	SW6010B	FLDFLT-digested	6/8/2011	11:01	Selenium	ND	ug/L	11.1
995519-006	C-NR3-S-177	SW6020	FLDFLT-digested	6/8/2011	11:01	Arsenic	2.3	ug/L	1.0
995519-006	C-NR3-S-177	SW6020	NONE-digested	6/8/2011	11:01	Arsenic	2.5	ug/L	1.0
995519-006	C-NR3-S-177	SW6020	FLDFLT-digested	6/8/2011	11:01	Chromium	ND	ug/L	1.0
995519-006	C-NR3-S-177	SW6020	FLDFLT-digested	6/8/2011	11:01	Manganese	ND	ug/L	10.0
995519-006	C-NR3-S-177	SW6020	FLDFLT-digested	6/8/2011	11:01	Molybdenum	ND	ug/L	10.0
995519-007	C-NR4-D-177	E120.1	NONE	6/8/2011	11:32	EC	951	umhos/cm	2.00
995519-007	C-NR4-D-177	E218.6	FLDFLT	6/8/2011	11:32	Chromium, hexavalent	ND	ug/L	0.20
995519-007	C-NR4-D-177	E300	NONE	6/8/2011	11:32	Nitrate as N	ND	mg/L	0.500
995519-007	C-NR4-D-177	SM2320B	NONE	6/8/2011	11:32	Alkalinity	116	mg/L	5.00
995519-007	C-NR4-D-177	SM2320B	NONE	6/8/2011	11:32	Bicarbonate	116	mg/L	5.00
995519-007	C-NR4-D-177	SM2320B	NONE	6/8/2011	11:32	Carbonate	ND	mg/L	5.00
995519-007	C-NR4-D-177	SM2540D	NONE	6/8/2011	11:32	Total Suspended Solids	ND	mg/L	2.50
995519-007	C-NR4-D-177	SM4500HB	NONE	6/8/2011	11:32	PH	8.12 J	pH	4.00
995519-007	C-NR4-D-177	SW6010B	NONE-digested	6/8/2011	11:32	Iron	23.3	ug/L	20.0
995519-007	C-NR4-D-177	SW6010B	FLDFLT-digested	6/8/2011	11:32	Iron	ND	ug/L	20.0
995519-007	C-NR4-D-177	SW6010B	NONE-digested	6/8/2011	11:32	Manganese	ND	ug/L	11.1
995519-007	C-NR4-D-177	SW6010B	FLDFLT-digested	6/8/2011	11:32	Selenium	ND	ug/L	11.1
995519-007	C-NR4-D-177	SW6020	FLDFLT-digested	6/8/2011	11:32	Arsenic	2.2	ug/L	1.0
995519-007	C-NR4-D-177	SW6020	NONE-digested	6/8/2011	11:32	Arsenic	2.4	ug/L	1.0
995519-007	C-NR4-D-177	SW6020	FLDFLT-digested	6/8/2011	11:32	Chromium	ND	ug/L	1.0
995519-007	C-NR4-D-177	SW6020	FLDFLT-digested	6/8/2011	11:32	Manganese	ND	ug/L	10.0
995519-007	C-NR4-D-177	SW6020	FLDFLT-digested	6/8/2011	11:32	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-008	C-NR4-S-177	E120.1	NONE	6/8/2011	11:47	EC	953	umhos/cm	2.00
995519-008	C-NR4-S-177	E218.6	FLDFLT	6/8/2011	11:47	Chromium, hexavalent	ND	ug/L	0.20
995519-008	C-NR4-S-177	E300	NONE	6/8/2011	11:47	Nitrate as N	ND	mg/L	0.500
995519-008	C-NR4-S-177	SM2320B	NONE	6/8/2011	11:47	Alkalinity	116	mg/L	5.00
995519-008	C-NR4-S-177	SM2320B	NONE	6/8/2011	11:47	Bicarbonate	116	mg/L	5.00
995519-008	C-NR4-S-177	SM2320B	NONE	6/8/2011	11:47	Carbonate	ND	mg/L	5.00
995519-008	C-NR4-S-177	SM2540D	NONE	6/8/2011	11:47	Total Suspended Solids	ND	mg/L	2.50
995519-008	C-NR4-S-177	SM4500HB	NONE	6/8/2011	11:47	PH	8.07 J	pH	4.00
995519-008	C-NR4-S-177	SW6010B	NONE-digested	6/8/2011	11:47	Iron	ND	ug/L	20.0
995519-008	C-NR4-S-177	SW6010B	FLDFLT-digested	6/8/2011	11:47	Iron	ND	ug/L	20.0
995519-008	C-NR4-S-177	SW6010B	NONE-digested	6/8/2011	11:47	Manganese	ND	ug/L	11.1
995519-008	C-NR4-S-177	SW6010B	FLDFLT-digested	6/8/2011	11:47	Selenium	ND	ug/L	11.1
995519-008	C-NR4-S-177	SW6020	FLDFLT-digested	6/8/2011	11:47	Arsenic	2.2	ug/L	1.0
995519-008	C-NR4-S-177	SW6020	NONE-digested	6/8/2011	11:47	Arsenic	2.6	ug/L	1.0
995519-008	C-NR4-S-177	SW6020	FLDFLT-digested	6/8/2011	11:47	Chromium	ND	ug/L	1.0
995519-008	C-NR4-S-177	SW6020	FLDFLT-digested	6/8/2011	11:47	Manganese	ND	ug/L	10.0
995519-008	C-NR4-S-177	SW6020	FLDFLT-digested	6/8/2011	11:47	Molybdenum	ND	ug/L	10.0
995519-009	R-19-177	E120.1	NONE	6/8/2011	8:30	EC	942	umhos/cm	2.00
995519-009	R-19-177	E218.6	FLDFLT	6/8/2011	8:30	Chromium, hexavalent	ND	ug/L	0.20
995519-009	R-19-177	E300	NONE	6/8/2011	8:30	Nitrate as N	ND	mg/L	0.500
995519-009	R-19-177	SM2320B	NONE	6/8/2011	8:30	Alkalinity	114	mg/L	5.00
995519-009	R-19-177	SM2320B	NONE	6/8/2011	8:30	Bicarbonate	114	mg/L	5.00
995519-009	R-19-177	SM2320B	NONE	6/8/2011	8:30	Carbonate	ND	mg/L	5.00
995519-009	R-19-177	SM2540D	NONE	6/8/2011	8:30	Total Suspended Solids	ND	mg/L	2.50
995519-009	R-19-177	SM4500HB	NONE	6/8/2011	8:30	PH	8.25 J	pH	4.00
995519-009	R-19-177	SW6010B	NONE-digested	6/8/2011	8:30	Iron	22.4	ug/L	20.0
995519-009	R-19-177	SW6010B	FLDFLT-digested	6/8/2011	8:30	Iron	ND	ug/L	20.0
995519-009	R-19-177	SW6010B	NONE-digested	6/8/2011	8:30	Manganese	ND	ug/L	11.1
995519-009	R-19-177	SW6010B	FLDFLT-digested	6/8/2011	8:30	Selenium	ND	ug/L	11.1
995519-009	R-19-177	SW6020	FLDFLT-digested	6/8/2011	8:30	Arsenic	2.4	ug/L	1.0
995519-009	R-19-177	SW6020	NONE-digested	6/8/2011	8:30	Arsenic	2.4	ug/L	1.0
995519-009	R-19-177	SW6020	FLDFLT-digested	6/8/2011	8:30	Chromium	ND	ug/L	1.0
995519-009	R-19-177	SW6020	FLDFLT-digested	6/8/2011	8:30	Manganese	ND	ug/L	10.0
995519-009	R-19-177	SW6020	FLDFLT-digested	6/8/2011	8:30	Molybdenum	ND	ug/L	10.0

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



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-010	R-28-177	E120.1	NONE	6/8/2011	8:11	EC	947	umhos/cm	2.00
995519-010	R-28-177	E218.6	FLDFLT	6/8/2011	8:11	Chromium, hexavalent	ND	ug/L	0.20
995519-010	R-28-177	E300	NONE	6/8/2011	8:11	Nitrate as N	ND	mg/L	0.500
995519-010	R-28-177	SM2320B	NONE	6/8/2011	8:11	Alkalinity	116	mg/L	5.00
995519-010	R-28-177	SM2320B	NONE	6/8/2011	8:11	Bicarbonate	116	mg/L	5.00
995519-010	R-28-177	SM2320B	NONE	6/8/2011	8:11	Carbonate	ND	mg/L	5.00
995519-010	R-28-177	SM2540D	NONE	6/8/2011	8:11	Total Suspended Solids	ND	mg/L	2.50
995519-010	R-28-177	SM4500HB	NONE	6/8/2011	8:11	PH	8.26 J	pH	4.00
995519-010	R-28-177	SW6010B	NONE-digested	6/8/2011	8:11	Iron	24.3	ug/L	20.0
995519-010	R-28-177	SW6010B	FLDFLT-digested	6/8/2011	8:11	Iron	ND	ug/L	20.0
995519-010	R-28-177	SW6010B	NONE-digested	6/8/2011	8:11	Manganese	ND	ug/L	11.1
995519-010	R-28-177	SW6010B	FLDFLT-digested	6/8/2011	8:11	Selenium	ND	ug/L	11.1
995519-010	R-28-177	SW6020	FLDFLT-digested	6/8/2011	8:11	Arsenic	2.1	ug/L	1.0
995519-010	R-28-177	SW6020	NONE-digested	6/8/2011	8:11	Arsenic	2.4	ug/L	1.0
995519-010	R-28-177	SW6020	FLDFLT-digested	6/8/2011	8:11	Chromium	ND	ug/L	1.0
995519-010	R-28-177	SW6020	FLDFLT-digested	6/8/2011	8:11	Manganese	ND	ug/L	10.0
995519-010	R-28-177	SW6020	FLDFLT-digested	6/8/2011	8:11	Molybdenum	ND	ug/L	10.0



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995519-011	RRB-177	E120.1	NONE	6/8/2011	8:56	EC	947	umhos/cm	2.00
995519-011	RRB-177	E218.6	FLDFLT	6/8/2011	8:56	Chromium, hexavalent	ND	ug/L	0.20
995519-011	RRB-177	E300	NONE	6/8/2011	8:56	Nitrate as N	ND	mg/L	0.500
995519-011	RRB-177	SM2320B	NONE	6/8/2011	8:56	Alkalinity	115	mg/L	5.00
995519-011	RRB-177	SM2320B	NONE	6/8/2011	8:56	Bicarbonate	115	mg/L	5.00
995519-011	RRB-177	SM2320B	NONE	6/8/2011	8:56	Carbonate	ND	mg/L	5.00
995519-011	RRB-177	SM2540D	NONE	6/8/2011	8:56	Total Suspended Solids	ND	mg/L	2.50
995519-011	RRB-177	SM4500HB	NONE	6/8/2011	8:56	PH	8.17 J	pH	4.00
995519-011	RRB-177	SW6010B	NONE-digested	6/8/2011	8:56	Iron	42.2	ug/L	20.0
995519-011	RRB-177	SW6010B	FLDFLT-digested	6/8/2011	8:56	Iron	ND	ug/L	20.0
995519-011	RRB-177	SW6010B	NONE-digested	6/8/2011	8:56	Manganese	ND	ug/L	11.1
995519-011	RRB-177	SW6010B	FLDFLT-digested	6/8/2011	8:56	Selenium	ND	ug/L	11.1
995519-011	RRB-177	SW6020	FLDFLT-digested	6/8/2011	8:56	Arsenic	2.7	ug/L	1.0
995519-011	RRB-177	SW6020	NONE-digested	6/8/2011	8:56	Arsenic	2.3	ug/L	1.0
995519-011	RRB-177	SW6020	FLDFLT-digested	6/8/2011	8:56	Chromium	ND	ug/L	1.0
995519-011	RRB-177	SW6020	FLDFLT-digested	6/8/2011	8:56	Manganese	ND	ug/L	10.0
995519-011	RRB-177	SW6020	FLDFLT-digested	6/8/2011	8:56	Molybdenum	ND	ug/L	10.0

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

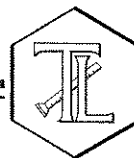
Results below 0.01ppm will have two (2) significant figures.

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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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 405681.MP.02.RM

Project Number: 405681.MP.02.RM

Laboratory No. 995519

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Samples Received on 6/8/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
C-CON-D-177	995519-001	06/08/2011 09:20	Water
C-CON-S-177	995519-002	06/08/2011 09:36	Water
C-NR1-D-177	995519-003	06/08/2011 10:06	Water
C-NR1-S-177	995519-004	06/08/2011 10:20	Water
C-NR3-D-177	995519-005	06/08/2011 10:49	Water
C-NR3-S-177	995519-006	06/08/2011 11:01	Water
C-NR4-D-177	995519-007	06/08/2011 11:32	Water
C-NR4-S-177	995519-008	06/08/2011 11:47	Water
R-19-177	995519-009	06/08/2011 08:30	Water
R-28-177	995519-010	06/08/2011 08:11	Water
RRB-177	995519-011	06/08/2011 08:56	Water

Anions By I.C. - EPA 300.0

Batch 06AN11G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Nitrate as Nitrogen	mg/L	06/09/2011 11:22	1.00	0.0110	0.500	ND
995519-002 Nitrate as Nitrogen	mg/L	06/09/2011 11:53	1.00	0.0110	0.500	ND
995519-003 Nitrate as Nitrogen	mg/L	06/09/2011 12:04	1.00	0.0110	0.500	ND
995519-004 Nitrate as Nitrogen	mg/L	06/09/2011 12:14	1.00	0.0110	0.500	ND
995519-005 Nitrate as Nitrogen	mg/L	06/09/2011 12:25	1.00	0.0110	0.500	ND
995519-006 Nitrate as Nitrogen	mg/L	06/09/2011 12:35	1.00	0.0110	0.500	ND
995519-007 Nitrate as Nitrogen	mg/L	06/09/2011 13:06	1.00	0.0110	0.500	ND
995519-008 Nitrate as Nitrogen	mg/L	06/09/2011 13:17	1.00	0.0110	0.500	ND
995519-009 Nitrate as Nitrogen	mg/L	06/09/2011 13:27	1.00	0.0110	0.500	ND
995519-010 Nitrate as Nitrogen	mg/L	06/09/2011 13:38	1.00	0.0110	0.500	ND
995519-011 Nitrate as Nitrogen	mg/L	06/09/2011 13:48	1.00	0.0110	0.500	ND

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



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 405681.MP.02.RM

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Method Blank

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

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	ND	0.428	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	99.3	90 - 110

Matrix Spike

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.53	2.43(2.00)	105.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.97	4.00	99.2	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	2.99	3.00	99.6	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 3 of 24****Project Number: 405681.MP.02.RM****Printed 7/12/2011**

Alkalinity by SM 2320B		Batch 06ALK11C		6/13/2011		
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	120.
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	120.
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-002 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	123
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	123
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-003 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	115
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	115
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-004 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	108
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	108
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-005 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	124
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	124
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-006 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	135
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	135
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-007 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	116
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	116
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-008 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	116
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	116
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-009 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	114
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	114
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-010 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	116
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	116
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND
995519-011 Alkalinity as CaCO ₃	mg/L	06/13/2011	1.00	1.68	5.00	115
Bicarbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	115
Carbonate (Calculated)	mg/L	06/13/2011	1.00	0.153	5.00	ND

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 4 of 24****Project Number: 405681.MP.02.RM****Printed 7/12/2011****Method Blank**

Parameter	Unit	DF	Result
Alkalinity as CaCO ₃	mg/L	1.00	ND

Duplicate

Lab ID = 995519-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	125	124	0.803	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	95.0	100.	95.0	90 - 110

Matrix Spike

Lab ID = 995519-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	216	215(100.)	101	125 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Specific Conductivity - EPA 120.1		Batch 06EC11F	6/13/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	948
995519-002 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	940
995519-003 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	954
995519-004 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	944
995519-005 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	950
995519-006 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	948
995519-007 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	951
995519-008 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	953
995519-009 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	942
995519-010 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	947
995519-011 Specific Conductivity	umhos/cm	06/13/2011	1.00	0.0380	2.00	947

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 995519-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	948	947	0.106	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	710	706	100	90 - 110

Lab Control Sample Duplicate

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

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	956	996	96.0	90 - 110



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Project Name: PG&E Topock Project

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Metals by EPA 6010B, Total		Batch 061611B-Th				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Iron	ug/L	06/16/2011 17:44	1.11	1.49	20.0	24.7
Manganese	ug/L	06/16/2011 17:44	1.11	3.58	11.1	ND
995519-002 Iron	ug/L	06/16/2011 18:26	1.11	1.49	20.0	25.8
Manganese	ug/L	06/16/2011 18:26	1.11	3.58	11.1	ND
995519-003 Iron	ug/L	06/16/2011 18:32	1.11	1.49	20.0	38.7
Manganese	ug/L	06/16/2011 18:32	1.11	3.58	11.1	ND
995519-004 Iron	ug/L	06/16/2011 18:38	1.11	1.49	20.0	24.0
Manganese	ug/L	06/16/2011 18:38	1.11	3.58	11.1	13.2
995519-005 Iron	ug/L	06/16/2011 18:44	1.11	1.49	20.0	20.8
Manganese	ug/L	06/16/2011 18:44	1.11	3.58	11.1	ND
995519-006 Iron	ug/L	06/16/2011 18:49	1.11	1.49	20.0	ND
Manganese	ug/L	06/16/2011 18:49	1.11	3.58	11.1	ND
995519-007 Iron	ug/L	06/16/2011 18:55	1.11	1.49	20.0	23.3
Manganese	ug/L	06/16/2011 18:55	1.11	3.58	11.1	ND
995519-008 Iron	ug/L	06/16/2011 19:01	1.11	1.49	20.0	ND
Manganese	ug/L	06/16/2011 19:01	1.11	3.58	11.1	ND
995519-009 Iron	ug/L	06/16/2011 19:07	1.11	1.49	20.0	22.4
Manganese	ug/L	06/16/2011 19:07	1.11	3.58	11.1	ND
995519-010 Iron	ug/L	06/16/2011 19:13	1.11	1.49	20.0	24.3
Manganese	ug/L	06/16/2011 19:13	1.11	3.58	11.1	ND
995519-011 Iron	ug/L	06/16/2011 19:38	1.11	1.49	20.0	42.2
Manganese	ug/L	06/16/2011 19:38	1.11	3.58	11.1	ND

Method Blank

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

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	26.1	24.7	5.51	0 - 20
Manganese	ug/L	1.11	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2140	2000	107.	85 - 115
Manganese	ug/L	1.00	2130	2000	106.	85 - 115

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TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2290	2000	115.	85 - 115
Manganese	ug/L	1.00	2150	2000	107.	85 - 115

Matrix Spike

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	2500	2240(2220)	112.	75 - 125
Manganese	ug/L	1.11	2470	2220(2220)	111.	75 - 125

Matrix Spike Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	2500	2240(2220)	112.	75 - 125
Manganese	ug/L	1.11	2480	2220(2220)	112.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5120	5000	102.	90 - 110
Manganese	ug/L	1.00	5020	5000	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5320	5000	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5220	5000	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5340	5000	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5150	5000	103.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	5190	5000	104.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Metals by EPA 6020A, Total		Batch 070911B				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Arsenic	ug/L	07/09/2011 19:04	4.44	0.391	1.0	2.4
995519-002 Arsenic	ug/L	07/09/2011 19:11	4.44	0.391	1.0	2.2
995519-003 Arsenic	ug/L	07/09/2011 19:56	4.44	0.391	1.0	2.7
995519-004 Arsenic	ug/L	07/09/2011 20:03	4.44	0.391	1.0	2.4
995519-005 Arsenic	ug/L	07/09/2011 20:09	4.44	0.391	1.0	2.5
995519-006 Arsenic	ug/L	07/09/2011 20:16	4.44	0.391	1.0	2.5
995519-007 Arsenic	ug/L	07/09/2011 20:22	4.44	0.391	1.0	2.4
995519-008 Arsenic	ug/L	07/09/2011 20:29	4.44	0.391	1.0	2.6
995519-009 Arsenic	ug/L	07/09/2011 20:36	4.44	0.391	1.0	2.4
995519-010 Arsenic	ug/L	07/09/2011 20:42	4.44	0.391	1.0	2.4
995519-011 Arsenic	ug/L	07/09/2011 20:49	4.44	0.391	1.0	2.3

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate

Lab ID = 995519-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	2.22	2.26	1.70	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	112.	100.	112.	85 - 115

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	116.	100.	116.	85 - 115

Matrix Spike

Lab ID = 995519-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	133.	113.(111)	118.	75 - 125

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.8	50.0	97.5	90 - 110



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Chrome VI by EPA 218.6		Batch 06CrH11G				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Chromium, Hexavalent	ug/L	06/13/2011 13:42	1.05	0.0210	0.20	ND
995519-002 Chromium, Hexavalent	ug/L	06/13/2011 14:03	1.05	0.0210	0.20	ND
995519-003 Chromium, Hexavalent	ug/L	06/13/2011 14:13	1.05	0.0210	0.20	ND
995519-004 Chromium, Hexavalent	ug/L	06/13/2011 14:55	1.05	0.0210	0.20	ND
995519-005 Chromium, Hexavalent	ug/L	06/13/2011 15:26	1.05	0.0210	0.20	ND
995519-006 Chromium, Hexavalent	ug/L	06/13/2011 15:36	1.05	0.0210	0.20	ND
995519-007 Chromium, Hexavalent	ug/L	06/13/2011 16:29	1.05	0.0210	0.20	ND
995519-008 Chromium, Hexavalent	ug/L	06/13/2011 16:39	1.05	0.0210	0.20	ND
995519-009 Chromium, Hexavalent	ug/L	06/13/2011 16:50	1.05	0.0210	0.20	ND
995519-010 Chromium, Hexavalent	ug/L	06/13/2011 17:52	1.05	0.0210	0.20	ND
995519-011 Chromium, Hexavalent	ug/L	06/13/2011 18:03	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.92	5.00	98.5	90 - 110

Matrix Spike

Lab ID = 995519-001

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

Matrix Spike

Lab ID = 995519-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.06(1.06)	108.	90 - 110

Matrix Spike

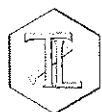
Lab ID = 995519-003

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

Matrix Spike

Lab ID = 995519-004

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



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Matrix Spike

Lab ID = 995519-005

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

Matrix Spike

Lab ID = 995519-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.06(1.06)	106.	90 - 110

Matrix Spike

Lab ID = 995519-007

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 = 995519-008

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

Matrix Spike

Lab ID = 995519-009

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

Matrix Spike

Lab ID = 995519-010

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 = 995519-011

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

MRCCS - Secondary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.84	10.0	98.4	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.0	10.0	100.	95 - 105

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Metals by EPA 6020A, Dissolved		Batch: 061611B				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Arsenic	ug/L	06/16/2011 22:00	4.44	0.391	1.0	2.4
Chromium	ug/L	06/16/2011 22:00	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 22:00	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 22:00	4.44	0.746	10.0	ND
995519-002 Arsenic	ug/L	06/16/2011 22:46	4.44	0.391	1.0	2.5
Chromium	ug/L	06/16/2011 22:46	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 22:46	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 22:46	4.44	0.746	10.0	ND
995519-003 Arsenic	ug/L	06/16/2011 22:53	4.44	0.391	1.0	2.3
Chromium	ug/L	06/16/2011 22:53	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 22:53	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 22:53	4.44	0.746	10.0	ND
995519-004 Arsenic	ug/L	06/16/2011 23:00	4.44	0.391	1.0	2.0
Chromium	ug/L	06/16/2011 23:00	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:00	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:00	4.44	0.746	10.0	ND
995519-005 Arsenic	ug/L	06/16/2011 23:06	4.44	0.391	1.0	2.2
Chromium	ug/L	06/16/2011 23:06	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:06	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:06	4.44	0.746	10.0	ND
995519-006 Arsenic	ug/L	06/16/2011 23:13	4.44	0.391	1.0	2.3
Chromium	ug/L	06/16/2011 23:13	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:13	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:13	4.44	0.746	10.0	ND
995519-007 Arsenic	ug/L	06/16/2011 23:19	4.44	0.391	1.0	2.2
Chromium	ug/L	06/16/2011 23:19	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:19	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:19	4.44	0.746	10.0	ND
995519-008 Arsenic	ug/L	06/16/2011 23:26	4.44	0.391	1.0	2.2
Chromium	ug/L	06/16/2011 23:26	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:26	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:26	4.44	0.746	10.0	ND
995519-009 Arsenic	ug/L	06/16/2011 23:33	4.44	0.391	1.0	2.4
Chromium	ug/L	06/16/2011 23:33	4.44	0.0977	1.0	ND



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995519-009 Manganese	ug/L	06/16/2011 23:33	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:33	4.44	0.746	10.0	ND
995519-010 Arsenic	ug/L	06/16/2011 23:39	4.44	0.391	1.0	2.1
Chromium	ug/L	06/16/2011 23:39	4.44	0.0977	1.0	ND
Manganese	ug/L	06/16/2011 23:39	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/16/2011 23:39	4.44	0.746	10.0	ND
995519-011 Chromium	ug/L	06/17/2011 00:30	4.44	0.0977	1.0	ND
Manganese	ug/L	06/17/2011 00:30	4.44	0.169	10.0	ND
Molybdenum	ug/L	06/17/2011 00:30	4.44	0.746	10.0	ND

Method Blank

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

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	2.38	2.36	0.928	0 - 20
Chromium	ug/L	4.44	ND	0.00	0	0 - 20
Manganese	ug/L	4.44	ND	0.00	0	0 - 20
Molybdenum	ug/L	4.44	ND	0.00	0	0 - 20

Lab Control Sample

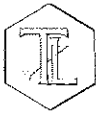
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	5.00	92.9	100.	92.9	85 - 115
Chromium	ug/L	5.00	92.8	100.	92.8	85 - 115
Manganese	ug/L	5.00	86.8	100.	86.8	85 - 115
Molybdenum	ug/L	5.00	87.2	100.	87.2	85 - 115

Matrix Spike

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	107.	113.(111)	94.4	75 - 125
Chromium	ug/L	4.44	100.0	111(111)	90.1	75 - 125
Manganese	ug/L	4.44	93.7	111(111)	84.4	75 - 125
Molybdenum	ug/L	4.44	101.	111(111)	91.1	75 - 125

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Matrix Spike Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	98.4	113.(111)	86.5	75 - 125
Chromium	ug/L	4.44	90.7	111(111)	81.7	75 - 125
Manganese	ug/L	4.44	84.6	111(111)	76.2	75 - 125
Molybdenum	ug/L	4.44	95.7	111(111)	86.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.7	50.0	99.4	90 - 110
Chromium	ug/L	1.00	49.2	50.0	98.4	90 - 110
Manganese	ug/L	1.00	52.1	50.0	104.	90 - 110
Molybdenum	ug/L	1.00	46.7	50.0	93.4	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.1	50.0	98.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.4	50.0	98.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.7	50.0	97.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.1	90 - 110

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Metals by EPA 6020A, Dissolved

Batch 062111B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-011 Arsenic	ug/L	06/22/2011 01:30	4.44	0.391	1.0	2.7

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	4.44	2.76	2.71	1.65	0 - 20

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 = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	112.	114.(111)	98.5	75 - 125

Matrix Spike Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	4.44	107.	114.(111)	94.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.6	50.0	101.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.1	50.0	98.3	90 - 110

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Metals by EPA 6010B, Dissolved		Batch: 061711A-Th				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Iron	ug/L	06/17/2011 09:39	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 09:39	1.11	3.57	11.1	ND
995519-002 Iron	ug/L	06/17/2011 10:14	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:14	1.11	3.57	11.1	ND
995519-003 Iron	ug/L	06/17/2011 10:20	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:20	1.11	3.57	11.1	ND
995519-004 Iron	ug/L	06/17/2011 10:26	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:26	1.11	3.57	11.1	ND
995519-005 Iron	ug/L	06/17/2011 10:31	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:31	1.11	3.57	11.1	ND
995519-006 Iron	ug/L	06/17/2011 10:37	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:37	1.11	3.57	11.1	ND
995519-007 Iron	ug/L	06/17/2011 10:43	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:43	1.11	3.57	11.1	ND
995519-008 Iron	ug/L	06/17/2011 10:49	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:49	1.11	3.57	11.1	ND
995519-009 Iron	ug/L	06/17/2011 10:55	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 10:55	1.11	3.57	11.1	ND
995519-010 Iron	ug/L	06/17/2011 11:01	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 11:01	1.11	3.57	11.1	ND
995519-011 Iron	ug/L	06/17/2011 11:07	1.11	1.49	20.0	ND
Selenium	ug/L	06/17/2011 11:07	1.11	3.57	11.1	ND

Method Blank

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

Duplicate

Lab ID = 995519-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.11	ND	0.00	0	0 - 20
Selenium	ug/L	1.11	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	104.	100.	104.	85 - 115
Selenium	ug/L	1.00	87.6	100.	87.6	85 - 115

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	104.	100.	104.	85 - 115
Selenium	ug/L	1.00	87.6	100.	87.6	85 - 115

Matrix Spike**Lab ID = 995519-001**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.11	115.	111(111)	104.	75 - 125
Selenium	ug/L	1.11	96.1	111(111)	86.6	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5420	5000	108.	90 - 110
Selenium	ug/L	1.00	4980	5000	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5260	5000	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5430	5000	109.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2240	2000	112.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2250	2000	113.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0.00		



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Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2220	2000	111.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2330	2000	116.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0.00		

pH by SM 4500-H B

Batch 06PH11G

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
995519-001 pH	pH	06/09/2011 13:00	1.00	0.0250	4.00	7.91	J
995519-002 pH	pH	06/09/2011 13:05	1.00	0.0250	4.00	8.05	J
995519-003 pH	pH	06/09/2011 13:07	1.00	0.0250	4.00	8.12	J
995519-004 pH	pH	06/09/2011 13:10	1.00	0.0250	4.00	8.14	J
995519-005 pH	pH	06/09/2011 13:12	1.00	0.0250	4.00	8.13	J
995519-006 pH	pH	06/09/2011 13:15	1.00	0.0250	4.00	8.11	J
995519-007 pH	pH	06/09/2011 13:17	1.00	0.0250	4.00	8.12	J
995519-008 pH	pH	06/09/2011 13:20	1.00	0.0250	4.00	8.07	J
995519-009 pH	pH	06/09/2011 13:22	1.00	0.0250	4.00	8.25	J
995519-010 pH	pH	06/09/2011 13:25	1.00	0.0250	4.00	8.26	J
995519-011 pH	pH	06/09/2011 13:32	1.00	0.0250	4.00	8.17	J

Duplicate

Lab ID = 995519-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	8.26	8.26	0.00	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	6.99	7.00	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.02	7.00	100.	90 - 110

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



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 24 of 24

Project Number: 405681.MP.02.RM

Printed 7/12/2011

Total Suspended Solids by SM 2540 D		Batch 06TSS1E	6/14/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
995519-001 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-002 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-003 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-004 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-005 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-006 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-007 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-008 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-009 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-010 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND
995519-011 Total Suspended Solids	mg/L	06/14/2011	1.00	0.423	2.50	ND

Method Blank

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

Duplicate

Lab ID = 995566-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Suspended Solids	mg/L	1.00	48.7	49.7	2.03	0 - 5

Lab Control Sample

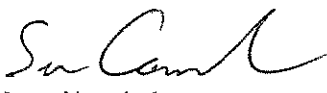
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	101	100.	101	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Suspended Solids	mg/L	1.00	98.0	100.	98.0	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services

E2 Gordon



TRUESDAIL LABORATORIES INC.

Total Suspended Solids by SM 2540 D

Calculations

Batch: 06TSS11E

Date Calculated: 6/14/11

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	DF
X70	BLK	1000	1.4069	1.4069	1.4069	0.0000	No	0.0000	0.0	2.5	ND	1
X73	995519-1	1000	1.4125	1.4126	1.4126	0.0000	No	0.0001	0.1	2.5	ND	1
X74	995519-2	1000	1.3949	1.3952	1.3952	0.0000	No	0.0003	0.3	2.5	ND	1
X75	995519-3	1000	1.4152	1.4165	1.4165	0.0000	No	0.0013	1.3	2.5	ND	1
X76	995519-4	1000	1.4163	1.4165	1.4165	0.0000	No	0.0002	0.2	2.5	ND	1
X77	995519-5	1000	1.4165	1.4165	1.4165	0.0000	No	0.0000	0.0	2.5	ND	1
X78	995519-6	1000	1.4039	1.4039	1.4039	0.0000	No	0.0000	0.0	2.5	ND	1
X79	995519-7	1000	1.4052	1.4053	1.4053	0.0000	No	0.0001	0.1	2.5	ND	1
X80	995519-8	1000	1.4118	1.4119	1.4119	0.0000	No	0.0001	0.1	2.5	ND	1
X81	995519-9	1000	1.4051	1.4052	1.4052	0.0000	No	0.0001	0.1	2.5	ND	1
X82	995519-10	1000	1.4156	1.4157	1.4157	0.0000	No	0.0001	0.1	2.5	ND	1
X83	995519-11	1000	1.4196	1.4197	1.4197	0.0000	No	0.0001	0.1	2.5	ND	1
X84	995536	1000	1.4180	1.4181	1.4181	0.0000	No	0.0001	0.1	2.5	ND	1
X85	995566	300	1.4164	1.4313	1.4313	0.0000	No	0.0149	49.7	8.3	49.7	1
X86	995566D	300	1.4094	1.4240	1.424	0.0000	No	0.0146	48.7	8.3	48.7	1
X87	995569	500	1.4222	1.4393	1.4393	0.0000	No	0.0171	34.2	5.0	34.2	1
X88	995569D	500	1.4069	1.4239	1.4239	0.0000	No	0.0170	34.0	5.0	34.0	1
X71	LCS-1	100	1.4132	1.4233	1.4233	0.0000	No	0.0101	101.0	25.0	101.0	1
X72	LCS-2	100	1.4135	1.4233	1.4233	0.0000	No	0.0098	98.0	25.0	98.0	1

Calculation as follows:

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

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)

GAUTAM
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature



Alkalinity by SM 2320B Calculations

Date of Analysis: 6/13/11
Start of Analysis:
Date Sampled:

E2 - Sean

Analytical Batch: 06 ALK11C
Matrix: Water
Date Calculated: 6/13/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO ₃	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO ₃	RL, ppm	Total Alkalinity Reported Value	HCO ₃ Alkalinity as CaCO ₃ (ppm)	CO ₃ Alkalinity as CaCO ₃ (ppm)	OH Alkalinity as CaCO ₃ (ppm)	Low Alkalinity as CaCO ₃ (<20 ppm)
BLANK	7.10	50	0.02		0.0	0.05		0.9	5	ND	ND	ND	ND	
995519-1	8.17	50	0.02		0.0	6.00		120.0	5	120.0	120.0	ND	ND	
995519-2	8.13	50	0.02		0.0	6.15		123.0	5	123.0	123.0	ND	ND	
995519-3	8.14	50	0.02		0.0	5.75		115.0	5	115.0	115.0	ND	ND	
995519-4	8.16	50	0.02		0.0	5.40		108.0	5	108.0	108.0	ND	ND	
995519-5	8.15	50	0.02		0.0	6.20		124.0	5	124.0	124.0	ND	ND	
995519-6	8.09	50	0.02		0.0	6.75		135.0	5	135.0	135.0	ND	ND	
995519-7	8.13	50	0.02		0.0	5.80		116.0	5	116.0	116.0	ND	ND	
995519-8	8.07	50	0.02		0.0	5.80		116.0	5	116.0	116.0	ND	ND	
995519-9	8.21	50	0.02		0.0	5.70		114.0	5	114.0	114.0	ND	ND	
995519-10	8.22	50	0.02		0.0	5.80		116.0	5	116.0	116.0	ND	ND	
995519-11	8.13	50	0.02		0.0	5.75		115.0	5	115.0	115.0	ND	ND	
995570-1	7.91	50	0.02		0.0	4.40		88.0	5	88.0	88.0	ND	ND	
995570-2	8.07	50	0.02		0.0	4.40		88.0	5	88.0	88.0	ND	ND	
995519-5DUP	8.16	50	0.02		0.0	6.25		125.0	5	125.0	125.0	ND	ND	
995519-11 MS	9.42	50	0.02	2.5	50.0	10.80		216.0	5	216.0	116.0	100	ND	
LCS1	10.30	50	0.02	2.2	44.0	4.75		95.0	5	95.0	7.0	88	ND	
LCS2												ND		

Calculations as follows:

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

$$\text{Low Alkalinity: as mg/L CaCO}_3 = \frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

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/LP = 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

052

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

ALERT !!**Level III QC****CH2MHILL****CHAIN OF CUSTODY RECORD**Rec'd 06/08/11
slab 995519

6/8/2011 1:59:49 PM

Page 1 OF 1

Project Name PG&E Topock		Container		3X250 ml Poly	250 Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	2x1 Liter Poly	* Where provided w/3 Cr6 bottles please analyze 1 + hold 2	Number of Containers	COMMENTS
Location Topock		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				
Project Number 405681.MP.02.RM		Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA	NA				
Project Manager Jay Piper		Holding Time:	28	28	180	180	180	2	2	2	2	2				
Sample Manager Shawn Duffy		Task Order	C6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6 - river)	Metals (6010B) Total Fe	Metals (6020A) Field Filtered Chromium	Metals (SW6010B/SW6020A) Field Filtered As,Mn,Fe,Se,Mo	Specific Conductance (E120.1)	Anions (E300.0) Nitrate	PH (SM4500B)	Alkalinity (SM320B)	TSS (SM200)				
Project 2011-RMP-177		Turnaround Time 10 Days														
Shipping Date: 6/3/2011		COC Number: TLI_RMP177														
DATE	TIME	Matrix														
-1	C-CON-D-177	6/8/2011 9:20	Water	X		X	X	X	X	X	X	X	X		18	7
-2	C-CON-S-177	6/8/2011 9:36	Water	X		X	X	X	X	X	X	X	X		18	7
	C-MW-82-177	6/8/2011 9:50	Water		X										1	Hold
	C-MW-83-177	6/8/2011 10:35	Water		X										1	Hold
-3	C-NR1-D-177	6/8/2011 10:06	Water	X		X	X	X	X	X	X	X	X		18	7
-4	C-NR1-S-177	6/8/2011 10:20	Water	X		X	X	X	X	X	X	X	X		18	7
-5	C-NR3-D-177	6/8/2011 10:49	Water	X		X	X	X	X	X	X	X	X		18	7
-6	C-NR3-S-177	6/8/2011 11:01	Water	X		X	X	X	X	X	X	X	X		18	7
-7	C-NR4-D-177	6/8/2011 11:32	Water	X		X	X	X	X	X	X	X	X		18	7
-8	C-NR4-S-177	6/8/2011 11:47	Water	X		X	X	X	X	X	X	X	X		18	7
-9	R-19-177	6/8/2011 8:30	Water	X		X	X	X	X	X	X	X	X		18	7
-10	R-28-177	6/8/2011 8:11	Water	X		X	X	X	X	X	X	X	X		18	7
	RMP-AB2-177	6/8/2011 11:57	Water		X										1	Hold
-11	RRB-177	6/8/2011 8:56	Water	X		X	X	X	X	X	X	X	X		18	7
TOTAL NUMBER OF CONTAINERS															178	

Approved by
Sampled by
Relinquished by
Received by
Relinquished by
Received by

Signatures
Date/Time
6-8-11
1530
Rafael Davila 6/8/11 15:30
Rafael Davila 6/8/11 21:30
Linda 6/8/11 21:30

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

ATTN:
Sample Custody

Special Instructions:
June 7-9, 2011

Report Copy to
Shawn Duffy
(530) 229-3303

80 REC

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
06/08/11	995494-3	9.5	N/A	N/A	N/A	SB
↓	↓ -4	↓	↓	↓	↓	↓
06/08/11	995495-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
06/08/11	995496-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
06/08/11	995497-1	7.0	5.00	9.5	9:10	SB
06/08/11	995498-1	7.0	5.00	9.5	9:15	SB
↓	↓ -2	↓	↓	↓	9:20	↓
06/08/11	995499-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
↓	↓ -11	↓	↓	↓	↓	↓
↓	↓ -12	↓	↓	↓	↓	↓
↓	↓ -13	↓	↓	↓	↓	↓
↓	↓ -14	↓	↓	↓	↓	↓
06/09/11	995519-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
995481	71	72	06/08/11	M.M.	Yes	3010
995480	Solid					
49711-2	21	22			NO	-
49811-2						-
491						-
995490/1-4	<1	<2			Yes	3010
995256 (1)	<1	<2	6/03/11	KK	NO	NO
995519/1-11	<1	<2	6/09/11	M.M.	Yes	NO
995497(1-2)	<1	72	6/10/11	ES	NO	yes @ 10:00 am
995498(1-2)	<1	72				
995498-2	<1	72				
995537	Solid		6/10/11	M.M.	Yes	illc
995586	71	72	6/13/11	M.M.	Yes	yes @ 13:00
995631/1-2	<1	<2	6/16/11	M.M.	Yes	-
632(1)						-
633(2-5)						-
995667	71	<2			Yes	yes @ 12:00
995632	<1	72	6/16/11	ES	NO	yes @ 1:00 p.m.
995691	<1	72	6/20/11	M.M.	Yes	-
995692	-	<2				-
995720						-
995694						-
995695						-
995696/1-4						-
700592 (SS-72)	<1	<2	6/20/11	M.M.	NO	-
700593 (SS-72)	<1	<2	6/20/11	M.M.	NO	-
995754	<1	72	6/21/11	M.M.	Yes	Yes @ 10:00
995727(124)	<1	72	6/22/11	ES	NO	@ 10:00 am
995749	<1	<2				-
750						-
751						-
752						-
753						-
995763	<1	72	6/23/11	ES	NO	@ 10:00 am
995773(789)						
995781(1-3)						
995805(1-2)	<1	<2	6/23/11	M.M.	Yes	
995806/1-7						
995807/1-3						
995810	71	<2				
995820 (1-13)	<1	<2	6/24/11	KK	Yes	
995821 (1-6)						
995822 (1-2)						
995830 (1-3)	<1	>2	6/27/11	KK	NO	yes @ 3:00 pm
995838(1-4)	<1	>2	6/28/11	KK	-	yes @ 8:20 am
995840 (1-3)	<1	>2	6/28/11	KK	-	yes @ 8:20 am
995853 (1)	<1	<2	6/29/11	KK	-	
995863(1-3)	<1	>2			-	yes @ 8:30 am
995864	<1	>2			-	yes @ 8:30 am



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 995519

Date Delivered: 06/07/11 Time: 9:30 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

Appendix B
Other Groundwater Monitoring Results

Table B-1

Arsenic Results in Monitoring Wells, April 2010 through June 2011
 Second Quarter 2011 Interim Measure 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	07-Dec-10	7.2
		07-Dec-10 FD	6.9
MW-12	SA	06-Apr-10	63.0
		06-Apr-10 FD	63.0
		06-May-10	64.2
		06-May-10 FD	66.9
		30-Sep-10	53.4
		30-Sep-10 FD	55.4
		16-Dec-10	53.0
		10-Feb-11	48.0
		06-May-11	49.0
MW-13	SA	07-Dec-10	1.9
MW-16	SA	10-Dec-10	9.7
		02-May-11	10.0
MW-17	SA	14-Dec-10	1.2
		03-May-11	1.3
MW-20-130 ¹	DA	10-Feb-11	4.9
		06-May-11	5.1
MW-22	SA	07-Dec-10	12.0
		03-May-11	12.0
MW-23-060	BR-S	14-Dec-10	3.0
		04-May-11	2.5
MW-23-080	BR-S	14-Dec-10	2.6
		04-May-11	3.3
		04-May-11 FD	3.4
MW-25	SA	07-Dec-10	1.5
MW-26	SA	15-Dec-10	1.7
		05-May-11	1.4
MW-27-20	SA	07-Dec-10	2.9
MW-27-60	MA	07-Dec-10	7.1
MW-27-85	DA	29-Apr-10	5.6
		01-Oct-10	1.8
		07-Dec-10	1.4
		08-Feb-11	1.3
		08-Feb-11 FD	1.3
		28-Apr-11	1.4
		28-Apr-11 FD	1.4

Table B-1

Arsenic Results in Monitoring Wells, April 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-28-25	SA	08-Dec-10	1.7
		02-May-11	2.0
MW-28-90	DA	29-Apr-10	2.8
		28-Sep-10	2.3
		08-Dec-10	1.8
		08-Feb-11	1.7
		02-May-11	2.0
MW-29	SA	14-Dec-10	21.0
		29-Apr-11	9.0
MW-30-30	SA	07-Dec-10	1.6
MW-30-50	MA	07-Dec-10	9.7
MW-31-60	SA	15-Dec-10	1.1
MW-31-135	DA	15-Dec-10	3.7
MW-32-20	SA	08-Dec-10	2.6
MW-32-35	SA	09-Dec-10	22.0
		02-May-11	26.0
MW-33-40	SA	30-Apr-10	20.3
		28-Sep-10	19.4
		10-Dec-10	11.0
		09-Feb-11	12.0
		02-May-11	19.0
MW-33-90	MA	10-Dec-10	1.3
MW-34-55	MA	07-Dec-10	2.5
MW-34-80	DA	29-Apr-10	2.2
		01-Oct-10	1.5
		07-Dec-10	1.3
		07-Feb-11	1.3
		07-Feb-11 FD	1.2
		28-Apr-11	1.4
MW-34-100	DA	29-Apr-10	2.2
		29-Apr-10 FD	3.4
		01-Oct-10	1.7
		01-Oct-10 FD	1.7
		09-Nov-10	1.6
		08-Dec-10	1.3
		08-Dec-10 FD	1.3
		11-Jan-11	1.2

Table B-1

Arsenic Results in Monitoring Wells, April 2010 through June 2011
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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-34-100	DA	07-Feb-11	1.5
		28-Apr-11	1.4
		28-Apr-11 FD	1.3
MW-35-135	DA	14-Dec-10	0.9
MW-36-20	SA	07-Dec-10	1.9
MW-36-40	SA	07-Dec-10	4.7
MW-36-50	MA	08-Dec-10	3.6
MW-36-70	MA	07-Dec-10	7.1
MW-36-90	DA	08-Dec-10	17.0
		08-Dec-10 FD	18.0
		02-May-11	19.0
MW-36-100	DA	15-Dec-10	5.1
		03-May-11	6.3
MW-37S	MA	10-Dec-10	1.7
MW-39-50	MA	08-Dec-10	8.6
MW-39-60	MA	09-Dec-10	6.0
MW-39-100	DA	14-Dec-10	2.2
MW-40D	DA	15-Dec-10	4.2
		05-May-11	4.3
MW-41D	DA	08-Dec-10	2.4
MW-41M	DA	08-Dec-10	2.0
MW-41S	SA	08-Dec-10	2.0
		08-Dec-10 FD	1.9
MW-42-30	SA	06-Dec-10	2.2
MW-42-55	MA	29-Apr-10	14.2
		27-Sep-10	12.5
		06-Dec-10	12.0
		07-Feb-11	12.0
		29-Apr-11	13.0
MW-42-65	MA	29-Apr-10	3.3
		27-Sep-10	3.0
		06-Dec-10	1.8
		07-Feb-11	1.9
		29-Apr-11	2.2
MW-43-25	SA	09-Dec-10	19.0
		29-Apr-11	20.0

Table B-1

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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-43-75	DA	09-Dec-10	11.0
MW-43-90	DA	09-Dec-10	3.7
		29-Apr-11	3.3
MW-44-70	MA	09-Dec-10	3.1
		03-May-11	3.3
MW-44-115	DA	09-Dec-10	5.1
		09-Dec-10 FD	5.0
		03-May-11	5.6
MW-44-125	DA	09-Dec-10	4.0
		09-Dec-10 FD	3.8
		03-May-11	3.7
		03-May-11 FD	3.4
MW-45-095a	DA	14-Dec-10	3.6
MW-47-55	SA	13-Dec-10	1.1
		13-Dec-10 FD	1.2
MW-49-135	DA	13-Dec-10	1.6
MW-51	MA	16-Dec-10	3.9
		06-May-11	3.9
MW-52D	DA	09-Dec-10	3.3
		03-May-11	3.3
MW-52M	DA	09-Dec-10	1.3
		03-May-11	1.2
MW-52S	MA	09-Dec-10	0.35
		03-May-11	0.5
MW-53D	DA	09-Dec-10	2.9
		03-May-11	3.2 J
MW-53M	DA	10-Dec-10	1.0
		03-May-11	0.96
MW-54-85	DA	05-May-11	ND (5.0)
MW-54-140	DA	05-May-11	ND (5.0)
MW-54-195	DA	05-May-11	ND (5.0) J
		05-May-11 FD	ND (5.0) J
MW-57-070	BR	15-Dec-10	1.4
		15-Dec-10 FD	1.5
MW-57-185	BR-D	09-Dec-10	11.0
		03-May-11	12.0

Table B-1

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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-58BR-LWR	BR	16-Sep-10	3.2
		07-Oct-10	3.2
MW-58BR-LWR-160	BR	10-Feb-11	1.6
		04-Apr-11	1.6
MW-58BR-UPR	BR	14-Sep-10	5.9
		06-Oct-10	5.6
MW-58BR-UPR-160	BR	01-Feb-11	1.9
		18-Mar-11	1.8
MW-59-100	SA	16-Dec-10	2.1
		06-May-11	2.0
MW-60-125	BR-S	16-Dec-10	1.4
		16-Dec-10 FD	1.5
		05-May-11	1.8
MW-61-110	BR-S	15-Dec-10	3.2
		05-May-11	3.4
MW-62-065	BR-S	15-Dec-10	0.99
MW-62-110	BR-M	04-May-10	12.0
		29-Sep-10	19.5
		16-Dec-10	14.0
		09-Feb-11	14.0
		05-May-11	14.0
MW-62-190	BR-D	04-May-10	9.4
		29-Sep-10	9.5
		16-Dec-10	8.1
		09-Feb-11	8.0
		05-May-11	6.5
MW-63-065	BR-S	06-Dec-10	1.6
		03-May-11	1.6
MW-64-150	BR-S	04-May-10	12.9
		25-Aug-10	10.4
		29-Sep-10	8.2
MW-64-205	BR-D	04-May-10	8.5
		25-Aug-10	6.3
		29-Sep-10	6.6
MW-64-260	BR-D	04-May-10	5.2
		25-Aug-10	3.4
		29-Sep-10	2.6

Table B-1

Arsenic Results in Monitoring Wells, April 2010 through June 2011
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PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-64BR ²	BR	20-Dec-10	5.3
MW-64BR-LWR-150	BR	24-Feb-11	4.5
		20-Apr-11	3.9
MW-64BR-UPR-150	BR	26-Jan-11	2.8
		12-Apr-11	3.1
OW-3D	DA	08-Dec-10	2.6

NOTES:

µg/L = micrograms per liter

FD = field duplicate

¹ Data collected February 2011 due to field logistical issues.

² 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 flood water. This floodwater destroyed the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals and was consequently removed from the borehole. The MW-58 bedrock well cluster is now an open borehole. In September 2010 a packer system was installed in the borehole at about 115 ft bgs that divided the open borehole into upper (UPR) and lower (LWR) intervals. 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 in late 2011 (CH2M HILL, 2010b).

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 in late 2011 (CH2M HILL, 2010b).

The California primary drinking water standards Maximum Contaminant Level (MCL) for Arsenic is 10 ug/L. The background level for Arsenic at the site is 24.3 ug/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)

BR-S: well completed in shallowest portion of BR

BR-M: well completed in middle portion of BR

BR-D: well completed in deeper portion of BR

Table B-2

Analytical Results for Packer Wells, Second Quarter 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
 Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR-160	MW-64BR-UPR-150	MW-64BR-LWR-150
			04/4/2011	04/12/2011	04/20/2011
Anions					
Chloride	300	mg/L	2,900	3,500	5,500
Nitrate (as nitrogen)	300	mg/L	1.1	3.4	ND (2.5)
General Chemistry					
Total dissolved solids	SM2540C	mg/L	5,600	7,800	9,600
Metals					
Arsenic, dissolved	6020A	µg/L	1.6	3.1	3.9
Chromium, Hexavalent	218.6	µg/L	100	130	2.1
Chromium, total dissolved	6010B/6020A	µg/L	110	140	3.2
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1,1-Trichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2,2-Tetrachloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichlorotrifluoroethane (Freon 113)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2,3-Trichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2,3-Trichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2,4-Trichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2,4-Trimethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0) J
1,2-Dibromo-3-chloropropane	8260	µg/L	ND (2.0)	ND (2.0)	ND (2.0)
1,2-Dibromoethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,3,5-Trimethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,3-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,3-Dichloropropane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
1,4-Dichlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
2,2-Dichloropropane	8260	µg/L	ND (1.0) J	ND (1.0) J	ND (1.0) J
2-Chlorotoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
4-Isopropyltoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Acetone	8260	µg/L	ND (10) J	ND (10) J	15.0 J
Acrolein	8260	µg/L	ND (20) J	ND (20) J	ND (20) J
Acrylonitrile	8260	µg/L	ND (20)	ND (20) J	ND (20)

Table B-2

Analytical Results for Packer Wells, Second Quarter 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
 Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR-160	MW-64BR-UPR-150	MW-64BR-LWR-150
			04/4/2011	04/12/2011	04/20/2011
Volatile Organic Compounds					
Benzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Bromobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Bromochloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Bromodichloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Bromoform	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Bromomethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Carbon disulfide	8260	µg/L	ND (1.0)	1.1	ND (1.0)
Carbon tetrachloride	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Chlorobenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Chloroethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Chloroform	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,2-Dichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,3-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Dibromochloromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Dibromomethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Dichlorodifluoromethane	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Ethylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Hexachlorobutadiene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Isopropylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
m,p-Xylenes	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Methyl ethyl ketone	8260	µg/L	ND (10) J	ND (10) J	ND (10) J
Methyl isobutyl ketone	8260	µg/L	ND (10)	ND (10)	ND (10)
Methyl tert-butyl ether (MTBE)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Methylene chloride	8260	µg/L	ND (5.0)	ND (5.0)	ND (5.0)
Naphthalene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
N-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
N-Propylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
o-Xylene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
p-Chlorotoluene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
sec-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	8260	µg/L	ND (1.0) J	ND (1.0) J	ND (1.0) J
tert-Butylbenzene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Tetrachloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Toluene	8260	µg/L	ND (2.5)	58.0 J	14.0
trans-1,2-Dichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)

Table B-2

Analytical Results for Packer Wells, Second Quarter 2011
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 PG&E Topock Compressor Station, Needles, California

Analyte	Method	Units	MW-58BR-LWR-160	MW-64BR-UPR-150	MW-64BR-LWR-150
			04/4/2011	04/12/2011	04/20/2011
Volatile Organic Compounds					
trans-1,3-Dichloropropene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Trichlorofluoromethane (Freon 11)	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Vinyl chloride	8260	µg/L	ND (1.0)	ND (1.0)	ND (1.0)
Xylenes, total	8260	µg/L	ND (2.0)	ND (2.0)	ND (2.0)

NOTES:

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

As a results of a series of storm events in January 2010 the MW-58 cluster (MW-58-115 and MW-58-205) was inundated with flood water. This floodwater destroyed the Flexible Liner Underground Technologies™ well liner that allowed discrete sampling at the 115 feet below ground surface (bgs) and 205 feet bgs depth intervals and was consequently removed from the borehole. The MW-58 bedrock well cluster is now an open borehole 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 in late 2011 (CH2M HILL, 2010b).

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 in late 2011 (CH2M HILL, 2010b).

Table B-3
Background Metals, Second Quarter 2011
Second Quarter 2011 Interim Measure 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	05/02/2011	ND (10)	10.0	ND (50)	30.0	ND (1.0)	ND (3.0)	ND (3.0)	10.6	ND (5.0)	ND (10)	ND (0.2)	13.0	ND (5.0)	1.6	ND (3.0)	ND (0.5)	35.0	ND (10)	0.31	0.028	0.03	5.0	ND (0.01)
MW-17	05/03/2011	ND (10)	1.3	ND (50)	25.0	ND (1.0)	ND (3.0)	ND (3.0)	15.9	ND (5.0)	ND (10)	ND (0.2)	15.0	ND (5.0)	11.0	ND (3.0)	ND (0.5)	4.9	21.0	0.23	0.089	ND (0.02)	12.0	ND (0.01)

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.

Appendix C
Groundwater Monitoring Data for GMP and
Interim Measures Monitoring Wells

Table C-1

Chemical Performance Monitoring Analytical Results, March 2005 through June 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
 Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Total Dissolved Solids	Oxygen-18	Deuterium	Chloride	Sulfate	Nitrate	Bromide	Alkalinity (total)	Dissolved Metals				
										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-20-70	10-Mar-05	1940	-7.1	-59.0	740	378	9.98	ND (1.0)	81.7	198	55.4	9.89	431	0.412
	15-Jun-05	1980	-7.0	-60.0	749	388	9.79	ND (1.0)	73.8	189	55.4	10.5	433	0.414
	15-Jun-05 FD	2050	-8.3	-57.0	760	392	9.81	ND (1.0)	71.3	204	60.7	11.4	468	0.445
	11-Oct-05	1950	-7.2	-57.0	737	359	9.48	0.641	69.9	198	49.9	14.6	323	0.402
	15-Dec-05	1830	-7.1	-49.0	645	326	9.90	ND (1.0)	77.8	138	42.3	14.5	267	0.441
	10-Mar-06	1940	-7.2	-54.0	679	358	10.5	ND (0.5)	82.2	161	48.6	9.22	424	0.427
	05-May-06	1750	-8.2	-55.9	696	376	9.86	0.574	74.5	162	49.2	9.55	461	0.476
	03-Oct-06	1890	-8.1	-60.4	677	357	13.0	ND (5.0)	85.0	158	47.6	9.82	472	0.535
	03-Oct-06 FD	1840	-8.1	-60.5	669	352	12.9	ND (5.0)	80.0	154	45.9	9.51	466	0.515
	13-Dec-06	1910	-7.6	-61.2	678	352	12.7	0.699	77.5	149	44.3	9.09	458	0.459
	14-Mar-07	1740	-8.5	-64.3	689	358	13.7	0.641	80.0	139	42.2	8.83	451	0.503
	03-May-07	1750	-8.4	-66.7	697	344	25.1	ND (1.0)	77.5	139	41.2	8.65	390	0.477
	11-Oct-07	1820	-8.2	-63.9	699	367	15.6	ND (1.0)	80.0	130	39.1	11.0	600	0.54
	12-Mar-08	1790	-7.6	-65.2	695	360	22.1	ND (1.0)	77.0	139	41.2	10.7	403	0.51
	07-Oct-08	1900	-8.5	-64.4	650	360	15.0	0.61	83.0	136	37.9	10.5	400	0.608
	12-Mar-09	1900	-7.74	-60.8	670	330	17.0	ND (1.0)	79.0	128	40.2	9.95	496	0.549
	25-Sep-09	1700	-8.7	-66.4	700	310	16.0	ND (2.5)	74.0	130	33.0	9.70	390	0.42
	16-Dec-10	1700	-7.5	-62.3	680	320	16.0	0.51	79.0	130	33.0	12.0	400	0.51
MW-20-100 ^a	10-Mar-05	2490	-5.2	-49.0	466	511	9.98	ND (1.0)	84.2	133	19.8	8.98	712	0.859
	15-Jun-05	2500	-4.7	-46.0	921	506	9.02	ND (1.0)	84.0	137	21.3	9.06	592	0.713
	11-Oct-05	2400	-5.3	-48.0	887	484	8.87	0.731	82.3	170	23.7	15.2	500	0.718
	15-Dec-05	2340	-5.4	-40.0	813	404	9.65	ND (1.0)	82.7	136	21.4	14.8	406	0.709
	10-Mar-06	2500	-5.6	-50.3	861	475	9.94	ND (0.5)	92.5	171	27.0	7.75	597	0.803
	05-May-06	2260	-5.1	-46.4	927	522	9.99	ND (1.0)	82.5	193	32.0	10.8	577	0.716

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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-20-100 ^a	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
MW-20-130 ^a	09-Mar-05	5520	-5.8	-56.0	3120	1080	10.9	ND (1.0)	68.9	219	12.1	24.7	2250	1.90
	09-Mar-05 FD	6200	-5.4	-51.0	3080	1080	10.9	ND (1.0)	68.9	231	12.8	25.4	2390	1.99
	15-Jun-05	7790	-5.0	-48.0	3410	1230	11.1	ND (1.0)	68.7	352	23.2	31.3	2980	2.75
	07-Oct-05	7330	-5.0	-47.0	3010	1210	10.9	1.04 J	72.4	349	13.9	38.4	2070	2.41
	16-Dec-05	7860	-5.8	-43.0	3260	1000	10.7	ND (2.5)	63.2	324	16.3	44.4	1780	1.98
	10-Mar-06	8610	-5.5	-48.8	3370	1250	10.6	ND (0.5)	74.5	312	18.9	27.7	2730	2.03
	05-May-06	7700	-5.3	-47.2	3900	1280	8.95	ND (1.0)	69.2	349	20.3	27.7	2810	2.40
	18-Oct-06	8450	-6.3	-51.4	3680	1100	11.5	ND (5.0)	70.0	358	20.9	28.0	2870	2.28
	13-Dec-06	7890	-6.0	-54.9	3970	1250	10.6	0.896	72.5	335	19.7	27.6	2900	2.31
	13-Dec-06 FD	8250	-5.9	-54.4	3950	1260	10.5	1.09	72.5	328	19.1	27.3	2830	2.24
	08-Mar-07	8450	-6.5	-57.7	3930	1240	11.3	1.08	70.0	353	21.3	27.0	2760	2.24
	08-Mar-07 FD	8510	-6.6	-57.4	3900	1210	11.3	1.06	72.5	351	21.3	26.8	2750	2.19

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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-20-130 ^a	03-May-07	8150	-7.7	-60.0	4020	1310	9.80 J	ND (1.0)	75.0	338	22.5	27.8	2550	2.49
	03-May-07 FD	8100	-6.9	-60.1	3950	1290	20.4 J	ND (1.0)	72.5	338	21.9	27.3	2550	2.47
	05-Oct-07	7980	-7.0	-57.5	3670	1070	11.6	ND (1.0)	77.0	310	19.0	31.0	2900	2.40
	12-Mar-08	8460	-6.2	-58.7	3690	1220	14.3	ND (1.0)	75.0	342	23.4	47.0	2260	2.07
	08-Oct-08	7800	-7.3	-59.6	3500	1200	12.0	ND (2.5)	81.0	329	22.0	40.1	1990	2.23
	13-Mar-09	8100	-6.58	-56.4	3600	1100	11.0	ND (2.5)	79.0	350	22.7	41.4	2550	2.16
	25-Sep-09	6500	-7.59	-61.7	3500	1100	13.0	ND (2.5)	76.0	280	17.0	33.0	2400	2.00
	10-Feb-11	5900	-6.6	-59.0	3100	1100	13.0	1.00	80.0	310	18.0	50.0	2100	2.20
MW-25	09-Mar-05	877	-8.4	-62.0	247	169	3.64	ND (0.5)	158	77.6	16.1	6.24	211	0.441
	14-Jun-05	942	-8.6	-61.0	289	183	3.89	ND (0.5)	137	93.5	20.0	8.91	253	0.464
	14-Jun-05 FD	980	-7.2	-59.0	294	185	3.94	ND (0.5)	137	100	20.9	9.06	268	0.475
	04-Oct-05	950	-8.2	-68.0	252	171	3.77	ND (0.5)	141	83.3	14.9	9.93	164	0.362
	04-Oct-05 FD	910	-8.3	-60.0	251	171	3.75	ND (0.5)	146	94.6	15.3	10.2	185	0.371
	14-Dec-05	838	-8.4	-55.0	224	158	3.74	ND (0.5)	153	75.5	14.5	9.80	143	0.396
	14-Dec-05 FD	896	-8.4	-50.0	219	155	3.75	ND (0.5)	156	73.0	14.1	9.71	151	0.382
	09-Mar-06	910	-8.4	-64.1	245	164	3.83	ND (0.5)	170	76.4	15.6	6.97	210	0.39
	03-May-06	907	-9.0	-59.4	272	172	3.95	ND (0.5)	150	78.0	17.3	7.38	222	0.418
	03-May-06 FD	924	-9.0	-61.0	274	173	3.94	ND (0.5)	155	79.7	17.8	7.53	245	0.431
	03-Oct-06	892	-8.9	-62.7	222	158	4.09	ND (0.5)	163	73.3	15.0	7.25	206	0.466
	06-Mar-07	843	-9.0	-66.9	221	164	3.95	ND (0.5)	160	72.9	14.4	6.85	203	0.459
	02-Oct-07	796	-9.0	-65.8	189	155	4.58	ND (1.0)	180	66.0	14.0	7.90	200	0.49
	02-Oct-07 FD	758	-9.0	-65.7	195	157	4.40	ND (1.0)	190	63.0	13.0	7.70	220	0.46
	07-Oct-08	740	-9.9	-68.5	170	150	4.30	ND (0.5)	200	59.2	12.9	9.89	143	0.559
	07-Oct-08 FD	730	-10.1	-69.1	170	150	4.40	ND (0.5)	210	58.4	12.9	10.2	144	0.559

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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-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
MW-26	08-Mar-05	1840	-8.8	-70.0	756	370	4.48	ND (0.5)	98.7	166	41.6	10.7	439	0.557
	08-Mar-05 FD	1800	-8.7	-70.0	708	338	4.45	ND (0.5)	96.1	166	40.9	11.4	438	0.559
	13-Jun-05	2130	-8.2	-65.0	847	371	4.90	ND (0.5)	103	178	44.6	14.0	511	0.663
	04-Oct-05	2120	-7.8	-68.0	779	372	4.88	0.601	109	166	40.4	19.8	352	0.526
	12-Dec-05	2610	-8.5	-55.0	788	372	4.88	0.546	99.7	162	39.9	20.3	349	0.613
	08-Mar-06	2070	-8.6	-60.4	772	324	4.90	ND (0.5)	121	155	38.1	11.7	434 J	0.621
	01-May-06	2130	-8.9	-62.7	927	382	4.87	ND (0.5)	121	165	42.0	12.8	555	0.723
	03-Oct-06	2220	-8.8	-63.0	894	370	6.22	ND (2.5)	105	170	43.9	12.8	510	0.692
	12-Mar-07	2280	-9.0	-67.0	917	387	6.02	0.646	90.0	163	41.6	12.9	621	0.622
	02-Oct-07	2180	-8.6	-66.3	945	391	7.84	ND (1.0)	100	170	42.0	15.0	620	0.66
	12-Mar-08	2500	-8.1	-67.2	908	398	10.7 J	ND (1.0)	103	176	44.1 J	16.2 J	498	0.589
	12-Mar-08 FD	2420	-8.9	-68.2	905	398	7.61 J	ND (1.0)	102	160	32.8 J	12.7 J	462	0.601
	08-Oct-08	2400	-8.7	-66.5	930	440	10.0	ND (1.0)	110	183	45.8	14.6	555	0.591
	10-Mar-09	2300	-8.41	-65.3	870	440 J	9.80	1.40	100	172	47.9	14.8	585	0.604
	10-Mar-09 FD	2300	-8.68	-65.8	860	440 J	9.70	1.50	100	174	46.2	15.6	631	0.65
22-Sep-09	2200	-9.04	-68.3	870	450	10.0	ND (1.0)	100	170	39.0	14.0	550	0.59	
15-Dec-10	---	---	---	900	480	12.0	---	100	180	40.0	---	560	---	
MW-27-20	08-Mar-05	1250	-12	-102.0	190	432	ND (0.5)	ND (0.5)	215	137	56.6	4.89	195	ND (0.2)
	18-Jul-05	---	-11.9	-98.0	81.9	228	ND (0.5)	ND (0.5)	160	96.1	30.1	4.27	94.8	ND (0.2)
	05-Oct-05	742	-11.8	-102.0	91.1	252	ND (0.5)	ND (0.5)	175	88.6	31.4	5.48	81.0	ND (0.2)
	14-Dec-05	1020	-11.7	-91.0	118	347	ND (0.5)	ND (0.5)	216	116	41.8	6.96	116	ND (0.2)

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										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-27-20	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	---
MW-28-25	10-Mar-05	880	-12.2	-95.0	112	302	ND (0.5)	ND (0.5)	204	129	36.3	3.50	122	ND (0.2)
	15-Jun-05	974	-11.6	-91.0	108	359	ND (0.5)	ND (0.5)	221	133	38.9	6.54	117	ND (0.2)
	06-Oct-05	884	-11.7	-95.0	99.8	300	ND (0.5)	ND (0.5)	197	123	37.0	6.61	88.7	ND (0.2)
	16-Dec-05	1010	-11.4	-90.0	128	348	ND (0.5)	ND (0.5)	212	134	41.5	6.46	107	ND (0.2)
	09-Mar-06	746	-11.5	-93.9	84.4	225	ND (0.5)	ND (0.5)	244	98.5	27.5	4.15 J	88.5	ND (0.2)
	05-May-06	741	-11.4	-90.3	110	302	ND (0.5)	ND (0.5)	216	117	35.7	5.77	118	ND (0.2)
	11-Oct-06	1050	-12.2	-95.0	86.3	247	ND (0.5)	ND (0.5)	225	133	40.8	5.47	132	ND (0.2)
	04-Oct-07	812	-12.1	-98.7	110	307	ND (1.0)	ND (1.0)	230	120	37.0 J	4.80	150	0.26 J
	08-Oct-08	---	---	---	100	280	ND (0.5)	---	220	109	34.7	---	102	---
	24-Sep-09	---	---	---	94.0	240	ND (0.5)	---	200	100	27.0	---	100 J	---
	08-Dec-10	---	---	---	90.0	230	ND (0.5)	---	190	110	31.0	---	95.0	---
MW-30-30	10-Mar-05	38800	-9.8	-79.0	16000	4270	ND (5.0)	7.91	421	1590	1600	95.4	13600	4.97
	07-Oct-05	36400	-8.5	-75.0	17600	4000	ND (0.5)	ND (10)	521	1020	842	93.6	7650	5.20
	15-Dec-05	35700	-8.7	-59.0	19700	4070	ND (1.0)	3.13	504	1060	894	110	8540	6.14
	13-Mar-06	39700 J	-8.8	-70.5	18600	4530	ND (0.5)	ND (50)	650	1050	892	77.2	11300	4.62
	02-May-06	32400	-10.3	-70.7	15400	3300	ND (0.5)	ND (5.0)	756	882	828	59.4	10300	3.95
	10-Oct-06	29400	-9.4	-68.7	17800	4400	ND (2.5)	ND (2.5)	550	729	653	55.0	10200	4.32

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										Calcium	Magnesium	Potassium	Sodium	Boron
Monitoring Wells														
MW-30-30	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	---
MW-30-50	10-Mar-05	6470 J	-8.3	-68.0	4660	672	ND (0.5)	1.03	324	335	107	16.5	2040	1.15
	07-Oct-05	6860	-9.4	-79.0	3060	857	ND (0.5)	0.899 J	252	438	101	37.0	1780	1.27
	16-Dec-05	5850	-10.5	-65.0	2360	578	ND (0.5)	0.645	212	265	77.9	32.9	1260	1.19
	09-Mar-06	5380	-9.8	-83.5	2420	651	ND (0.5)	ND (0.5)	275	226	66.2	14.6	1640	1.18
	02-May-06	5420	-10.4	-73.6	2380	612	ND (0.5)	3.41	261	243	70.3	16.4	1750	1.22
	11-Oct-06	4170	-10.7	-82.2	1980	468	ND (0.5)	ND (0.5)	290	171	48.5	14.0	1370	1.11
	11-Oct-06 FD	3930	-11	-82.6	1810	462	ND (0.5)	ND (0.5)	298	163	46.1	14.1	1340	1.08
	24-Sep-09	---	---	---	---	---	---	---	220	19.0	4.80	---	270	---
	07-Dec-10	---	-12.2	-97.5	140	220	ND (0.5)	---	200	15.0	4.20	---	260	---
MW-31-60	09-Mar-05	1540	-8.6	-63.0	649	210	4.94	ND (0.5)	76.6	108	17.3	5.97	424	0.401
	13-Jun-05	1660	-8.2	-65.0	745	207	4.12	ND (0.5)	70.0	121	18.9	6.57	403	0.388
	06-Oct-05	1660	-8.6	-65.0	691	206	4.01	ND (0.5)	77.3	109	16.5	9.75	308	0.462
	13-Dec-05	1620	-8.7	-54.0	669	199	4.14	ND (0.5)	73.0	87.0	15.4	9.32	275	0.359
	15-Mar-06	1560 J	-8.6	-65.6	661	191	4.37	ND (0.5)	89.3	106	17.5	7.30	403	0.393
	15-Mar-06 FD	1640 J	-8.6	-64.9	662	192	4.34	ND (0.5)	81.9	101	16.8	6.94	391	0.383
	01-May-06	1630	-9.6	-63.2	691	209	4.58	ND (0.5)	79.6	118	20.1	7.78	467	0.449
	05-Oct-06	1620	-9.4	-66.3	687	205	5.00	ND (0.5)	80.0	113	20.6	9.60 J	325	0.464
	12-Mar-07	1750	-9.3	-69.0	757	222	4.93	ND (0.5)	72.5	116	20.3	6.05	454	0.402 J
	04-Oct-07	1720	-9.4	-69.6	799	208	5.15	ND (1.0)	80.0	150	26.0	7.30	580	0.64
	06-Oct-08	2000	-10.2	-72.2	810	240	4.20	ND (1.0)	81.0	150	26.0	9.39	460	0.399
	21-Sep-09	1800	-9.23	-72.1	870	220	3.70	ND (1.0)	75.0	160	26.0	9.60	480	0.43

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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	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
MW-32-20	09-Mar-05	12500	-7.2	-65.0	6930	1660	ND (0.5)	3.51	123	838	302	36.9	4000	2.76
	17-Jun-05	10200	-9.0	-67.0	4810	690	ND (0.5)	ND (2.5)	676	566	231	23.3	2620	1.75
	04-Oct-05	28800	-7.8	-65.0	14200	2420	ND (5.0)	6.19	733	1380 J	613 J	91.1 J	5400 J	4.75 J
	16-Dec-05	24600	-7.8	-61.0	12200	2140	ND (1.0)	3.48	861	1470	552	90.4	4950	4.16
	10-Mar-06	20900	-8.3	-65.5	10600	1970	ND (0.5)	ND (0.5)	432	1350	530	56.1	6440	3.54
	04-May-06	16900	-8.1	-64.9	9430	1380	ND (0.5)	2.35	218	937	445	46.0	4780	2.87
	02-Oct-06	46200 J	-8.6	-67.1	20200	3190	ND (2.5)	7.30	660	1870	1070	87.0	11300	6.34
	11-Dec-06	37900	-8.0	-67.0	17900	3020	ND (5.0)	7.67	825	1530	785	81.7	8420	4.98
	06-Mar-07	27600	-8.7	-72.7	16200	2210	0.925	5.93	765	1460	635	64.4	7110	3.92
	30-Apr-07	17700	-9.6	-78.1	9820	1310	ND (0.2)	3.78	770	965	484	51.4	5520	3.02
	01-Oct-07	37200	-8.3	-70.1	20600	3160	ND (1.0)	6.44	700	1800	1100	93.0	9900	5.70
	10-Mar-08	26000	-9.4	-72.6	15800	2280	ND (1.0)	5.66	800	1190	710	67.4	11600	2.31
	03-Oct-08	---	---	---	21000	3500	ND (5.0)	---	640	1700	1080	---	9550	---
	10-Mar-09	29000	-8.91	-70.5	15000	2100 J	ND (5.0)	15.0	750	1620	970	96.6	7020	3.53
	22-Sep-09	---	---	---	20000	3600	ND (5.0)	---	730	1800	740	---	9300	---
	08-Dec-10	---	---	---	17000	4100	ND (5.0)	---	830	1600	720	---	11000	---
MW-32-35	09-Mar-05	3560	-8.2	-68.0	1770	465	ND (0.5)	0.845	260	312	85.5	13.0	944	1.07
	17-Jun-05	7550	-9.5	-72.0	3520	787	ND (0.5)	ND (2.5)	223	506	120	14.8	2110	1.18
	04-Oct-05	8340	-8.3	-70.0	3840	765	ND (0.5)	ND (5.0)	208	567	134	29.3	1530	1.26
	16-Dec-05	7660	-8.8	-63.0	3510	710	ND (1.0)	1.02	219	606	128	30.0	1580	1.25
	10-Mar-06	9230	-8.6	-74.0	4210	1010	ND (0.5)	ND (0.5)	234	654	129	19.2	2360	1.13
	04-May-06	9840	-9.1	-67.8	4960	1130	ND (0.5)	ND (0.5)	218	693	148	19.5	2800	1.38
	02-Oct-06	11200	-9.4	-71.4	5430	1050	ND (2.5)	ND (2.5)	290	839	165	23.9	3260	1.48

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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	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
MW-34-55	10-Mar-05	6230	-10.8	-82.0	2620	739	ND (0.5)	0.654	240	366	71.3	29.1	1900	1.19
	15-Jul-05	---	-10.3	-84.0	2250	607	ND (0.5)	ND (0.5)	242	247	52.0	16.5	1420	1.02
	05-Oct-05	5150	-10.6	-88.0	2170	619	ND (0.5)	ND (0.5)	232	272	59.1	25.8	1230	1.20
	14-Dec-05	5100	-10.8	-74.0	2150	552	ND (0.5)	0.588	236	217	45.0	27.2	965	0.937
	08-Mar-06	4850	-10.8	-86.8	2080	593	ND (0.5)	ND (0.5)	272	256	54.2	13.5	1640	0.956
	03-May-06	4320	-11.5	-84.3	2070	500	ND (0.5)	ND (0.5)	302	198	44.8	11.1	1360	0.846
	04-Oct-06	1680 J	-12.2	-94.8	443	230	ND (0.5)	ND (0.5)	368	37.6	8.08	4.59	536	0.54
	03-Oct-07	730	-11.3	-96.6	109	266	ND (1.0)	ND (1.0)	190	15.0	3.30	3.30	290	0.26
	07-Oct-08	700	-13	-100.0	100	250	ND (0.5)	---	170	72.4	16.9	5.26	192	0.248
	30-Sep-09	700	-12.3	-101.0	---	---	---	---	160	77.0	17.0	4.40	120	0.15
	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
MW-34-80	08-Mar-05	6940	-10.4	-83.0	4180	1040	ND (0.5)	1.01	304	439	68.1	28.0	2750	1.65
	15-Mar-05	8980	---	---	3920	ND (5.0)	ND (1.0)	---	288	445	65.7	29.7	2990	---
	30-Jun-05	7840	-8.4	-82.0	3910	979	ND (0.5)	ND (0.5)	302	497	76.5	27.7	2670	1.66
	05-Oct-05	10200	-10.1	-85.0	3880	1060	ND (0.5)	ND (0.5)	302	429	72.5	47.4	1660	1.57
	14-Dec-05	8800	-10.2	-71.0	3700	880	ND (0.5)	0.854	297	432	68.3	54.9	1710	1.54
	09-Mar-06	7830	-9.9	-86.8	3520	986	ND (0.5)	ND (0.5)	313	383	65.8	24.0	2420	1.49

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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-34-80	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
MW-34-100	14-Mar-05	10800	---	---	5010	1210	ND (1.0)	---	175	221	17.4	34.1	3600	---
	21-Jun-05	11300	-9.7	-75.0	5350	1270	1.05	ND (0.5)	179	229	17.4	27.1	3510	2.22
	21-Jun-05 FD	10900 J	-9.5	-77.0	4920	1180	1.03	ND (0.5)	179	243	18.2	32.1	3740	2.36
	05-Oct-05	10400	-9.9	-83.0	4530	1150	1.20	ND (0.5)	172	171	13.8	55.2	2450	2.57
	05-Oct-05 FD	10400	-9.9	-83.0	4680	1200	1.21	ND (0.5)	172	228	14.1	50.9	2730	2.57
	14-Dec-05	---	---	---	---	---	---	---	---	226	14.9	62.9	2530	2.32
	14-Dec-05 FD	---	---	---	---	---	---	---	---	220	15.1	64.2	2530	2.40

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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-34-100	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
MW-50-200 a	10-Feb-11	---	---	---	6900	1000	6.40	---	39.0	590	32.0	75.0	4100	---
	10-Feb-11 FD	---	---	---	7000	1100	6.10	---	39.0	570	31.0	73.0	4000	---
PGE-8 a	10-Feb-11	---	---	---	6100	2000	ND (2.5)	---	53.0	870	20.0	96.0 J	3800	---
Surface Water Stations														
R-27	07-Mar-05	669	-12.3	-102.0	92.7	244	ND (0.5)	ND (0.5)	136	82.8	31.3	4.72	108	ND (0.2)
	14-Jun-05	686	-11.4	-92.0	90.9	266	ND (0.5)	ND (0.5)	127	81.9	29.8	6.04	98.9	ND (0.2)
	05-Oct-05	678	-11.6	-94.0	85.1	255	ND (0.5)	ND (0.5)	130	101	36.2	6.56	91.2	ND (0.2)
	16-Dec-05	718	-11.7	-87.0	87.9	253	ND (0.5)	ND (0.5)	126	85.5	29.5	5.99	75.6	ND (0.2)
	06-Mar-06	656	-11.8	-92.1	90.6	268	ND (0.5)	ND (0.5)	144	83.5	29.4	5.44 J	101	ND (0.2)
	03-May-06	567	-12.8	-93.9	93.1	267	ND (0.5)	ND (0.5)	139	87.0	31.1	3.12 J	106	ND (0.2)
	04-Oct-06	752 J	-12.2	-94.9	91.5	261	ND (0.5)	ND (0.5)	128	82.9	31.5	6.24 J	98.1	ND (0.2)

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										Calcium	Magnesium	Potassium	Sodium	Boron
Surface Water Stations														
R-27	20-Dec-06	680	-12.7	-98.1	94.5	266	ND (0.5)	ND (0.5)	138	83.2	30.9	3.64	106	ND (0.2)
	13-Mar-07	750 J	-13	-99.5	96.5	267	0.537	ND (0.5)	130	86.9	31.3	4.73	106	ND (0.2)
	08-May-07	715 J	-12.9	-104.0	92.6	269	ND (0.5)	ND (0.5)	143	84.3	29.8	5.55	100	ND (0.2)
	11-Sep-07	650	-12.5	-101.0	89.4	253	0.336	ND (0.2)	132	74.2	28.9	5.47	86.5	ND (0.2)
	05-Dec-07	---	-11.7	-99.0	94.7	256	ND (1.0)	ND (0.2)	137	89.8	31.7	6.60	93.4	0.157
	02-Apr-08	---	---	---	93.0	267	ND (1.0)	ND (1.0)	136	80.2	30.7	5.50	106	0.432
	17-Jun-08	682	-13	-101.0	91.6	254	ND (1.0)	ND (1.0)	134	76.2	31.8	6.69	89.7	ND (0.2)
R-28	08-Mar-05	651	-12.5	-102.0	90.4	231	ND (13)	ND (0.5)	132	83.7	31.4	5.02	107	ND (0.2)
	14-Jun-05	680	-11.6	-95.0	91.2	268	ND (0.5)	ND (0.5)	127	78.5	28.5	5.08	94.5	ND (0.2)
	05-Oct-05	672	-11.6	-94.0	85.5	255	ND (0.5)	ND (0.5)	122	85.7	30.4	6.30	77.0	ND (0.2)
	16-Dec-05	710	-11.5	-83.0	88.1	254	ND (0.5)	ND (0.5)	126	87.2	29.8	6.11	76.8	ND (0.2)
	06-Mar-06	675	-12.3	-93.4	91.0	270	ND (0.5)	ND (0.5)	146	76.6	26.6	5.22 J	91.5	ND (0.2)
	03-May-06	586	-13	-92.1	93.4	270	ND (0.5)	ND (0.5)	136	88.1	31.4	4.04 J	107	ND (0.2)
	04-Oct-06	644 J	-12.6	-95.3	90.9	259	ND (0.5)	ND (0.5)	133	84.2	32.1	6.17 J	96.5	ND (0.2)
	20-Dec-06	615	-12.4	-99.6	93.3	262	ND (0.5)	ND (0.5)	143	85.7	32.0	4.66	108	ND (0.2)
	14-Mar-07	710	-12.8	-100.0	96.7	268	0.534	ND (0.5)	133	87.9	31.0	5.71	105	ND (0.2)
	09-May-07	690	-13	-102.0	95.8	271	ND (0.5)	ND (0.5)	143	86.1	30.5	5.92	103	ND (0.2)
	12-Sep-07	682	-12.4	-99.4	106	296	0.372	ND (0.2)	122	73.8	29.9	6.36	89.2	ND (0.2)
	06-Dec-07	---	-11.7	-98.6	96.5	258	0.345	ND (0.2)	139	75.7	30.4	6.62	79.4	ND (0.2)
	02-Apr-08	---	---	---	92.5	309	ND (1.0)	ND (1.0)	137	84.7	31.4	5.58	108	0.467
	18-Jun-08	672	-13.2	-102.0	89.4	248	ND (1.0)	ND (1.0)	132	43.3	31.1	6.95	93.9	ND (0.2)
	17-Sep-08	640	---	---	91.4	256	ND (0.5)	ND (0.5)	132	83.4	31.2	6.48	78.0	ND (0.2)
	04-Dec-08	649	-11.9	-97.0	97.4	260	ND (1.0)	ND (1.0)	135	81.7	30.0	5.95	114	0.262
	21-Jan-09	652	-12	-96.7	91.5	253	ND (0.5)	ND (0.5)	134	79.2	27.8	6.01	91.7	ND (0.2)

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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
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	-102.0	91.0	223	ND (0.5)	ND (0.5)	133	69.1	24.8	4.75	87.8	ND (0.2)

NOTES:

FD = field duplicate sample

ND = parameter not detected at the listed reporting limit

J = concentration or reporting limit estimated by laboratory or data validation

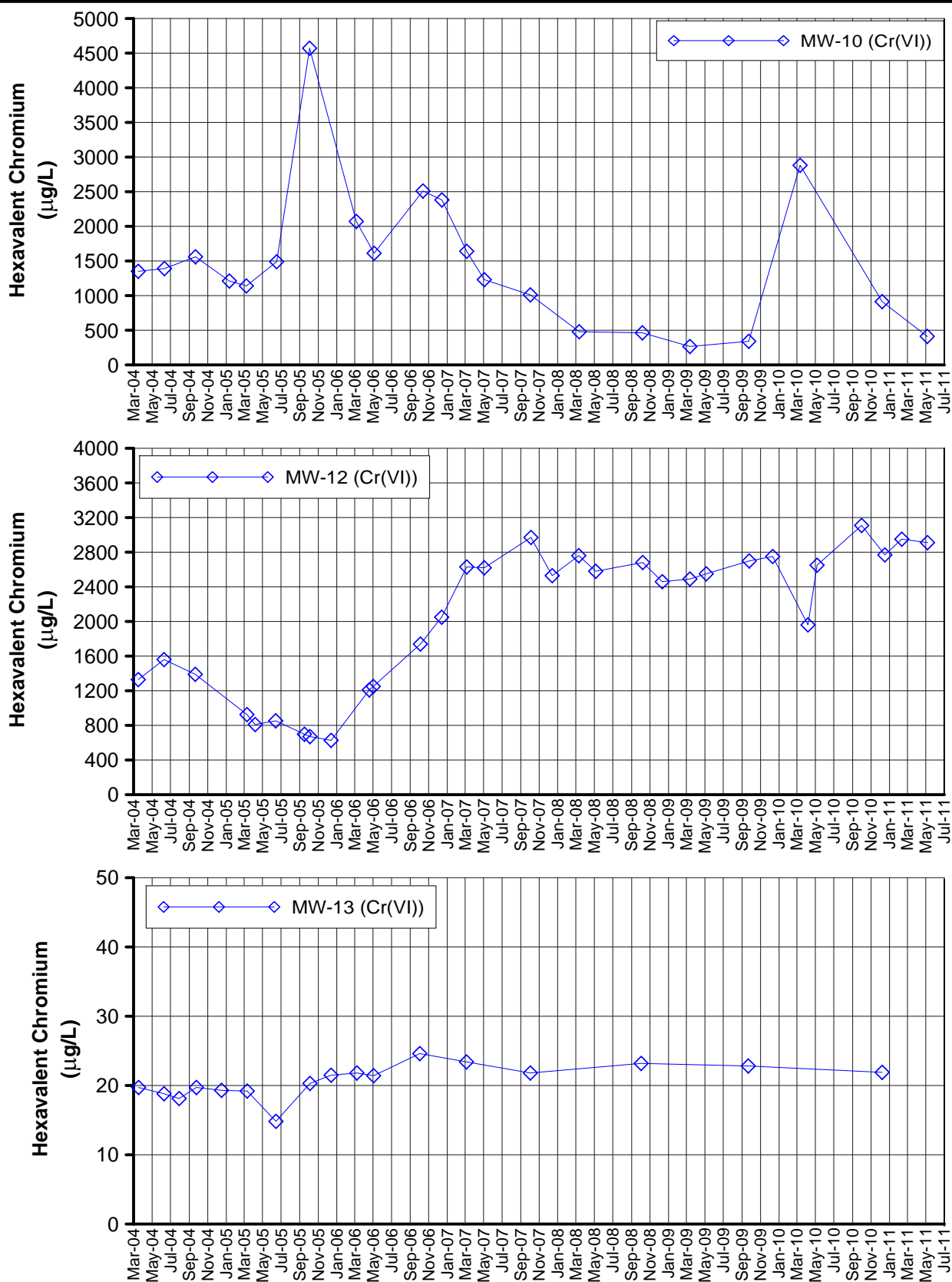
R = result exceeded analytical criteria for precision and accuracy; should not be used for project decisionmaking

--- = data not collected or available

^a 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. Nitrate reported as Nitrogen (N).



**FIGURE C-1
HEXAVALENT CHROMIUM
IN MW-10, MW-12, AND MW-13**
SECOND QUARTER 2011 INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
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PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

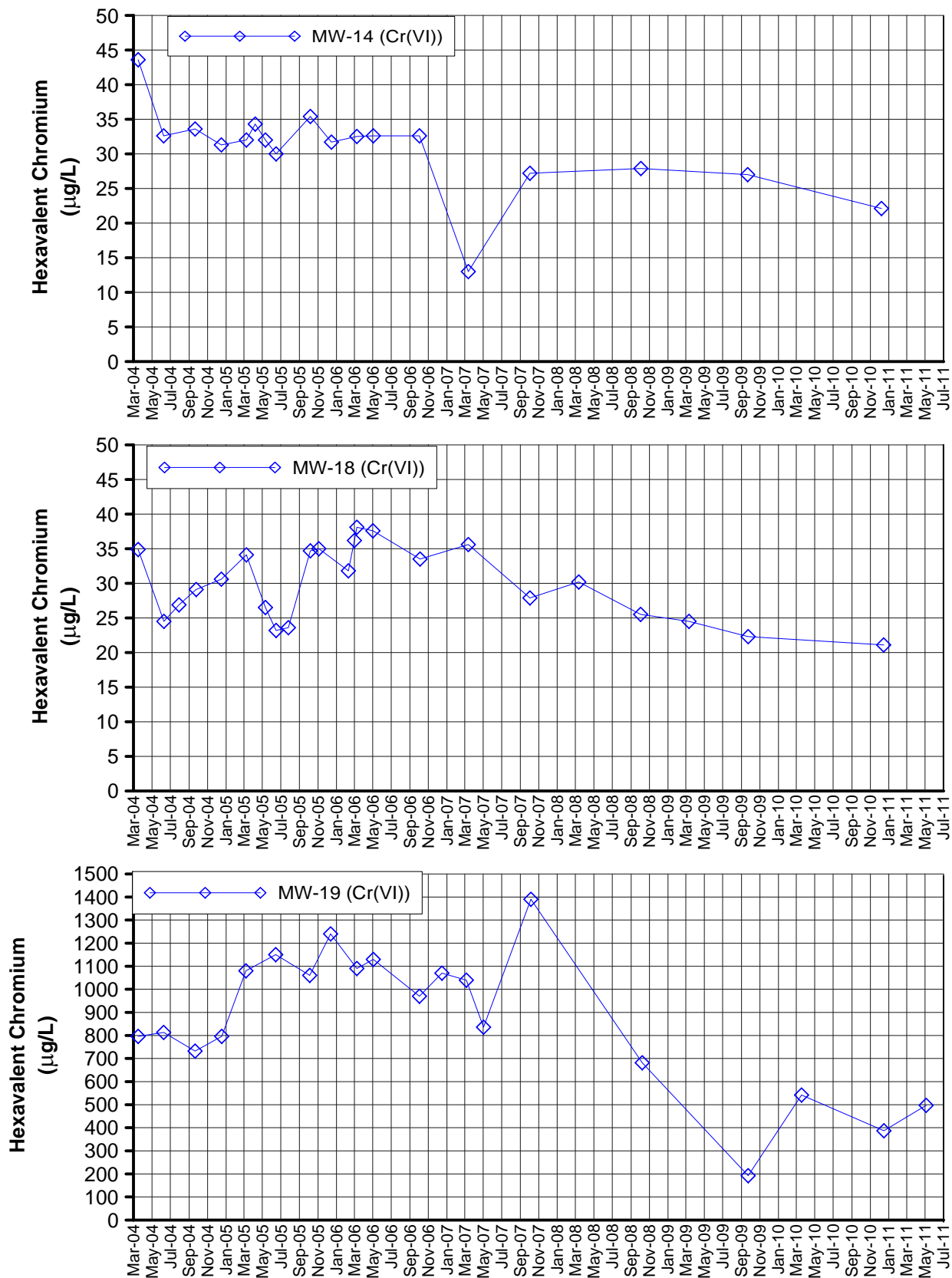
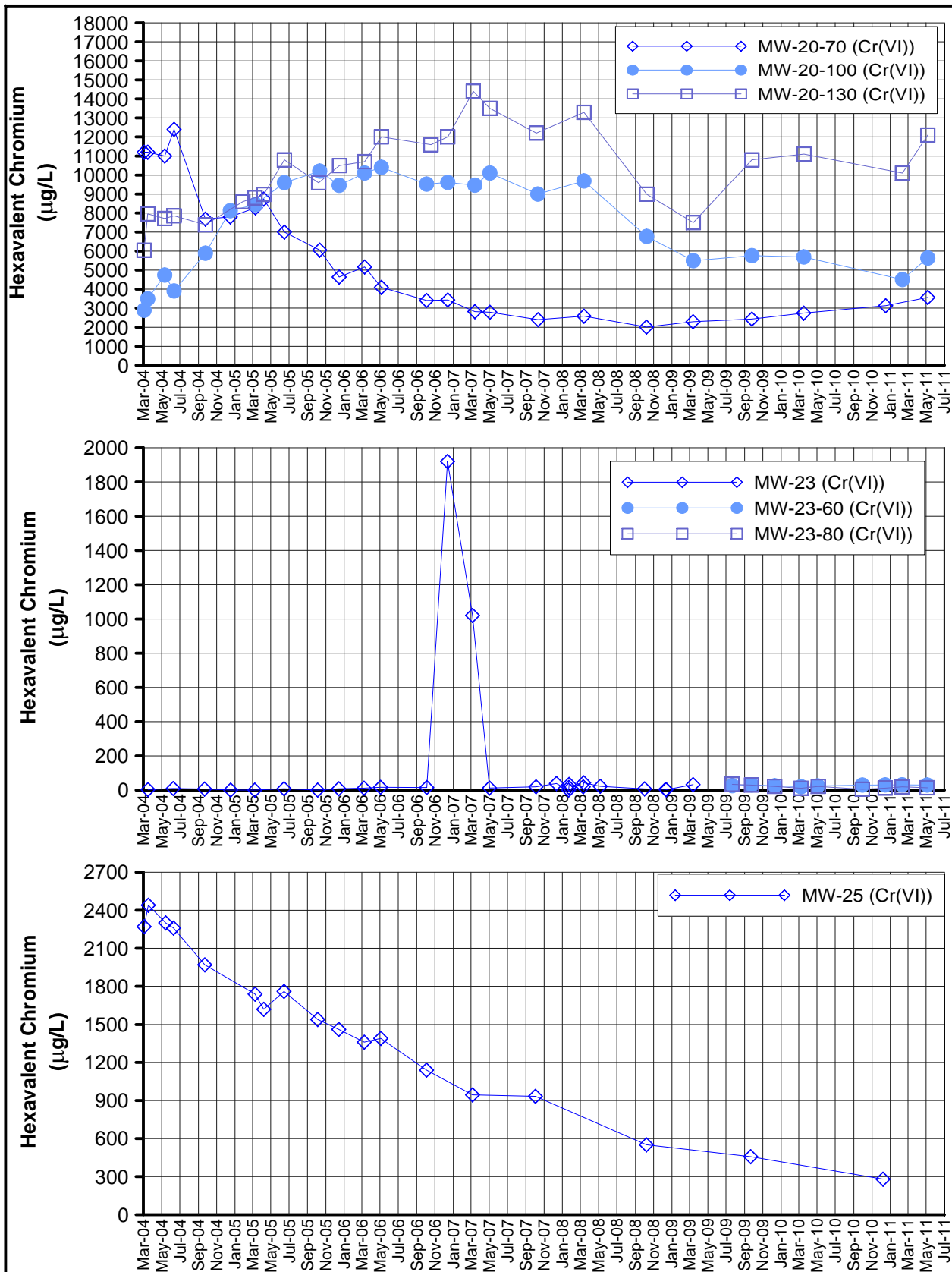


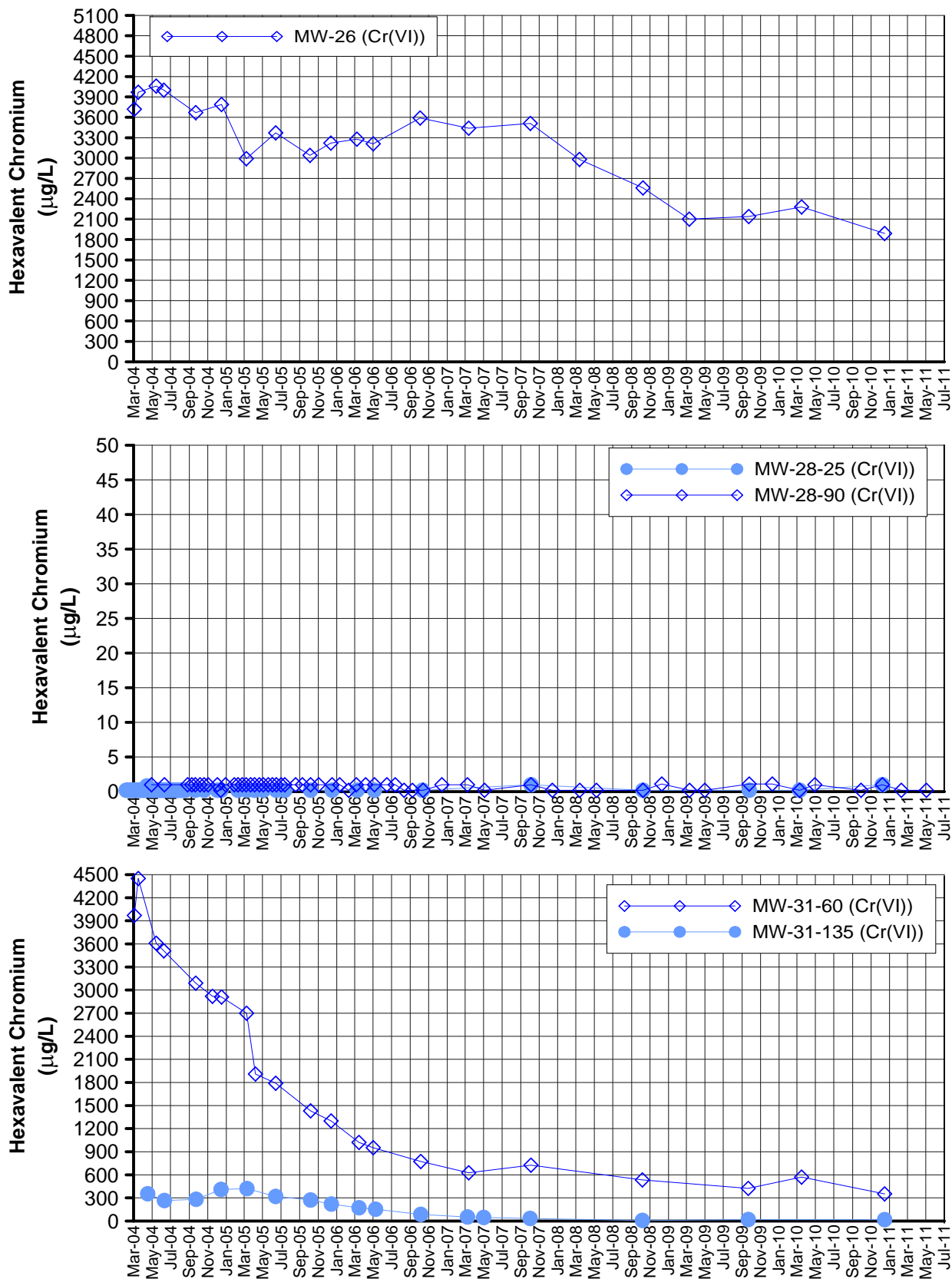
FIGURE C-2
HEXAVALENT CHROMIUM
IN MW-14, MW-18, AND MW-19
 SECOND QUARTER 2011 INTERIM MEASURES
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
 SURFACE WATER MONITORING REPORT
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA



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



Notes:

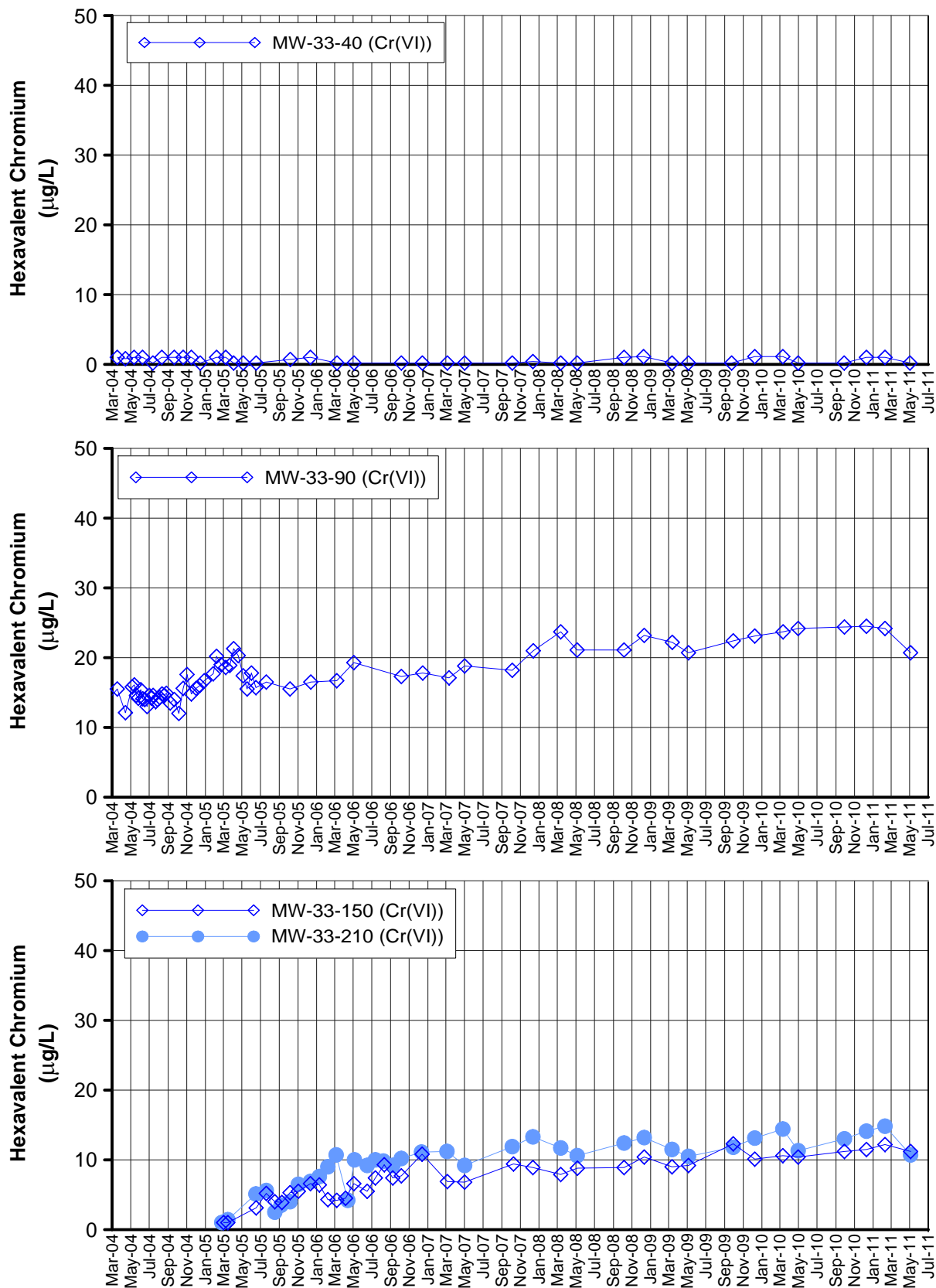
- 1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
- 2) The trigger level for MW-28-90 is 20 µg/L.

FIGURE C-4

**HEXAVALENT CHROMIUM
IN MW-26, MW-28, AND MW-31 CLUSTERS**

SECOND QUARTER 2011 INTERIM MEASURES
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PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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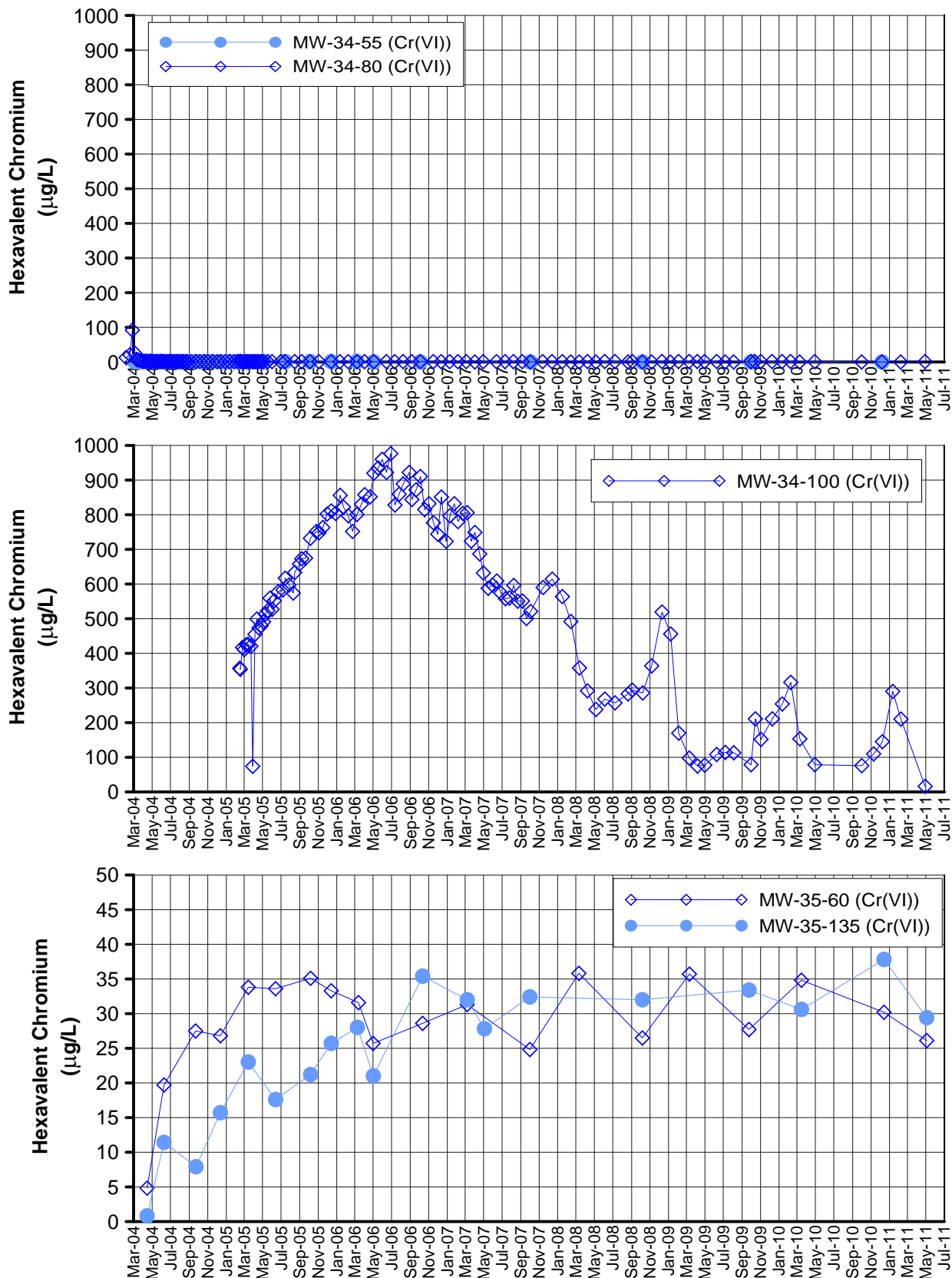


Notes:

- 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**

SECOND QUARTER 2011 INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
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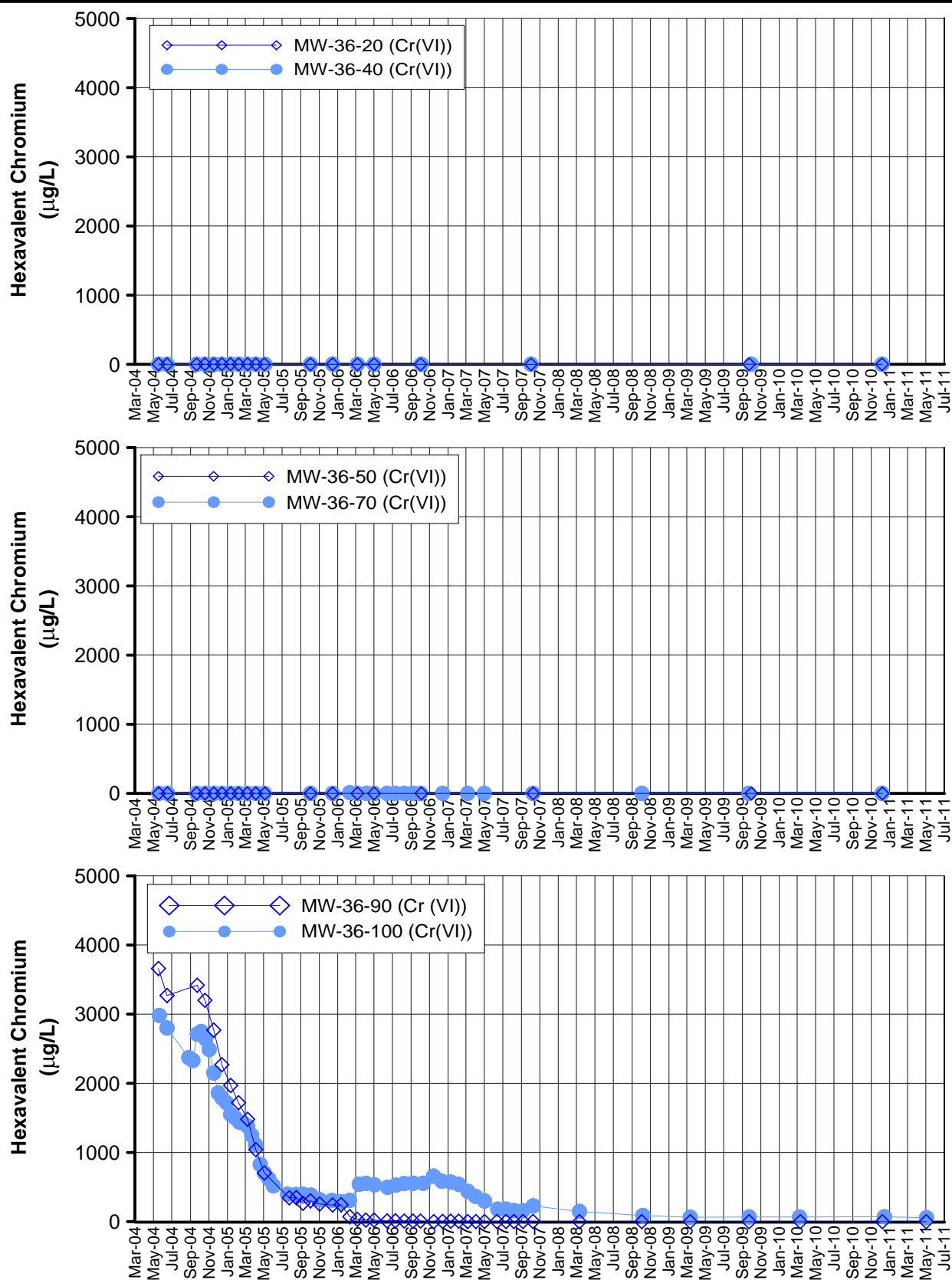


Notes:

- 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-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**

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



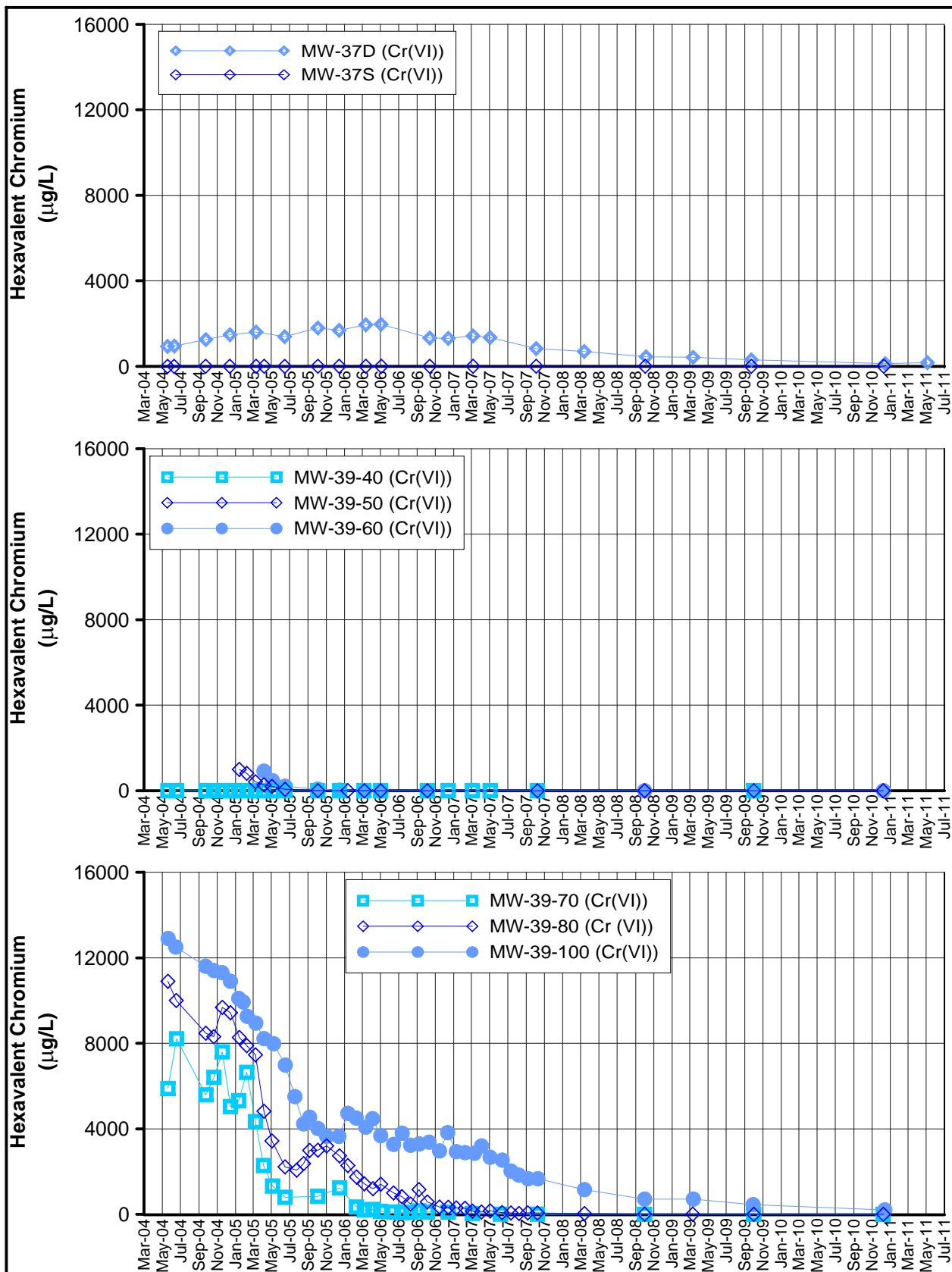
Notes:

- 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**

SECOND QUARTER 2011 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-39-40 is 20 µg/L.

**FIGURE C-8
HEXAVALENT CHROMIUM
IN MW-37 AND MW-39 CLUSTERS**

SECOND QUARTER 2011 INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT
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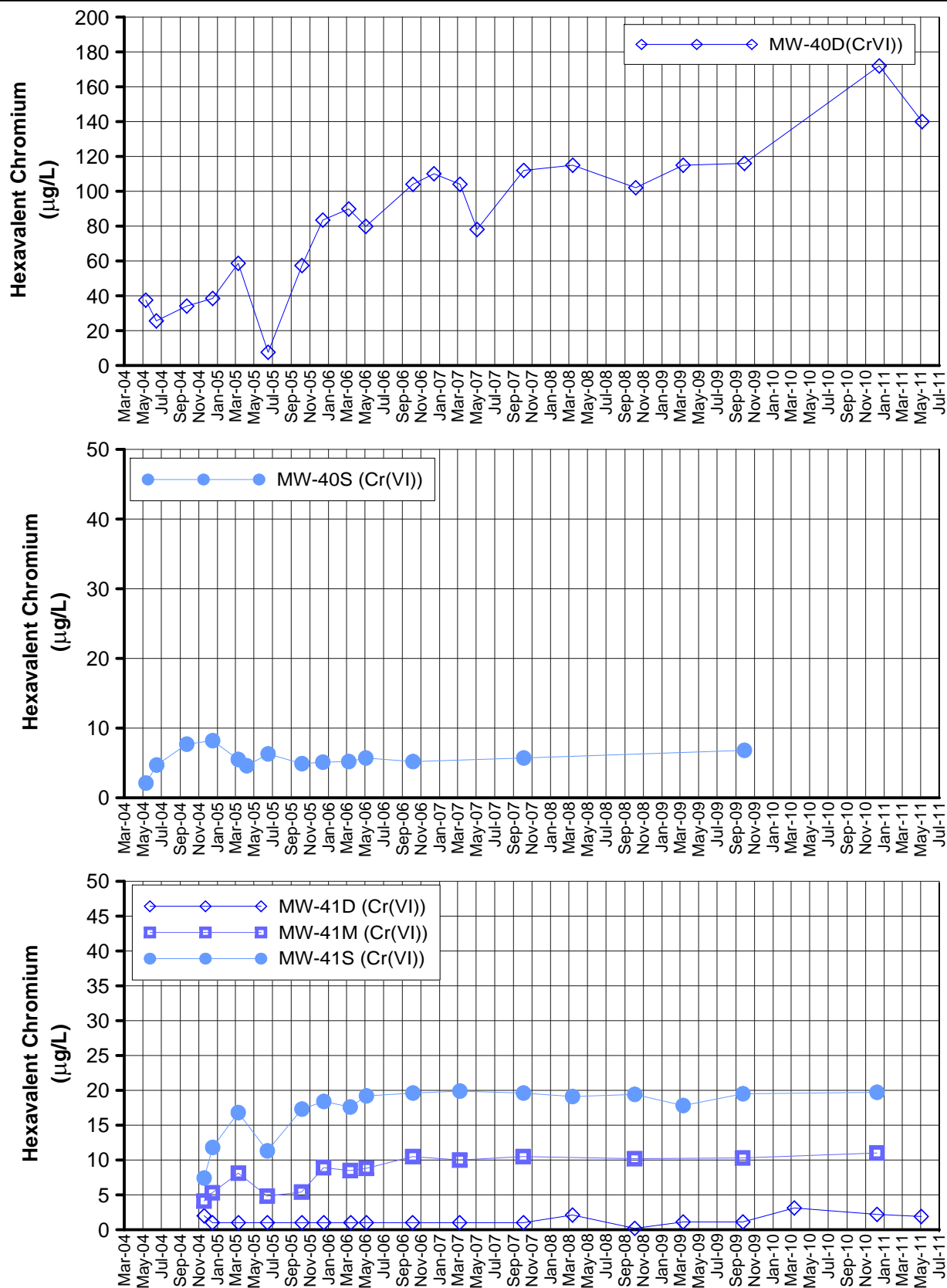
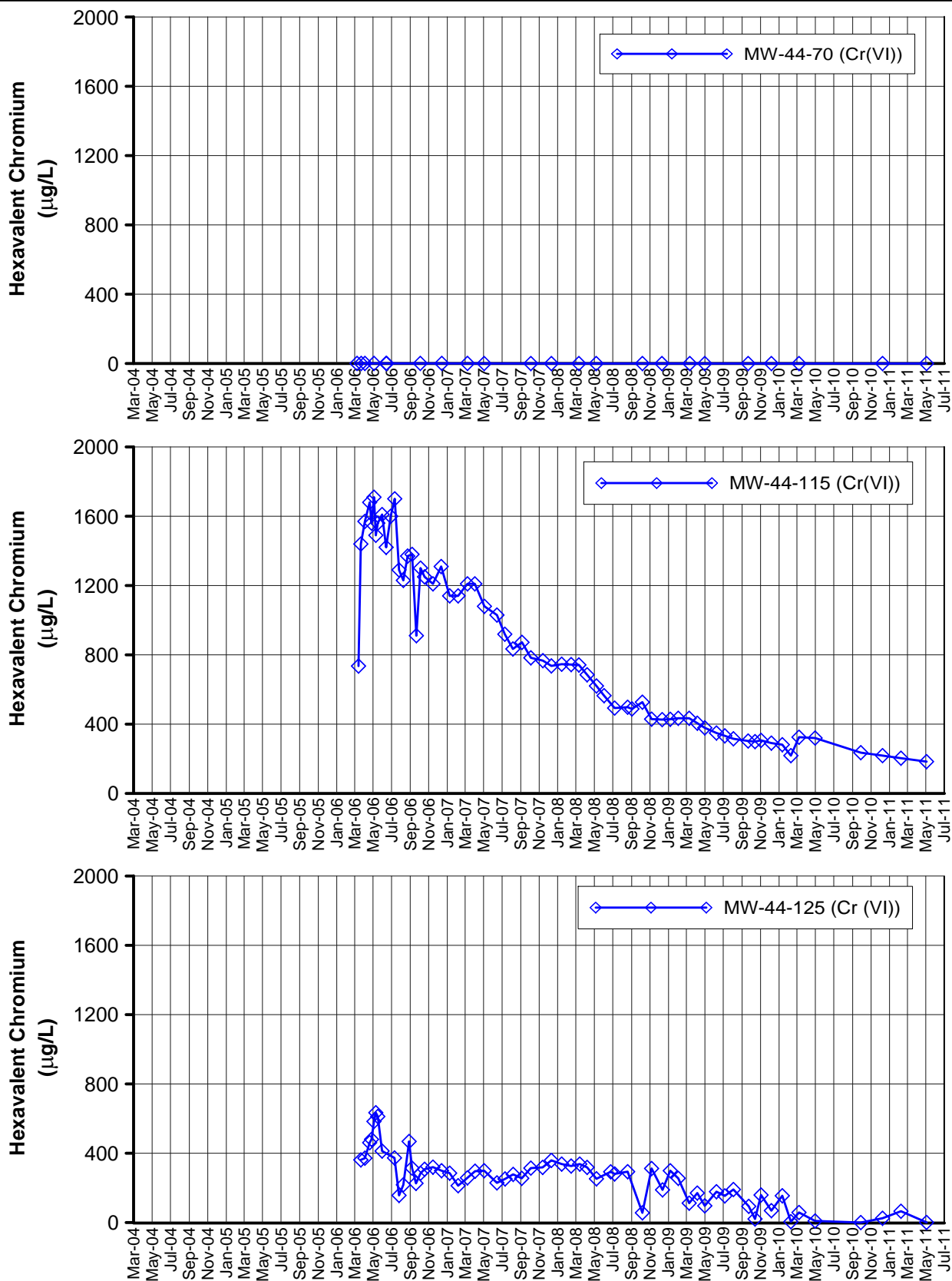


FIGURE C-9
HEXAVALENT CHROMIUM
IN MW-40 AND MW-41 CLUSTERS
 SECOND QUARTER 2011 INTERIM MEASURES
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
 SURFACE WATER MONITORING REPORT
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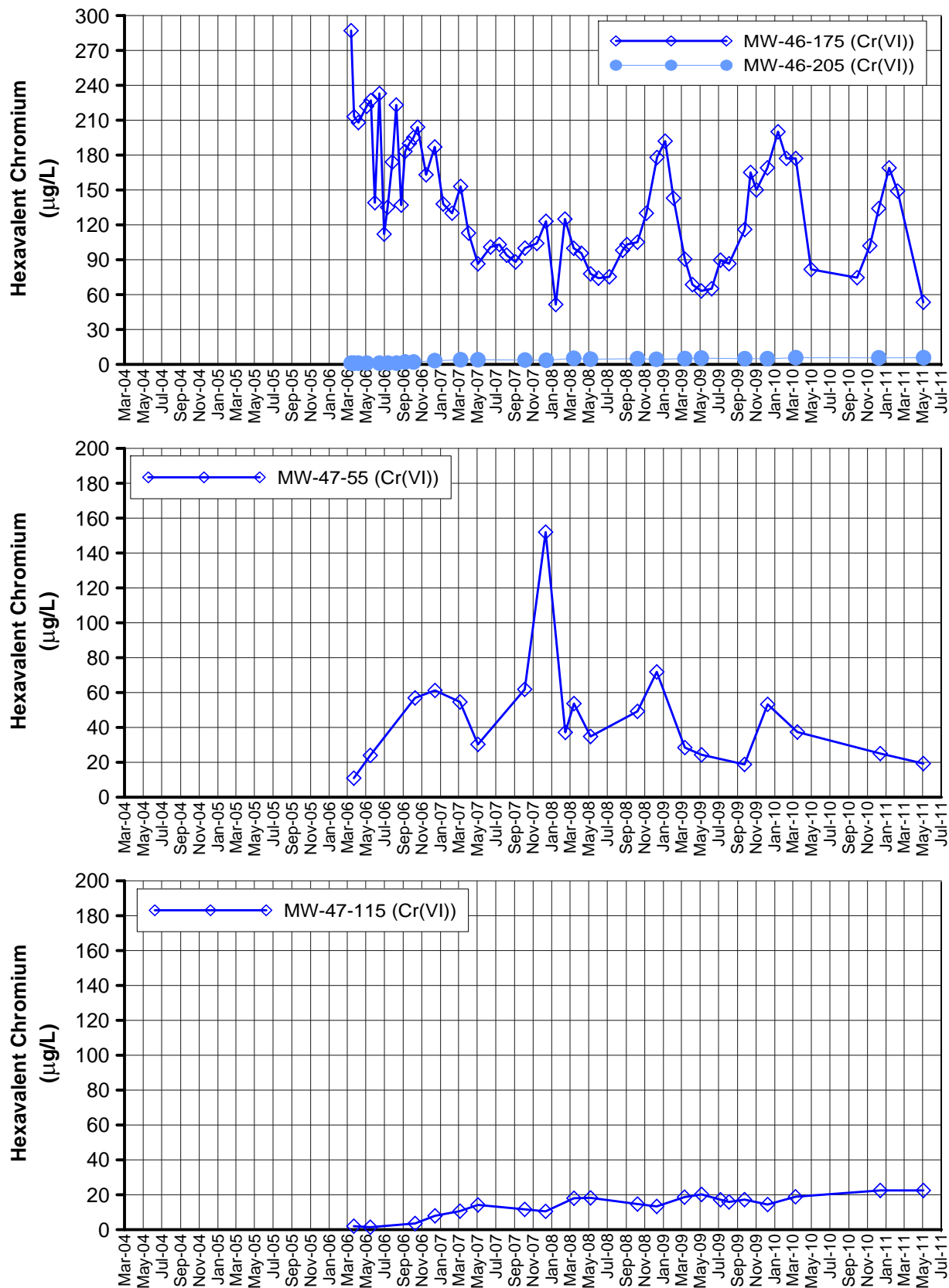


Notes:

- 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-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**

SECOND QUARTER 2011 INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
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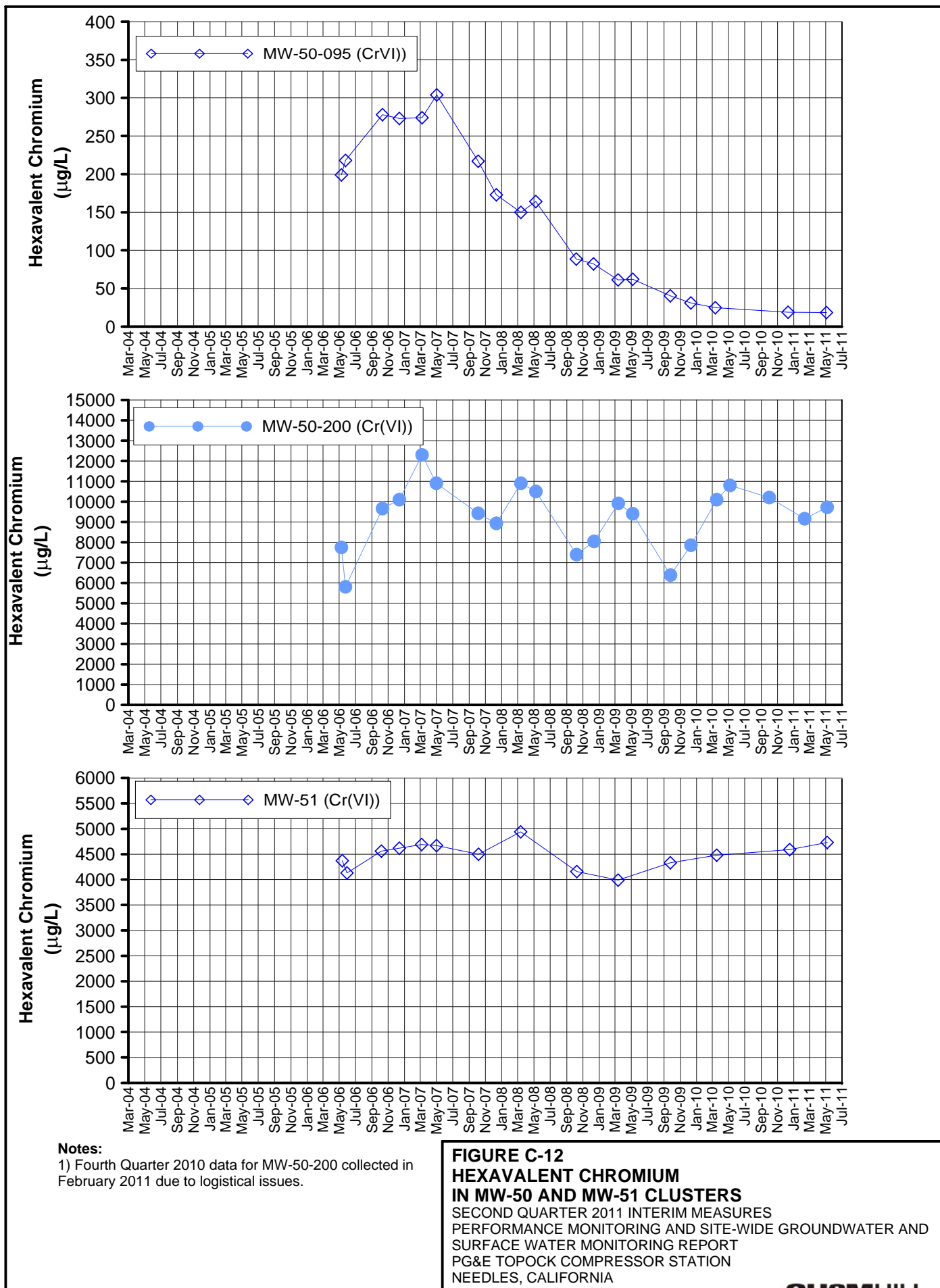
Notes:

- 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**

SECOND QUARTER 2011 INTERIM MEASURES
PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
SURFACE WATER MONITORING REPORT
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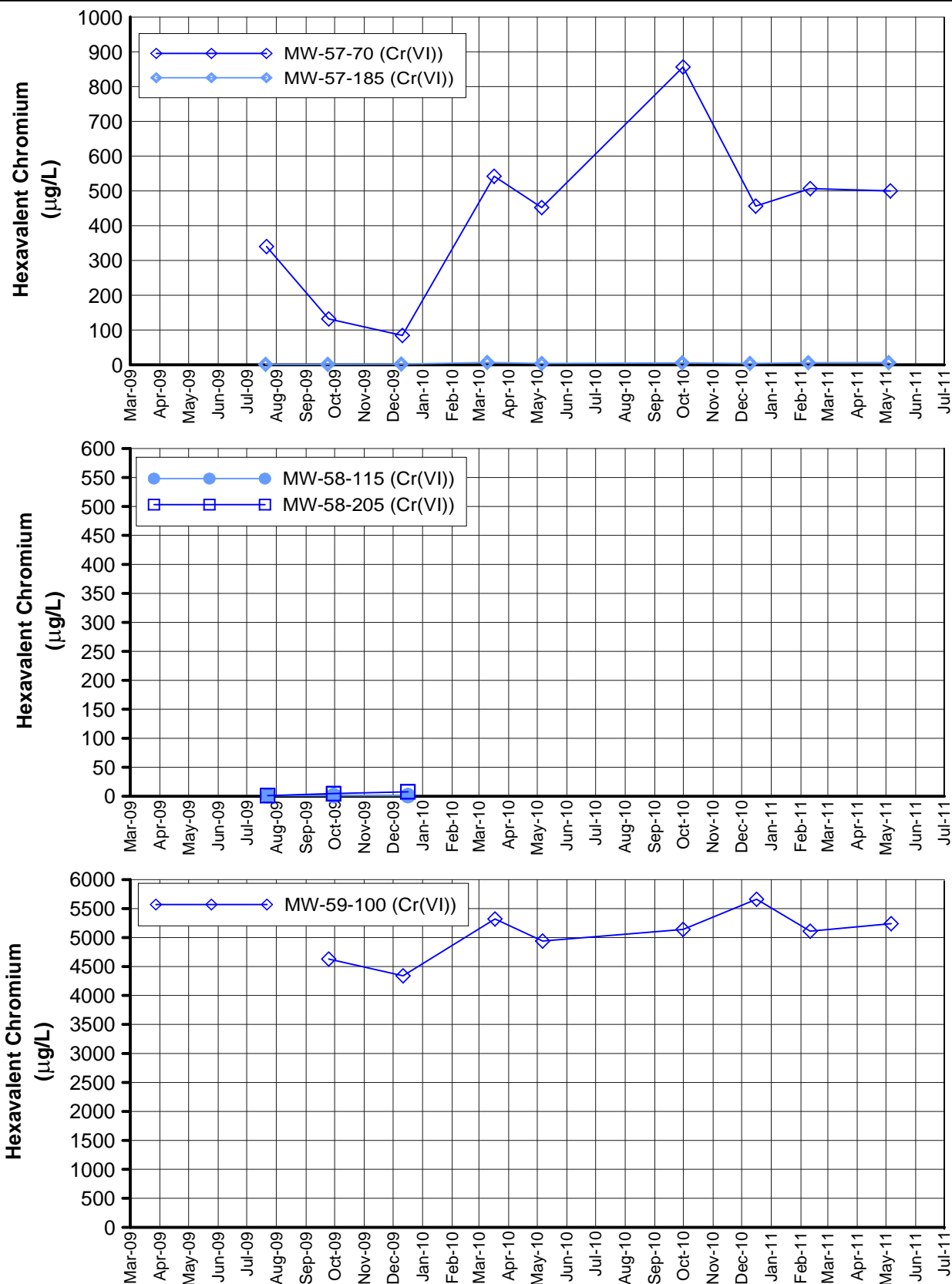


FIGURE C-13
HEXAVALENT CHROMIUM
IN MW-57, MW-58 and MW-59 CLUSTERS
 SECOND QUARTER 2011 INTERIM MEASURES
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
 SURFACE WATER MONITORING REPORT
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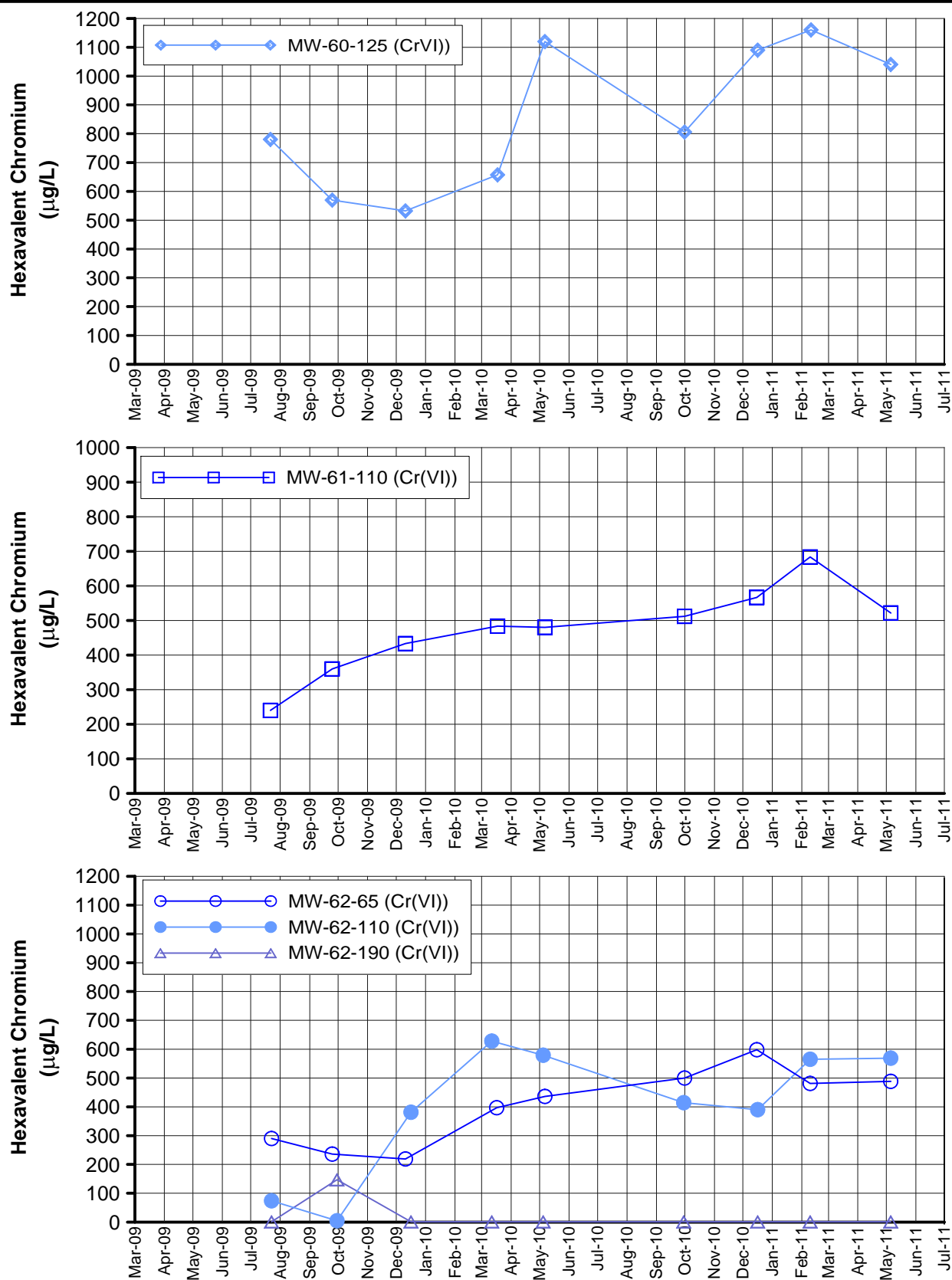


FIGURE C-14
HEXAVALENT CHROMIUM
IN MW-60-125, MW-61-110 AND THE MW-62 CLUSTER
 SECOND QUARTER 2011 INTERIM MEASURES
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
 SURFACE WATER MONITORING REPORT
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA

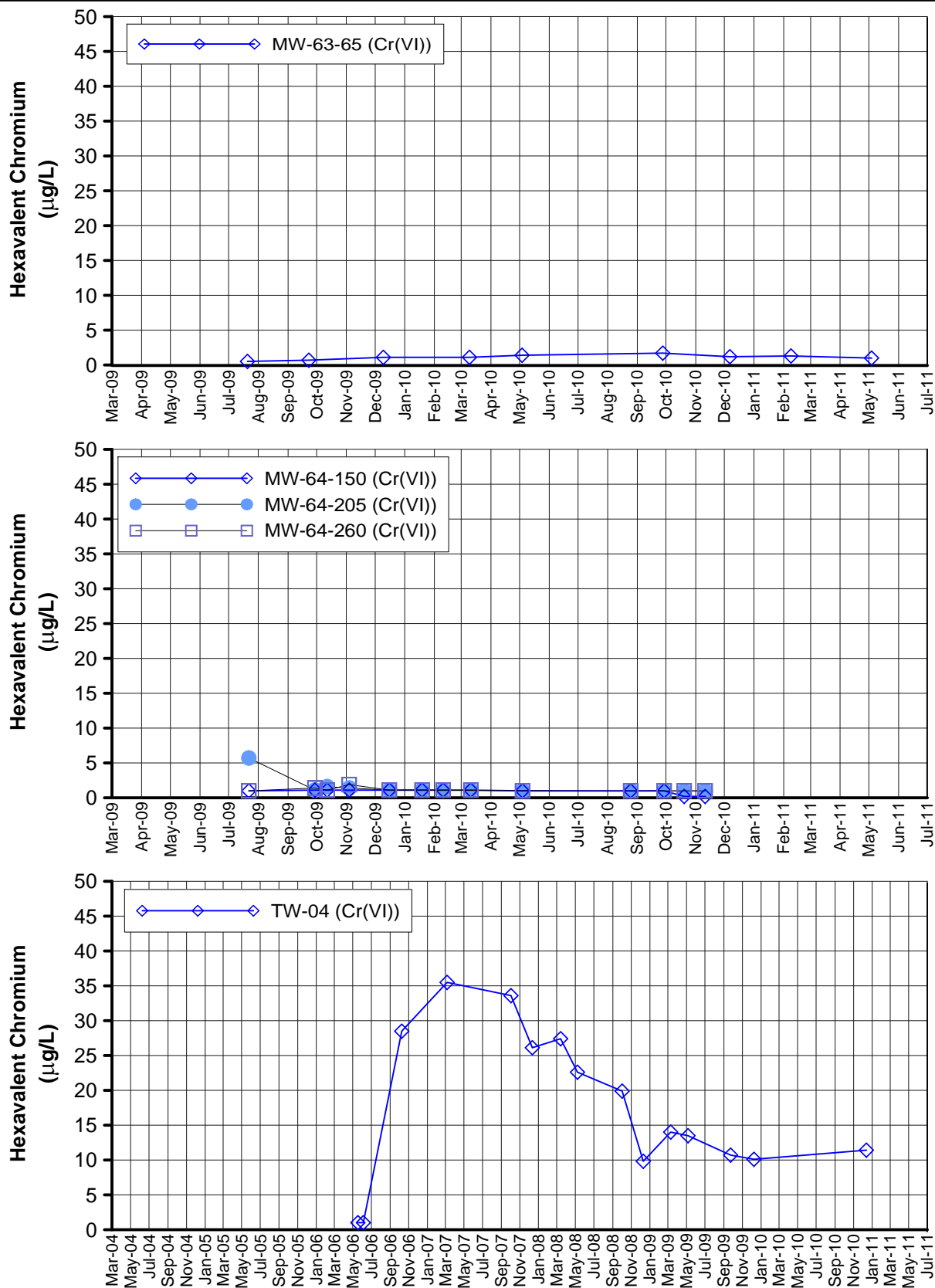


FIGURE C-15
HEXAVALENT CHROMIUM
IN MW-63-065, THE MW-64 CLUSTER, AND TW-04
 SECOND QUARTER 2011 INTERIM MEASURES
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND
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Appendix D
Interim Measure Extraction System
Operations Log, Second Quarter 2011

Interim Measures Extraction System Operations Log, Second Quarter 2011, PG&E Topock Performance Monitoring Program

During the second quarter of 2011 (April through June), extraction wells TW-3D and PE-1 operated at a target pump rate of at 135 gallons per minute, excluding periods of planned and unplanned downtime. Extraction wells TW-2D and TW-2S were not operated during Second Quarter of 2011. The operational run time for the Interim Measure groundwater extraction system (combined or individual pumping) was approximately 92.8 percent during Second Quarter 2011.

The Interim Measure Number 3 (IM-3) facility treated approximately 16,334,980 gallons of extracted groundwater during Second Quarter 2011. The IM-3 facility also treated approximately 5,575 gallons of water generated from the groundwater monitoring program and 43,200 gallons of water from IM-3 injection well development. Six 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 7.2 percent of downtime during Second 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.

D.1 April 2011

- **April 13, 2011 (planned):** The extraction well system was offline from 4:10 p.m. to 4:44 p.m. due to microfilter maintenance. Extraction system downtime was 34 minutes.
- **April 25-29, 2011 (planned):** The extraction well system was offline from 5:46 a.m. on April 25, 2011 to 12:54 p.m. on April 28, 2011, from 1:24 p.m. on April 28, 2011 to 5:30 a.m. on April 29, 2011, and from 6:04 a.m. to 8:36 a.m. on April 29, 2011 for the biannual plant maintenance outage. Extraction system downtime was 4 days, 1 hour and 46 minutes.

D.2 May 2011

- **May 3, 2011 (planned):** The extraction well system was offline from 1:44 p.m. to 3:10 p.m. due to microfilter maintenance. Extraction system downtime was 1 hour and 26 minutes.
- **May 27, 2011 (planned):** The extraction well system was offline from 9:06 a.m. to 9:16 a.m. due to City of Needles onsite to change taps on power system. Extraction system downtime was 10 minutes.

- **May 28, 2011 (unplanned):** The extraction well system was offline from 12:20 p.m. to 12:56 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 36 minutes.
- **May 28, 2011 (planned):** The extraction well system was offline from 4:54 p.m. to 5:14 p.m. due to generator refueling. Extraction system downtime was 20 minutes.
- **May 29, 2011 (planned):** The extraction well system was offline from 5:40 a.m. to 5:46 a.m. and 6:00 a.m. to 6:02 a.m. due to an unsuccessful attempt from City of Needles to switch to city power from generator power. Extraction system downtime was 8 minutes.
- **May 30, 2011 (planned):** The extraction well system was offline from 8:04 a.m. to 8:08 a.m. due to City of Needles onsite to switch to city power from generator power. Extraction system downtime was 4 minutes.

D.3 June 2011

- **June 2, 2011 (planned):** The extraction well system was offline from 10:04 a.m. to 10:06 a.m. due to permanent alarm and leak detection system testing. Extraction system downtime was 2 minutes.
- **June 4, 2011 (unplanned):** The extraction well system was offline from 12:40 p.m. to 12:46 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 6 minutes.
- **June 8, 2011 (planned):** The extraction well system was offline from 10:00 a.m. to 12:12 p.m. due to microfilter maintenance. Extraction system downtime was 2 hours and 12 minutes.
- **June 22, 2011 (unplanned):** The extraction well system was offline from 2:32 p.m. to 2:42 p.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 10 minutes.
- **June 23, 2011 (unplanned):** The extraction well system was offline from 8:54 p.m. to 8:56 a.m. The cause is unknown and may have occurred during data transmission. Extraction system downtime was 2 minutes.
- **June 28-30, 2011 (planned):** The extraction well system was offline from 8:42 a.m. on June 28, 2011 to 1:10 p.m. on June 30, 2011 due to monthly scheduled plant maintenance. Extraction system downtime was 2 days, 4 hours and 28 minutes.

Appendix E
Hydraulic Data for Interim Measures
Reporting Period

Table E-1

Average Monthly and Quarterly Groundwater Elevations, Second Quarter 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
 Groundwater and Surface Water Monitoring Report
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	April 2011	May 2011	June 2011	Quarter Average	Days in Quarter Average
I-3	River Station	457.02	456.40	456.75	456.72	91
MW-20-070	Shallow Zone	455.26	455.07	455.17	455.17	90
MW-20-100	Middle Zone	454.85	454.49	454.71	454.68	90
MW-20-130	Deep Wells	454.66	454.15	454.38	454.39	91
MW-22	Shallow Zone	455.95	455.96	455.89	455.94	89
MW-25	Shallow Zone	456.17	456.40	456.51	456.36	90
MW-26	Shallow Zone	455.95	456.14	456.12	456.07	90
MW-27-020	Shallow Zone	456.86	456.28	456.39	456.49	82
MW-27-060	Middle Zone	456.75	456.17	456.30	456.41	88
MW-27-085	Deep Wells	456.87	456.25	456.38	456.50	91
MW-28-025	Shallow Zone	456.86	456.31	456.45	456.54	88
MW-28-090	Deep Wells	456.88	456.29	456.46	456.54	88
MW-30-050	Middle Zone	456.41	455.92	456.00	456.11	88
MW-31-060	Shallow Zone	456.11	455.97	456.02	456.03	90
MW-31-135	Deep Wells	455.62	455.29	455.41	455.44	91
MW-32-035	Shallow Zone	456.54	456.08	456.09	456.24	88
MW-33-040	Shallow Zone	456.51	456.25	456.37	456.37	88
MW-33-090	Middle Zone	456.76	456.38	456.48	456.54	88
MW-33-150	Deep Wells	456.56	456.27	456.45	456.43	91
MW-34-055	Middle Zone	456.88	456.28	456.44	456.53	88
MW-34-080	Deep Wells	456.92	456.33	456.48	456.58	88
MW-34-100	Deep Wells	456.72	456.15	456.26	456.37	91
MW-35-060	Shallow Zone	457.10	456.61	456.75	456.82	90
MW-35-135	Deep Wells	457.08	456.86	456.92	456.96	90
MW-36-020	Shallow Zone	456.60	456.13	456.19	456.31	89
MW-36-040	Shallow Zone	456.57	456.04	456.17	456.26	89
MW-36-050	Middle Zone	456.58	456.04	456.15	456.26	89
MW-36-070	Middle Zone	456.52	455.98	456.07	456.19	89
MW-36-090	Deep Wells	455.69	455.07	455.21	455.32	89
MW-36-100	Deep Wells	456.05	455.31	455.55	455.64	89
MW-39-040	Shallow Zone	456.34	455.86	455.95	456.05	88
MW-39-050	Middle Zone	456.16	455.68	455.77	455.87	88
MW-39-060	Middle Zone	455.96	455.49	455.56	455.67	88
MW-39-070	Middle Zone	455.53	455.06	455.13	455.24	88
MW-39-080	Deep Wells	455.71	455.27	455.33	455.44	88
MW-39-100	Deep Wells	456.14	455.71	455.79	455.88	88
MW-42-030	Shallow Zone	456.27	455.81	455.87	455.98	88
MW-42-065	Middle Zone	456.55	456.08	456.15	456.26	88
MW-43-025	Shallow Zone	456.87	456.30	456.43	456.53	89
MW-43-090	Deep Wells	457.28	456.66	456.83	456.92	89
MW-44-070	Middle Zone	456.74	456.22	456.36	456.44	89
MW-44-115	Deep Wells	456.20	455.75	455.85	455.93	89
MW-44-125	Deep Wells	456.79	456.13	456.31	456.41	89
MW-45-095a	Deep Wells	455.92	455.10	455.43	455.48	91
MW-46-175	Deep Wells	456.59	456.10	456.19	456.29	88
MW-47-055	Shallow Zone	456.77	456.55	456.60	456.64	88
MW-47-115	Deep Wells	456.67	456.48	456.53	456.56	88
MW-49-135	Deep Wells	456.95	456.58	456.68	456.73	88

Table E-1

Average Monthly and Quarterly Groundwater Elevations, Second Quarter 2011
 Second Quarter 2011 Interim Measure Performance Monitoring and Site-Wide
 Groundwater and Surface Water Monitoring Report
PG&E Topock Compressor Station, Needles, California

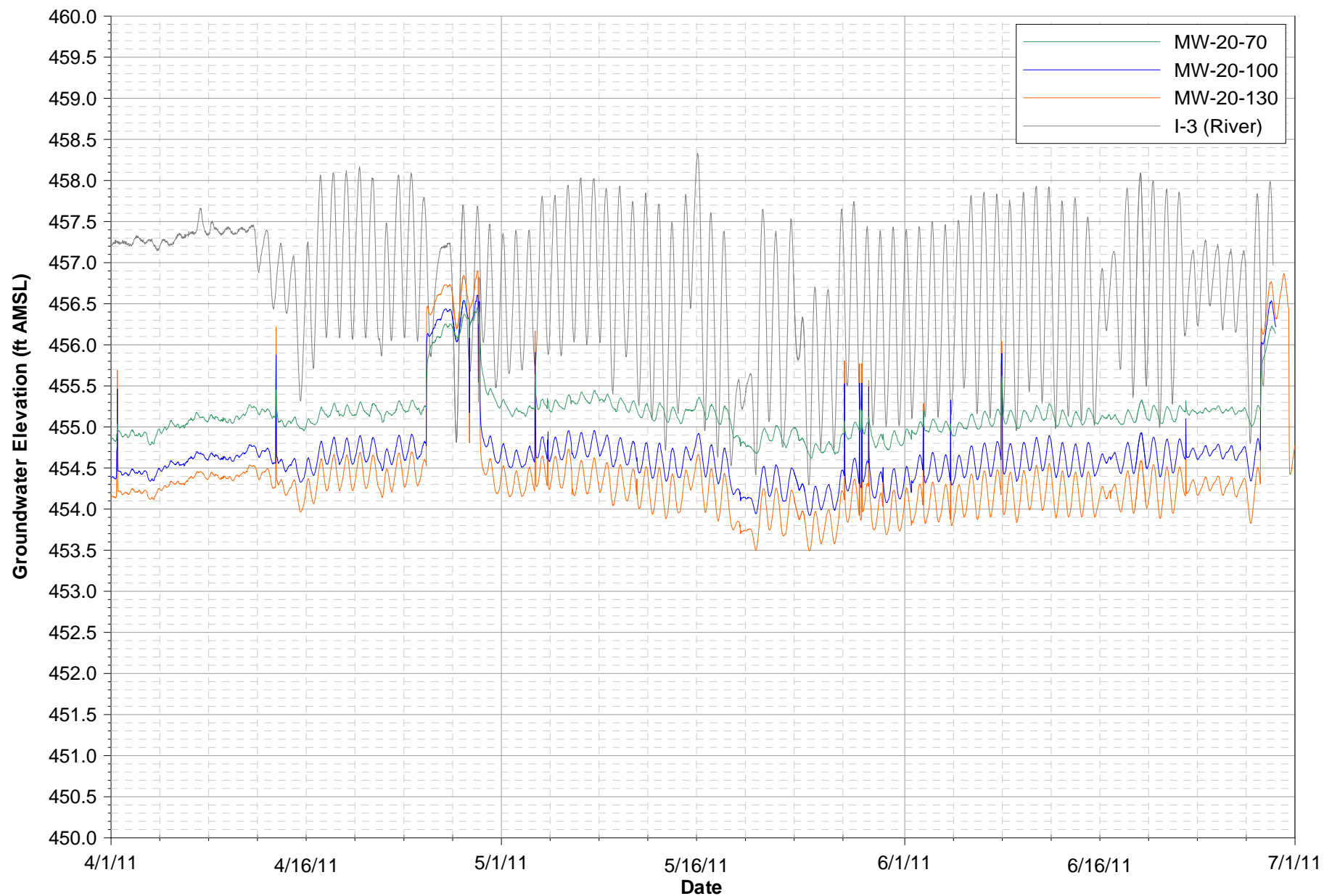
Well ID	Aquifer Zone	April 2011	May 2011	June 2011	Quarter Average	Days in Quarter Average
MW-50-095	Middle Zone	456.20	456.07	456.05	456.11	90
MW-51	Middle Zone	455.92	456.09	456.12	456.05	90
MW-54-085	Deep Wells	INC	456.55	456.79	INC	57
MW-54-140	Deep Wells	457.10	456.64	456.72	456.82	91
MW-54-195	Deep Wells	457.27	456.86	456.92	457.01	91
MW-55-045	Middle Zone	INC	INC	457.00	INC	50
MW-55-120	Deep Wells	INC	INC	457.02	INC	50
PT2D	Deep Wells	455.29	454.79	454.87	454.98	89
PT5D	Deep Wells	455.61	455.14	455.22	455.33	89
PT6D	Deep Wells	455.89	455.40	455.49	455.59	89
RRB	River Station	457.39	457.14	456.86	457.13	70

NOTES:

Averages reported in ft AMSL (feet above mean sea level).

Quarterly Average = average of daily averages over reporting period

INC = Data incomplete, less than 75% of data available over reporting period due to rejection or field equipment malfunction



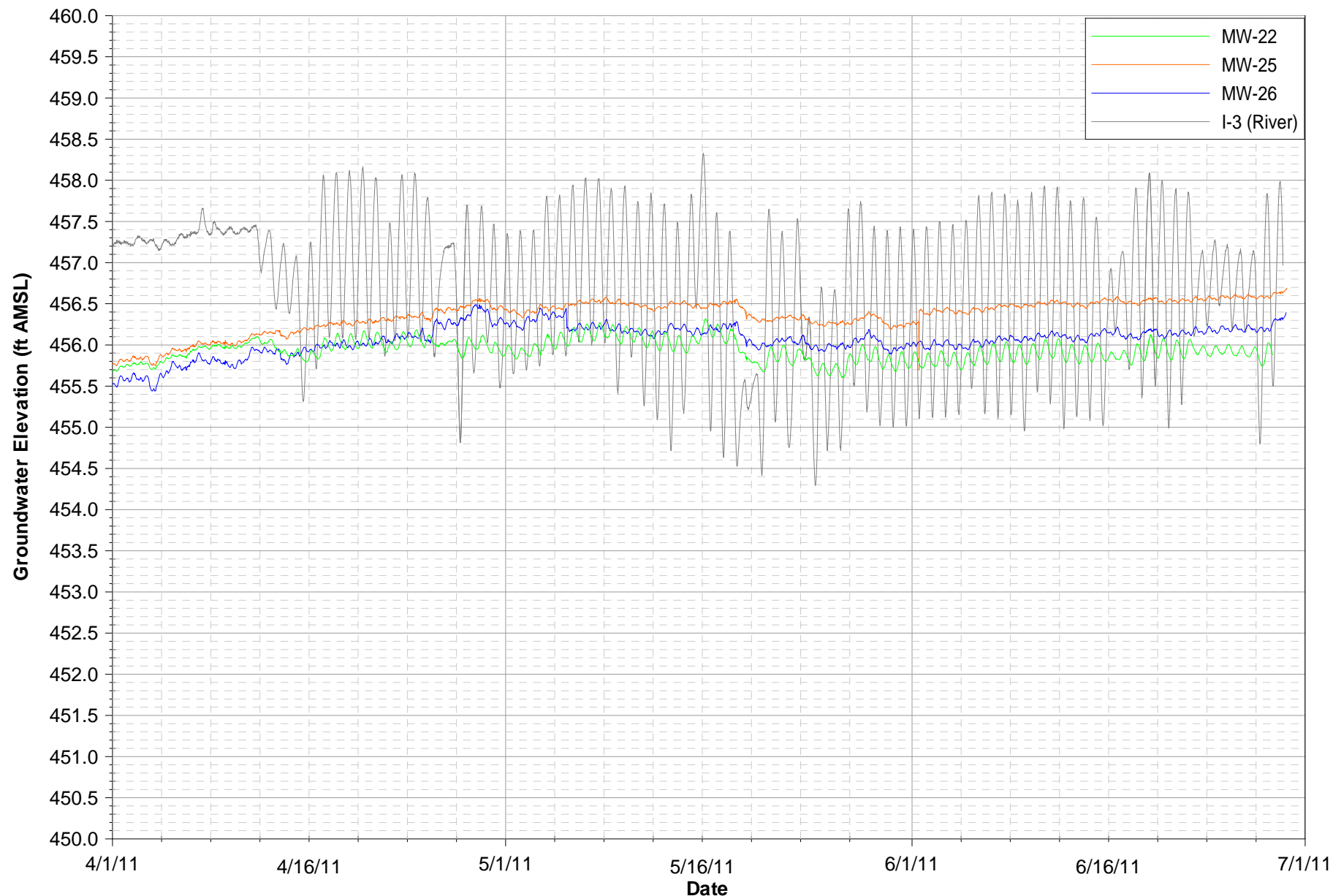
Notes:
Data subject to review.

FIGURE E-1A

MW-20 CLUSTER HYDROGRAPHS

SECOND QUARTER 2011 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:
Data subject to review.

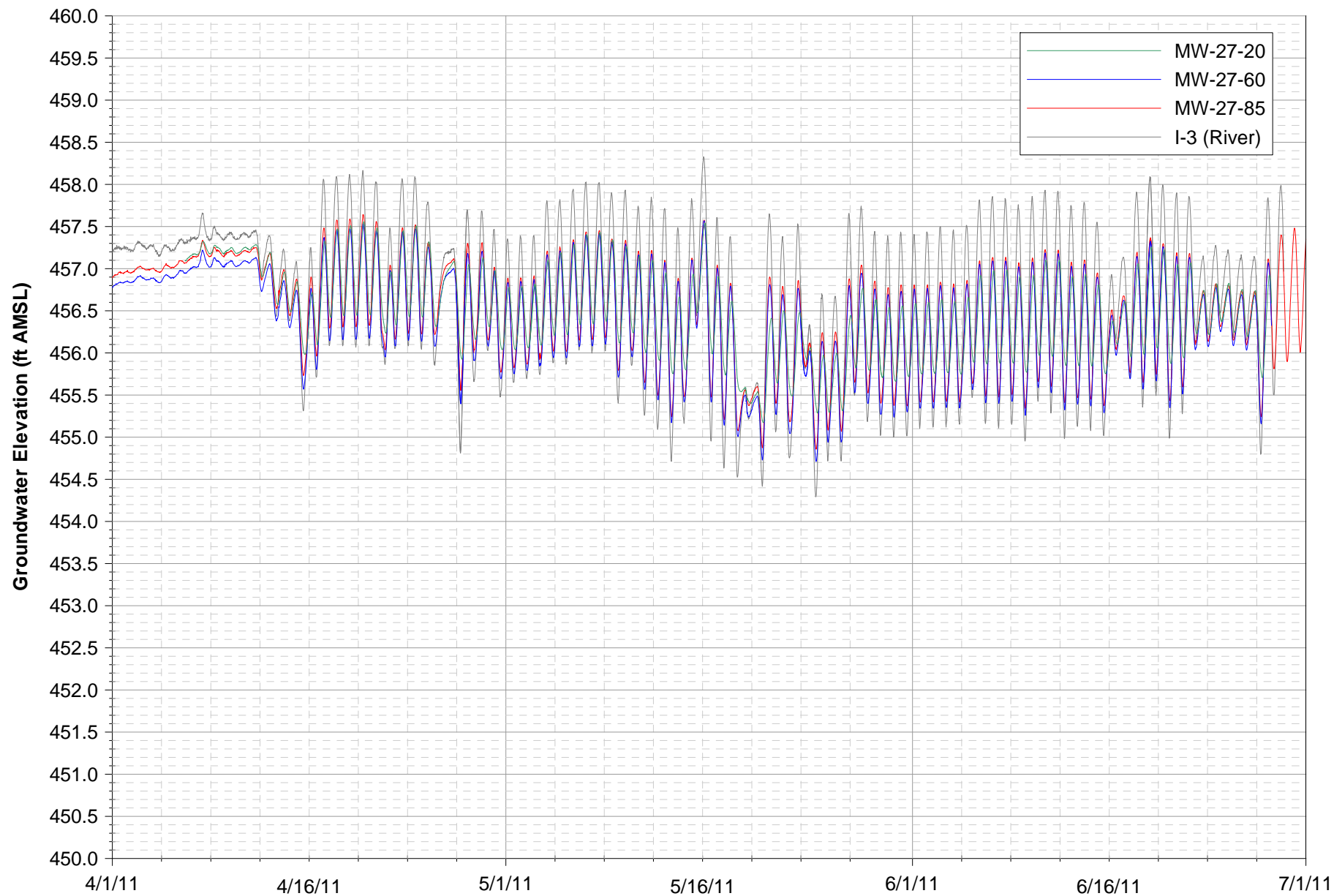
Date

FIGURE E-1B

MW-22, MW-25, AND MW-26 HYDROGRAPHS

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

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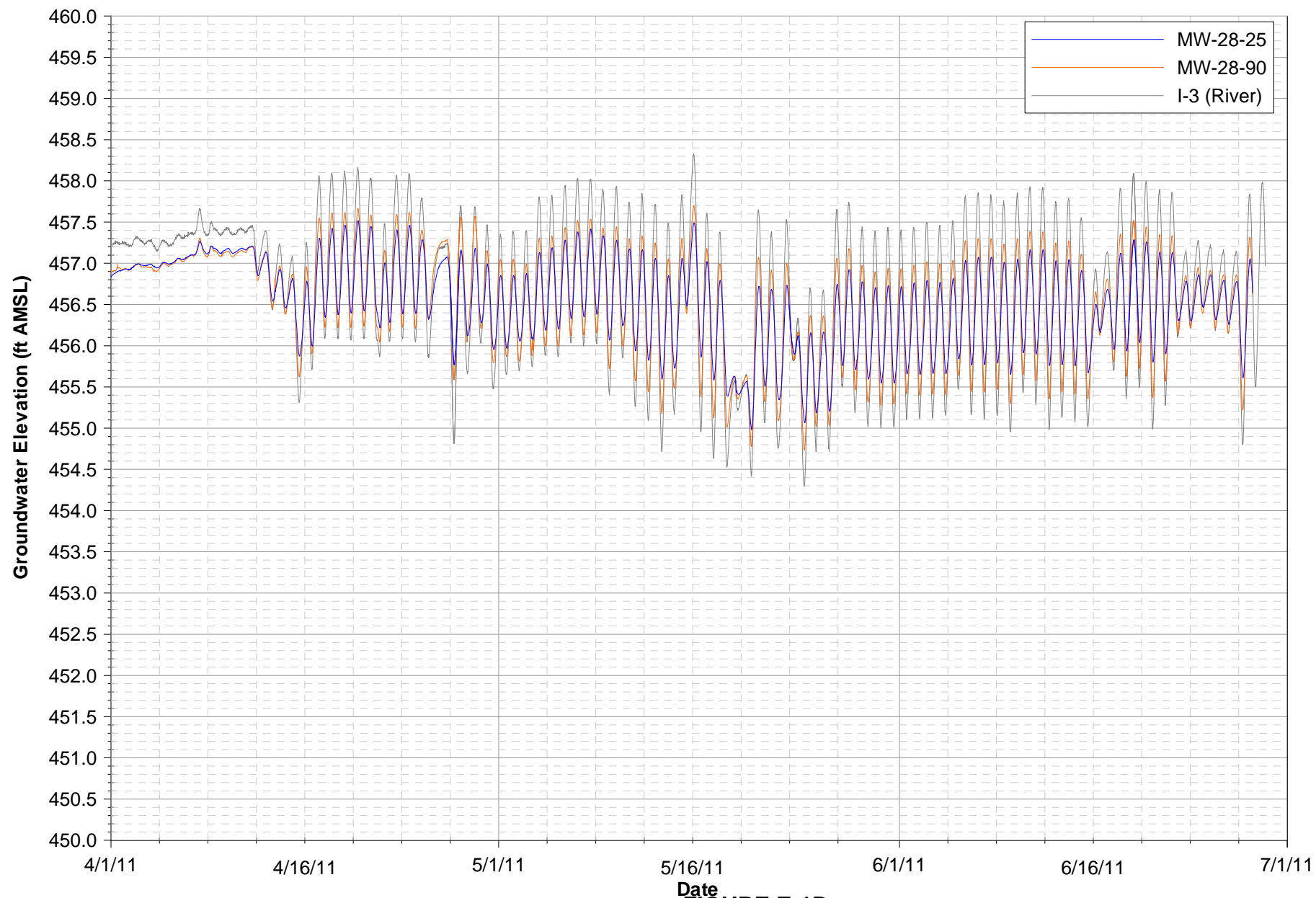
Notes:
 Data subject to review.
 MW-27-20 data unavailable from April 1 through April 6, 2011 due to transducer failure.

Date

FIGURE E-1C

MW-27 CLUSTER HYDROGRAPHS

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

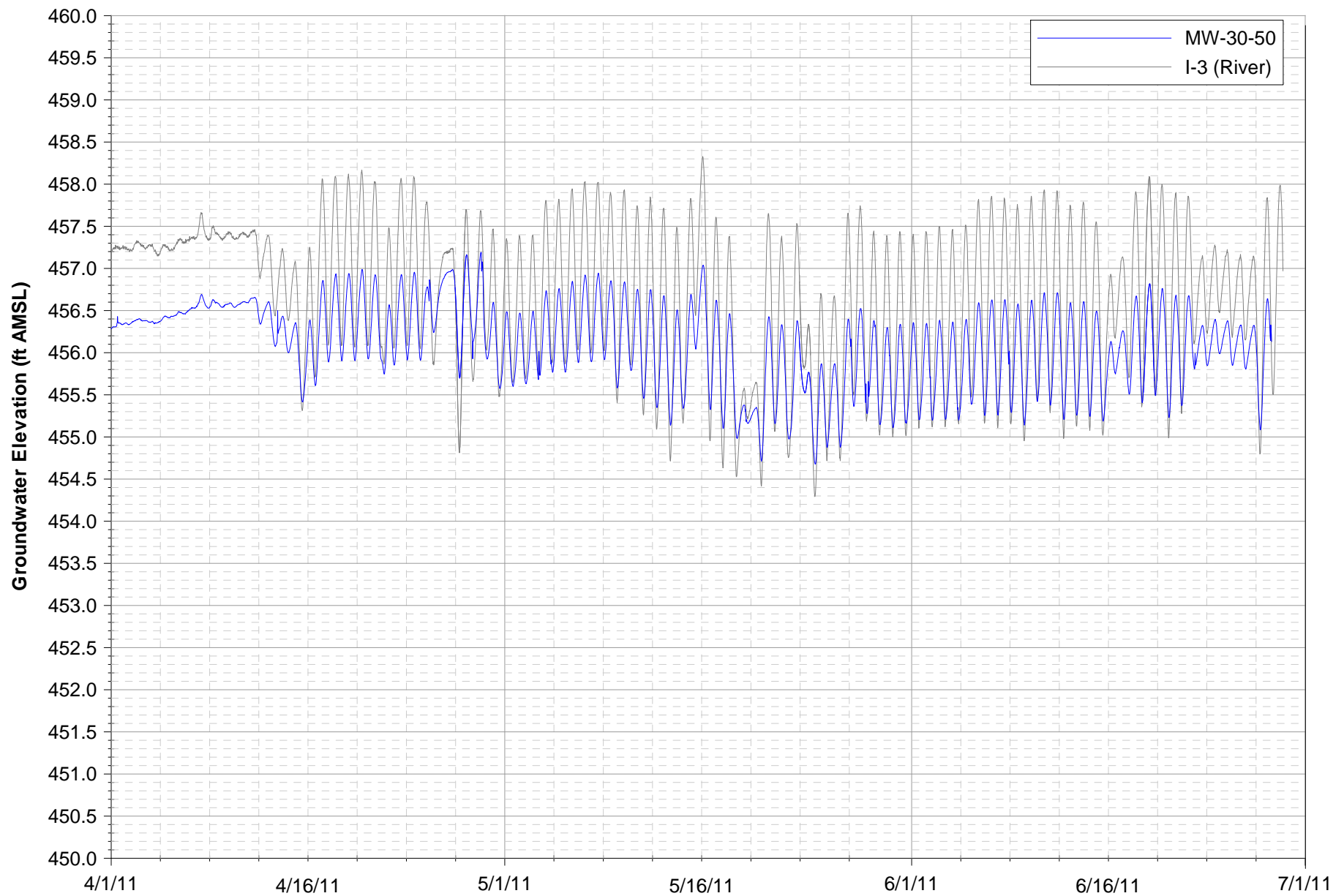


Notes:
Data subject to review.

FIGURE E-1D

MW-28 CLUSTER HYDROGRAPHS

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

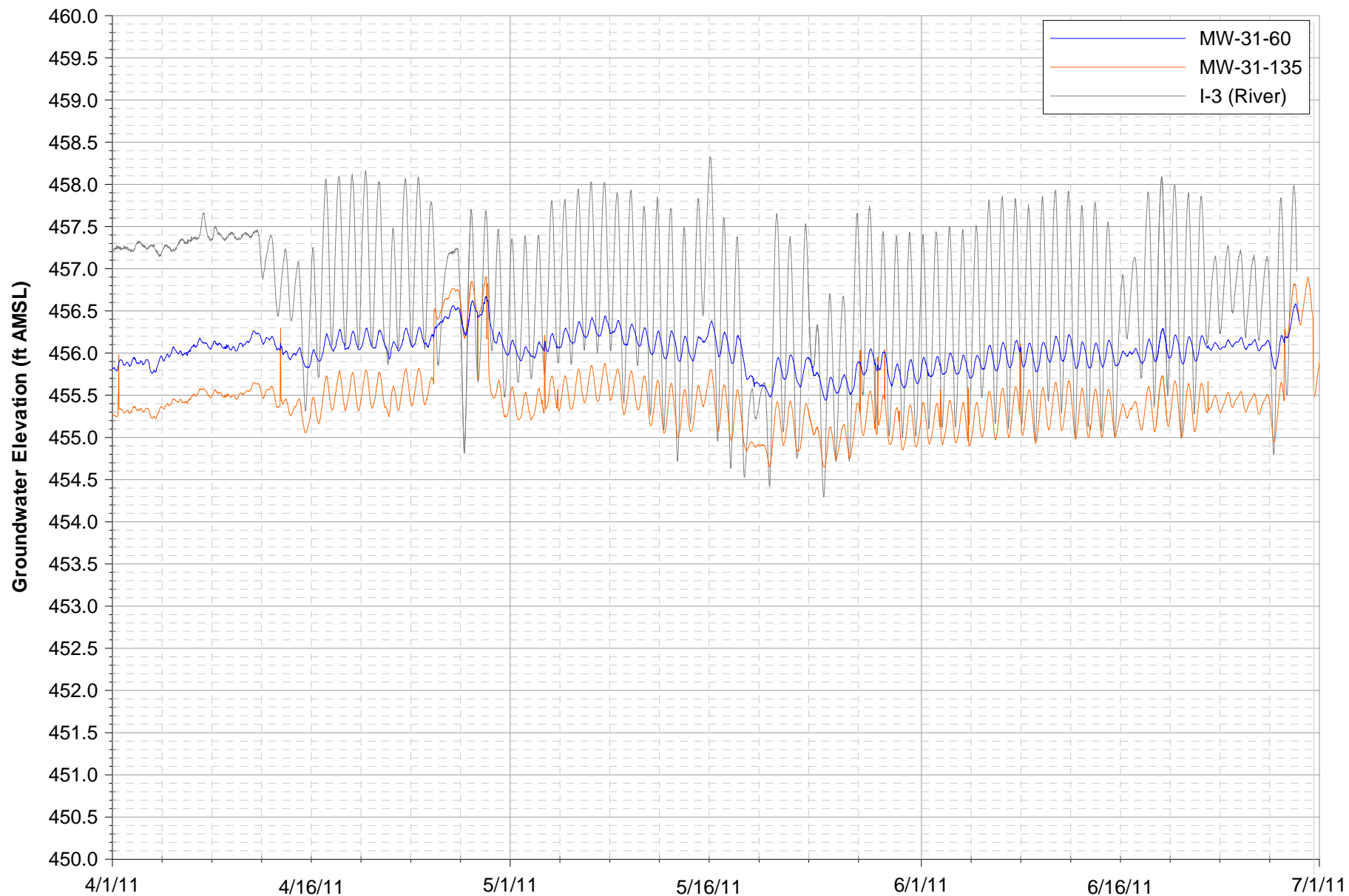


Notes:
Data subject to review.

Date
FIGURE E-1E

MW-30-50 HYDROGRAPH

SECOND QUARTER 2011 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.

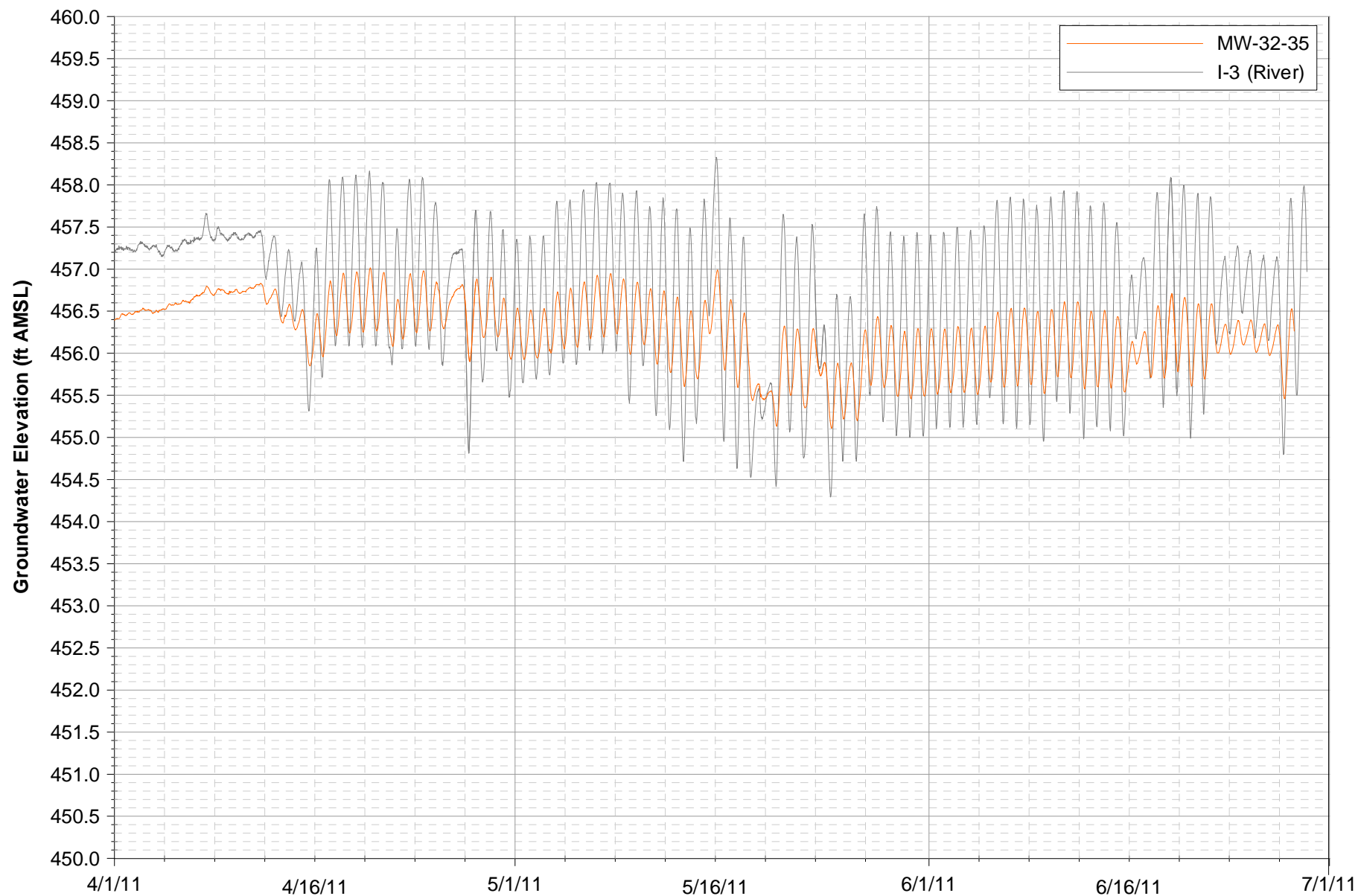
Date

FIGURE E-1F

MW-31 CLUSTER HYDROGRAPHS

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

CH2MHILL

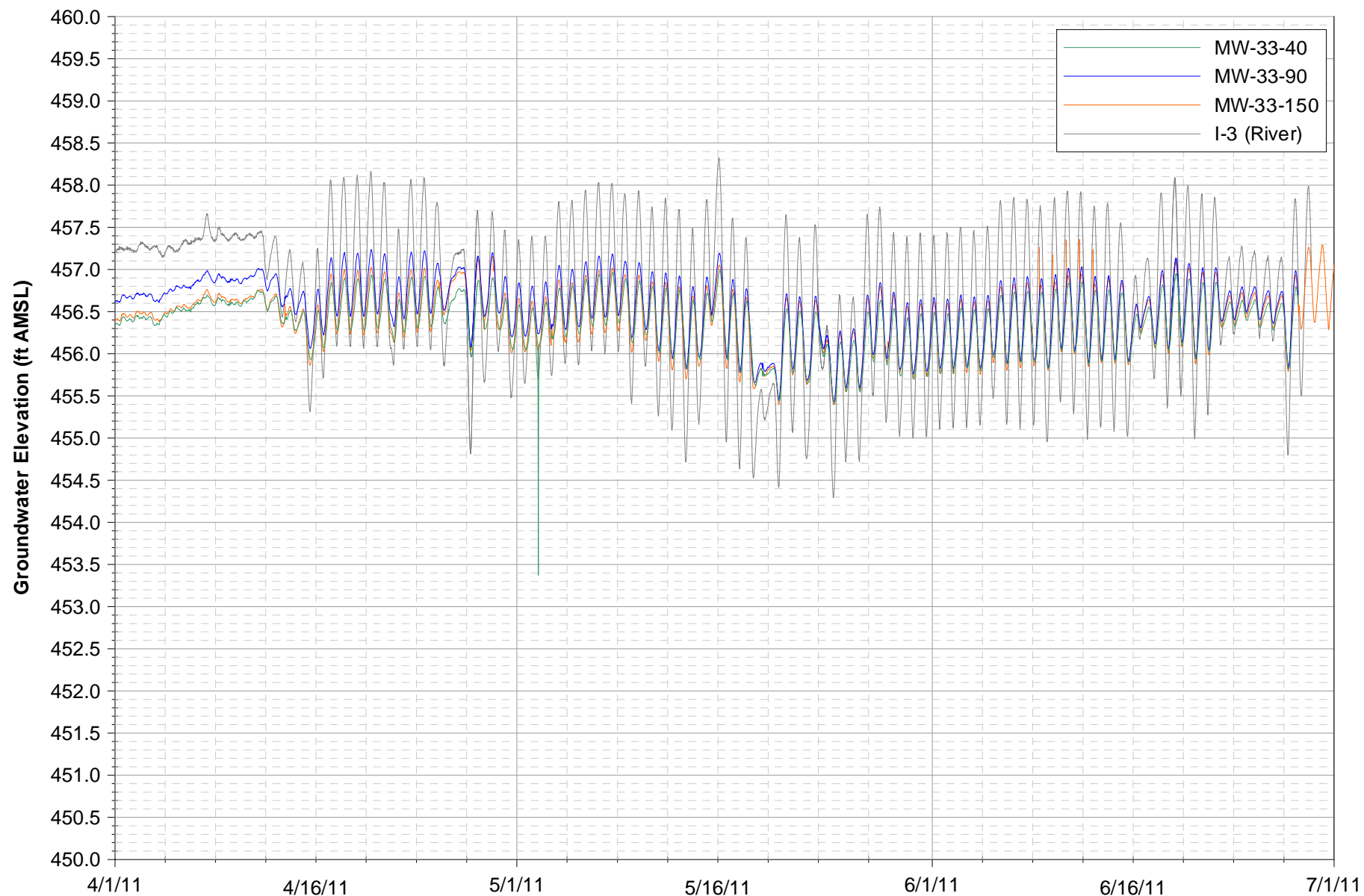


Notes:
Data subject to review.

Date
FIGURE E-1G

MW-32 HYDROGRAPH

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

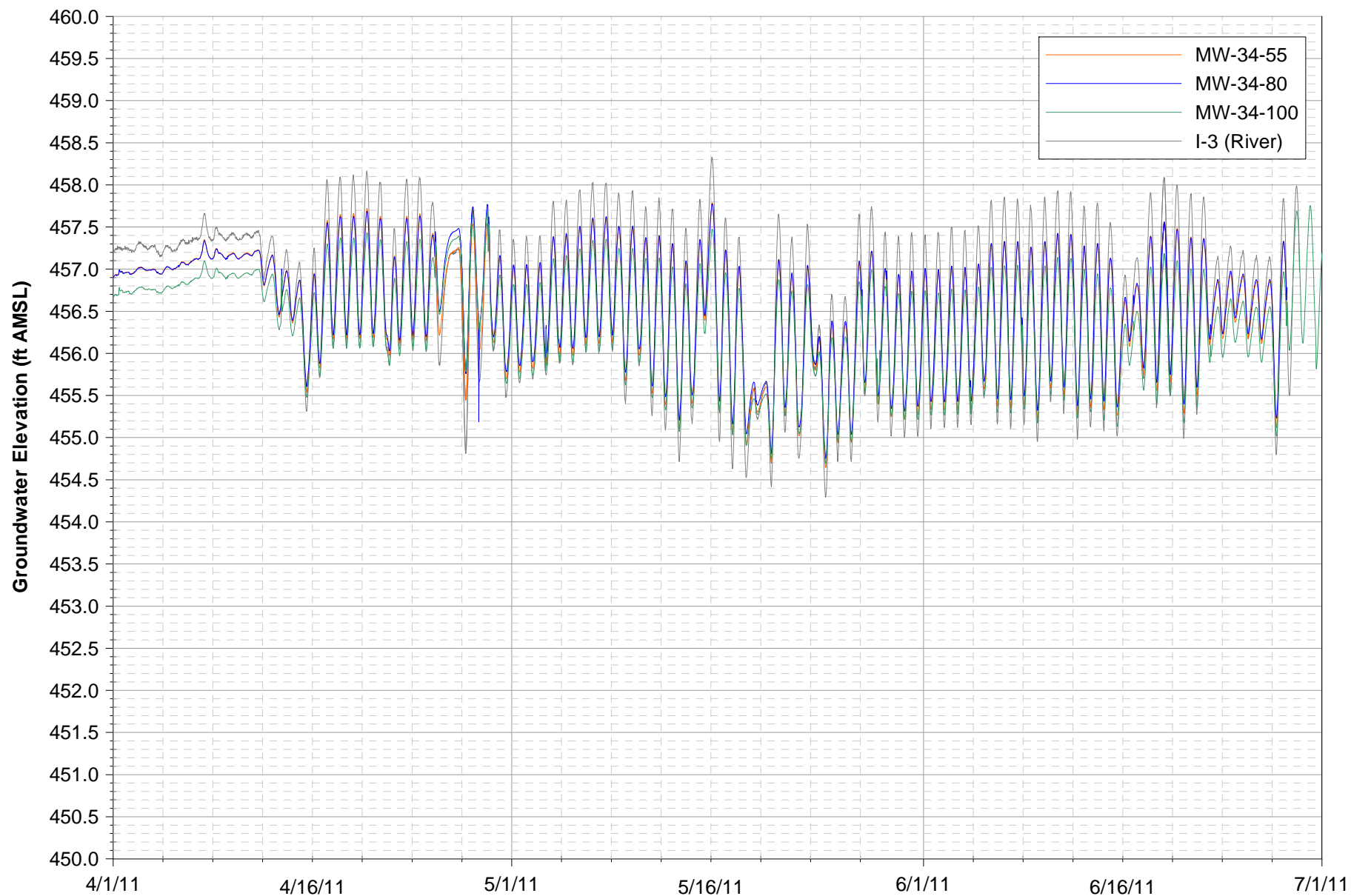


Notes:
Data subject to review.

FIGURE E-1H

MW-33 CLUSTER HYDROGRAPHS

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

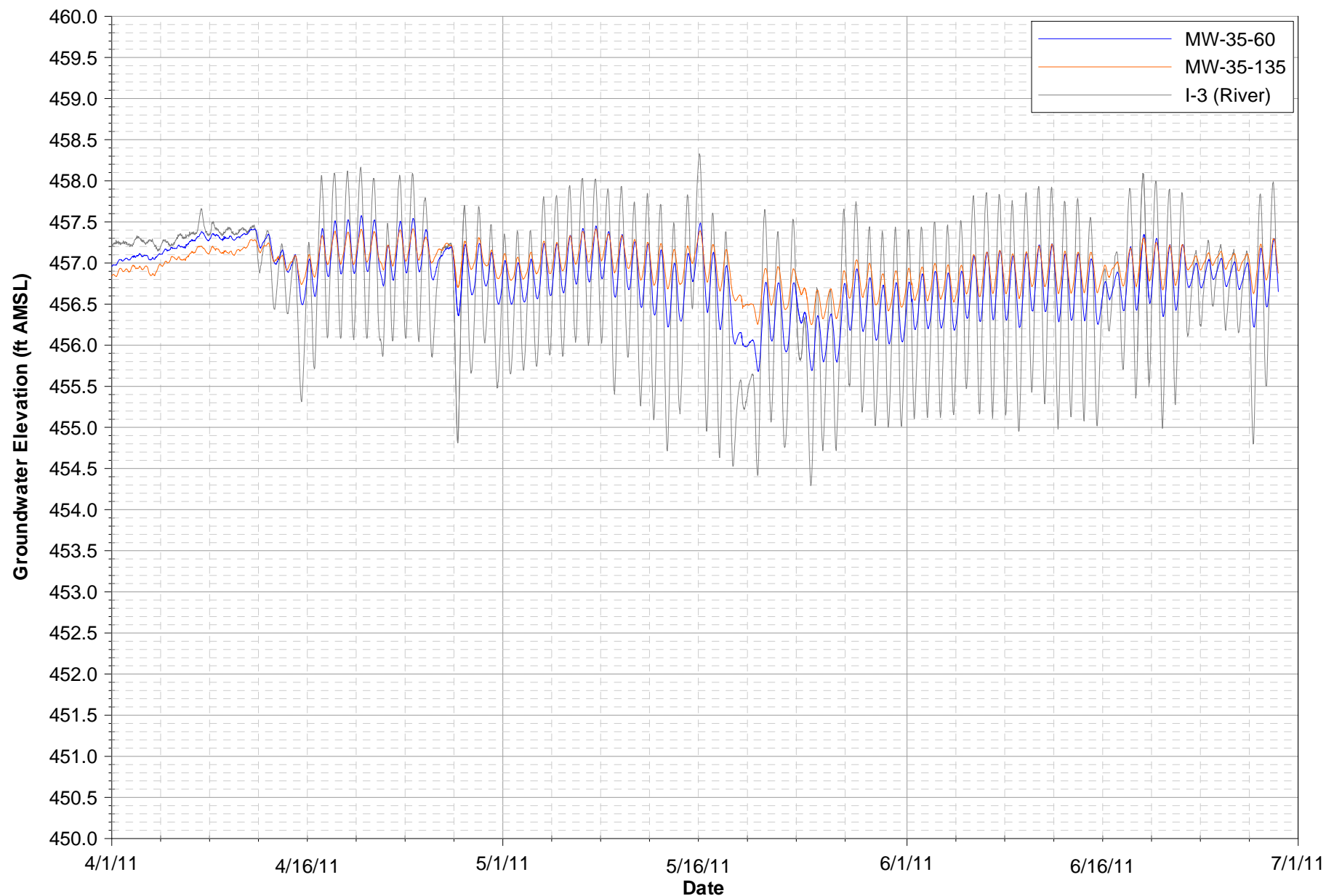


Notes:
Data subject to review.

FIGURE E-11

MW-34 CLUSTER HYDROGRAPHS

SECOND QUARTER 2011 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.

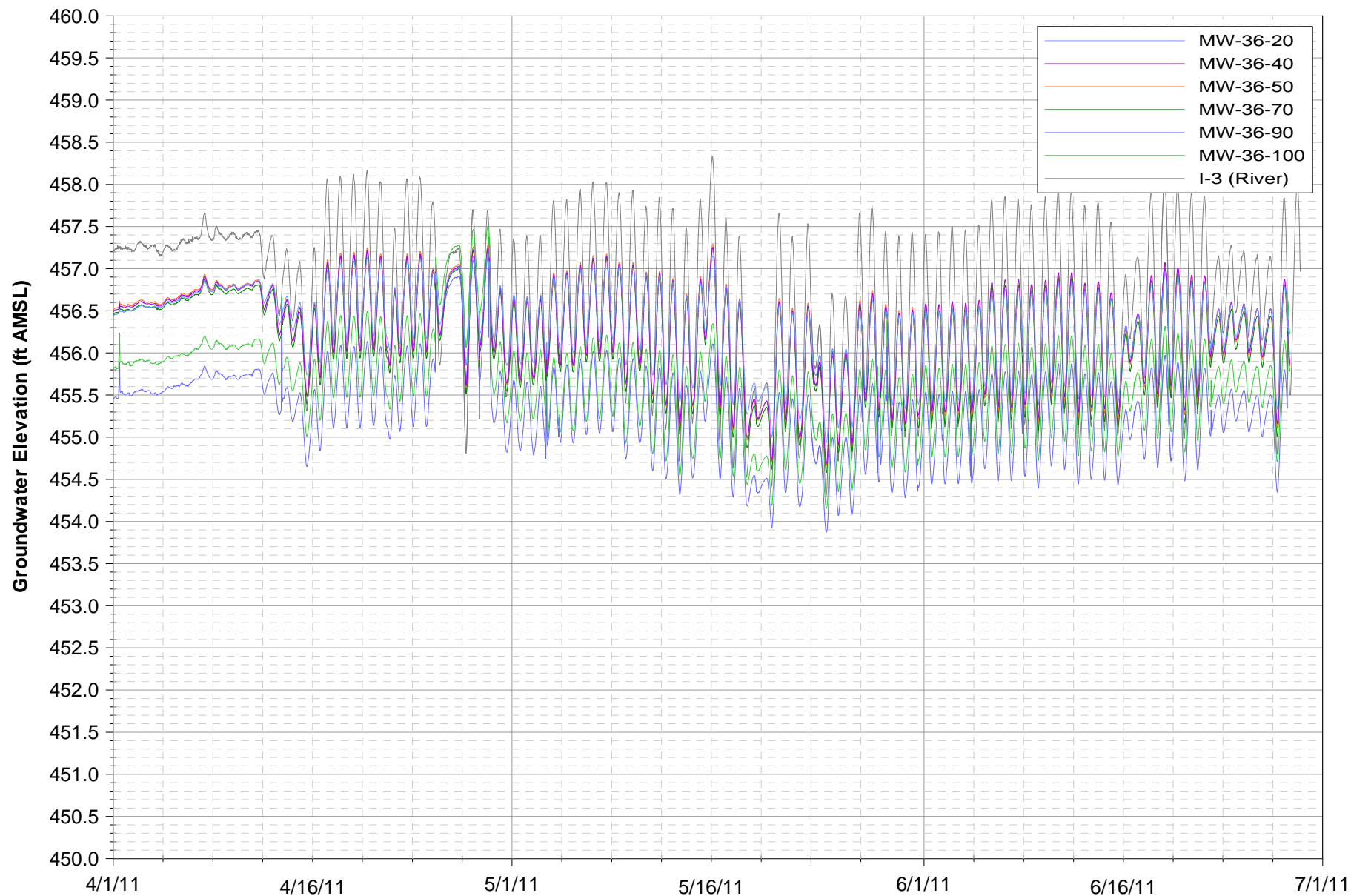
Date

FIGURE E-1J

MW-35 CLUSTER HYDROGRAPHS

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

CH2MHILL

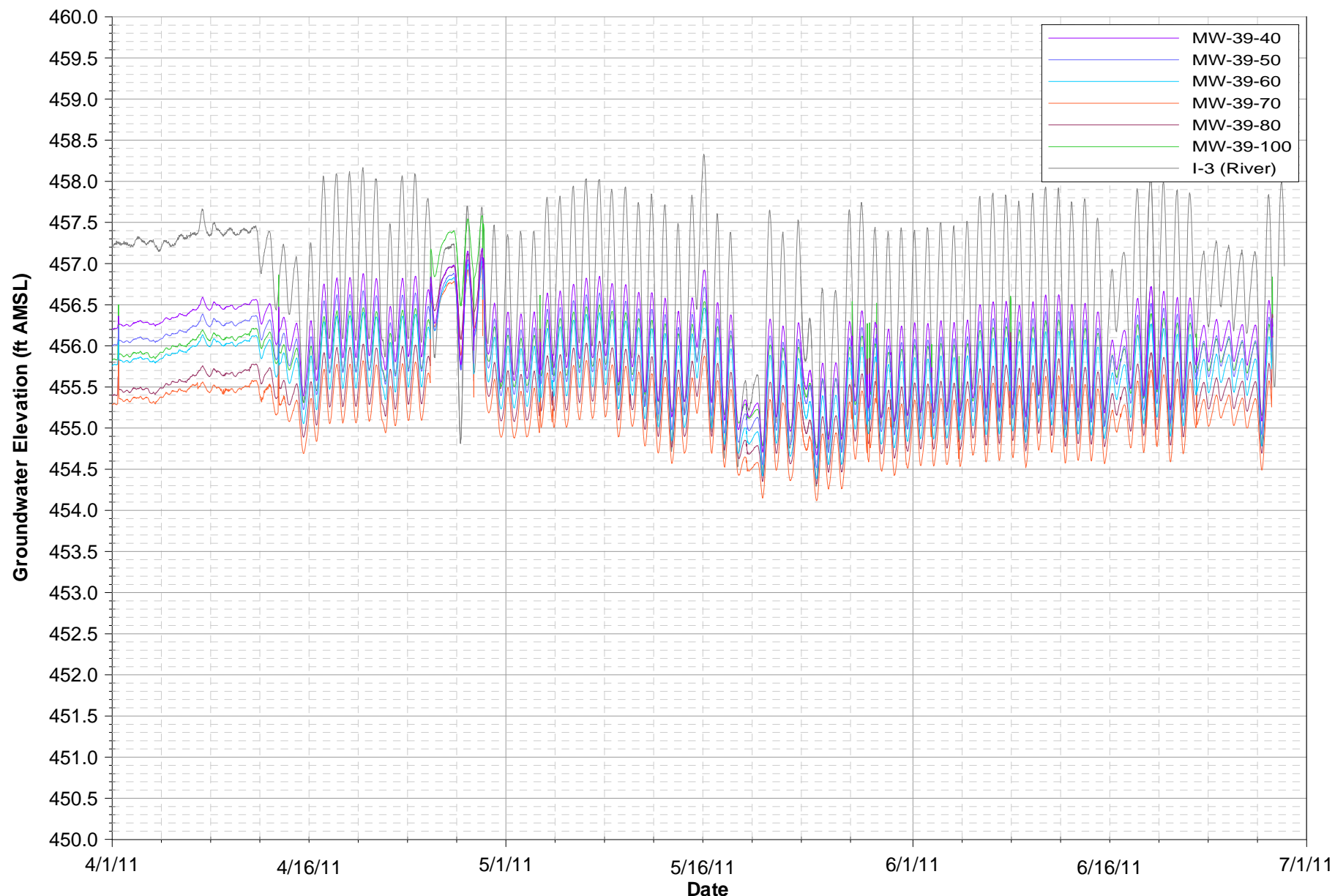


Notes:
Data subject to review.

FIGURE E-1K

MW-36 CLUSTER HYDROGRAPHS

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

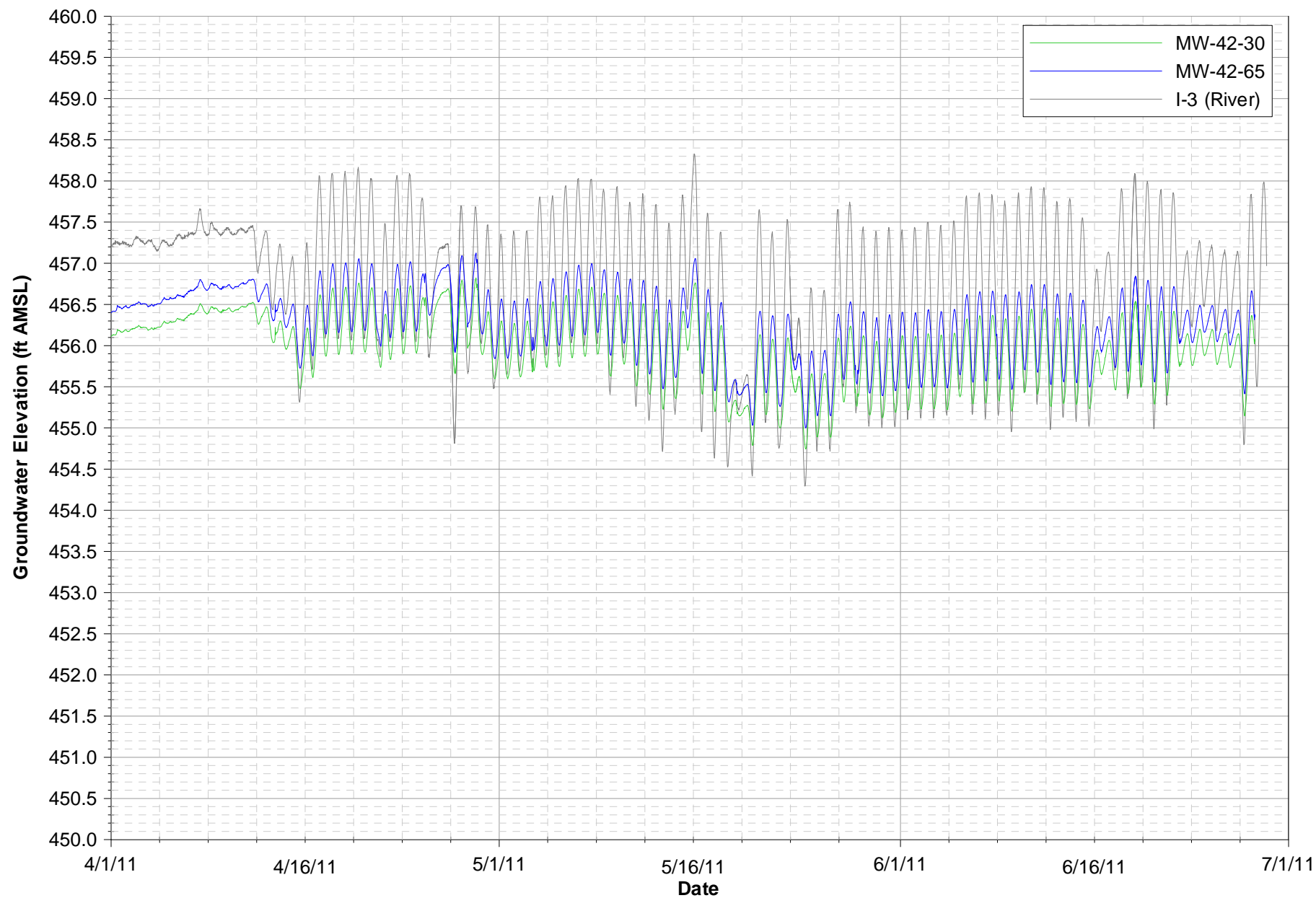


Notes:
Data subject to review.

FIGURE E-1L

MW-39 CLUSTER HYDROGRAPHS

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



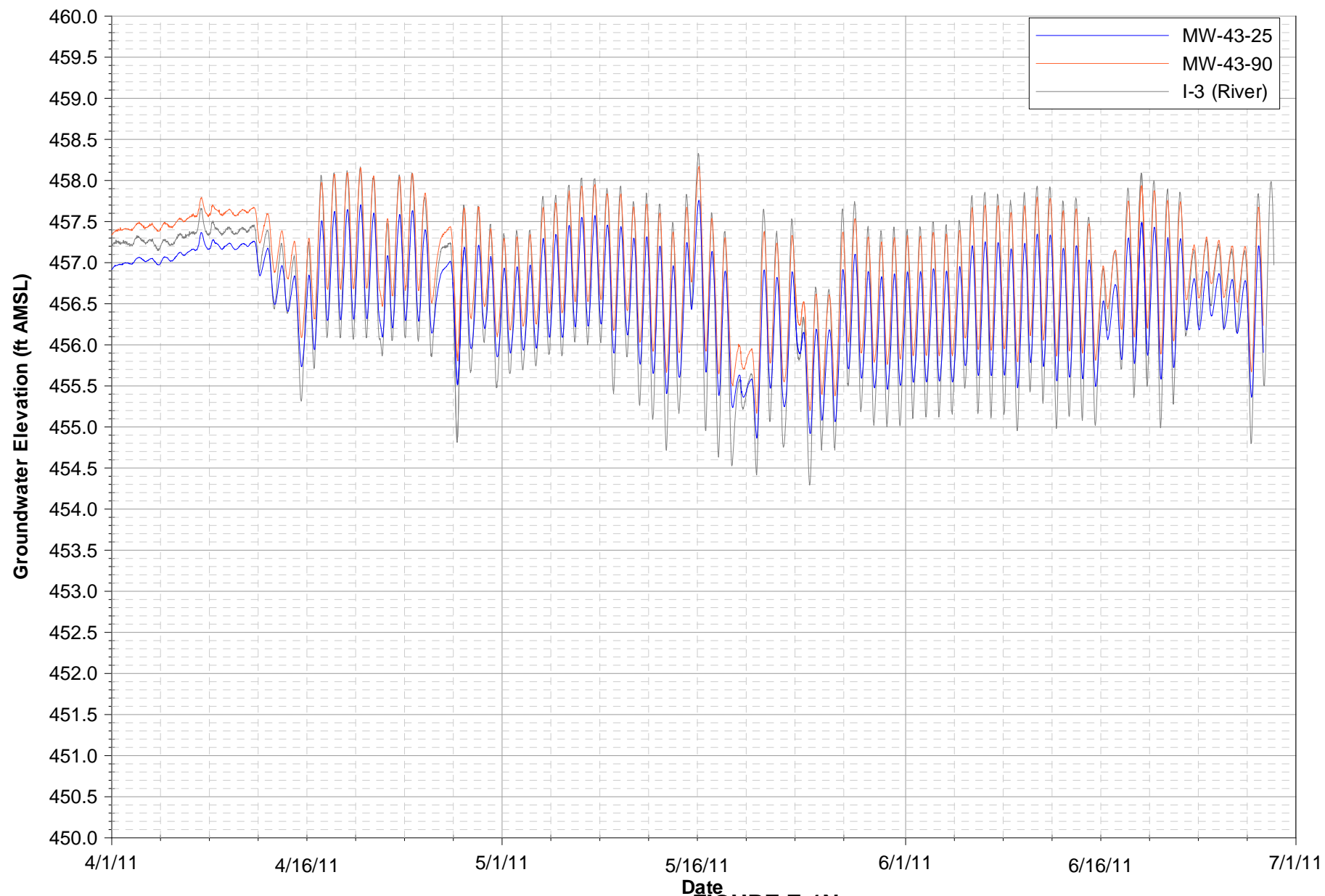
Notes:
Data subject to review.

Date

FIGURE E-1M

MW-42 CLUSTER HYDROGRAPHS

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

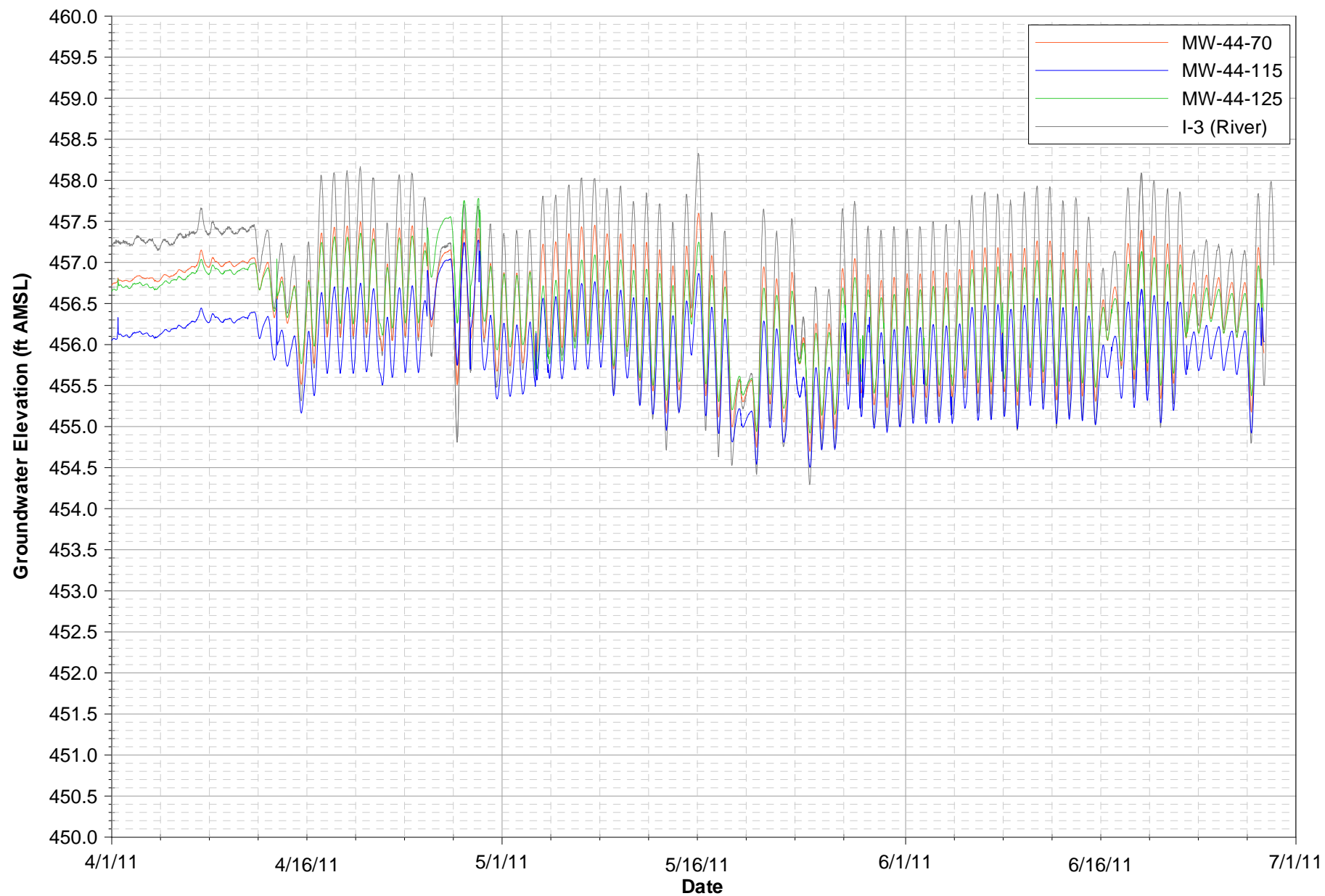


Notes:
Data subject to review.

FIGURE E-1N

MW-43 CLUSTER HYDROGRAPHS

SECOND QUARTER 2011 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..

Date

FIGURE E-10

MW-44 CLUSTER HYDROGRAPHS

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

CH2MHILL

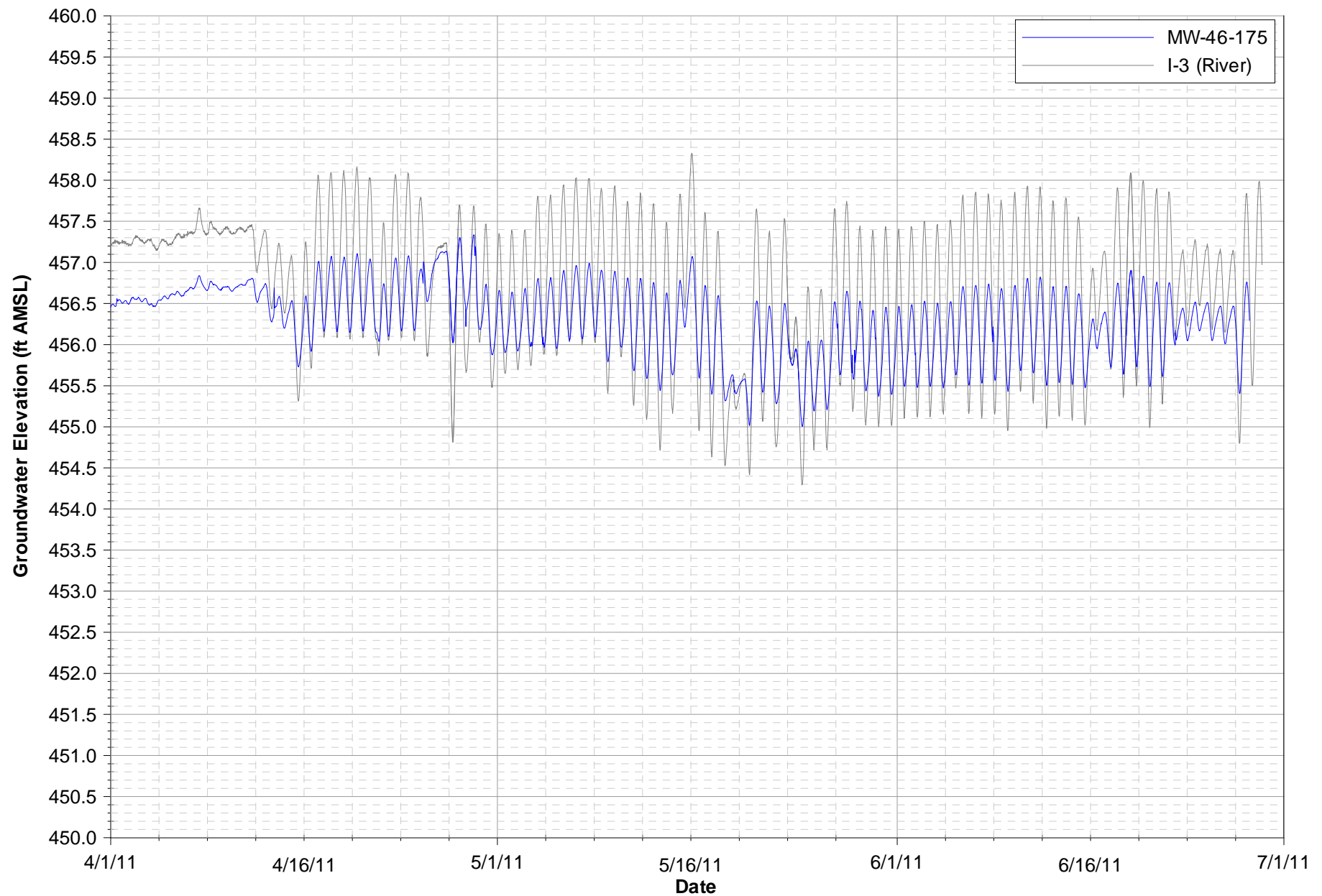


Notes:
Data subject to review.

FIGURE E-1P

MW-45-95a HYDROGRAPH

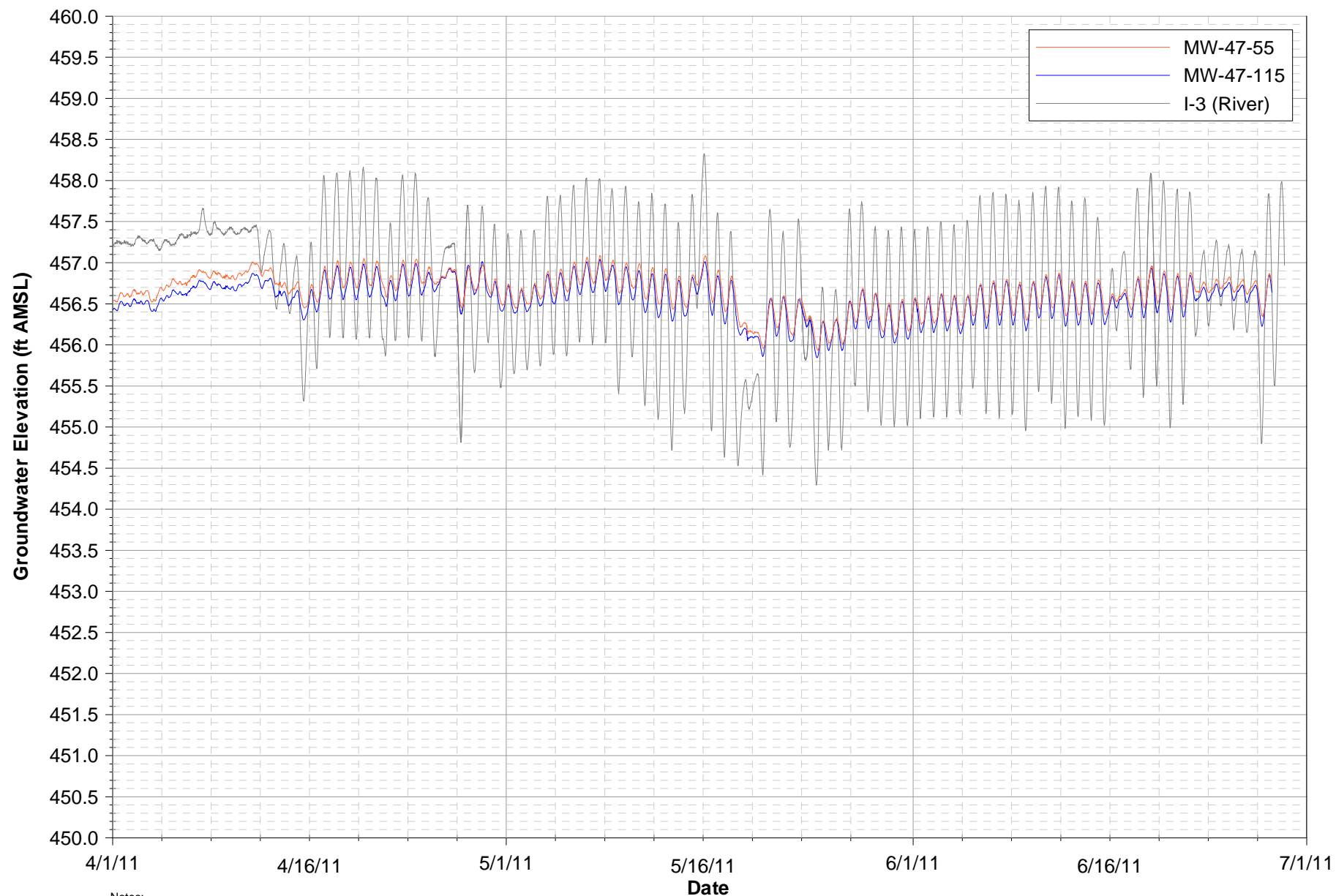
SECOND QUARTER 2011 INTERIM MEASURES PERFORMANCE MONITORING
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:
Data subject to review.

FIGURE E-1Q
MW-46 HYDROGRAPH

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



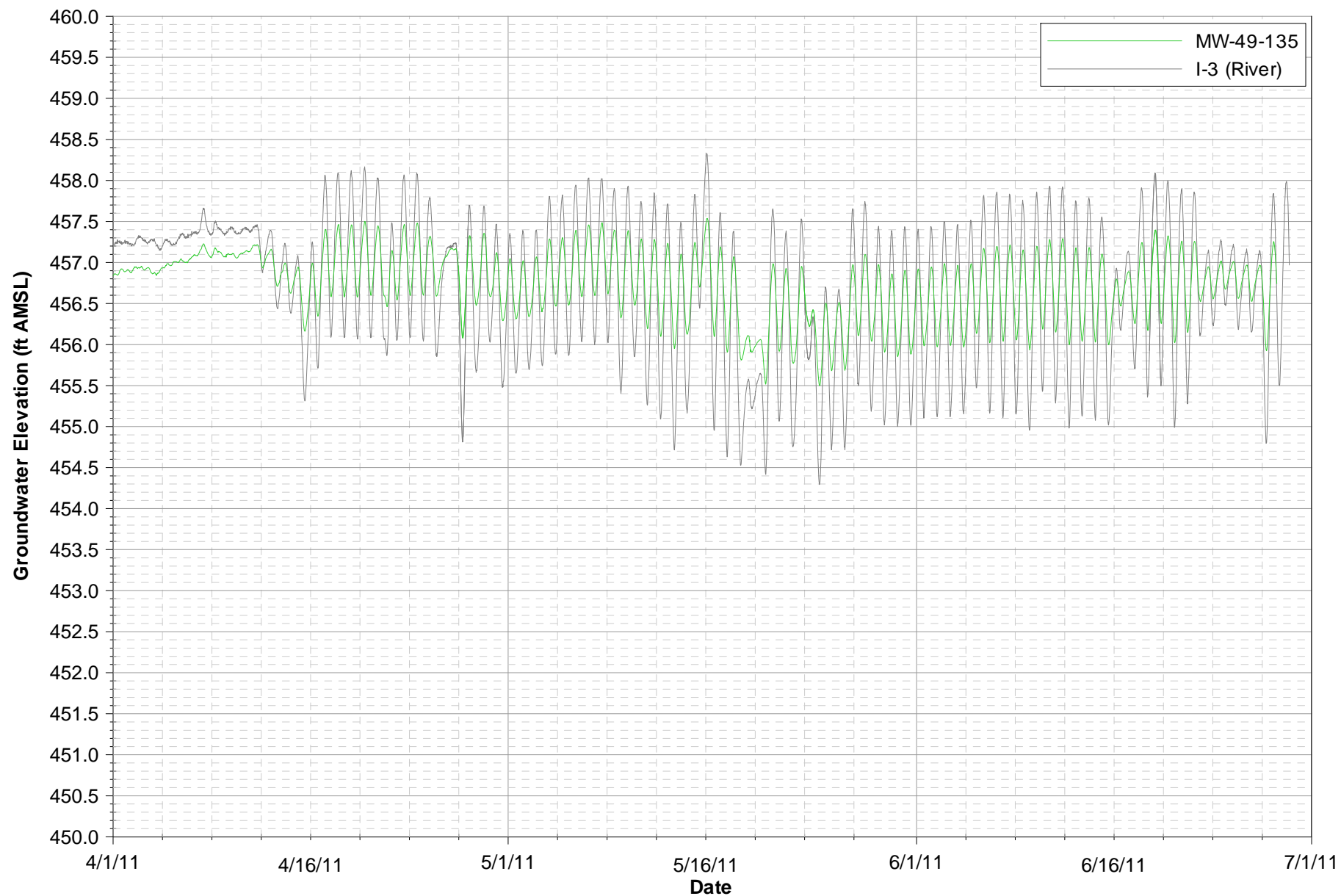
Notes:
Data subject to review.

FIGURE E-1R

MW-47 CLUSTER HYDROGRAPHS

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

CH2MHILL



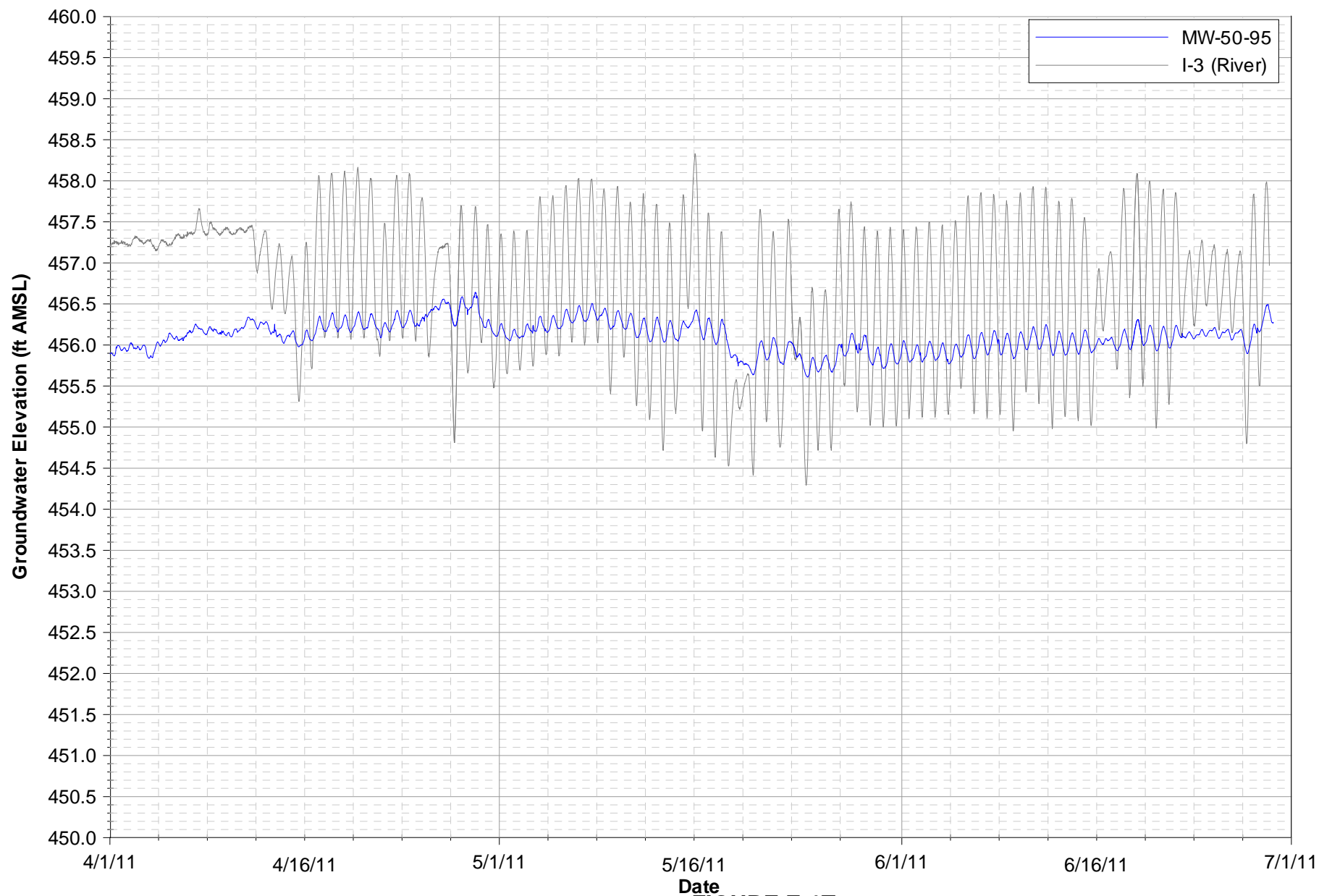
Notes:
Data subject to review.

Date

FIGURE E-1S

MW-49 HYDROGRAPH

SECOND QUARTER 2011 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.

Date

FIGURE E-1T

MW-50 HYDROGRAPH

SECOND QUARTER 2011 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.

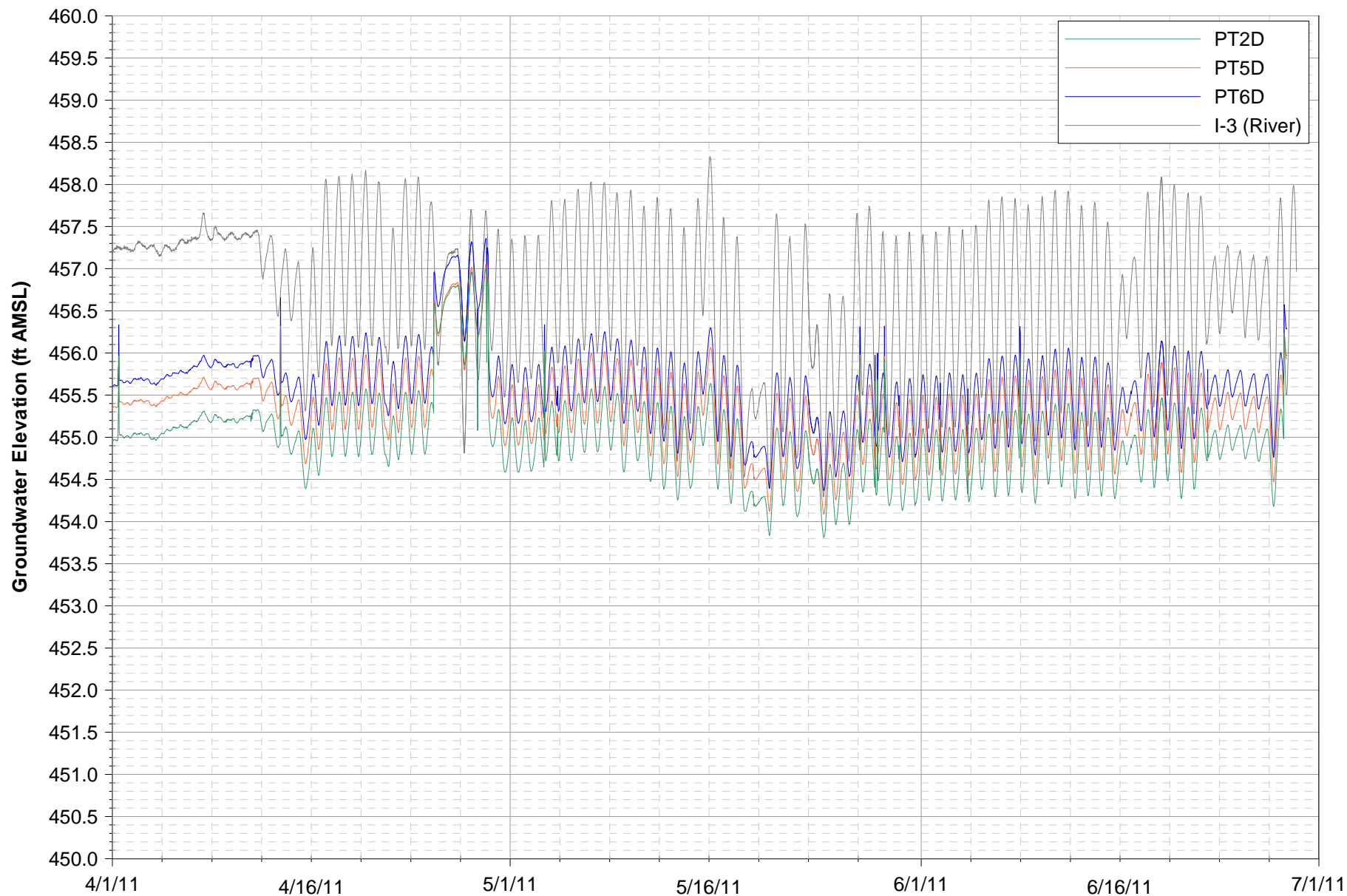
Date

FIGURE E-1U

MW-26 & MW-51 HYDROGRAPHS

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

CH2MHILL



Note:
Data subject to review.

FIGURE E-1V

INSITU PILOT STUDY WELL HYDROGRAPHS

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