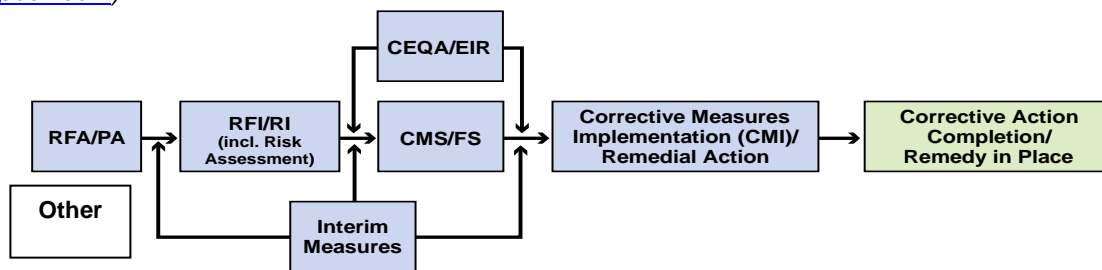


# Topock Project Executive Abstract

<p>Document Title: Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&amp;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: 8/15/2014</p> <p>Who Created this Document?: (i.e. PG&amp;E, DTSC, DOI, Other)</p> <p>PG&amp;E</p>
<p>Priority Status: <input type="checkbox"/> <b>HIGH</b> <input type="checkbox"/> <b>MED</b> <input checked="" type="checkbox"/> <b>LOW</b></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 &amp; 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>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, the Groundwater Monitoring Program, and the 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 the California Environmental Protection Agency, Department of Toxic Substances Control (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 toward 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 Second Quarter 2014, which includes the months of April, May, and June 2014. The average pumping rate for the IM extraction system during the Second Quarter 2014 was 124.3 gallons per minute. To date, the IM extraction system has removed a total of 7,960 pounds (3,610 kilograms) of chromium.</p> <p>Written by: PG&amp;E</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](http://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, 2014

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

**Subject:** *Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*  
(Document ID: PGE20140815A)

Dear Mr. Yue:

Enclosed is the *Second Quarter 2014 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 2014 (April through June 2014) performance monitoring results for the IM hydraulic containment system and summarizes the operations and performance evaluation for the reporting period. In compliance with the requirements for the GMP and RMP directive of April 2005 (DTSC, 2005a), this report also presents groundwater and surface water monitoring activities, results, and analyses related to the Groundwater and Surface Water Monitoring programs during Second Quarter 2014.

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

Finally, thank you for the June 27, 2014 transmittal of conditional approval for recommendations from the 2013 Annual Report. PG&E anticipates clarification of recommendations in technical discussions and implementation beginning with the third quarter sampling event and report.

Please contact me at (805) 234-2257 if you have any questions on this combined monitoring report.

Sincerely,



Yvonne Meeks  
Topock Project Manager

Enclosure

*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report*

cc: Chris Guerre/DTSC  
Karen Baker/DTSC  
Pam Innis/DOI  
Susan Young/CA-SLC  
Bruce Campbell/AZ-SLD

**Second Quarter 2014  
Interim Measures Performance  
Monitoring and Site-wide  
Groundwater and Surface Water  
Monitoring Report,  
PG&E Topock Compressor Station,  
Needles, California**

Document ID: PGE20140815A

Prepared for  
**California Environmental Protection Agency,  
Department of Toxic Substances Control**

On behalf of  
**Pacific Gas and Electric Company**

August 15, 2014

**CH2MHILL®**

155 Grand Avenue Suite 800  
Oakland, CA 94612



# **Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,**

**PG&E Topock Compressor Station,  
Needles, California**

**Prepared for  
California Environmental Protection Agency,  
Department of Toxic Substances Control**

**On behalf of  
Pacific Gas and Electric Company**

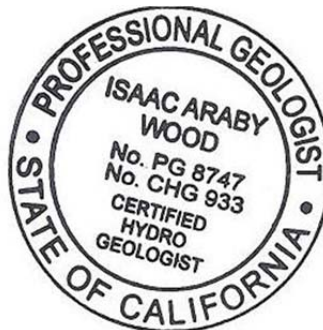
**August 15, 2014**

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



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Isaac Wood  
Project Hydrogeologist, P.G., C.Hg



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Jay Piper  
CH2M HILL Project Manager

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# Acronyms and Abbreviations

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°C	degrees Centigrade
µg/L	micrograms per liter
COPC	chemical of potential concern
Cr(VI)	hexavalent chromium
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
ft/ft	feet per foot
GMP	Groundwater Monitoring Program
gpm	gallons per minute
ID	identification
IM	Interim Measure
IM-3	Interim Measure Number 3
IMCP	Interim Measures Contingency Plan
PG&E	Pacific Gas and Electric Company
PMP	Performance Monitoring Program
RCRA	Resource Conservation and Recovery Act
RMP	Surface Water Monitoring Program
RRB	Red Rock Bridge
RWQCB	California Regional Water Quality Control Board
TDS	total dissolved solids
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency

# Introduction

---

Pacific Gas and Electric Company (PG&E) is implementing Interim Measures (IMs) 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 on Figure 1-1. (Figures are located at the end of the report.) This report presents monitoring data from three PG&E monitoring programs:

- 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)

This report presents the monitoring data from PG&E's GMP, RMP, and PMP, collected from April 1, 2014 through June 30, 2014 (hereafter referred to as the reporting period). The data collected as part of the GMP and RMP are presented in Section 3. The data collected as part of the PMP are presented in Section 4. 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, 2009). On July 23, 2010, DTSC approved a new sampling event timing and reporting schedule for the PMP, GMP, and RMP programs (DTSC, 2010a). On June 27, 2014, DTSC approved a change to the reporting schedule to add two weeks to the preparation of the third quarter report (DTSC, 2014). Table 1-1 shows the reporting schedule. (Tables are located at the end of the report.)

## 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 (CERCLA) 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 [USEPA] 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 – Hydrogeologic 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).

Background information (including well construction details) and descriptions of the current groundwater and surface water sampling, analyses, and monitoring programs are discussed in PG&E's *Fourth Quarter 2013 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, 2014 (CH2M HILL, 2014a).

In compliance with the requirements for the GMP and RMP directive of April 2005 (DTSC, 2005a), this document presents the Second Quarter 2014 GMP and RMP report for the monitoring activities from April 1, 2014, through June 30, 2014.

## Groundwater Monitoring Program and Surface Water Monitoring Program Monitoring Networks

Figure 1-2 shows the current locations and sampling frequencies of the monitoring wells in the GMP. The complete GMP includes over 100 wells that monitor groundwater in the Alluvial Aquifer and the bedrock and consist of the following:

- One hundred twenty-nine monitoring wells in California, including two normally dry wells and five wells currently sampled under the in situ pilot test program.
- 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), and new frequencies were proposed in the Fourth Quarter and Annual 2013 report (CH2M HILL, 2014a). Figure 1-2 shows the existing sampling frequencies that will be continued until review of the revised frequencies proposed in the Fourth Quarter and Annual 2013 report is completed and formally approved by DTSC before Third Quarter 2014 sampling. Sampling frequencies for the Arizona monitoring wells were previously updated following the April 23, 2010 approval from the Arizona Department of Environmental Quality (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, which consists of:

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

## 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 2014 PMP evaluation report for the IM monitoring activities from April 1, 2014 through June 30, 2014.

The Topock IM project 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 monitors only 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. Extraction wells PE-1 and TW-3D currently operate full time. Figure 1-1 shows the locations 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, 2005a) 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; and July 23, 2010 (DTSC, 2007a, 2008a-b, and 2010a).

## Performance Monitoring Program 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 in service/active during this reporting period are defined as:

- Floodplain wells: monitoring wells on the Colorado River floodplain.
- Intermediate wells: monitoring wells immediately north, west, and southwest of the floodplain.
- Interior wells: monitoring wells upgradient of IM pumping.
- Extraction wells: TW-2D, TW-3D, TW-2S, and PE-1.

Three extraction wells (TW-2D, TW-3D, and TW-2S) are located on the MW-20 bench. Extraction well PE-1 is on the floodplain approximately 450 feet east of extraction well TW-3D, as shown on Figure 1-4. 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.

## 1.3 Sustainability

The GMP, PMP and RMP monitoring programs increased the use of sustainable practices under the continuous improvement program for Topock Monitoring. This new report section briefly describes some of the sustainability practices now in use.

As approved by the California Regional Water Quality Control Board in 2006 (RWQCB, 2006), groundwater sampling purge water is disposed via the onsite IM-3 treatment and injection process, eliminating offsite transport and disposal of sampling purge water. In 2011, onsite IM-3 staff were trained to take on the role of groundwater sampling support in place of an offsite support contractor. IM-3 staff and the monitoring teams also designed a groundwater sampling truck that was locally fabricated. The sampling truck is a modular skid that is attached to the IM-3 three-quarter-ton flatbed Diesel pickup for monitoring use. The use of local staff and a local sampling truck eliminated mobilizations from the Los Angeles area by the former offsite contractor. Additionally, the RMP boat contractor has always been a local Lake Havasu City-based business. Benefits of using local resources for sampling support are reduced fuel consumption and greenhouse gas emissions, and increased local business support.

To reduce the potential for impacts to floodplain areas with nesting habitat, water level data telemetry systems were installed from 2011-2012 at the five key gradient compliance well locations. The solar-powered data telemetry systems replaced weekly download visits to each well with remote data collection, resulting in monthly or less frequent visits for key well transducer calibrations and maintenance. Using the current three-casing-volume purge sampling methods, pumps and tubing are sized for the optimum purge technique at each monitoring well. Twelve-volt pumps are used at the majority of monitoring wells in place of larger Redi-Flo 2™ pumps, and dedicated tubing is used for most wells. Utility vehicles (for example, Polaris Ranger or Kawasaki Mule) and one quiet electric four-wheel drive utility vehicle rather than the full-size pickup truck (all part of the onsite vehicle pool) are used to access wells on the floodplain and some culturally sensitive well locations. These best practices reduce generator use and decontamination water volume to further decrease the monitoring footprint. The DTSC approved the provisional use of micro-purge sampling on June 27, 2014 (DTSC, 2014) based on results from a sampling technology trial reported in the 2013 annual GMP-PMP report (CH2M HILL, 2014a). Micro-purge (or low flow) sampling will further reduce the volume of purge water and sampling footprint for most wells.



## Second Quarter 2014 Monitoring Activities

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This section summarizes the monitoring and sampling activities completed during the reporting period.

### 2.1 Groundwater Monitoring Program

#### 2.1.1 Monthly

Groundwater was sampled from the active IM extraction wells (PE-1 and TW-3D) in April, May, and June 2014 and was analyzed for Cr(VI) and chromium.

#### 2.1.2 Quarterly

Per the July 23, 2010 sampling schedule approval (DTSC, 2010a), the Second Quarter 2014 GMP quarterly groundwater monitoring event was conducted from April 9, 2014 through May 14, 2014. Select field parameters recorded during well purging included oxidation-reduction potential and pH. Groundwater samples were analyzed for Cr(VI), chromium, and specific conductance.

During the Second Quarter 2014 sampling event, groundwater samples were collected at select GMP wells and were submitted for laboratory analysis of Cr(VI) and other constituents, including:

- California Code of Regulations Title 22 metals at MW-12 and MW-22 (collected semiannually).
- Chemicals of potential concern (COPCs), including molybdenum, nitrate as nitrogen (referred to as nitrate hereafter), selenium, potential in situ byproducts (manganese and arsenic), and other analytes. In an email dated March 3, 2010, DTSC directed monitoring of these COPCs, potential in situ byproducts, and other analytes at select wells (DTSC, 2010d, 2011).
- Arsenic at select GMP wells screened in alluvial and fluvial sediments and select bedrock monitoring wells.

#### 2.1.3 Other Monitoring

In addition, groundwater samples were submitted for laboratory analysis of background metals at selected wells during the Second Quarter 2014 sampling event, as recommended in the background study report (CH2M HILL, 2008), at MW-16 and MW-17.

#### 2.1.4 Well Maintenance

In a letter from DTSC dated January 28, 2013, PG&E was directed to assess conditions at existing wells pursuant to PG&E's *Draft Performance Monitoring Plan for Interim Measures in the Floodplain Area, Pacific Gas and Electric Company, Topock Compressor Station, Needles, California* (CH2M HILL, 2005a) and the *Sampling and Analysis Field Procedures Topock Program Manual, Revision 1, Pacific Gas and Electric Company, Topock Project* (CH2M HILL, 2005b) to ensure that monitoring wells are in compliance with the California Well Standards. Appendix A and Table A-1 provide the quarterly inspection log, field observations, and required mitigation actions for well maintenance.

### 2.2 Surface Water Monitoring Program

Quarterly surface water sampling was conducted May 21, 2014 through May 22, 2014 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), in situ byproducts (manganese, iron, and arsenic), and geochemical indicator parameters to develop baseline concentrations for future remedy performance evaluation.

## 2.3 Performance Monitoring Program

Groundwater samples for the PMP were collected during the GMP quarterly sampling event. In addition, PMP pressure transducers, which are used to monitor hydraulic gradients of the Alluvial Aquifer, were downloaded in the first week of every month (April, May and June). The transducers in the key monitoring wells (MW-27-085, MW-31-125, MW-33-150, MW-34-100, and MW-45-095a, shown on Figure 1-4) are downloaded via a cellular telemetry system.

# Results for Site-wide Groundwater Monitoring and Surface Water Sampling

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## 3.1 Groundwater Results for Hexavalent Chromium 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 the reporting period. During Second Quarter 2014, the maximum detected Cr(VI) concentration was 10,000 µg/L at well MW-68-180. The laboratory reports for analytical results from Second Quarter 2014 sampling are presented in Appendix B.

Figures 3-1a through 3-1c present the Cr(VI) results for wells monitoring the shallow (upper depth interval), mid-depth (middle depth interval), and deep (lower depth interval) wells of the Alluvial Aquifer and bedrock, respectively, from Second Quarter 2014. Figures 3-1a through 3-1c each show the approximate outline of Cr(VI) concentration contours greater than 32 µg/L for the Alluvial Aquifer and bedrock. These contour outlines are based on results from groundwater sampling events conducted in Second Quarter 2014. 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, 2008, 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 bedrock wells are generally similar to the previous quarterly monitoring events (CH2M HILL, 2011a-d, 2012a-d, 2013a-d, and 2014a-b).

## 3.2 Other Groundwater Monitoring Results

### 3.2.1 Chemicals of Potential Concern, In Situ Byproducts, and Other Analytes

Table 3-2 presents the COPCs, in situ byproducts, and other analytes results for groundwater monitoring wells sampled in Second Quarter 2014. The wells where maximum concentrations of these analytes were reported are summarized as follows:

- MW-46-175 with a molybdenum concentration of 170 µg/L
- MW-67-185 with a nitrate concentration of 45.4 milligrams per liter
- MW-67-185 with a selenium concentration of 240 µg/L
- MW-22 with a manganese concentration of 2,100 µg/L
- MW-12 with an arsenic concentration of 38.0 µg/L
- MW-33-40 with a fluoride concentration of 9.80 milligrams per liter

### 3.2.2 Title 22 Metals

Table 3-3 presents the Title 22 metals results for the GMP monitoring wells MW-12 and MW-22 sampled during Second Quarter 2014. The trace metals detected MW-12 and MW-22 are summarized as follows:

- The trace metals detected in MW-12 were chromium, arsenic, barium, molybdenum, selenium, and vanadium. The dissolved concentrations of these trace metals—other than chromium and arsenic—are below the respective California maximum contaminant level drinking water standards.
- The trace metals detected in MW-22 were arsenic, barium, cobalt, molybdenum, nickel, and selenium. The dissolved concentrations of the trace metals—other than arsenic—are below the respective California maximum contaminant level drinking water standards.

### 3.2.3 Arsenic Sampling in Monitoring Wells

Select Alluvial Aquifer and bedrock wells were sampled for arsenic in the Second Quarter 2014 event. These results are presented in Appendix C, Table C-1.

## 3.3 Surface Water Sampling Results

Table 3-4 presents results of Cr(VI), chromium, specific conductance, and lab pH from the surface water sampling event conducted during this reporting period. Neither Cr(VI) nor chromium was detected above reporting limits at any in-channel, shoreline, or other surface water monitoring locations.

Table 3-5 presents results for the COPCs (molybdenum, nitrate, and selenium); in situ byproducts (manganese, iron, and arsenic); and other geochemical indicator parameters for surface water samples. Low arsenic (equal to or less than 3 µg/L), low barium (equal to or less than 130 µg/L), low molybdenum (less than 5 µg/L), low nitrate/nitrite as nitrogen (less than 1 milligram per liter), and low selenium (less than 2 µg/L), concentrations were detected at all sampled locations. The dissolved manganese results were also generally low and near or below laboratory reporting limits, with the exception of the samples collected at C-MAR-S, C-MAR-D, and Red Rock Bridge (RRB), where moderate values were reported. The C-MAR-S and C-MAR-D sample locations are near the east side of the Colorado River at the mouth of the Topock Marsh area, and the RRB location is at the mouth of Bat Cave Wash on the west side, as shown on Figure 1-3. Both locations are out of the main river channel and adjacent to areas of naturally reducing geochemical conditions in groundwater. Elevated manganese concentrations are typical of reduced geochemical environments. Dissolved iron results were generally low and near or below laboratory reporting limits.

## 3.4 Data Validation and Completeness

Laboratory analytical data from the Second Quarter 2014 sampling events were reviewed by project chemists to assess data quality and to identify deviations from analytical requirements.

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

- Twenty-five Cr(VI) (USEPA Method 218.6) results exhibited a matrix interference issue that required a dilution to achieve satisfactory matrix spike recovery, resulting in an elevated reporting limit. No flags were applied.
- Three samples had Cr(VI) (USEPA Method 218.6) concentrations that exceeded the dissolved chromium (USEPA Method 6020) concentration by a relative percentage difference of 20 percent or more. Two of the samples were a field duplicate pair. The laboratory performed additional analysis that confirmed the initial results, so the initial results were reported. The sample results were qualified as estimated and flagged “J”. As explained in table footnotes, a “J” flag indicates that the concentration as reported is considered to be an estimate.
- Two Cr(VI) (USEPA Method 218.6) samples were associated with an equipment blank that had a detection above the reporting limit. The sample results were less than five times the concentration of the equipment blank; therefore, the sample results were qualified as “not detected at the reported concentration” and no flags were applied.
- Seven samples were associated with matrix spike recoveries that were outside the control limits — MW-12 for dissolved copper and dissolved manganese; MW-22 for dissolved copper; MW-57 for dissolved manganese; MW-66-165 (and the associated field duplicate) for dissolved manganese and dissolved selenium (USEPA Method 6020); and MW-33-090 (and the associated field duplicate) for nitrate/nitrite (USEPA Method 353.2). The associated sample results were qualified as estimated and flagged “J”.

- One field duplicate pair had a relative percentage difference greater than the upper control limit for two analytes, dissolved molybdenum and dissolved manganese (USEPA Method 6020). The results were qualified as estimated and flagged “J”.
- Eight samples were received at the Corvallis laboratory at a temperature greater than 6°C. The sample results for Cr(VI) (USEPA Method 218.6), and conductivity (USEPA Method 120) were qualified as estimated and flagged “J”.
- Based on the March 2007 USEPA ruling and reaffirmed in the May 2012 USEPA ruling, pH has a 15-minute holding time. As a result, all samples analyzed in a certified lab by Method SM4500-HB (pH) are analyzed outside the USEPA recommended holding time. Therefore, the pH results for the Second Quarter 2014 sampling event analyzed in a certified lab were qualified as estimated and flagged “J”.
- An alkalinity sample (USEPA Method SM2320B) collected from TW-03D on June 3 was initially overlooked by the lab. The lab notified the project chemist at 7:30 p.m. on June 30, at which time the project chemist instructed the lab to proceed with the analysis. The sample results were qualified (for exceeding the USEPA recommended holding time) and flagged “J”. The project chemist also arranged to have another sample collected that evening and analyzed. The alkalinity results were 134 mg/L from the June 3 sample and 145 mg/L from the sample collected on June 30.

The only other noteworthy issue, identified in the Second Quarter 2014 data, concerned the initial sample results for MW-23-060 and MW-23-080. During the normal quality assurance data review, it was noted that the sample results for the two wells appeared to have been switched (based on historical data). Review of the sample data, container labels, chain-of-custodies and purge forms found the times listed on the sample containers had been switched when compared to the chain-of-custodies and purge forms. The containers are pre-labeled (the label includes the sample identification [ID] and method, but requires the date, time, and sampler’s initials to be filled in at the time of sample collection). Based on the available data, the lab was asked to report the sample results based on the sampling time listed on the sample container rather than the sample ID. Additional details are provided in the data validation reports, which are kept in the project file and are available upon request.

# Interim Measure Performance Monitoring Program Evaluation

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## 4.1 Water Quality Results for Performance Monitoring Program Floodplain Wells

In July 2008, DTSC approved modifications to the PMP IM chemical PMP (DTSC, 2008b). These wells are sampled annually (one well sampled biennially) during the Fourth Quarter sampling events. For the complete annual general chemistry results, see Table F-1 in Appendix F in the *Fourth Quarter 2013 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, 2014 (CH2M HILL, 2014a). 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 Hexavalent Chromium Distribution and Trends in Performance Monitoring Program Wells

The Second Quarter 2014 distribution of Cr(VI) in the upper (shallow wells), middle (mid-depth wells), and lower (deep wells) intervals of the Alluvial Aquifer is shown in plan view and cross-section on Figure 4-1.<sup>1</sup> Figure 4-2 presents the Second Quarter 2014 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 groundwater samples collected in Second Quarter 2014.

Figure 4-3 presents Cr(VI) concentration trend graphs for selected deep monitoring wells in the floodplain area through June 2014. 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 D includes Cr(VI) concentration trend graphs for selected monitoring wells through June 2014.

Wells showing marked decreases in concentration are generally in the floodplain area where IM pumping is removing chromium in groundwater. Wells with historical detections near or at reporting limits (for chromium, a typical reporting limit is 0.2 to 1.0 µg/L) remained at these low levels during Second Quarter 2014. A review of Figure 4-3 and Appendix D indicates that Cr(VI) concentrations have remained steady or have decreased in many wells since IM and PE-1 pumping began in 2004 and 2005, respectively.

Key Cr(VI) and chromium trends for PMP groundwater monitoring wells (data in Appendix D; see Figure 1-4 for locations) sampled during Second Quarter 2014 include:

- Concentrations at the MW-20 cluster (located near the TW-3D pumping well) indicate generally stable Cr(VI) concentrations at the shallow well MW-20-070 (since 2010), decreasing concentrations at

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

MW-20-100 (since May 2007), and variable concentrations at MW-20-130 over the past 10 years, with all three either stable or downward over the past 2 years (Appendix D, Figure D-3).

- As presented in Appendix D, Figure D-5, Cr(VI) results for mid-depth well MW-33-90 have been fairly stable since monitoring began (2004), with a decreasing trend developing in 2013/2014. Deep MW-33 well cluster Cr(VI) concentrations have shown stable trends since 2007.
- As shown on Figure 4-3 and on Figure D-6 in Appendix D, Cr(VI) results for MW-34-100 have been variable, but generally declining, since June 2006. In addition to this primary overall downward trend in Cr(VI) concentration, MW-34-100 also shows a consistent but secondary seasonal effect in concentration related to high (spring/summer) and low (winter) Colorado River levels.
- Superimposed on stable or decreasing longer-term trends for Cr(VI), the secondary trend of seasonal fluctuation in Cr(VI) is also seen in monitoring wells MW-35-60 and MW-46-175 (see Appendix D, Figures D-6 and D-11, respectively). River levels are discussed in Section 4.6.
- Cr(VI) results for MW-44-115 have shown a steady declining trend since the well was constructed in 2006, as shown on Figure 4-3 and on Figure D-10 in Appendix D.

### 4.3 Performance Monitoring Program Contingency Plan Hexavalent Chromium 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, 2005a, 2006; PG&E, 2007, 2008). Appendix D includes Cr(VI) concentration trend graphs for the IMCP wells. The IMCP well Cr(VI) results in Second Quarter 2014 were below the trigger levels requiring contingency actions.

### 4.4 Extraction Systems Operations

Pumping data for the IM-3 groundwater extraction system for the reporting period of April 1 through June 30, 2014 are presented in Table 4-1. From April 1, 2014 through June 30, 2014, the volume of groundwater extracted and treated by the IM-3 system was 16,301,483 gallons. This resulted in the removal of an estimated 89.5 pounds (40.6 kilograms) of chromium from the aquifer during the period from March 1, 2014 through May 31, 2014.<sup>2</sup> To date, the IMs have removed approximately 7,960 pounds of chromium from the floodplain at the Topock site through May 2014.

During Second Quarter 2014, extraction wells TW-3D and PE-1 operated at a combined pumping rate of 124.3 gallons per minute (gpm), including periods of planned and unplanned downtime. The average monthly pumping rates during the reporting period were 117.9 gpm (April), 134.6 gpm (May), and 120.4 gpm (June). Extraction well TW-2S was not operated during Second Quarter 2014. Extraction well TW-2D ran for limited durations on April 4 and 5, 2014 and June 24, 25, 26 and 27, 2014. The operational runtime percentage for the IM extraction system was 92.7 percent during this reporting period. The operations log for the extraction system during Second Quarter 2014, including planned and unplanned downtime, is included in Appendix E.

The concentrate (saline water) from the reverse osmosis system was shipped offsite as nonhazardous 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 U.S. Ecology Chemical Waste Management

<sup>2</sup> Chromium removed this reporting period includes the period of March 1 through May 31, 2014. On July 23, 2010, DTSC approved a revised reporting schedule for this report that included a revised IM-3 sample collection period from March 1, 2014 through May 31, 2014.

facility in Beatty, Nevada, during Second Quarter 2014. 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 reporting period, Cr(VI) concentrations in TW-3D remained stable or decreasing overall, ranging from a maximum value of 725 µg/L in June 2014 to a minimum value of 601 µg/L in May, as shown in Table 4-2. TDS concentrations in TW-3D for this reporting period have also remained stable, as shown in Table 4-2.

The Cr(VI) concentrations in the extracted groundwater at well PE-1 on the floodplain ranged from 4.0 to 3.7 µg/L during the reporting period, as shown in Table 4-2. TDS concentrations in PE-1 for this reporting period have also remained stable.

## 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 more than 50 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 on Figure 1-4.

Daily average groundwater and river elevations calculated from the pressure transducer data for the reporting period are summarized in Table F-1 in Appendix F. Groundwater elevations (or hydraulic heads) are adjusted for temperature and salinity differences between wells (that is, adjusted to a common freshwater equivalent), as described in the Performance Monitoring Plan. Groundwater elevation hydrographs for the PMP wells during the reporting period are included in Appendix F. The elevation of the Colorado River measured at the I-3 gauge station (shown on Figure 1-4) is also shown on the hydrographs in Appendix F.

Average Second Quarter 2014 groundwater elevations for the shallow, mid-depth, and deep wells are presented and contoured in plan view on Figures 4-4a through 4-4c. Average Second Quarter 2014 groundwater elevations for wells on floodplain cross-section A are presented and contoured on 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.

Hydraulic gradients were measured during the 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 measured between the gradient well pairs in Second Quarter 2014. 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 0.0040 to 0.0065 feet per foot (ft/ft), which is 4.0 to 6.5 times greater than the required gradient of 0.001 ft/ft. The gradient for the northern well pair ranged from 2.1 to 2.4 times the target gradient of 0.001 ft/ft. For the central well pair, the average landward gradient ranged from 6.8 to 12.8 times the target gradient. The southern well pair gradients averaged 2.7 to 4.5 times the target gradient for the reporting period.



## 4.6 Projected River Levels during Next Quarter

The 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 (USBR). 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). In addition to 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 USBR projections of Davis Dam discharge and Lake Havasu levels from the preceding month. As an example, the projected river level for July 2014 is based on the June 2014 USBR 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 on Figure 4-7 are summarized in Table 4-4. The future projections shown on Figure 4-7 are based on USBR long-range projections of Davis Dam releases and Lake Havasu levels from June 2014. There is more uncertainty in these projections at longer times in the future because water demand is based on various elements including climatic factors.

Current USBR projections, presented in Table 4-4, show that the average projected Davis Dam release for July 2014 (15,100 cubic feet per second) will be less than the actual release in June 2014 (15,917 cubic feet per second). Based on July 2014 USBR predictions, it is anticipated that the Colorado River level at the I-3 gauge location in July 2014 will be approximately 0.34 foot lower compared to the actual levels in June 2014. Current projections show that the water levels will continue to decrease through the rest of the next quarterly reporting period (July through October), as shown on Figure 4-7.

## 4.7 Quarterly Performance Monitoring Program Evaluation Summary

The groundwater elevation and hydraulic gradient data from April 2014 through June 2014 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 Second Quarter 2014 were 4.0 to 6.5 times the required minimum magnitude. The current gradient well pairs are adequate to define the capture of the Cr(VI) plume while pumping from extraction wells TW-3D and PE-1. Based on the hydraulic and monitoring data and evaluation presented in this report, the IM performance standard has been met for the Second Quarter 2014 reporting period.

A total of 16,301,483 gallons of groundwater was extracted from April through June 2014 by the IM-3 treatment facility. The average pumping rate for the IM extraction system during Second Quarter 2014, including system downtime, was 124.3 gpm. An estimated 89.5 pounds (40.6 kilograms) of chromium were removed and treated between March 1 and May 31, 2014. To date, the IMs have removed approximately 7,960 pounds of chromium from the floodplain at the Topock site through May 2014, as shown on Figure 4-1.

The wells that are monitored to detect trends in Cr(VI) in the IM pumping area (for example, MW-36-100, MW-39-100, MW-44-115, MW-44-125, and MW-46-175) continue to show overall stable or declining Cr(VI) concentrations relative to prior monitoring results, as shown in Appendix D.

## Upcoming Operation and Monitoring Events

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Reporting of the IM extraction and monitoring activities will continue as described in the PMP and under direction from DTSC. Monitoring results, operations, and performance monitoring data will be reported in the Third Quarter 2014 monitoring report, which will be submitted by December 15, 2014.

### 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 is planned for September 22, 2014, through October 2, 2014.

#### 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 2 weeks of each month.

#### 5.1.3 Well Inspections

Inspection of monitoring wells will be completed during each regularly scheduled sampling event but not less than quarterly (DTSC, 2013; CH2M HILL, 2005a-b). Necessary repairs will be done in a timely manner.

### 5.2 Surface Water Monitoring Program

The Third Quarter 2014 surface water monitoring event was conducted at locations in the RMP monitoring network in July 2014. Results will be reported in the Third Quarter 2014 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 2014, except for periods when planned and unplanned downtime occur. Extracted groundwater treated at the IM-3 facility will be discharged into the IM-3 injection wells in accordance with compliance requirements of the waste discharge applicable, relevant, and appropriate requirements. 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-33-150, MW-34-100, and MW-45-095) will continue to be conducted via telemetry during Third Quarter 2014. Downloads of the remainder of the transducers will occur during the first week of each month during Third Quarter 2014.

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## Tables

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**Table 1-1**

Topock Monitoring Reporting Schedule  
*Second Quarter 2014 Interim Measures Performance Monitoring and  
Site-wide Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California*

<b>Program</b>	<b>First Quarter</b>	<b>Second Quarter</b>	<b>Third Quarter</b>	<b>Fourth Quarter</b>
Groundwater Monitoring Program	January - March	April - June	July - October	November - December
Surface Water Monitoring Program	January - March	April - June	July - October	November - December
Performance Monitoring Program	January - March	April - June	July - October	November - December
IM-3 Monitoring (Chromium removed)	January - March	April - June	July - September	October - December

TABLE 3-1

Groundwater Sampling Results, April 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-9	SA	09-Dec-13	240	236	2,600	31	7.5
MW-10	SA	14-May-13	267	269	10,000	240	7.4
		12-Dec-13	380	367	2,500	-26	7.5
		14-May-14	260	250	2,400	57	7.2
		14-May-14 FD	260	260	2,400	FD	FD
MW-12	SA	09-May-13	2,440	2,620	6,300	210	8.2
		25-Sep-13	2,260	2,590	6,700	200	8.1
		10-Dec-13	2,440	2,350	7,000	-18	8.2
		25-Feb-14	2,560	2,480	7,000	84	8.0
		01-May-14	2,400	2,200	6,000	-19	8.1
MW-13	SA	13-Nov-13	19.4	16.9	2,000	140	7.5
MW-14	SA	19-Dec-13	17.2	17.3	1,700	5.0	7.5
MW-15	SA	11-Nov-13	10.7	10.3	1,400	280	7.7
MW-16	SA	24-Apr-13	10.6	10.4	1,100	200	8.0
		06-Nov-13	8.5	8.3	920	150	8.1
		22-Apr-14	9.9	9.7	---	44	7.6
MW-17	SA	24-Apr-13	12.9	11.8	1,500	220	7.9
		11-Nov-13	11.8	11.6	1,200	260	8.0
		23-Apr-14	12.0	12.0	---	36	7.9
MW-18	SA	11-Nov-13	18.6	17.5	1,200	230	7.6
MW-19	SA	02-May-13	335	331	2,000	240	7.4
		02-May-13 FD	336	341	1,900	FD	FD
		05-Dec-13	522	487	2,100	190	7.6
		28-Apr-14	550	520	---	77	7.3
MW-20-70	SA	09-May-13	2,800	3,040	2,000	240	7.7
		11-Dec-13	2,140	2,520	1,900	16	7.6
		07-May-14	2,200	2,400	1,600	-7	7.5
MW-20-100	MA	09-May-13	3,340	3,780	2,600	270	7.3
		11-Dec-13	2,140	2,080	2,500	23	7.2
		07-May-14	2,900	2,900	2,400	-40	7.2
MW-20-130	DA	14-May-13	9,120	10,500	10,000	190	7.4
		17-Dec-13	9,370	9,620	11,000	-64	7.4
		17-Dec-13 FD	9,370	10,700	11,000	FD	FD

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-20-130	DA	12-May-14	9,100	9,000	9,900	-85	7.5
MW-21	SA	24-Apr-13	1.5	1.9	11,000	210	7.1
		10-Sep-13	ND (1.0)	1.5	10,000	120	7.1
		05-Nov-13	1.5	2.8	8,900	190	5.7
		19-Feb-14	2.6	3.5	---	8.0	7.1
		22-Apr-14	1.9	1.8	8,300	-190	7.2
MW-22	SA	15-May-13	ND (1.0)	ND (1.0)	13,000	-91	6.9
		14-Nov-13	ND (1.0)	ND (1.0)	20,000	-36	6.6
		30-Apr-14	ND (1.0)	ND (1.0)	---	-160	6.8
MW-23-060	BR	23-Apr-13	34.3	38.3	19,000	100	9.4
		17-Sep-13	36.9	38.4	15,000	120	9.4
		11-Nov-13	35.9	34.9	15,000	160	9.3
		13-Feb-14	34.9	38.0	---	70	9.4
		22-Apr-14	39.0	34.0	---	21	9.2
MW-23-080	BR	23-Apr-13	14.0	15.0	20,000	63	10.3
		17-Sep-13	13.7	14.3	15,000	140	9.9
		11-Nov-13	11.0	11.2	15,000	81	10.2
		13-Feb-14	8.4	9.0	---	16	10.2
		22-Apr-14	15.0	13.0	---	-60	10.1
MW-24BR	BR	07-May-13	ND (1.0)	ND (1.0)	14,000	-190	7.8
		10-Sep-13	ND (1.0)	ND (1.0)	14,000	-180	8.1
		03-Dec-13	ND (0.2)	ND (1.0)	14,000	-230	8.0
		20-Feb-14	ND (1.0)	ND (1.0)	---	-250	8.0
		29-Apr-14	ND (1.0)	ND (1.0)	---	-250	8.0
MW-25	SA	09-Dec-13	191	188	1,600	-4	7.4
MW-26	SA	07-May-13	1,790	1,870	3,900	240	7.3
		04-Dec-13	1,970	2,000	3,800	45	7.3
		05-May-14	2,200	2,200	3,600	-8	7.3
MW-27-20	SA	15-Apr-13	ND (0.2)	ND (1.0)	1,000	-70	7.4
		04-Nov-13	ND (0.2)	ND (1.0)	900	19	7.4
		14-Apr-14	ND (0.2)	ND (1.0)	1,000	4.0	7.5
MW-27-60	MA	15-Apr-13	ND (0.2)	ND (1.0)	1,100	-96	7.6
		02-Oct-13	ND (0.2)	ND (1.0)	760	-86	7.4
		04-Nov-13	ND (0.2)	ND (1.0)	950	-78	7.6

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-27-60	MA	10-Feb-14	ND (0.2)	ND (1.0)	860	-180	7.6
		14-Apr-14	ND (0.2)	ND (1.0)	920	-190	7.6
		14-Apr-14 FD	ND (0.2)	ND (1.0)	900	FD	FD
MW-27-85	DA	15-Apr-13	ND (1.0)	ND (1.0)	13,000	-42	7.4
		15-Apr-13 FD	ND (1.0)	ND (1.0)	13,000	FD	FD
		02-Oct-13	ND (1.0)	ND (1.0)	9,000	-38	7.2
		04-Nov-13	ND (0.2)	ND (1.0)	9,800	-16	7.3
		10-Feb-14	ND (1.0)	ND (1.0)	9,600	-280	7.3
		14-Apr-14	ND (1.0)	ND (1.0)	11,000	-230	7.3
MW-28-25	SA	18-Apr-13	ND (0.2)	ND (1.0)	1,000	58	7.4
		05-Nov-13	ND (0.2)	ND (1.0)	6,700	200	7.2
		15-Apr-14	ND (0.2)	ND (1.0)	910	-240	7.3
MW-28-90	DA	18-Apr-13	ND (0.2)	ND (1.0)	7,400	-79	7.2
		11-Sep-13	ND (0.2)	ND (1.0)	6,600	-56	7.1
		05-Nov-13	ND (0.2)	ND (1.0)	6,700	190	7.3
		12-Feb-14	ND (0.2)	ND (1.0)	7,000	-54	7.3
		15-Apr-14	ND (0.2)	ND (1.0)	6,700	-220	7.2
		15-Apr-14 FD	ND (0.2)	ND (1.0)	6,600	FD	FD
MW-29	SA	18-Apr-13	ND (0.2)	ND (1.0)	2,100	-110	7.3
		05-Nov-13	ND (0.2)	ND (1.0)	1,800 J	-74	7.2
		05-Nov-13 FD	ND (0.2)	ND (1.0)	2,300 J	FD	FD
		16-Apr-14	ND (0.2)	ND (1.0)	2,300	-170	7.3
MW-30-30	SA	15-Apr-13	ND (0.2)	ND (1.0)	9,000	-150	7.7
		15-Apr-13 FD	ND (0.2)	ND (1.0)	8,800	FD	FD
		04-Nov-13	ND (0.2)	ND (1.0)	5,300	-190	7.8
		14-Apr-14	0.21	ND (1.0)	6,800	-260	7.8
MW-30-50	MA	04-Nov-13	ND (0.2)	ND (1.0)	1,100	-120	7.6
MW-31-60	SA	07-May-13	275	271	3,600	130	7.5
		03-Dec-13	422	383	3,100	20	7.5
		12-May-14	270	270	---	-30	7.5
MW-31-135	DA	07-Nov-13	11.5	11.3	12,000	-110	7.7
MW-32-20	SA	16-Dec-13	ND (1.0)	ND (1.0)	40,000	-100	6.7
MW-32-35	SA	17-Apr-13	ND (1.0)	ND (1.0)	16,000	-150	7.1
		17-Apr-13 FD	ND (1.0)	ND (1.0)	15,000	FD	FD

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Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-32-35	SA	06-Nov-13	ND (1.0)	ND (1.0)	12,000	-79	7.2
		16-Apr-14	ND (1.0)	ND (1.0)	---	-190	7.1
MW-33-40	SA	22-Apr-13	ND (0.2)	ND (1.0)	7,000	82	8.1
		16-Sep-13	ND (1.0)	ND (1.0)	10,000	180	7.7
		03-Dec-13	ND (1.0)	ND (1.0)	9,600	110	7.9
		12-Feb-14	0.28	ND (1.0)	7,100	120	8.0
		17-Apr-14	ND (0.2)	ND (1.0)	5,600	-170	8.1
MW-33-90	MA	22-Apr-13	15.4	15.7	11,000	210	7.3
		16-Sep-13	13.6	13.6	8,800	230	7.4
		03-Dec-13	13.1	12.6	9,600	120	7.4
		12-Feb-14	13.3	15.5	9,900	140	7.4
		21-Apr-14	11.0	10.0	8,800	-230	7.2
		21-Apr-14 FD	12.0 J	9.8 J	8,700	FD	FD
MW-33-150	DA	22-Apr-13	11.2	11.8	19,000	260	7.5
		16-Sep-13	10.6	10.9	15,000	160	7.4
		03-Dec-13	10.7	11.0	16,000	140	7.5
		12-Feb-14	9.7	10.6	16,000	170	7.5
		12-Feb-14 FD	9.4	10.8	16,000	FD	FD
		17-Apr-14	12.0 J	9.6 J	14,000	-290	7.5
MW-33-210	DA	23-Apr-13	10.2	10.6	23,000	200	7.3
		12-Sep-13	12.5	13.0	17,000	110	7.3
		03-Dec-13	12.5	13.2	18,000	140	7.4
		03-Dec-13 FD	12.9	13.0	18,000	FD	FD
		12-Feb-14	11.6	13.5	18,000	130	7.4
		21-Apr-14	10.0	8.4	17,000	-300	7.3
MW-34-55	MA	20-Nov-13	ND (0.2)	ND (1.0)	780	-65	7.7
MW-34-80	DA	16-Apr-13	ND (0.2)	ND (1.0)	7,800	-12	7.2
		02-Oct-13	ND (1.0)	ND (1.0)	6,600	-37	7.4
		20-Nov-13	ND (1.0)	ND (1.0)	7,300	14	7.4
		20-Nov-13 FD	ND (1.0)	ND (1.0)	7,300	FD	FD
		10-Feb-14	ND (0.2)	ND (1.0)	---	-290	7.4
		17-Apr-14	ND (0.2)	ND (1.0)	---	-280	7.3
MW-34-100	DA	16-Apr-13	15.0	15.9	18,000	140	7.0
		16-Apr-13 FD	15.0	15.5	18,000	FD	FD
		02-Oct-13	82.6	79.5	15,000	80	7.6

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Location ID	Aquifer Zone	Sample Date		Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
							ORP (mV)	Field pH
MW-34-100	DA	02-Oct-13	FD	81.5	84.5	15,000	FD	FD
		20-Nov-13		143	136	18,000	-120	7.7
		20-Nov-13	FD	137	141	18,000	FD	FD
		16-Dec-13		246	268	---	-130	7.6
		22-Jan-14		263	270	---	-220	6.8
		10-Feb-14		159	170	---	-160	7.7
		17-Apr-14		3.0	3.5	---	-220	7.5
MW-35-60	SA	23-Apr-13		25.4	24.4	7,000	260	7.5
		10-Sep-13		21.9	21.2	7,000	200	7.2
		12-Nov-13		20.5	17.2	6,600	-11	7.4
		17-Feb-14		21.1	21.8	6,200	98	6.9
		17-Feb-14	FD	21.4	20.4	6,400	FD	FD
		24-Apr-14		25.0	24.0	5,600	0.0	7.4
		24-Apr-14	FD	25.0	22.0	5,700	FD	FD
MW-35-135	DA	23-Apr-13		27.4	28.9	12,000	140	7.6
		12-Nov-13		29.9	27.5	9,200	58	7.8
		24-Apr-14		29.0	25.0	---	-86	7.5
MW-36-20	SA	11-Nov-13		ND (0.2)	ND (1.0)	5,500	-150	7.7
		11-Nov-13	FD	ND (0.2)	ND (1.0)	5,400	FD	FD
MW-36-40	SA	11-Nov-13		ND (0.2)	ND (1.0)	1,300	-280	7.8
MW-36-50	MA	11-Nov-13		ND (0.2)	ND (1.0)	920	-57	7.3
MW-36-70	MA	11-Nov-13		ND (0.2)	ND (1.0)	930	-17	7.9
MW-36-90	DA	15-May-13		ND (0.2)	ND (1.0)	980	210	8.3
		11-Nov-13		ND (0.2)	ND (1.0)	1,000	-90	8.3
		17-Apr-14		ND (0.2)	ND (1.0)	---	-310	8.2
MW-36-100	DA	24-Apr-13		56.5	52.6	9,900	-9	7.2
		16-Dec-13		53.8	59.5	7,800	-140	7.2
		17-Apr-14		48.0	47.0	7,000	-360	7.3
MW-37S	MA	06-Nov-13		9.8	9.3	5,000	140	7.7
MW-37D	DA	30-Apr-13		108	120	15,000	170	7.5
		02-Dec-13		12.0	13.0	13,000	-180	7.7
		10-Apr-14		110	99.0	15,000	-190	7.6
MW-38S	SA	24-Sep-13		3.2	6.8	1,700	-170	7.6

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-38S	SA	03-Dec-13	0.59	2.4	---	-240	7.9
		14-May-14	1.5	2.1	---	-260	7.6
MW-38D	DA	17-Sep-13	7.5	8.1	20,000	-79	8.1
		13-Nov-13	9.1	10.2	---	19	8.1
		14-May-14	17.0	14.0	---	-310	8.0
MW-39-40	SA	12-Nov-13	ND (0.2)	ND (1.0)	1,100	-150	8.0
MW-39-50	MA	12-Nov-13	ND (0.2)	ND (1.0)	1,100	-34	7.8
MW-39-60	MA	12-Nov-13	ND (0.2)	ND (1.0)	1,500	30	7.9
MW-39-70	MA	12-Nov-13	ND (0.2)	ND (1.0)	1,800	200	7.6
MW-39-80	DA	12-Nov-13	ND (0.2)	ND (1.0)	5,600	27	7.3
MW-39-100	DA	04-Dec-13	52.2	53.9	14,000	110	6.7
		04-Dec-13 FD	52.2	51.4	14,000	FD	FD
MW-40S	SA	11-Nov-13	8.2	8.1	1,300	270	7.7
MW-40D	DA	01-May-13	134	137	14,000	250	7.4
		02-Dec-13	153	148	14,000	240	7.4
		24-Apr-14	130	110	13,000	-13	7.4
MW-41S	SA	04-Nov-13	17.4	15.3	4,900	180	7.9
MW-41M	DA	04-Nov-13	9.7	9.6	14,000	210	7.7
MW-41D	DA	23-Apr-13	2.9	3.0	26,000	210	7.6
		04-Nov-13	3.8	4.3	20,000	250	7.6
		10-Apr-14	2.6	2.4	---	-210	7.6
MW-42-30	SA	05-Nov-13	ND (0.2)	ND (1.0)	2,600	-160	7.8
MW-42-55	MA	16-Apr-13	ND (0.2)	1.2	2,500	-97	7.9
		11-Sep-13	ND (0.2)	2.8	1,700	-110	8.0
		05-Nov-13	ND (0.2)	2.3	2,600	-150	7.9
		11-Feb-14	ND (0.2)	2.3	---	-290	8.1
		14-Apr-14	0.23	1.6	---	-210	8.0
MW-42-65	MA	17-Apr-13	ND (0.2)	ND (1.0)	8,000	-36	7.3
		11-Sep-13	ND (0.2)	ND (1.0)	6,800	-28	7.2
		05-Nov-13	ND (0.2)	ND (1.0)	7,100	-34	7.3
		11-Feb-14	ND (0.2)	ND (1.0)	---	-350	7.3
		14-Apr-14	ND (0.2)	ND (1.0)	---	-220	7.3

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-43-25	SA	17-Apr-13	ND (0.2)	ND (1.0)	1,400	-160	7.5
		06-Nov-13	ND (0.2)	ND (1.0)	1,100	-120	7.3
		15-Apr-14	ND (0.2)	ND (1.0)	---	-170	7.2
MW-43-75	DA	06-Nov-13	ND (1.0)	ND (1.0)	9,700	-110	7.1
MW-43-90	DA	17-Apr-13	ND (1.0)	ND (1.0)	18,000	-80	6.9
		06-Nov-13	ND (0.2)	ND (1.0)	16,000	-80	6.9
		15-Apr-14	ND (1.0)	ND (1.0)	---	-160	6.9
MW-44-70	MA	22-Apr-13	ND (0.2)	ND (1.0)	2,400	-86	7.5
		02-Dec-13	ND (0.2)	ND (1.0)	2,000	-97	7.7
		16-Apr-14	ND (0.2)	ND (1.0)	---	-290	7.4
MW-44-115	DA	24-Apr-13	64.5	65.4	13,000	180	7.9
		12-Sep-13	47.1	46.0	10,000	190	7.4
		02-Dec-13	39.5	43.1	10,000	-190	8.0
		11-Feb-14	41.6	42.9	11,000	-370	7.9
		16-Apr-14	40.0	37.0	11,000	-300	7.8
MW-44-125	DA	18-Apr-13	ND (1.0)	5.3	9,400	-160	7.7
		18-Apr-13 FD	ND (1.0)	5.3	9,700	FD	FD
		12-Sep-13	ND (1.0)	4.9	8,600	-160	7.6
		12-Sep-13 FD	ND (0.2)	4.7	8,600	FD	FD
		02-Dec-13	ND (0.2)	4.1	10,000	-160	7.7
		02-Dec-13 FD	ND (0.2)	4.8	11,000	FD	FD
		11-Feb-14	ND (1.0)	5.5	11,000	-150	7.8
		11-Feb-14 FD	ND (1.0)	5.6	11,000	FD	FD
		16-Apr-14	ND (0.2)	5.5	9,200	-230	7.5
		16-Apr-14 FD	ND (0.2)	5.1	9,200	FD	FD
MW-45-095a	DA	02-Dec-13	13.7	14.2	8,400	-58	7.6
MW-46-175	DA	24-Apr-13	26.4	26.3	23,000	57	8.1
		11-Sep-13	29.5	29.6	17,000	130	8.0
		20-Nov-13	34.2	33.8	19,000	220	8.4
		16-Dec-13	50.0	52.5	---	-180	8.3
		22-Jan-14	46.3	46.1	---	-150	7.8
		11-Feb-14	35.6	38.0	18,000	-400	8.3
		11-Feb-14 FD	35.4	39.7	18,000	FD	FD
		15-Apr-14	21.0	19.0	19,000	-330	8.2

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-46-205	DA	24-Apr-13	5.6	5.4	28,000	63	8.2
		20-Nov-13	6.0	5.1	23,000	210	8.4
		15-Apr-14	5.5	4.8	---	-420	8.3
MW-47-55	SA	24-Apr-13	16.4	14.3	5,200	220	7.5
		12-Nov-13	17.2	16.4	4,500	160	7.6
		23-Apr-14	16.0	14.0	---	-11	7.4
MW-47-115	DA	24-Apr-13	23.7	21.1	16,000	240	7.5
		12-Nov-13	17.4	14.3	12,000	170	7.6
		23-Apr-14	23.0	20.0	---	-180	7.5
		23-Apr-14 FD	24.0	20.0	---	FD	FD
MW-48	BR	25-Apr-13	ND (1.0)	ND (1.0)	23,000	250	7.2
		11-Sep-13	ND (1.0)	ND (1.0)	16,000	24	7.4
		06-Nov-13	ND (1.0)	ND (1.0)	17,000	140	7.8
		20-Feb-14	ND (1.0)	ND (1.0)	---	130	7.5
		23-Apr-14	ND (1.0)	ND (1.0)	---	-200	6.6
MW-49-135	DA	06-Nov-13	1.3	2.0	12,000	24	7.6
MW-49-275	DA	06-Nov-13	2.0	2.9	24,000	100	7.8
MW-49-365	DA	07-Nov-13	ND (0.2)	ND (1.0)	40,000	-150	7.8
MW-50-095	MA	24-Apr-13	13.6	12.4	5,800	230	7.6
		24-Apr-13 FD	13.4	12.3	5,700	FD	FD
		06-Nov-13	12.3	11.5	4,800	140	7.9
		23-Apr-14	13.0	12.0	---	-10	7.7
MW-50-200	DA	14-May-13	7,630	8,670	19,000	210	7.6
		26-Sep-13	7,060	6,760	19,000	160	7.6
		17-Dec-13	6,600	7,110	20,000	-32	7.6
		26-Feb-14	7,010	6,940	---	-70	7.3
		12-May-14	7,400	7,200	---	-7	7.7
MW-51	MA	13-May-13	4,170	4,950	9,300	210	7.4
		11-Dec-13	4,520 J	4,550	9,800	13	7.4
		12-May-14	4,800	4,700	9,900	-50	7.5
MW-52S	MA	16-May-13	ND (0.2)	ND (1.0)	8,400	-120	6.9
		13-Nov-13	ND (0.2)	ND (1.0)	7,800	-100	6.8
		30-Apr-14	ND (0.2)	ND (1.0)	---	-200	6.8

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TABLE 3-1

Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-52M	DA	16-May-13	ND (1.0)	ND (1.0)	14,000	-140	7.6
		13-Nov-13	ND (1.0)	ND (1.0)	15,000	-140	7.5
		13-Nov-13 FD	ND (1.0)	ND (1.0)	13,000	FD	FD
		30-Apr-14	ND (1.0)	ND (1.0)	---	-280	7.4
MW-52D	DA	16-May-13	ND (1.0)	ND (1.0)	20,000	-190	8.0
		13-Nov-13	ND (1.0)	ND (1.0)	20,000	-150	7.6
		30-Apr-14	ND (1.0)	ND (1.0)	---	-260	7.7
MW-53M	DA	16-May-13	ND (1.0)	ND (1.0)	19,000	-180	8.1
		13-Nov-13	ND (1.0)	ND (1.0)	16,000	-190	8.0
		30-Apr-14	ND (1.0)	ND (1.0)	---	-240	7.9
MW-53D	DA	16-May-13	ND (1.0)	ND (1.0)	24,000	-220	8.3
		13-Nov-13	ND (1.0)	ND (1.0)	22,000	-180	8.1
		30-Apr-14	ND (1.0)	ND (1.0)	---	-260	8.2
MW-54-85	DA	25-Apr-13	ND (0.2) J	1.3	9,170	-90	7.6
		21-Nov-13	ND (1.0)	ND (1.0)	9,750	12	7.6
		09-Apr-14	ND (1.0) J	ND (1.0)	9,230 J	-220	7.6
MW-54-140	DA	25-Apr-13	ND (0.2) J	ND (1.0)	11,800	-26	7.7
		21-Nov-13	ND (1.0)	ND (1.0)	12,100	15	7.7
		09-Apr-14	ND (1.0) J	ND (1.0)	12,300 J	-230	7.7
		09-Apr-14 FD	ND (1.0) J	ND (1.0)	12,200 J	FD	FD
MW-54-195	DA	25-Apr-13	ND (1.0) J	ND (1.0)	18,300	56	8.1
		25-Apr-13 FD	ND (1.0) J	ND (1.0)	18,200	FD	FD
		21-Nov-13	ND (1.0)	ND (1.0)	18,000	-110	8.1
		09-Apr-14	ND (1.0) J	ND (1.0)	18,300 J	-240	8.0
MW-55-45	MA	21-Nov-13	ND (0.2)	ND (1.0)	1,450	30	7.8
MW-55-120	DA	21-Nov-13	7.2	7.6	8,220	-2	7.9
		21-Nov-13 FD	7.3	7.6	8,280	FD	FD
MW-56S	SA	15-May-13	ND (0.2) J	1.4	6,000	-130	7.0
		14-Nov-13	ND (0.2)	2.6	6,160	-110	7.0
		10-Apr-14	ND (1.0) J	5.3	6,390 J	-230	7.0
MW-56M	DA	15-May-13	ND (1.0) J	1.1 J	13,800	-120	7.1
		14-Nov-13	ND (1.0)	ND (1.0)	18,700	-110	7.3
		10-Apr-14	ND (1.0) J	1.8	14,400 J	-250	7.3

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TABLE 3-1

Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-56D	DA	15-May-13	ND (1.0) J	ND (1.0)	19,800	-150	7.7
		14-Nov-13	ND (1.0)	1.6 J	13,700	-130	7.7
		10-Apr-14	ND (1.0) J	ND (1.0)	19,800 J	-260	7.7
MW-57-070	BR	06-May-13	611	696	2,100	260	7.1
		23-Sep-13	554	561	2,000	210	7.2
		12-Dec-13	461	512	2,200	-36	7.2
		24-Feb-14	394	409	---	61	7.2
		28-Apr-14	430	460	---	86	7.0
MW-57-185	BR	23-Apr-13	10.2	9.8	23,000	150	9.0
		10-Sep-13	10.1	10.1	18,000	150	8.0
		07-Nov-13	9.5	9.4	19,000	-300	8.3
		07-Nov-13 FD	9.7	9.4	19,000	FD	FD
		13-Feb-14	9.2	10.5	18,000	11	8.8
		22-Apr-14	8.8	7.8	17,000	-81	8.8
MW-58BR	BR	30-Apr-13	ND (1.0)	ND (1.0)	8,400	-61	7.5
		19-Sep-13	0.73	ND (1.0)	8,400	110	7.6
		17-Dec-13	1.1	1.5	8,600	-170	7.5
		25-Feb-14	2.3	3.1	---	-160	7.5
		06-May-14	0.87	ND (1.0)	---	-270	7.6
MW-59-100	SA	13-May-13	4,110	4,150	8,800	150	6.8
		25-Sep-13	4,180	4,120	9,800	320	6.8
		10-Dec-13	3,860	3,960	9,100	28	6.9
		25-Feb-14	3,740	3,780	9,900	36	6.4
		07-May-14	4,000	4,000	9,600	-10	7.0
MW-60-125	BR	06-May-13	988	959	8,600	210	7.4
		24-Sep-13	1,120	1,050	8,600	110	7.3
		24-Sep-13 FD	1,100	1,020	8,400	FD	FD
		04-Dec-13	1,100	1,070	8,100	34	7.3
		25-Feb-14	1,030	1,070	9,100	---	---
		01-May-14	1,200	1,100	7,700	-42	7.5
MW-60BR-245	BR	07-May-13	46.6	49.7	18,000	-310	8.2
		17-Sep-13	ND (1.0)	2.6	16,000	-140	8.3
		04-Dec-13	ND (1.0)	ND (1.0)	16,000	-220	8.1
		19-Feb-14	ND (1.0)	2.0	17,000	-260	8.1
		29-Apr-14	ND (1.0)	1.2	16,000	-76	8.1

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TABLE 3-1

Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-61-110	BR	02-May-13	518	574	14,000	76	7.4
		23-Sep-13	576	616	14,000	60	7.4
		05-Dec-13	565	563	14,000	76	7.4
		05-Dec-13 FD	601	581	15,000	FD	FD
		19-Feb-14	588	619	15,000	-76	7.2
		29-Apr-14	470	460	15,000	-160	7.5
MW-62-065	BR	25-Apr-13	589	607	7,300	130	7.4
		23-Sep-13	500	518	5,800	180	7.4
		11-Dec-13	471	476	5,800	-6	7.4
		20-Feb-14	469	474	---	63	7.3
		29-Apr-14	550	550	---	-1	7.4
MW-62-110	BR	08-May-13	733	782	7,800	170	7.1
		18-Sep-13	808	857	8,100	220	7.3
		13-Nov-13	910	1,040	7,600	190	7.5
		19-Feb-14	976	927	8,600	110	7.6
		07-May-14	910	940	8,000	30	7.1
MW-62-190	BR	08-May-13	ND (1.0)	ND (1.0)	1,600	-30	7.5
		18-Sep-13	ND (1.0)	ND (1.0)	16,000	-3	7.6
		13-Nov-13	ND (1.0)	ND (1.0)	15,000	0.0	7.7
		19-Feb-14	ND (1.0)	ND (1.0)	17,000	-82	7.1
		07-May-14	ND (1.0)	ND (1.0)	16,000	-65	7.2
MW-63-065	BR	25-Apr-13	1.3	1.5	8,100	140	7.1
		09-Sep-13	1.9	1.8	7,000	110	7.2
		04-Dec-13	1.6	1.9	6,800	120	7.1
		12-Feb-14	1.2	1.5	6,700	130	7.2
		09-Apr-14	1.4	1.1	6,600	-1	7.1
MW-64BR	BR	01-May-13	ND (1.0)	ND (1.0)	12,000	48	7.3
		17-Sep-13	ND (1.0)	ND (1.0)	13,000	40	7.4
		16-Dec-13	ND (1.0)	ND (1.0)	13,000	18	7.4
		26-Feb-14	ND (1.0)	ND (1.0)	---	16	7.4
		06-May-14	ND (1.0)	ND (1.0)	---	-200	7.5
MW-65-160	SA	01-May-13	111	112	3,600	230	7.3
		19-Sep-13	113	115	3,800	270	7.3
		02-Dec-13	96.8	102	3,700	240	7.5
		19-Feb-14	125	126	4,000	11	7.0

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Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-65-160	SA	24-Apr-14	110	95.0	3,600	-17	7.1
MW-65-225	DA	02-May-13	534	549	10,000	250	7.2
		02-May-13 FD	548	572	10,000	FD	FD
		23-Sep-13	583	613	9,800	150	7.2
		23-Sep-13 FD	579	580	9,600	FD	FD
		02-Dec-13	551	580	10,000	-59	7.2
		19-Feb-14	513	529	11,000	-59	7.1
		29-Apr-14	460	450	12,000	-57	7.3
MW-66-165	SA	02-May-13	737	695	4,100	230	7.1
		23-Sep-13	631	694	4,200	200	7.3
		03-Dec-13	595	622	4,200	8.0	7.2
		19-Feb-14	594	638	4,400	70	7.0
		01-May-14	750	720	3,800	110	7.2
		01-May-14 FD	720	750	3,800	FD	FD
MW-66-230	DA	13-May-13	6,520	7,280	17,000	220	7.9
		25-Sep-13	5,120	6,030	17,000	300	7.9
		12-Dec-13	6,630 J	6,850	19,000	-33	7.1
		26-Feb-14	5,730	6,570	20,000	67	7.6
		07-May-14	6,700	6,700	17,000	-130	8.0
MW-66BR-270	BR	18-Jun-13	ND (1.0)	ND (1.0)	17,000	-170	10.3
		23-Sep-13	ND (1.0)	ND (1.0)	16,000	-230	9.6
		17-Dec-13	ND (1.0)	ND (1.0)	18,000	56	9.9
		26-Feb-14	ND (1.0)	ND (1.0)	18,000	-120	9.7
		13-May-14	ND (1.0)	ND (1.0)	15,000	-350	9.6
MW-67-185	SA	09-May-13	2,400	2,550	4,500	290	7.2
		25-Sep-13	2,280	2,220	5,000	200	7.2
		04-Dec-13	2,180	2,260	5,100	17	7.2
		24-Feb-14	1,960	2,150	5,600	150	7.2
		05-May-14	2,300	2,500	5,000	-32	7.2
MW-67-225	MA	09-May-13	3,140	3,280	6,800	150	7.4
		25-Sep-13	3,100	2,920	6,800	310	7.5
		09-Dec-13	3,070	3,010	7,000	43	7.4
		24-Feb-14	2,890	3,120	7,500	120	7.3
		06-May-14	3,200	3,300	6,300	-81	7.4
MW-67-260	DA	09-May-13	2,120	2,220	16,000	120	8.1

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Location ID	Aquifer Zone	Sample Date		Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
							ORP (mV)	Field pH
MW-67-260	DA	09-May-13	FD	2,140	2,250	16,000	FD	FD
		25-Sep-13		2,040	1,980	16,000	120	8.1
		25-Sep-13	FD	2,050	1,920	16,000	FD	FD
		09-Dec-13		1,980	1,820	17,000	-97	8.0
		24-Feb-14		1,940	2,010	18,000	-90	7.9
		05-May-14		2,000	1,900	15,000	-250	8.5
MW-68-180	SA	13-May-13		5,010	5,590	2,800	64	6.7
		26-Sep-13		19,200	20,700	3,800	200	7.2
		12-Dec-13		21,100	25,600	4,200	32	7.4
		12-Dec-13	FD	20,900	23,900	4,200	FD	FD
		27-Feb-14		22,900	23,800	4,300	28	7.3
		12-May-14		10,000	11,000	3,000	34	7.3
MW-68-240	DA	08-May-13		2,050	2,160	14,000	66	7.3
		24-Sep-13		2,120	1,920	15,000	160	7.4
		04-Dec-13		1,960	2,110	15,000	-79	7.3
		25-Feb-14		2,020	2,050	17,000	-40	7.1
		06-May-14		2,200	2,100	14,000	-190	7.3
		06-May-14	FD	2,200	2,100	14,000	FD	FD
MW-68BR-280	BR	08-May-13		ND (1.0)	ND (1.0)	19,000	-62	8.5
		18-Sep-13		ND (1.0)	ND (1.0)	19,000	-79	8.4
		18-Dec-13		ND (1.0)	ND (1.0)	20,000	-170	8.6
		27-Feb-14		ND (1.0)	ND (1.0)	22,000	-120	8.5
		13-May-14		ND (1.0)	ND (1.0)	19,000	-200	8.3
MW-69-195	BR	06-May-13		919	868	3,600	230	6.9
		24-Sep-13		938	963	3,500	120	7.1
		03-Dec-13		932	952	3,500	-25	6.9
		19-Feb-14		893	905	3,500	67	7.2
		01-May-14		1,000	1,000	3,100	53	7.1
MW-70-105	BR	25-Apr-13		198	201	3,800	37	7.8
		23-Sep-13		122	123	3,300	35	7.8
		04-Dec-13		163	164	3,400	11	7.8
		17-Feb-14		145	136	3,500	-180	7.9
		28-Apr-14		75.0	70.0	3,200	-130	7.8
MW-70BR-225	BR	07-May-13		2,000	2,070	13,000	170	7.3
		24-Sep-13		2,170	2,040	13,000	100	7.4

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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
MW-70BR-225	BR	10-Dec-13	1,950	1,910	13,000	-9	7.3
		25-Feb-14	1,900	2,080	14,000	-90	7.1
		05-May-14	2,400	2,500	12,000	-160	7.3
MW-71-035	SA	30-Apr-13	0.44	ND (1.0)	7,800	220	7.3
		10-Sep-13	ND (1.0)	ND (1.0)	7,900	120	7.3
		11-Dec-13	0.47	ND (1.0)	8,000	98	7.3
		18-Feb-14	0.32	ND (1.0)	8,400	-28	8.7
		24-Apr-14	1.0	1.0	7,700	---	---
MW-72-080	BR	25-Apr-13	116	124	20,000	130	7.7
		19-Sep-13	139	141	15,000	110	7.8
		19-Sep-13 FD	138	140	15,000	FD	FD
		04-Dec-13	137	136	15,000	110	7.7
		18-Feb-14	121	125	16,000	14	7.7
		24-Apr-14	100	82.0	16,000	-12	7.5
MW-72BR-200	BR	29-Apr-13	4.9	5.7	16,000	86	8.2
		19-Sep-13	5.7	6.2	15,000	-11	8.2
		05-Nov-13	5.4	5.6	16,000	19	8.3
		05-Nov-13 FD	5.6	5.8	16,000	FD	FD
		17-Feb-14	7.1	7.5	15,000	-95	8.2
		17-Feb-14 FD	7.1	7.0	15,000	FD	FD
		21-Apr-14	6.2 J	4.7 J	14,000	26	8.4
MW-73-080	BR	01-May-13	31.8	32.8	9,200	270	7.4
		11-Sep-13	31.6	30.9	9,700	300	7.2
		05-Dec-13	32.3	34.9	10,000	120	7.4
		18-Feb-14	48.5	49.2	11,000	4.0	7.2
		29-Apr-14	53.0	48.0	11,000	89	7.1
MW-74-240	BR	02-May-13	ND (0.2)	ND (1.0)	810	-32	8.7
		18-Sep-13	ND (0.2)	ND (1.0)	780	19	8.9
		05-Dec-13	ND (0.2)	ND (1.0)	710	-44	8.8
		26-Feb-14	ND (0.2)	ND (1.0)	880	-81	8.6
		01-May-14	ND (0.2)	ND (1.0)	800	-160	8.1
OW-3S	SA	13-Nov-13	22.3	22.5	1,400	160	7.7
OW-3M	MA	13-Nov-13	15.0	14.0	5,400	130	7.9
OW-3D	DA	05-Nov-13	8.6	8.3	9,000	49	7.9

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Groundwater Sampling Results, April 2013 through June 2014  
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Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
PE-1	DA	01-Apr-13	5.6	5.6	4,540	---	---
		01-May-13	5.0	5.8	4,540	---	---
		04-Jun-13	5.1	5.6	4,350	---	---
		02-Jul-13	4.7	5.3	4,130	---	---
		06-Aug-13	5.0	5.7	4,200	---	---
		03-Sep-13	5.1	5.4	4,330	---	---
		01-Oct-13	5.2	5.1	4,160	---	---
		05-Nov-13	5.2 J	5.0	4,160 J	---	---
		03-Dec-13	5.5	6.0	3,950	---	---
		07-Jan-14	5.5	5.6	3,960	---	---
		04-Feb-14	5.6	6.0	3,820	---	---
		04-Mar-14	4.8	4.8	3,680	---	---
		08-Apr-14	4.0	4.2	4,150	---	---
		06-May-14	3.9	4.3	4,540	---	---
		03-Jun-14	3.7	4.1	4,480	---	---
PGE-7BR	BR	10-Dec-13	ND (1.0)	ND (1.0)	16,000	-170	7.1
PGE-8	BR	18-Dec-13	ND (1.0)	ND (1.0)	18,000	-300	8.1
Park Moabi-3	MA	19-Dec-13	4.1	7.9 UF	1,200	-61	7.7
Park Moabi-4	MA	19-Dec-13	12.6	18.0 UF	2,000	-64	7.5
TCS-4		25-Mar-14	ND (0.4)	61.0 JUF	---	---	---
		20-May-14	ND (0.2)	ND (1.0)	---	-250	7.3
TW-1	SA-MA-DA	14-May-13	2,830	3,160	6,500	320	7.1
		26-Sep-13	2,770	2,600	6,900	160	7.1
		17-Dec-13	2,770	2,880	7,300	-91	7.2
		20-Feb-14	2,500	2,620	7,200	72	7.1
		13-May-14	2,800	2,700	6,000	-140	7.3
TW-2S	SA-MA	19-Dec-13	545	492	5,400	-40	7.7
TW-2D	DA	19-Dec-13	162	156	8,000	-38	7.3
TW-3D	DA	01-Apr-13	836	766	8,110	---	---
		01-May-13	746	881	8,040	---	---
		04-Jun-13	846	847	7,630	---	---
		02-Jul-13	934	828	7,400	---	---
		06-Aug-13	816	892	7,530	---	---
		03-Sep-13	728	832	7,770	---	---

Refer to table footnotes for data qualifier explanation.

TABLE 3-1

Groundwater Sampling Results, April 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Location ID	Aquifer Zone	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Selected Field Parameters	
						ORP (mV)	Field pH
TW-3D	DA	01-Oct-13	846	720	7,620	---	---
		05-Nov-13	816 J	817	7,550 J	---	---
		03-Dec-13	934	832	7,410	---	---
		07-Jan-14	905	761	7,290	---	---
		04-Feb-14	816	804	7,570	---	---
		04-Mar-14	816	752	7,980	---	---
		08-Apr-14	662	772	7,810	---	---
		06-May-14	601	742	8,270	---	---
		03-Jun-14	725	737	8,090	---	---
TW-4	DA	12-Nov-13	7.4	6.5	19,000	130	7.6
TW-5	DA	06-Nov-13	10.3	11.3	13,000	160	7.8

**Notes:**

(---) = data not collected, available, rejected, or field instrument malfunction.

FD = field duplicate sample.

J = concentration or reporting limit (RL) estimated by laboratory or data validation.

mV = millivolts.

ND = not detected at listed RL.

ORP = oxidation-reduction potential.

RL = reporting limit.

UF = unfiltered

µg/L = micrograms per liter.

µS/cm = microSiemens per centimeter.

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 E218.6 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, and MW-24B 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, 2013) and are not included in this table.

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

Wells are assigned to separate aquifer zones for results reporting:

SA: shallow interval of Alluvial Aquifer.

MA: mid-depth interval of Alluvial Aquifer.

DA: deep interval of Alluvial Aquifer.

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

ARCADIS. 2013. 2013 Annual Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test. October 11.

Refer to table footnotes for data qualifier explanation.

TABLE 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, Second Quarter 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Fluoride Dissolved (mg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)
MW-10	SA	14-May-14	---	4.50	28.0	5.9	---	11.2
		14-May-14 <sub>FD</sub>	---	4.50	28.0	6.4	---	10.6
MW-12	SA	01-May-14	38.0	---	11.0	16.0	ND (0.5) J	13.9
MW-16	SA	22-Apr-14	10.0	---	13.0	1.8	ND (0.5)	---
MW-17	SA	23-Apr-14	1.4	---	16.0	8.6	ND (0.5)	---
MW-20-70	SA	07-May-14	---	---	51.0	5.0	---	7.15
MW-20-100	MA	07-May-14	---	---	4.1	6.6	---	11.1
MW-20-130	DA	12-May-14	5.0	---	41.0	27.0	ND (0.5)	12.9
MW-21	SA	22-Apr-14	---	---	69.0	27.0	---	3.32
MW-22	SA	30-Apr-14	12.0	---	38.0	0.55	2100	---
MW-23-060	BR	22-Apr-14	2.6	---	---	---	ND (0.5)	---
MW-23-080	BR	22-Apr-14	2.7	---	---	---	ND (0.5)	---
MW-26	SA	05-May-14	1.7	---	30.0	49.0	ND (0.5)	20.4
MW-27-20	SA	14-Apr-14	0.84	---	3.4	12.0	21.0	0.265
MW-27-60	MA	14-Apr-14	6.9	0.73	4.1	ND (0.5)	200	ND (0.01)
		14-Apr-14 <sub>FD</sub>	7.2	0.80	4.2	ND (0.5)	190	ND (0.01)
MW-27-85	DA	14-Apr-14	0.18	ND (0.5)	2.2	ND (0.5)	6.3	---
		15-Apr-14 <sub>FD</sub>	1.8	ND (0.5)	21.0	ND (0.5)	120	ND (0.01)
MW-28-25	SA	15-Apr-14	1.8	---	4.5	ND (0.5)	15.0	ND (0.01)
MW-28-90	DA	15-Apr-14	1.8	ND (0.5)	22.0	ND (0.5)	130	ND (0.01)
		15-Apr-14 <sub>FD</sub>	1.8	ND (0.5)	21.0	ND (0.5)	120	ND (0.01)
MW-29	SA	16-Apr-14	5.7	---	19.0	9.5	270	0.198
MW-30-30	SA	14-Apr-14	---	---	22.0	ND (0.5)	---	0.0153
MW-32-35	SA	16-Apr-14	27.0	---	---	---	1200	---
MW-33-40	SA	17-Apr-14	14.0	9.80	130	ND (0.5)	ND (0.5)	ND (0.01)
MW-33-90	MA	21-Apr-14	1.3	ND (0.5)	15.0	ND (0.5)	ND (0.5)	1.43 J
		21-Apr-14 <sub>FD</sub>	1.3	ND (0.5)	15.0	ND (0.5)	ND (0.5)	1.38 J
MW-33-150	DA	17-Apr-14	1.1	ND (0.5)	24.0	ND (2.5)	ND (0.5)	1.63
MW-33-210	DA	21-Apr-14	0.94	ND (0.5)	17.0	ND (2.5)	ND (0.5)	1.58
MW-34-80	DA	17-Apr-14	1.4	---	---	---	8.0	---
MW-34-100	DA	17-Apr-14	1.3	---	---	---	---	---
MW-35-60	SA	24-Apr-14	1.0	---	9.8 J	1.1	1.8 J	2.39
		24-Apr-14 <sub>FD</sub>	1.0	---	11.0 J	0.98	ND (0.5) J	2.33
MW-36-90	DA	17-Apr-14	19.0	---	---	---	---	---
MW-36-100	DA	17-Apr-14	8.5	---	35.0	ND (0.5)	17.0	0.0768
MW-37D	DA	10-Apr-14	---	---	47.0	ND (0.5)	---	0.311



TABLE 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, Second Quarter 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Fluoride Dissolved (mg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)
MW-38D	DA	14-May-14	6.5	---	85.0	ND (2.5)	160	0.087
MW-38S	SA	14-May-14	11.0	---	40.0	ND (0.5)	220	0.57
MW-40D	DA	24-Apr-14	3.9	---	48.0	1.6	ND (0.5)	3.37
MW-42-55	MA	14-Apr-14	11.0	---	---	---	---	---
MW-42-65	MA	14-Apr-14	3.0	---	---	---	710	---
MW-43-25	SA	15-Apr-14	16.0	---	---	---	320	---
MW-43-90	DA	15-Apr-14	3.1	---	---	---	930	---
MW-44-70	MA	16-Apr-14	4.2	---	---	---	---	---
MW-44-115	DA	16-Apr-14	5.8	---	84.0	ND (0.5)	ND (0.5)	0.198
MW-44-125	DA	16-Apr-14	2.7	---	98.0	ND (0.5)	620	0.26
		16-Apr-14 FD	3.2	---	110	ND (2.5)	620	0.263
MW-46-175	DA	15-Apr-14	---	---	170	ND (2.5)	---	1.18
MW-51	MA	12-May-14	3.9	---	44.0	16.0	ND (0.5)	11.3
MW-52D	DA	30-Apr-14	3.3	---	---	---	140	---
MW-52M	DA	30-Apr-14	1.4	---	---	---	---	---
MW-52S	MA	30-Apr-14	0.21	---	---	---	---	---
MW-53D	DA	30-Apr-14	3.4	---	---	---	1300	---
MW-53M	DA	30-Apr-14	0.84	---	---	---	280	---
MW-54-85	DA	09-Apr-14	3.5	---	---	---	760	---
MW-54-140	DA	09-Apr-14	2.6	---	---	---	144	---
		09-Apr-14 FD	1.4	---	---	---	140	---
MW-54-195	DA	09-Apr-14	0.23	---	---	---	537	---
MW-57-185	BR	22-Apr-14	13.0	---	89.0	ND (2.5)	280 J	ND (0.01)
MW-58BR	BR	06-May-14	1.0	---	---	---	---	---
MW-59-100	SA	07-May-14	2.1	---	5.4	4.0	ND (0.5)	3.57
MW-60-125	BR	01-May-14	1.5	---	18.0	5.7	ND (0.5)	4.02
MW-60BR-245	BR	29-Apr-14	6.8	---	68.0	ND (2.5)	ND (0.5)	0.148
MW-61-110	BR	29-Apr-14	3.1	---	25.0	ND (2.5)	89.0	0.65
MW-62-110	BR	07-May-14	6.0	---	48.0	3.1	71.0	3.74
MW-62-190	BR	07-May-14	3.6	---	61.0	ND (2.5)	440	0.0209
MW-63-065	BR	09-Apr-14	1.5	---	20.0	0.81	ND (0.5)	0.851
MW-64BR	BR	06-May-14	2.9	---	---	---	---	---
MW-65-160	SA	24-Apr-14	0.72	---	27.0	8.2	ND (0.5)	12.3
MW-65-225	DA	29-Apr-14	2.2	---	39.0	5.2	ND (0.5)	6.89
MW-66-165	SA	01-May-14	1.2	---	5.6	34.0 J	ND (0.5) J	33.4

TABLE 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, Second Quarter 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Arsenic Dissolved (µg/L)	Fluoride Dissolved (mg/L)	Molybdenum Dissolved (µg/L)	Selenium Dissolved (µg/L)	Manganese Dissolved (µg/L)	Nitrate as N (mg/L)
MW-66-165	SA	01-May-14 FD	1.3	---	5.8	35.0 J	ND (0.5) J	34.1
MW-66-230	DA	07-May-14	8.5	---	81.0	11.0	ND (0.5)	13.5
MW-66BR-270	BR	13-May-14	ND (0.5)	---	13.0	ND (12)	ND (0.5)	ND (0.01)
MW-67-185	SA	05-May-14	1.5	---	8.9	240	ND (0.5)	45.4
MW-67-225	MA	06-May-14	3.1	---	37.0	75.0	ND (0.5)	23.5
MW-67-260	DA	05-May-14	11.0	---	72.0	ND (2.5)	58.0	1.21
MW-68-180	SA	12-May-14	2.9	---	39.0	13.0	ND (0.5)	14.9
MW-68-240	DA	06-May-14	1.9	---	20.0	4.3	ND (0.5)	4.66
		06-May-14 FD	1.8	---	20.0	5.1	ND (0.5)	4.50
MW-68BR-280	BR	13-May-14	1.3	---	73.0	ND (2.5)	39.0	ND (0.01)
MW-69-195	BR	01-May-14	2.3	---	84.0	12.0	ND (0.5)	19.3
MW-70-105	BR	28-Apr-14	4.6	---	100	3.1	130	3.22
MW-70BR-225	BR	05-May-14	1.9	---	17.0	2.5	ND (0.5)	3.98
MW-71-035	SA	24-Apr-14	1.3	---	59.0	3.7	ND (0.5)	2.19
MW-72-080	BR	24-Apr-14	10.0	---	76.0	ND (2.5)	ND (0.5)	0.991
MW-72BR-200	BR	21-Apr-14	14.0	---	75.0	ND (2.5)	ND (0.5)	0.103
MW-73-080	BR	29-Apr-14	1.4	---	22.0	4.7	ND (0.5)	4.95
MW-74-240	BR	01-May-14	12.0	---	48.0	1.9	ND (0.5)	0.514
PE-1	DA	08-Apr-14	---	---	---	---	66.3	ND (0.5)
		06-May-14	---	---	---	---	72.2	ND (0.5)
		03-Jun-14	---	---	---	---	68.7	ND (0.5)
TW-1	SA-MA-DA	13-May-14	---	---	15.0	17.0	---	19.5
TW-3D	DA	08-Apr-14	---	---	---	---	7.0	3.27
		06-May-14	---	---	---	---	8.9	3.33
		03-Jun-14	---	---	---	---	7.9	3.28

TABLE 3-2

Groundwater COPCs and In Situ Byproducts Sampling Results, Second Quarter 2014  
*Second Quarter 2014 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 not collected, available, rejected, or field instrument malfunction.

COPC = contaminants of potential concern.

FD = field duplicate sample.

J = concentration or reporting limit estimated by laboratory or data validation.

mg/L = milligrams per liter.

ND = not detected at listed reporting limit.

µg/L = micrograms per liter.

Nitrate samples were analyzed using USEPA Method 353.2, except for TW-3D and PE-1, which were analyzed using USEPA Method 300.0. USEPA Method 353.2 reports a combination of nitrate and nitrite as nitrogen. The contribution of nitrite to the reported result of nitrate plus nitrite as nitrogen is expected to be negligible; therefore, sample results for USEPA Method 353.2 are expected to be essentially the same as previous samples analyzed using USEPA Method 300.0 and reported as nitrate as nitrogen.

The background study upper tolerance limit (UTL) for arsenic is 24.3 µg/L.

The USEPA and California maximum contaminant level (MCL) for arsenic is 10 µg/L.

The background study UTL for molybdenum is 36.3 µg/L.

There is no USEPA or California MCL for molybdenum.

The background study UTL for selenium is 10.3 µg/L.

The USEPA and California MCL for selenium is 50.0 µg/L.

The secondary USEPA and California MCL for manganese is 50 µg/L.

The background study UTL for nitrate as nitrogen is 5.03 mg/L.

The USEPA and California MCL for nitrate as nitrogen is 10 mg/L.

The background study UTL for fluoride is 7.1 mg/L.

The USEPA MCL for fluoride is 4 mg/L, and the California MCL 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).

TABLE 3-3  
Title 22 Metals Results, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

California MCL:		6	10	1,000	4	5	NE	50	1,000 <sup>a</sup>	15	2	NE	100	50	100 <sup>a</sup>	2	NE	5,000 <sup>a</sup>
Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-12	05/01/2014	ND (0.5)	38.0	54.0	ND (0.5)	ND (0.5)	ND (0.5)	2,200	ND (1.0) J	ND (1.0)	ND (0.2)	11.0	ND (1.0)	16.0	ND (0.5)	ND (0.5)	16.0	ND (10)
MW-22	04/30/2014	ND (2.5)	12.0	53.0	ND (2.5)	ND (2.5)	1.1	ND (1.0)	ND (1.0) J	ND (5.0)	ND (0.2)	38.0	2.8	0.55	ND (2.5)	ND (2.5)	ND (1.0)	ND (10)

**Notes:**  
<sup>a</sup> = Secondary USEPA MCL.  
J = concentration or reporting limit estimated by laboratory or data validation.  
MCL = maximum contaminant level.  
ND = not detected at listed reporting limit.  
NE = not established.  
USEPA = United States Environmental Protection Agency.  
µg/L = micrograms per liter.

Title 22 metals are the metals listed in California Code of Regulations, Title 22, Section 66261.24(a)(2)(A).  
The 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 USEPA Methods SW6020A or SW7470A.

TABLE 3-4

Surface Water Sampling Results, Second Quarter 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
<b>In-channel Locations</b>					
C-BNS-D	05/21/2014	ND (0.2)	ND (1.0)	860	8.2 J
C-CON-S	05/22/2014	ND (0.2)	ND (1.0)	880	8.3 J
C-CON-D	05/22/2014	ND (0.2)	ND (1.0)	890	8.3 J
C-I-3-S	05/21/2014	ND (0.2)	ND (1.0)	580	8.3 J
C-I-3-D	05/21/2014	ND (0.2)	ND (1.0)	860	8.3 J
C-MAR-S	05/21/2014	ND (0.2)	ND (1.0)	920	7.8 J
C-MAR-D	05/21/2014	ND (0.2)	ND (1.0)	920	7.9 J
C-NR1-S	05/22/2014	ND (0.2)	ND (1.0)	890	8.3 J
C-NR1-D	05/22/2014	ND (0.2)	ND (1.0)	880	8.3 J
C-NR3-S	05/22/2014	ND (0.2)	ND (1.0)	880	8.3 J
C-NR3-D	05/22/2014	ND (0.2)	ND (1.0)	890	8.3 J
C-NR4-S	05/22/2014	ND (0.2)	ND (1.0)	890	8.3 J
C-NR4-D	05/22/2014	ND (0.2)	ND (1.0)	880	8.3 J
C-R22a-S	05/21/2014	ND (0.2)	ND (1.0)	870	8.3 J
C-R22a-D	05/21/2014	ND (0.2)	ND (1.0)	870	8.3 J
C-R27-S	05/21/2014	ND (0.2)	ND (1.0)	870	8.3 J
C-R27-D	05/21/2014	ND (0.2)	ND (1.0)	870	8.3 J
C-TAZ-S	05/21/2014	ND (0.2)	ND (1.0)	890	8.3 J
C-TAZ-D	05/21/2014	ND (0.2)	ND (1.0)	880	8.3 J
<b>Shoreline Samples</b>					
R-19	05/22/2014	ND (0.2)	ND (1.0)	880	8.3 J
R-28	05/22/2014	ND (0.2)	ND (1.0)	890	8.3 J
R63	05/21/2014	ND (0.2)	ND (1.0)	880	8.3 J
RRB	05/22/2014	ND (0.2)	ND (1.0)	900	8.2 J
<b>Other Surface Water Monitoring Locations</b>					
SW1	05/22/2014	ND (0.2)	ND (1.0)	900	8.0 J
SW2	05/22/2014	ND (0.2)	ND (1.0)	900	8.2 J

TABLE 3-4

Surface Water Sampling Results, Second Quarter 2014  
*Second Quarter 2014 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:**

J = concentration or reporting limit estimated by laboratory or data validation.

ND = not detected at listed reporting limit.

µg/L = micrograms per liter.

µS/cm = microSiemens per centimeter.

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

Other analytical methods: dissolved chromium - Method SW6020A; specific conductance - USEPA 120.1;  
pH -SM4500-HB.

pH is reported to two significant figures.

TABLE 3-5  
COPCs, In Situ Byproducts, and Geochemical Indicator Parameters in Surface Water Samples, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

Location	Sample Date	Arsenic, dissolved  µg/L	Barium, dissolved  µg/L	Iron, Total  µg/L	Iron, dissolved  µg/L	Manganese, dissolved  µg/L	Molybdenum, dissolved  µg/L	Nitrate/Nitrite as Nitrogen  mg/L	Selenium, dissolved  µg/L	Total suspended solids mg/L
In-channel Locations										
C-BNS-D	05/21/2014	2.5	130	31.0	ND (20.0)	ND (0.50)	4.5	0.310	1.5	ND (10.0)
C-CON-S	05/22/2014	2.4	120	ND (20.0)	23.0	ND (0.50)	4.4	0.320	1.4	ND (10.0)
C-CON-D	05/22/2014	2.4	120	52.0	ND (20.0)	ND (0.50)	4.4	0.180	1.6	ND (10.0)
C-I-3-S	05/21/2014	2.4	120	ND (20.0)	ND (20.0)	ND (0.50)	4.4	0.280	1.5	ND (10.0)
C-I-3-D	05/21/2014	2.5	120	45.0	ND (20.0)	ND (0.50)	4.5	0.300	1.5	ND (10.0)
C-MAR-S	05/21/2014	2.1	120	490	ND (20.0)	35.0	4.5	0.200	1.5	62.0
C-MAR-D	05/21/2014	2.1	120	2900	ND (20.0)	33.0	4.5	0.210	1.5	70.0
C-NR1-S	05/22/2014	2.5	120	ND (20.0)	ND (20.0)	ND (0.50)	4.6	0.270	1.4	ND (10.0)
C-NR1-D	05/22/2014	2.4	120	30.0	25.0	ND (0.50)	4.6	0.240	1.6	ND (10.0)
C-NR3-S	05/22/2014	2.4	120	ND (20.0)	ND (20.0)	ND (0.50)	4.5	0.310	1.7	ND (10.0)
C-NR3-D	05/22/2014	2.4	120	41.0	30.0	ND (0.50)	4.4	0.220	1.4	ND (10.0)
C-NR4-S	05/22/2014	2.4	120	ND (20.0)	ND (20.0)	ND (0.50)	4.4	0.190	1.4	ND (10.0)
C-NR4-D	05/22/2014	2.5	120	ND (20.0)	24.0	ND (0.50)	4.4	0.260	1.5	ND (10.0)
C-R22a-S	05/21/2014	2.4	110	37.0	ND (20.0)	ND (0.50)	4.3	0.290	1.3	ND (10.0)
C-R22a-D	05/21/2014	2.4	120	26.0	ND (20.0)	ND (0.50)	4.3	0.220	1.5	ND (10.0)
C-R27-S	05/21/2014	2.5	120	27.0	21.0	ND (0.50)	4.5	0.230	1.5	ND (10.0)
C-R27-D	05/21/2014	2.3	110	53.0	23.0	ND (0.50)	4.4	0.470	1.5	ND (10.0)
C-TAZ-S	05/21/2014	2.4	120	660	ND (20.0)	ND (0.50)	4.5	0.250	1.4	ND (10.0)
C-TAZ-D	05/21/2014	2.3	110	25.0	ND (20.0)	ND (0.50)	4.4	0.240	1.4	ND (10.0)
Shoreline Samples										
R-19	05/22/2014	2.3	120	23.0	ND (20.0)	ND (0.50)	4.4	0.220	1.4	ND (10.0)
R-28	05/22/2014	2.4	120	27.0	ND (20.0)	ND (0.50)	4.7	0.270	1.5	ND (10.0)
R63	05/21/2014	2.4	120	68.0	ND (20.0)	ND (0.50)	4.3	0.270	1.4	ND (10.0)
RRB	05/22/2014	2.2	120	400	ND (20.0)	7.3	4.4	0.490	1.3	18.0

**Notes:**  
COPC = contaminants of potential concern (molybdenum, selenium, and nitrate).  
mg/L = milligrams per liter.  
ND = not detected at listed reporting limit.  
TSS = total suspended solids.  
µg/L = micrograms per liter.  
USEPA = United States Environmental Protection Agency.

Geochemical indicator parameters (TSS and alkalinity).  
In situ byproducts (arsenic, iron and manganese).

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

TABLE 4-1

Pumping Rate and Extracted Volume for IM System, Second Quarter 2014  
*Second Quarter 2014 Interim Measure Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Extraction Well ID	April 2014		May 2014		June 2014		Second Quarter 2014	
	Average Pumping Rate <sup>a</sup> (gpm)	Volume Pumped (gal)	Average Pumping Rate <sup>a</sup> (gpm)	Volume Pumped (gal)	Average Pumping Rate <sup>a</sup> (gpm)	Volume Pumped (gal)	Average Pumping Rate <sup>a</sup> (gpm)	Volume Pumped (gal)
TW-02S	0.00	0	0.00	0	0.00	0	0.00	0
TW-02D	2.93	126,759	0.00	0	2.15	92,891	1.69	219,650
TW-03D	92.63	4,001,723	105.91	4,728,042	90.98	3,930,353	96.51	12,660,117
PE-01	22.35	965,666	28.64	1,278,543	27.26	1,177,507	26.08	3,421,715
<b>TOTAL</b>	<b>117.9</b>	<b>5,094,148</b>	<b>134.6</b>	<b>6,006,584</b>	<b>120.4</b>	<b>5,200,751</b>	<b>124.3</b>	<b>16,301,483</b>
Chromium Removed This Quarter (kg)								40.6
Chromium Removed Project to Date (kg)								3610
Chromium Removed This Quarter (lb)								89.5
Chromium Removed Project to Date (lb)								7960

**Notes:**

DTSC = Department of Toxic Substances Control.

gal = gallons.

gpm = gallons per minute.

IM = Interim Measures.

kg = kilograms.

lb = pounds.

<sup>a</sup> The "Average Pumping Rate" is the overall average during the reporting period, including system downtime, based on flow meter readings.

Chromium removed includes the period from March 1, 2014 through May 31, 2014. On July 23, 2010 DTSC approved a revised reporting schedule for this report that included a revised IM-3 sample collection period from March 1, 2013 through May 31, 2014.



TABLE 4-2

Analytical Results for Extraction Wells, April 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Sample Date	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Dissolved Solids (mg/L)	pH
TW-3D	01-Apr-13	766 LF	836	5,140	7.2 J
	01-May-13	881 LF	746	4,990	7.2 J
	04-Jun-13	847 LF	846	5,030	7.2 J
	02-Jul-13	828 LF	934	4,920	7.5 J
	06-Aug-13	892 LF	816	4,560	7.5 J
	03-Sep-13	832 LF	728	4,630	7.5 J
	01-Oct-13	720 LF	846	5,010	7.5 J
	05-Nov-13	817 LF	816 J	4,990 J	7.7 J
	03-Dec-13	832 LF	934	4,860	7.4 J
	07-Jan-14	761 LF	905	5,140	7.4 J
	04-Feb-14	804 LF	816	5,190	7.6 J
	04-Mar-14	752 LF	816	5,050	7.5 J
	08-Apr-14	772 LF	662	5,210	7.4 J
	06-May-14	742 LF	601	4,820	7.3 J
	03-Jun-14	737 LF	725	4,750	7.4 J
PE-1	01-Apr-13	5.6 LF	5.6	2,780	7.5 J
	01-May-13	5.8 LF	5.0	2,760	7.4 J
	04-Jun-13	5.6 LF	5.1	2,650	7.5 J
	02-Jul-13	5.3 LF	4.7	2,620	7.5 J
	06-Aug-13	5.7 LF	5.0	2,700	7.5 J
	03-Sep-13	5.4 LF	5.1	2,700	7.6 J
	01-Oct-13	5.1 LF	5.2	2,600	7.6 J
	05-Nov-13	5.0 LF	5.2 J	2,580 J	7.7 J
	03-Dec-13	6.0 LF	5.5	2,560	7.5 J
	07-Jan-14	5.6 LF	5.5	2,680	7.4 J
	04-Feb-14	6.0 LF	5.6	2,630	7.6 J
	04-Mar-14	4.8 LF	4.8	2,510	7.5 J
	08-Apr-14	4.2 LF	4.0	2,700	7.5 J
	06-May-14	4.3 LF	3.9	2,680	7.4 J
	03-Jun-14	4.1 LF	3.7	2,610	7.5 J

**Notes:**

J = concentration or reporting limit estimated by laboratory or data validation.

LF = lab filtered.

mg/L = milligrams per liter.

µg/L = micrograms per liter.

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 USEPA200.8 or USEPA200.7, hexavalent chromium analyzed by Method SM3500-CrB or USEPA218.6, and total dissolved solids were analyzed by Method SM2540C.

TABLE 4-3

Average Hydraulic Gradients Measured at Well Pairs, Second Quarter 2014  
*Second Quarter 2014 and Annual Interim Measure Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Well Pair <sup>a</sup>	Reporting Period	Mean Landward <sup>b</sup> Hydraulic Gradient (feet/foot)	Days in <sup>c</sup> Monthly Average
Overall Average	April	0.0040	NA
	May	0.0065	NA
	June	0.0057	NA
Northern Gradient Pair MW-31-135 / MW-33-150	April	0.0024	30 / 30
	May	0.0023	31 / 31
	June	0.0021	30 / 30
Central Gradient Pair MW-45-95 / MW-34-100	April	0.0068	30 / 30
	May	0.0128	31 / 31
	June	0.0110	30 / 30
Southern Gradient Pair MW-45-95 / MW-27-85	April	0.0027	30 / 30
	May	0.0045	31 / 31
	June	0.0041	30 / 30

**Notes:**

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

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

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

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

**Table 4-4**

Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3  
*Second Quarter 2014 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 2012	9,800	10,378	-578	453.7	453.99	0.3
February 2012	12,300	12,614	-314	454.8	455.25	0.4
March 2012	14,800	15,134	-334	455.8	455.88	0.1
April 2012	18,300	18,330	-30	457.1	457.33	0.2
May 2012	15,900	15,938	-38	456.4	456.63	0.2
June 2012	15,900	15,996	-96	456.4	456.59	0.2
July 2012	14,500	13,087	1,413	456.0	455.72	-0.3
August 2012	12,200	12,104	96	455.2	455.45	0.3
September 2012	13,000	12,147	853	455.2	455.31	0.1
October 2012	8,400	9,037	-637	453.6	453.95	0.3
November 2012	8,500	8,390	110	453.6	NA	NA
December 2012	6,300	6,427	-127	452.6	452.17	-0.4
January 2013	8,300	8,299	1	453.2	453.28	0.04
February 2013	10,600	10,972	-372	454.3	454.63	0.4
March 2013	15,200	15,545	-345	456.0	456.29	0.3
April 2013	17,600	17,090	510	456.9	456.74	-0.1
May 2013	15,800	15,592	208	456.4	456.44	0.0
June 2013	15,700	15,588	112	456.5	456.47	0.0
July 2013	14,400	13,165	1,235	456.0	455.79	-0.2
August 2013	13,100	12,185	915	455.4	455.43	0.0
September 2013	11,700	11,446	254	454.8	455.02	0.2
October 2013	12,300	12,497	-197	454.9	455.09	0.2
November 2013	9,700	8,918	782	454.0	453.98	0.0
December 2013	6,400	7,636	-1,236	452.4	452.81	0.4
January 2014	8,300	8,970	-670	452.8	453.27	0.5
February 2014	11,600	11,850	-250	454.3	454.67	0.3
March 2014	16,600	17,473	-873	456.4	456.70	0.3
April 2014	18,200	17,718	482	457.1	457.08	0.0
May 2014	16,700	16,622	78	456.8	456.68	-0.1
June 2014	15,900	15,917	-17	456.6	456.64	0.1
July 2014	15,100			456.3		

**NOTES:**

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

NA = Data unavailable during this time period.

Projected river level for each month in the past is calculated based on the preceding months United State Bureau of Reclamation (USBR) projections of Davis Dam release and stage in Lake Havasu. Future projections of river level at I-3 are based upon July 2014 USBR projections. These data are reported monthly by the US Department of Interior, at <http://www.usbr.gov/lc/region/g4000/24mo.pdf>.

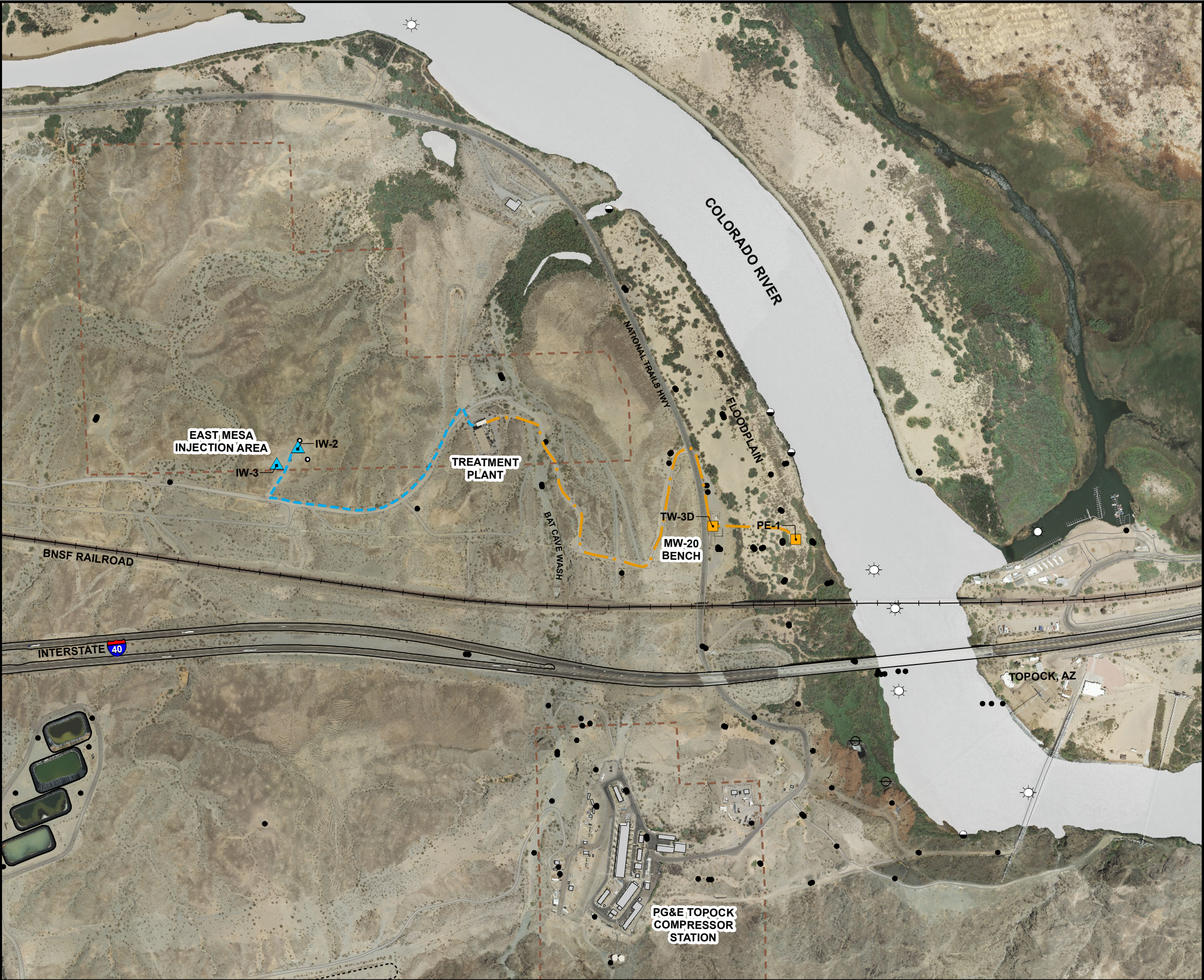
The difference in I-3 elevation is the difference between the I-3 elevation predicted and the actual elevation measured at I-3. The source of this difference is differences between BOR projections and actual dam releases/Havasu reservoir levels, rather than the multiple regression error.

For data prior to 2012, please see *Fourth Quarter 2013 and Annual Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California (CH2MHILL, 2014a)*.

## Figures

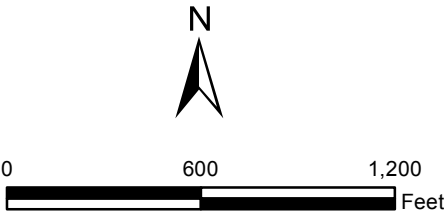
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- LEGEND**
- IM-3 Extraction Well (Active)
  - IM-3 Injection Well
  - Monitoring Well in Site-Wide Groundwater Monitoring Program (GMP)
  - Monitoring Well in IM-3 Compliance Monitoring Program
  - Shoreline Surface Water Monitoring Location
  - River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

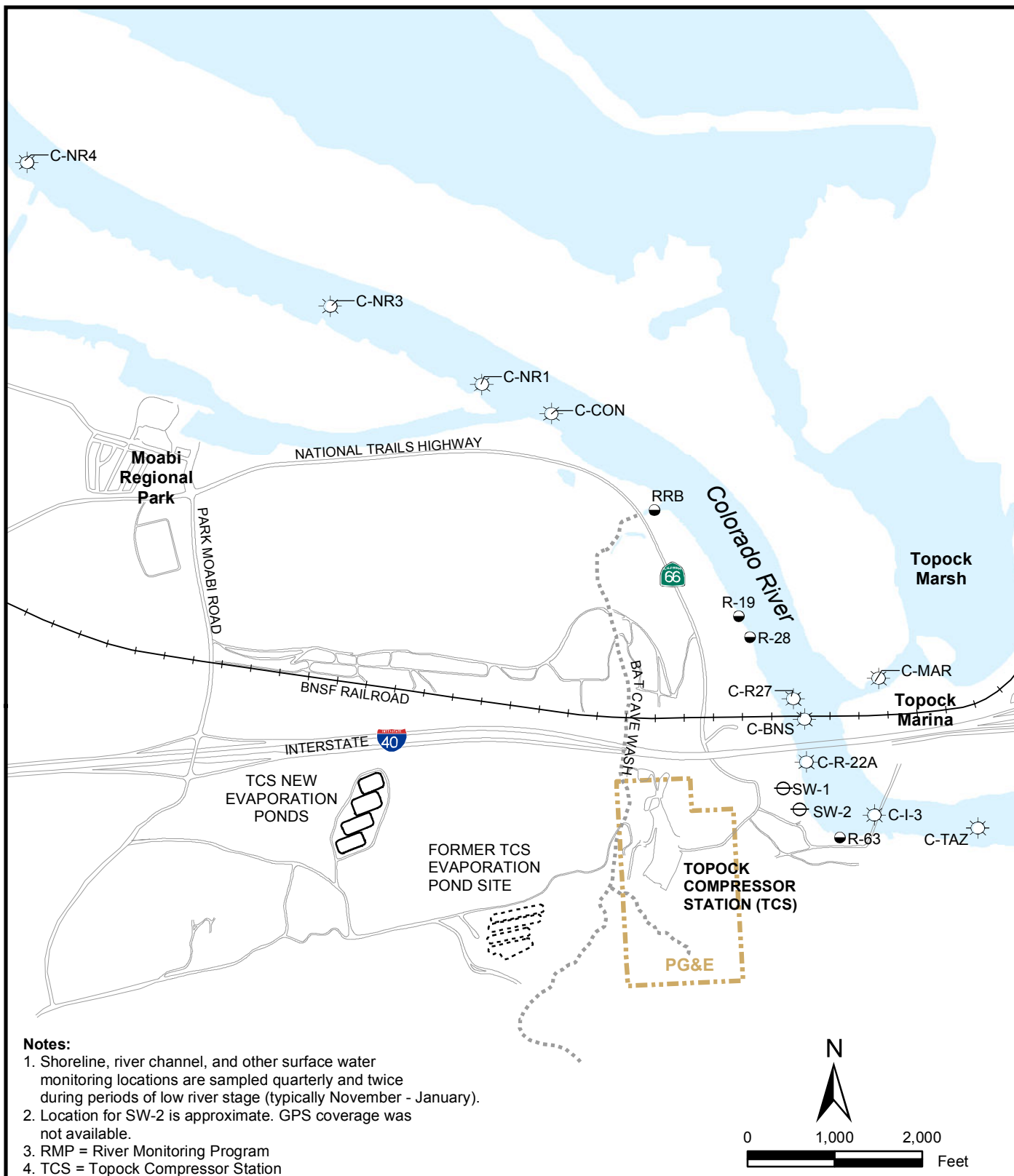
- Notes:**
- Location map shows Interim Measure No. 3 (IM-3) active facilities as of current report.
  - See Figures 1-2 and 1-3 for complete monitoring locations and identifications.



**FIGURE 1-1**  
**LOCATIONS OF IM-3 FACILITIES**  
**AND MONITORING LOCATIONS**  
SECOND QUARTER 2014 INTERIM MEASURES  
PERFORMANCE MONITORING AND SITE-WIDE  
GROUNDWATER AND SURFACE WATER  
MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA





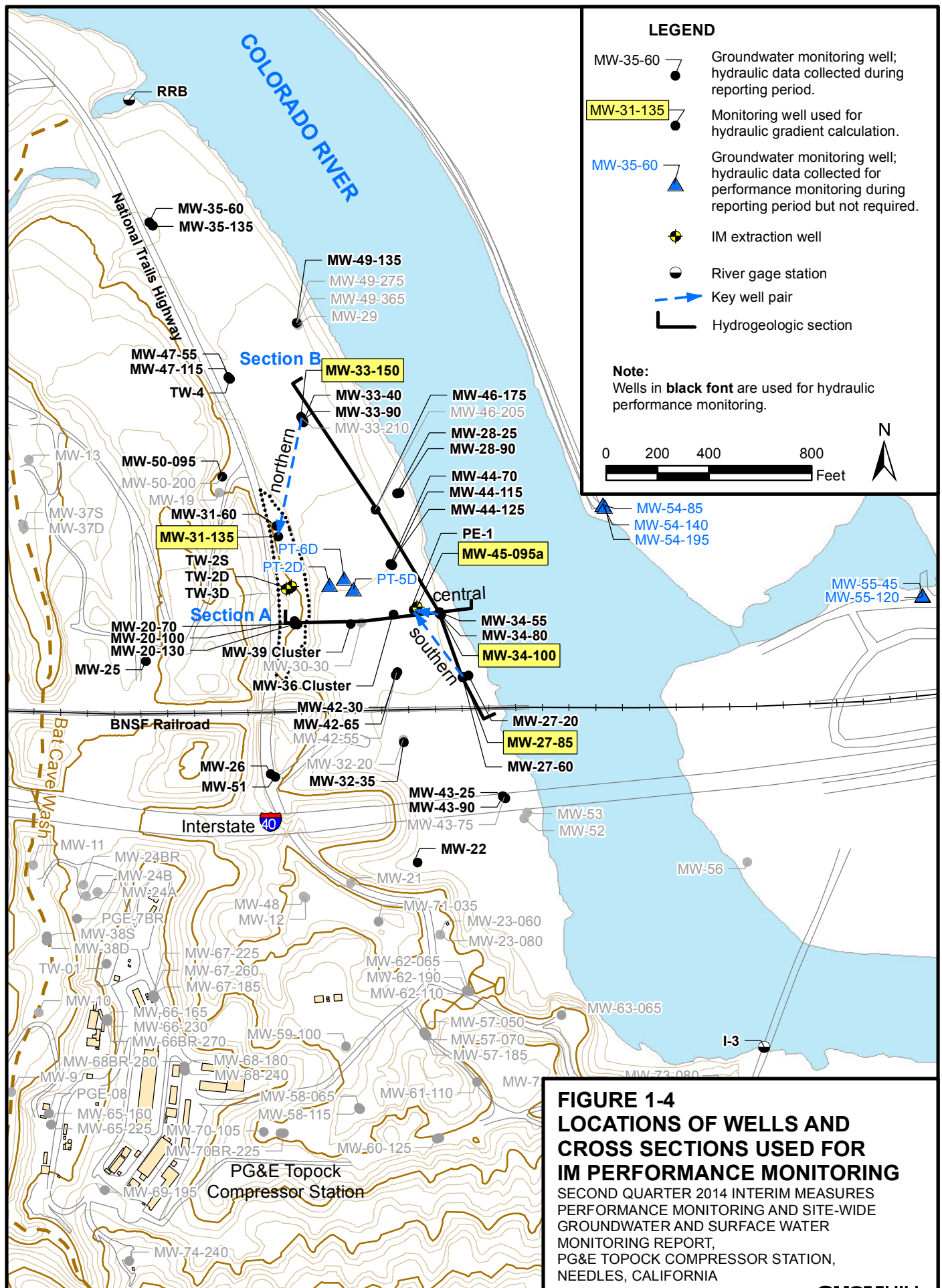


#### LEGEND

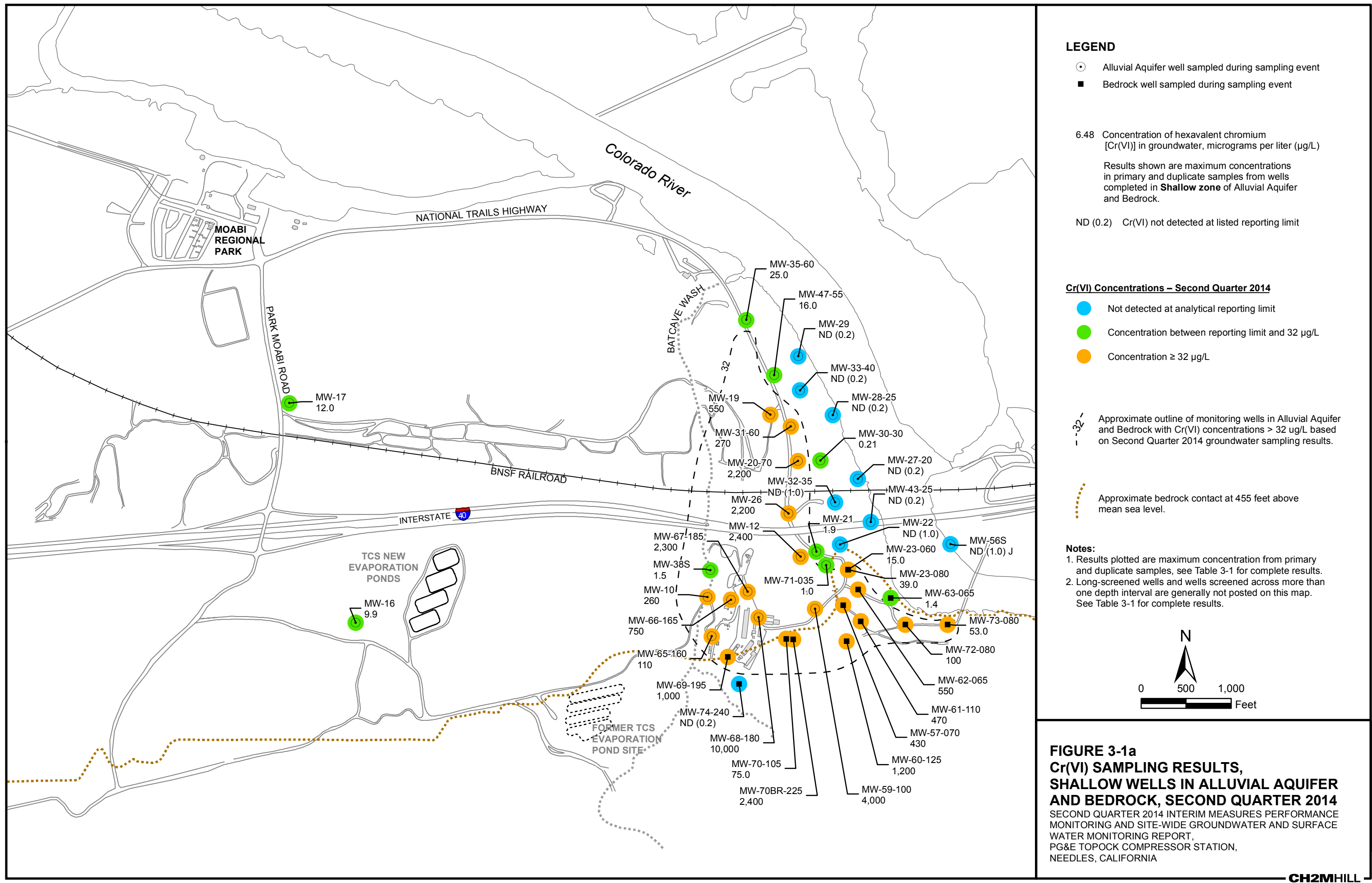
- Shoreline Surface Water Monitoring Location
- ☼ River Channel Surface Water Monitoring Location
- ⊖ Other Surface Water Monitoring Location

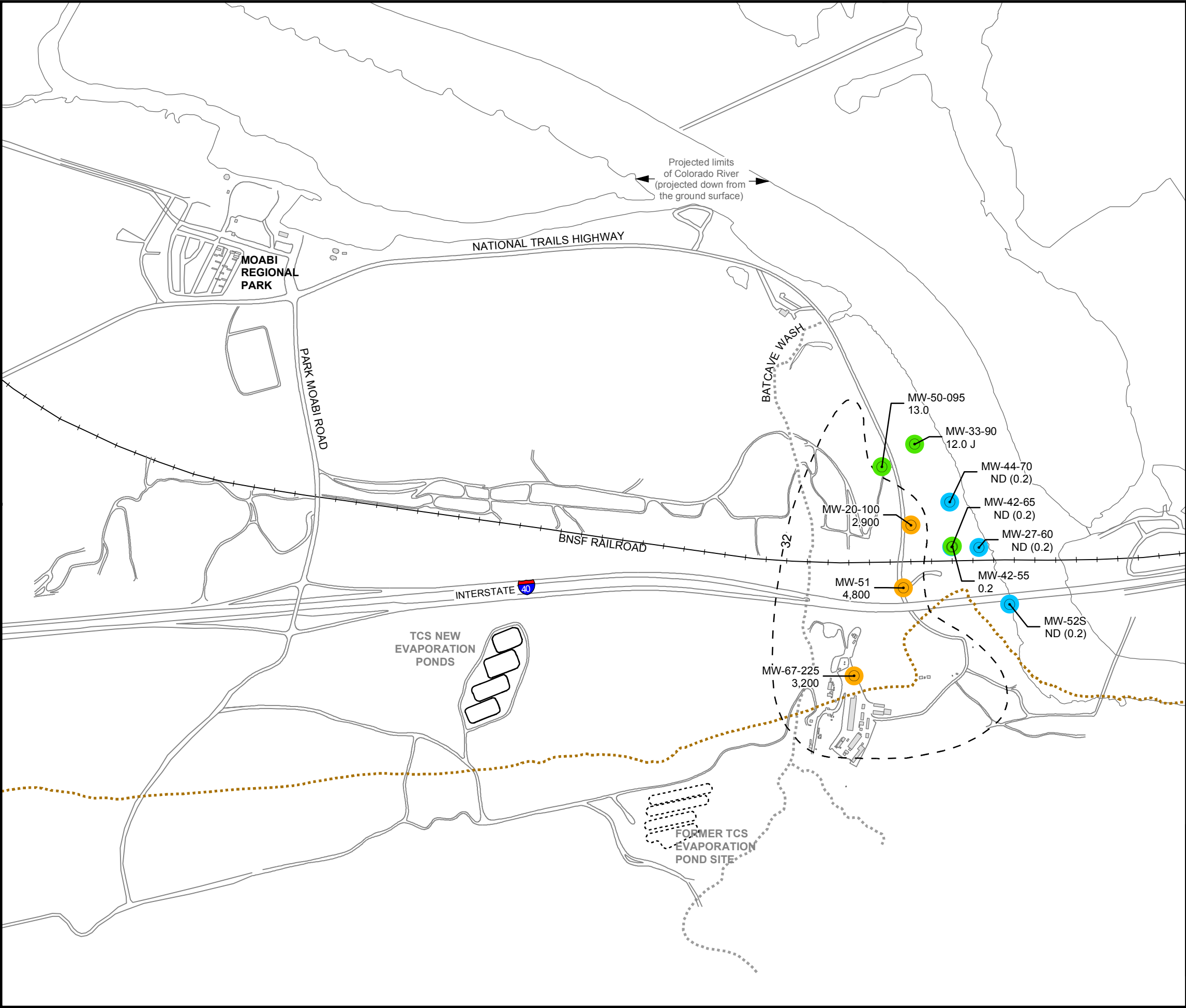
#### FIGURE 1-3 MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR RMP

SECOND QUARTER 2014 INTERIM MEASURES  
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

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

J = concentration estimated by laboratory or data validation.

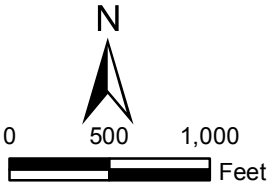
**Cr(VI) Concentrations – Second Quarter 2014**

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

-32- Approximate outline of monitoring wells in Alluvial Aquifer and Bedrock with Cr(VI) concentrations > 32 ug/L based on Second Quarter 2014 groundwater sampling results

..... Approximate bedrock contact at 425 feet above mean sea level.

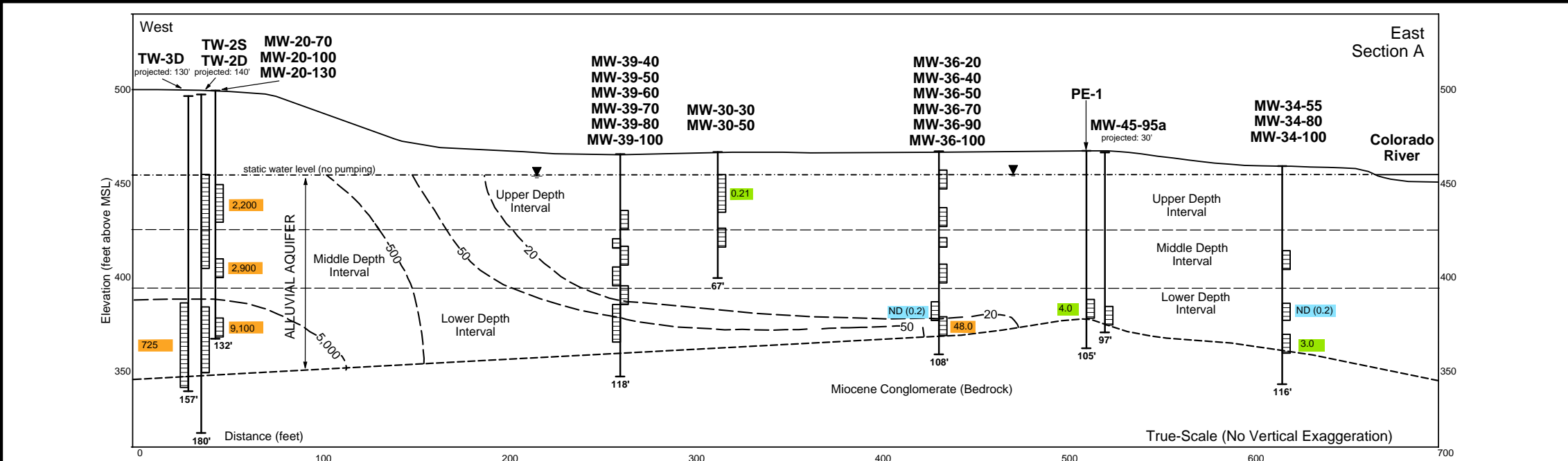
- Notes:**
1. Results plotted are maximum concentration from primary and duplicate samples, see Table 3-1 for complete results.
  2. Long-screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results.



**FIGURE 3-1b**  
**Cr(VI) SAMPLING RESULTS,**  
**MID-DEPTH WELLS IN ALLUVIAL AQUIFER**  
**AND BEDROCK, SECOND QUARTER 2014**  
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA





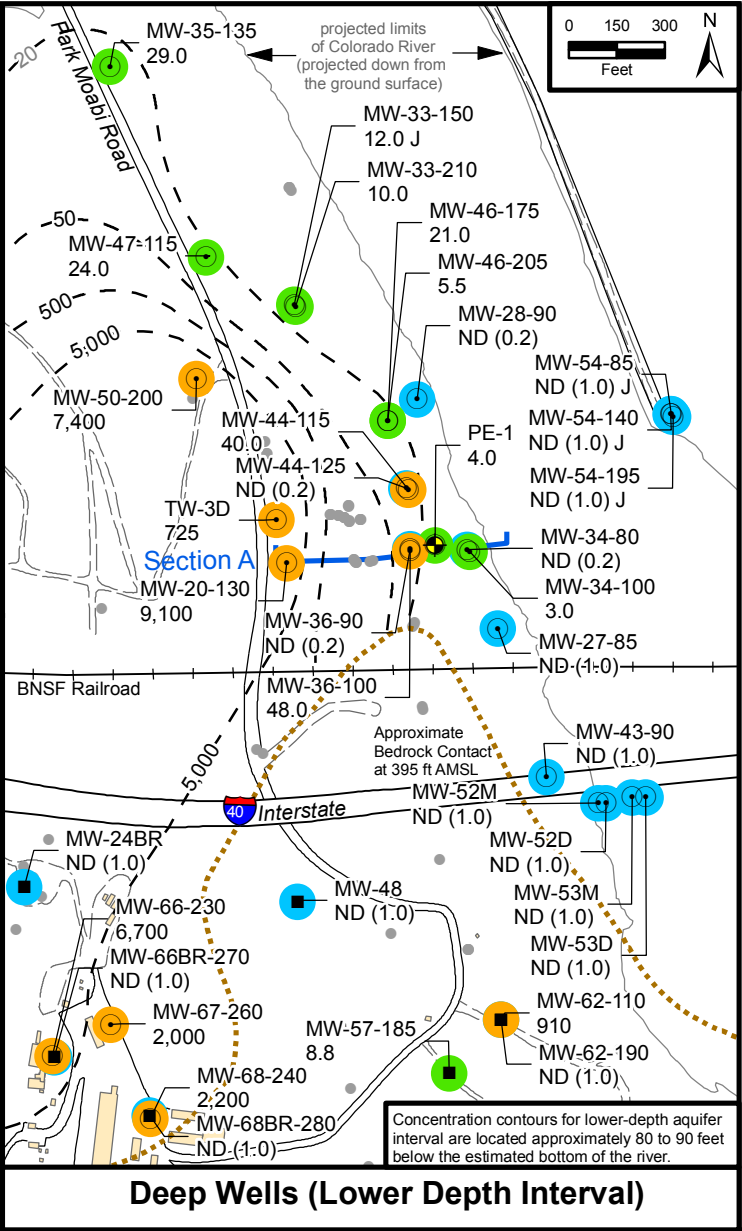
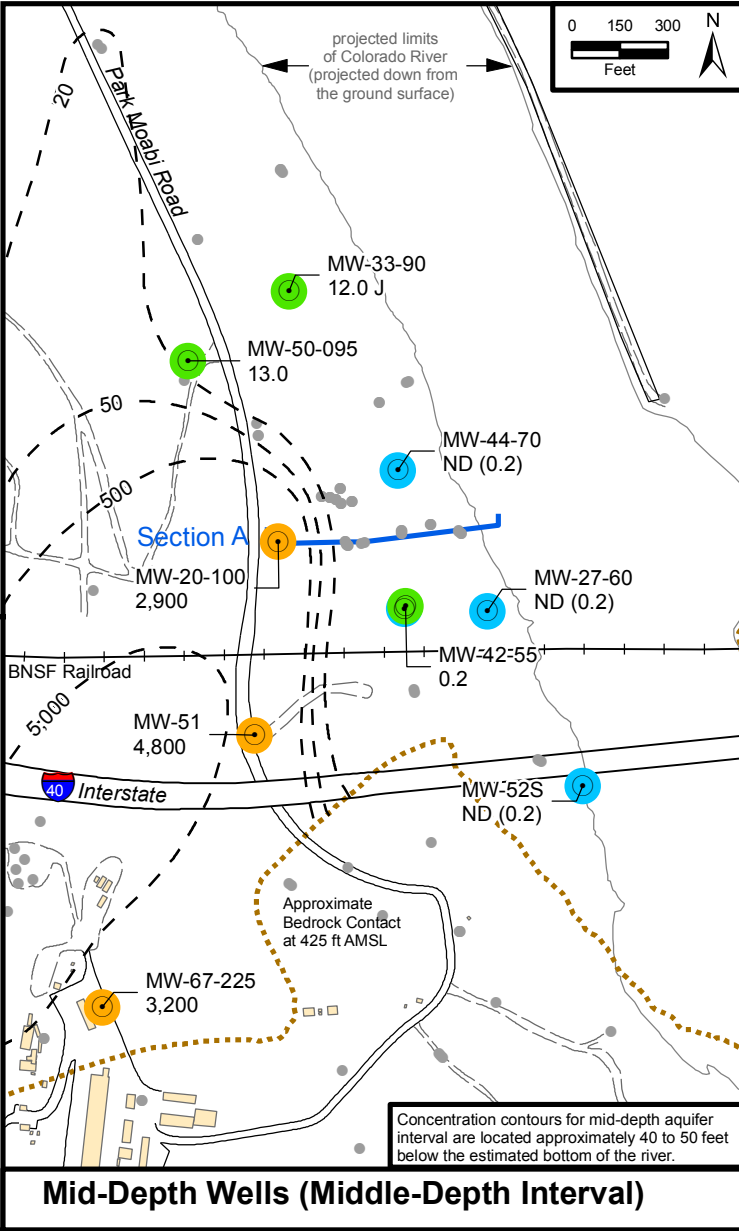
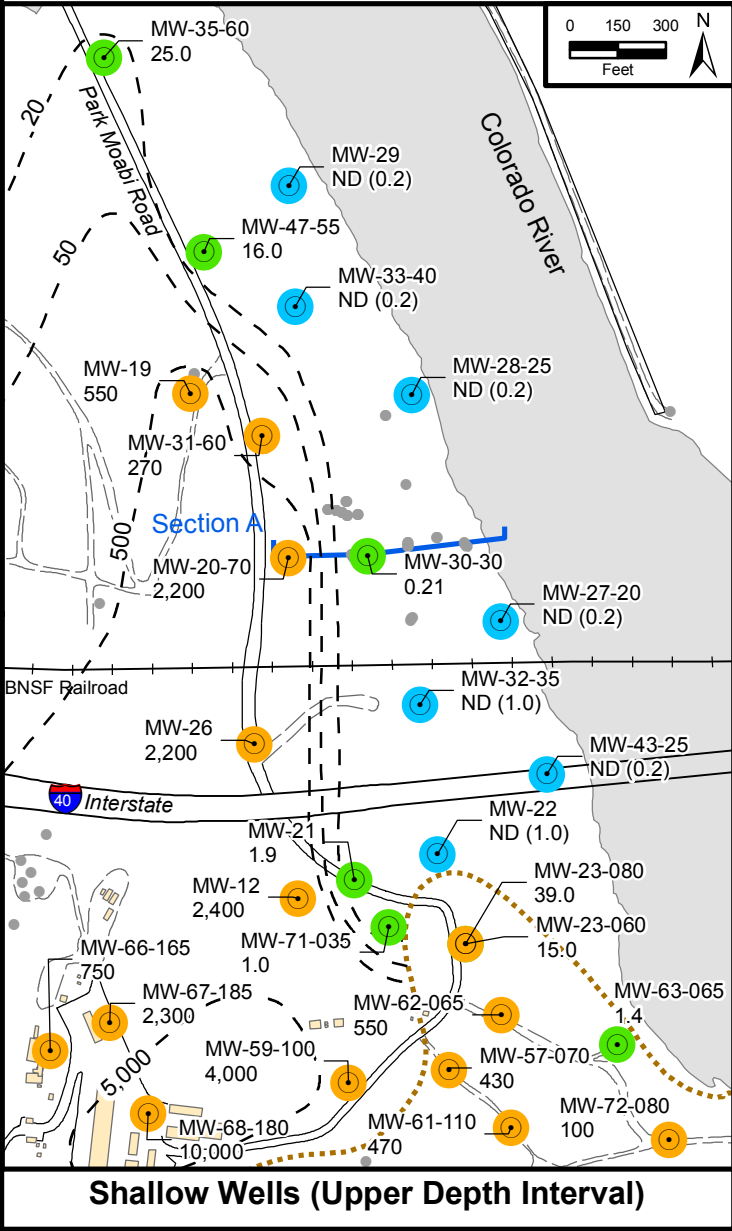


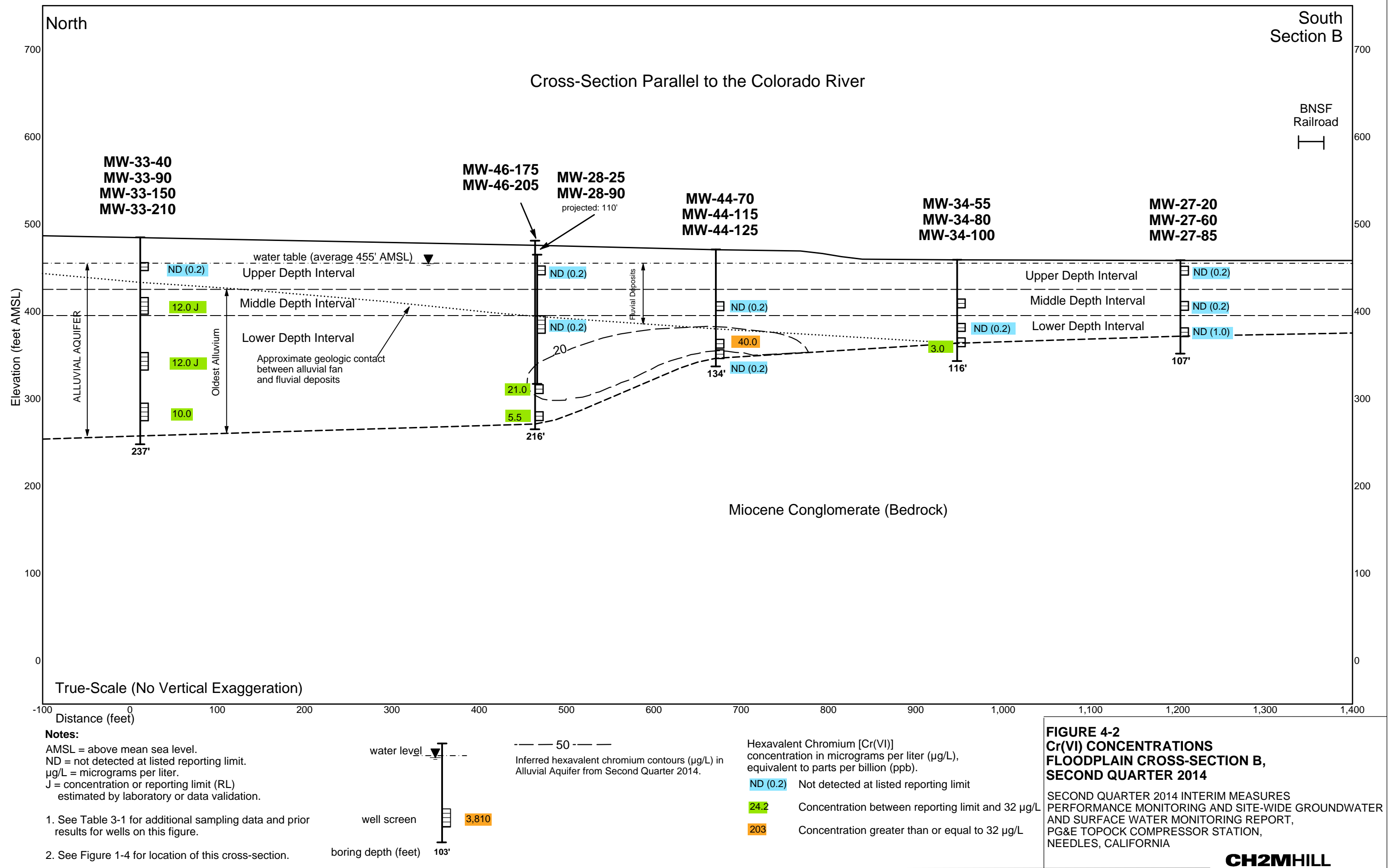
- LEGEND**
- Alluvial Aquifer well sampled during sampling event
  - Bedrock well sampled during sampling event
  - ◆ Extraction well sampled during sampling event
  - Well not sampled during sampling event
- 6.48 Concentration of hexavalent chromium [Cr(VI)] in groundwater, micrograms per liter (µg/L). Results posted are maximum Cr(VI) concentrations.
- ND (0.2) Cr(VI) not detected at listed reporting limit
- J = concentration or reporting limit (RL) estimated by laboratory or data validation.

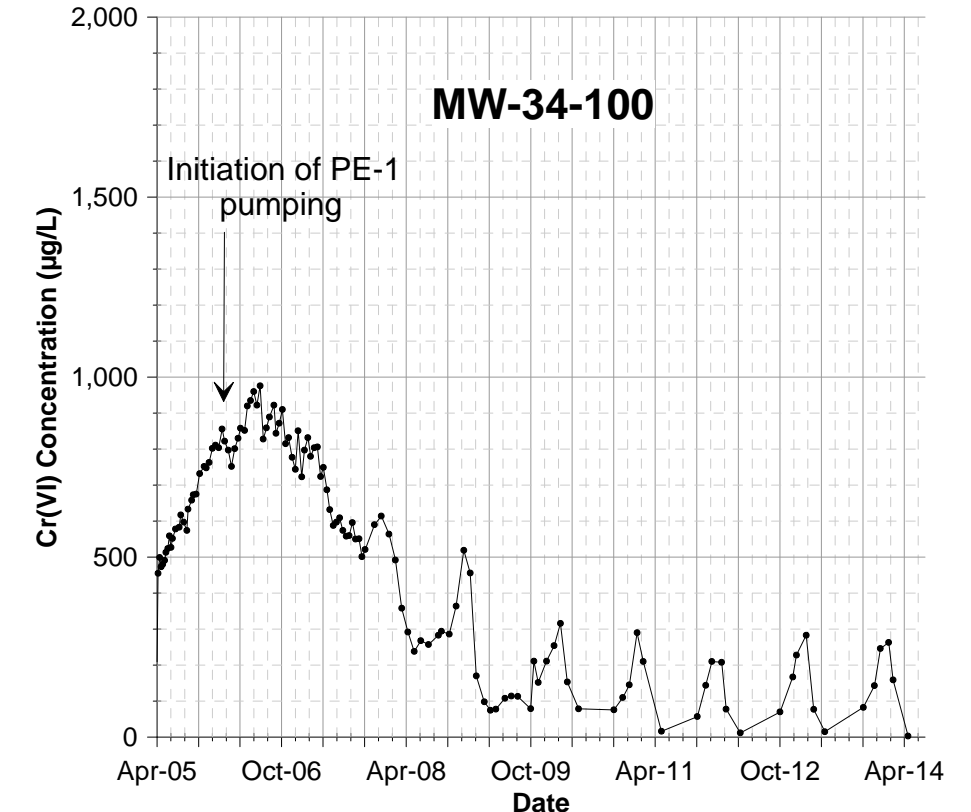
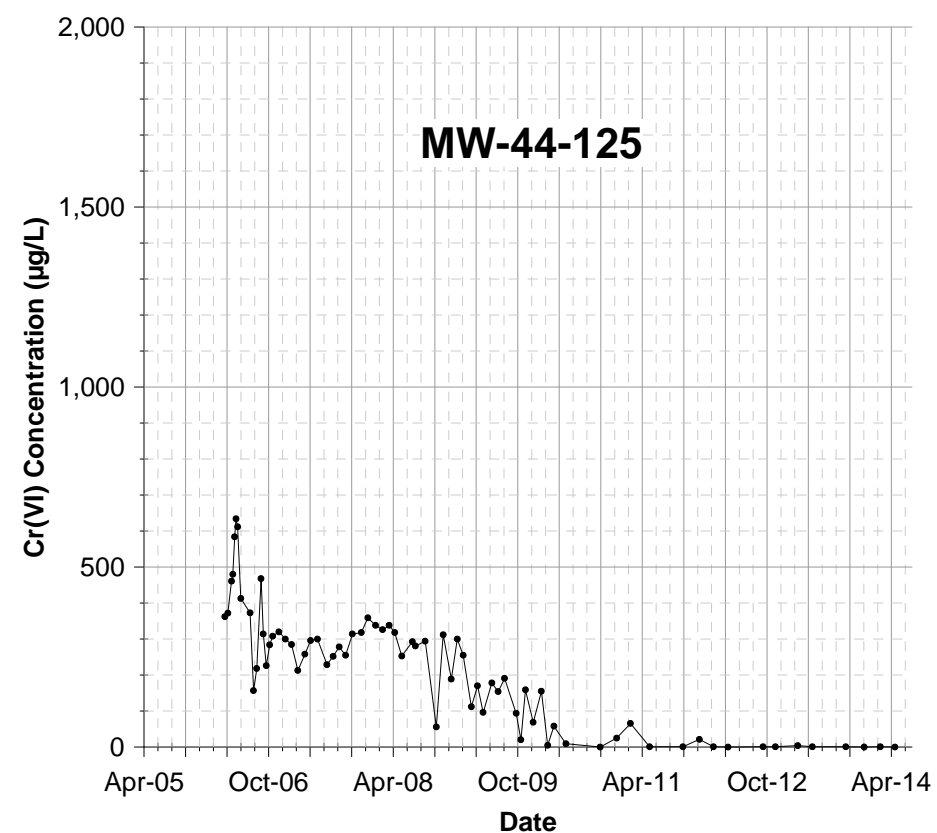
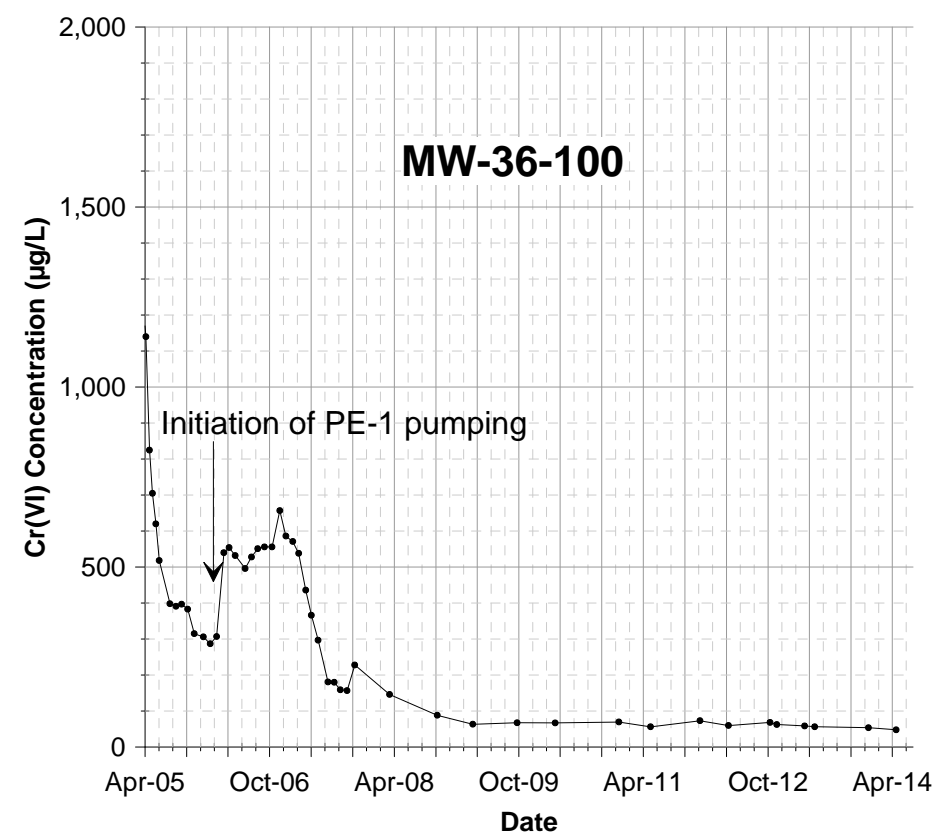
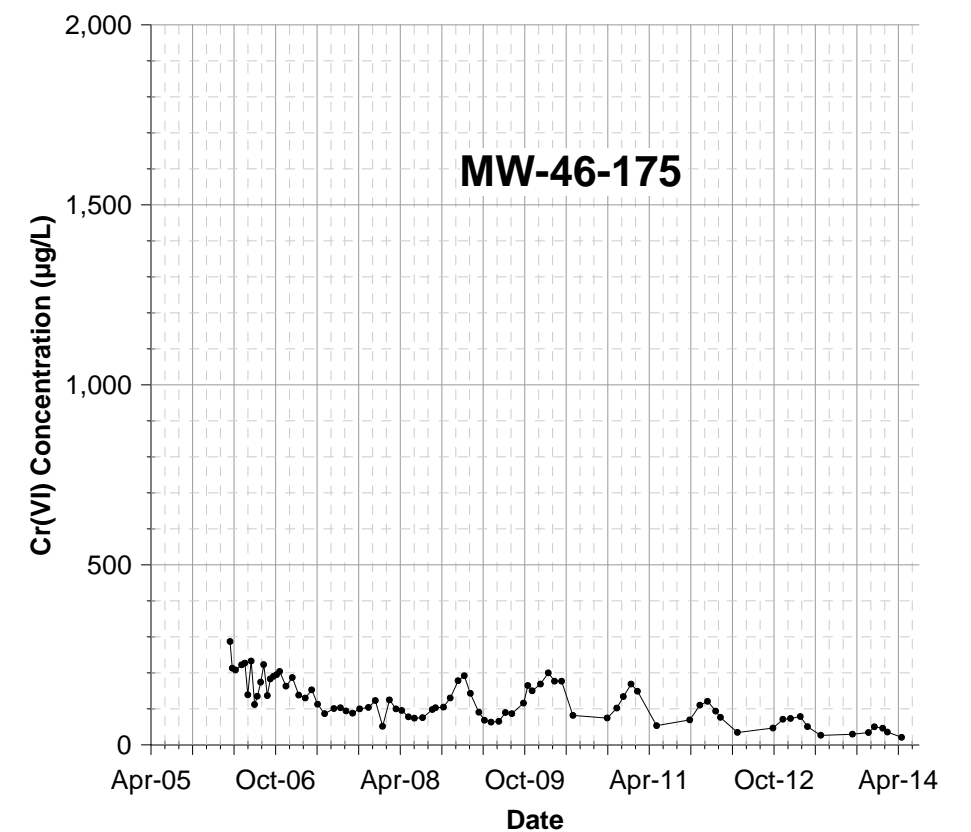
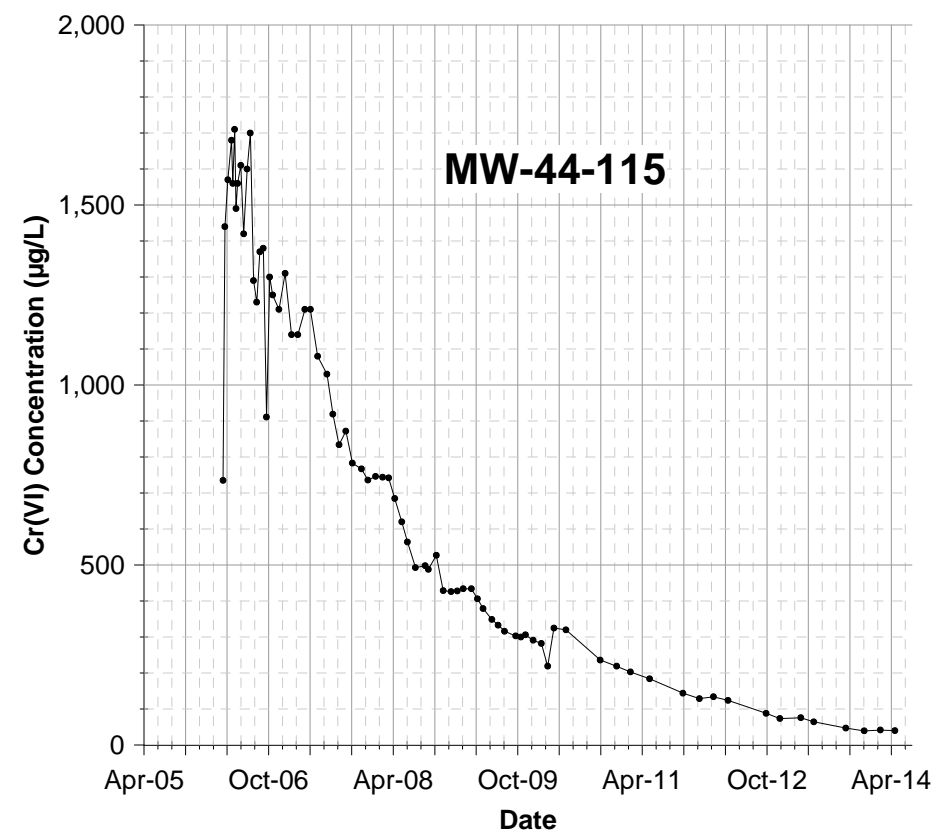
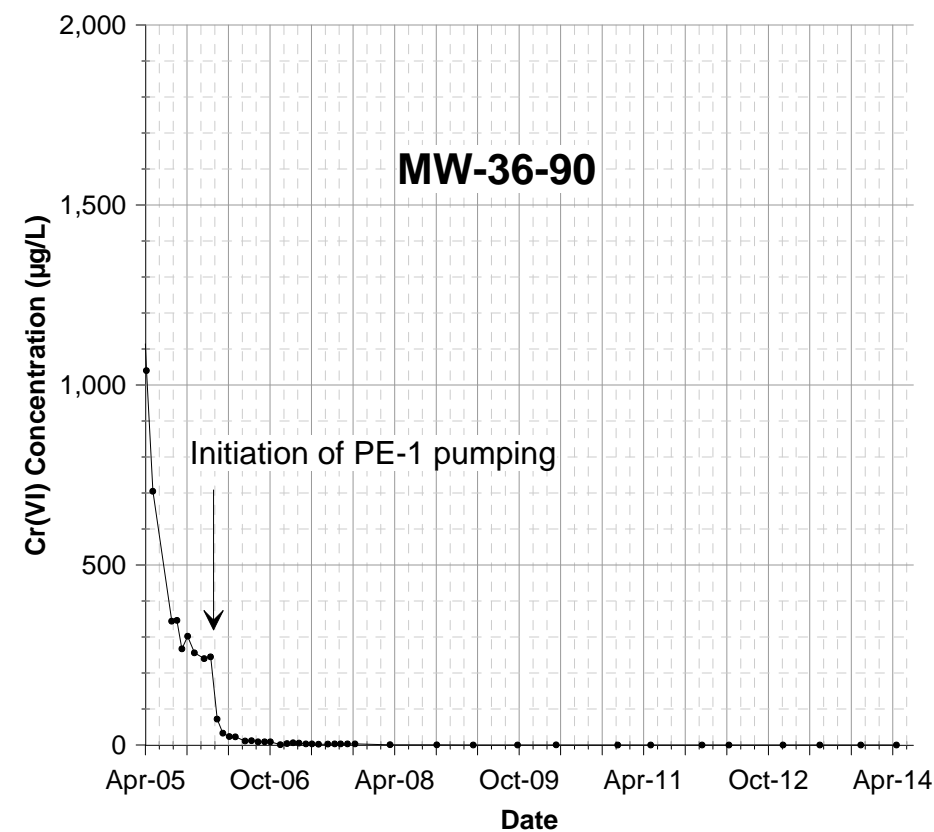
- Cr(VI) Concentrations – Second Quarter 2014**
- Not detected at analytical reporting limit
  - Concentration between reporting limit and 32 µg/L
  - Concentration ≥ 32 µg/L
- 50 --- Inferred Cr(VI) concentration contour within the Alluvial Aquifer depth interval based on Second Quarter 2014 groundwater sampling results.
- Hydrogeologic Section A
- Approximate bedrock contact

- Notes:**
- The Cr(VI) concentration contours of 20 and 50 µg/L are shown in accordance with DTSC's 2005 IM performance monitoring directive. The IM performance standard was established for containment of Cr(VI) concentrations greater than 20 ug/L in the floodplain portion of the Alluvial Aquifer.
  - Extraction wells PE-01, TW-2S, TW-2D, and TW-3D are not included in contouring. These wells draw water from a larger area and do not represent Cr(VI) concentrations at their specific locations.
  - Long-screened wells and wells screened across more than one depth interval are generally not posted on this map. See Table 3-1 for complete results.

**FIGURE 4-1**  
**MAXIMUM Cr(VI) CONCENTRATIONS**  
**IN ALLUVIAL AQUIFER AND BEDROCK,**  
**SECOND QUARTER 2014**  
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA







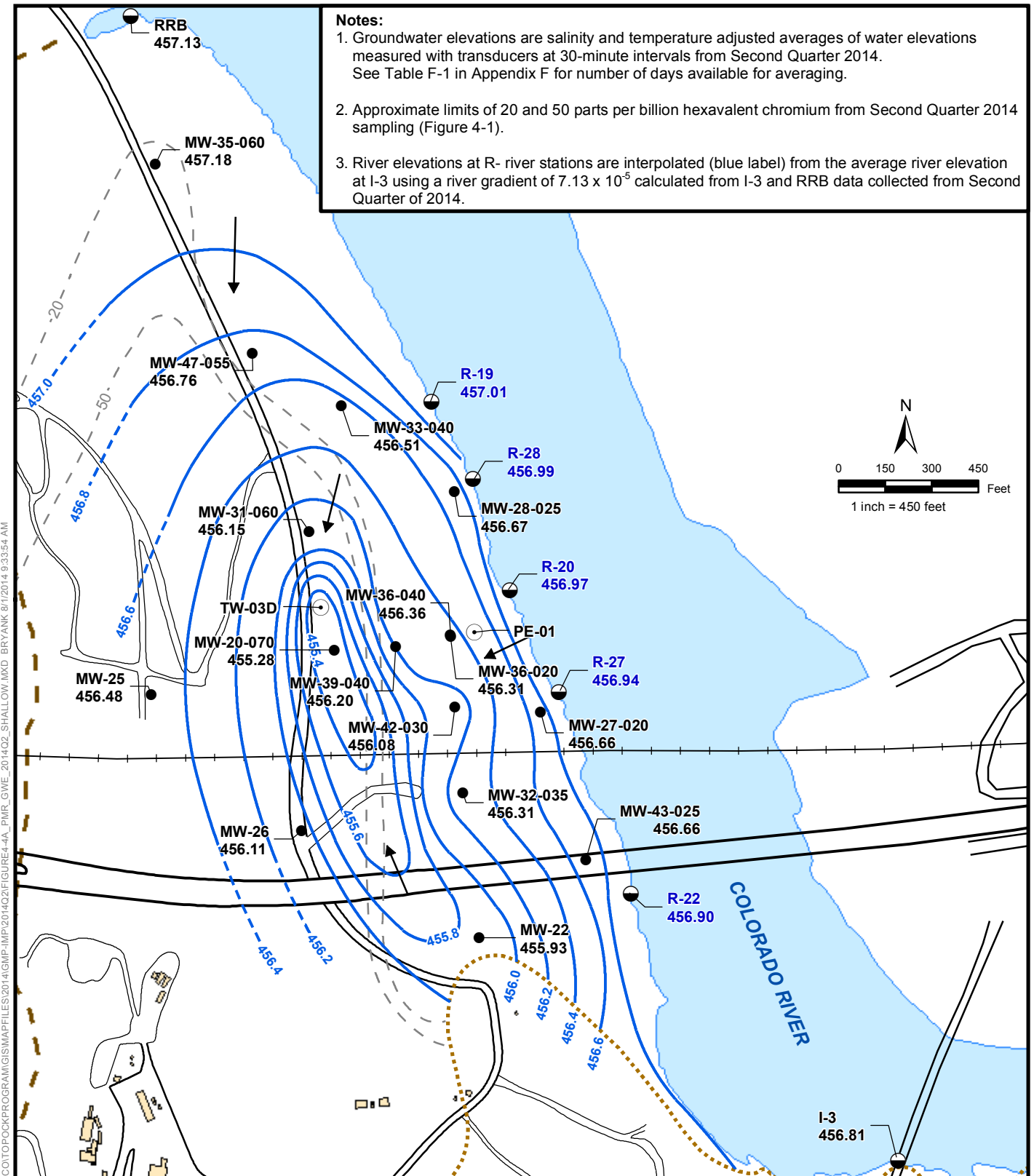
**Notes:**

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 2014**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA  
**CH2MHILL**

# Notes:

1. Groundwater elevations are salinity and temperature adjusted averages of water elevations measured with transducers at 30-minute intervals from Second Quarter 2014. See Table F-1 in Appendix F for number of days available for averaging.
2. Approximate limits of 20 and 50 parts per billion hexavalent chromium from Second Quarter 2014 sampling (Figure 4-1).
3. River elevations at R- river stations are interpolated (blue label) from the average river elevation at I-3 using a river gradient of  $7.13 \times 10^{-5}$  calculated from I-3 and RRB data collected from Second Quarter of 2014.



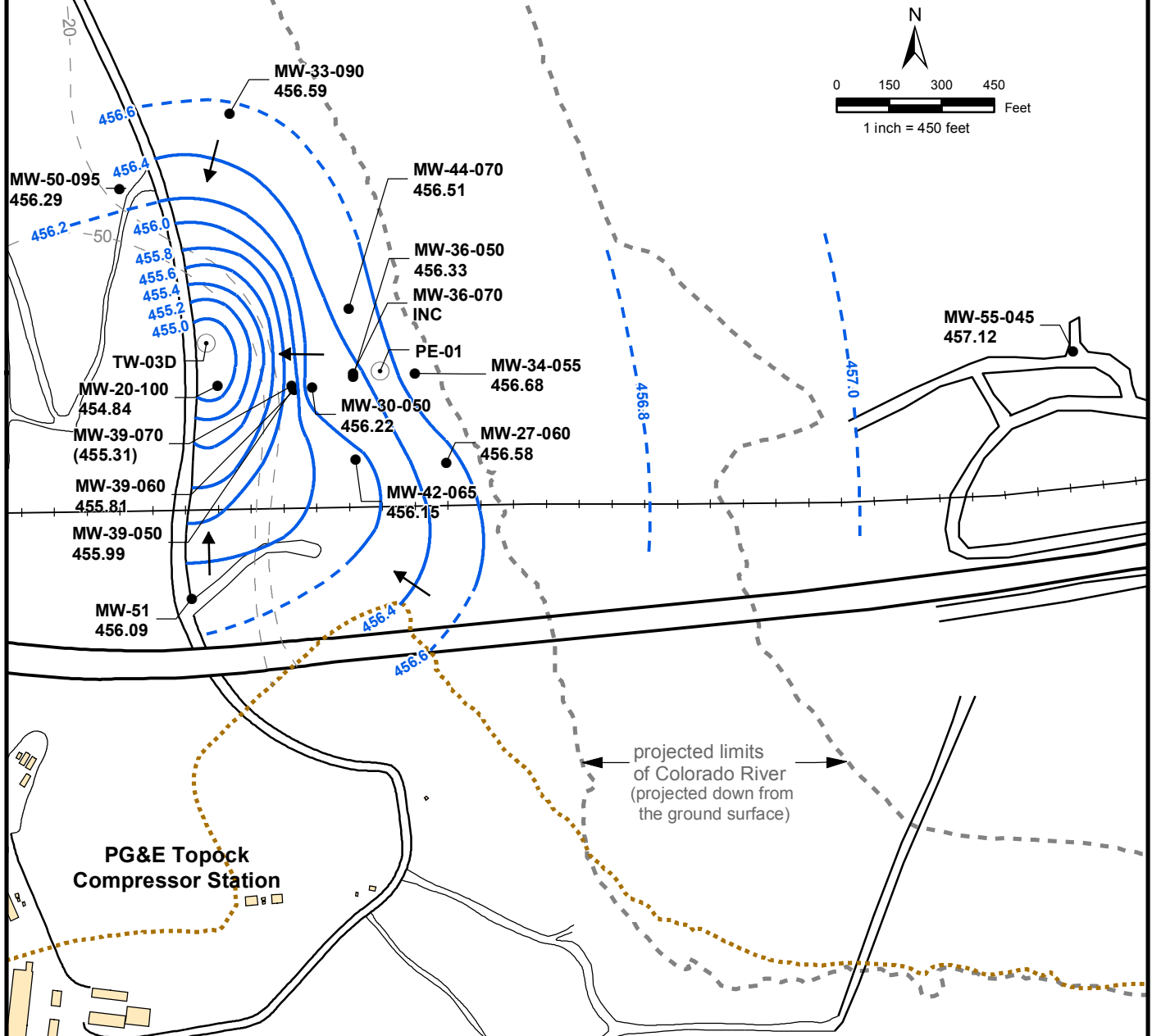
BAO.D:\ZINFANDEL\PROJ\ACF\CGASELECTRIC\TOPOCK\PROGRAM\GIS\MAPFILES\2014\GMP-IMP\2014Q2\FIGURE4-4A\_PMR\_GWE\_2014Q2\_SHALLOW\_MXD\_BRYANK 8/1/2014 9:33:54 AM

- MW-29 Average Groundwater Elevation at Monitoring Station (ft AMSL) 455.85
- R-22 River Elevation (ft MSL) Interpolated Average 454.84
- Bedrock Contact at 455 ft elevation
- Monitoring Well
- River Station
- Extraction Well
- Interpreted Groundwater Flow Direction
- Groundwater Elevation Contour 0.2 ft (dashed where inferred)

**FIGURE 4-4a**  
**AVERAGE GROUNDWATER ELEVATIONS IN SHALLOW WELLS AND RIVER ELEVATIONS, SECOND QUARTER 2014**  
 SECOND QUARTER 2014 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 Second Quarter 2014. See Table F-1 in Appendix F for number of days available for averaging.
2. Approximate limits of 20 and 50 parts per billion (ppb) hexavalent chromium from Second Quarter 2014. 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.

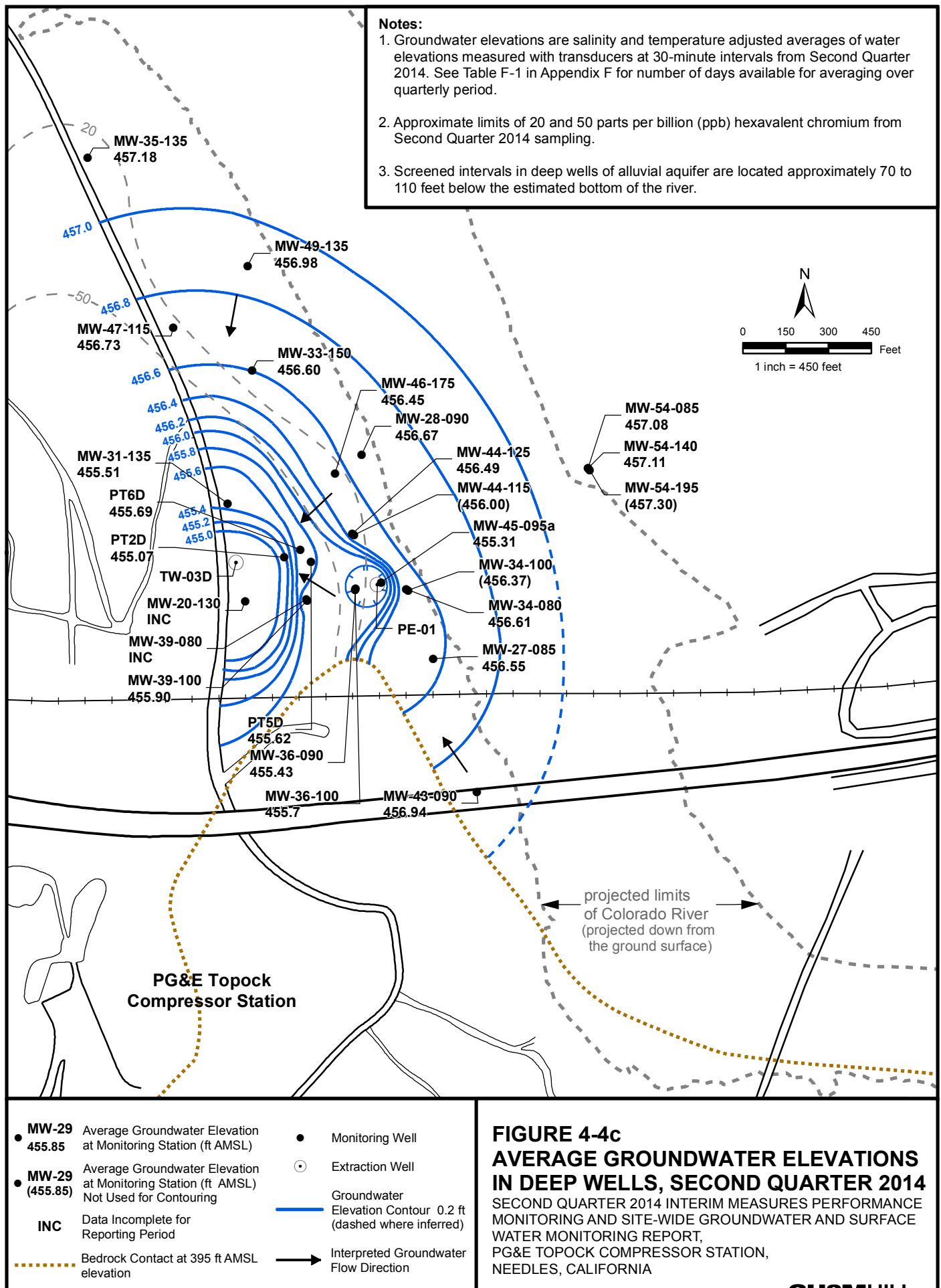


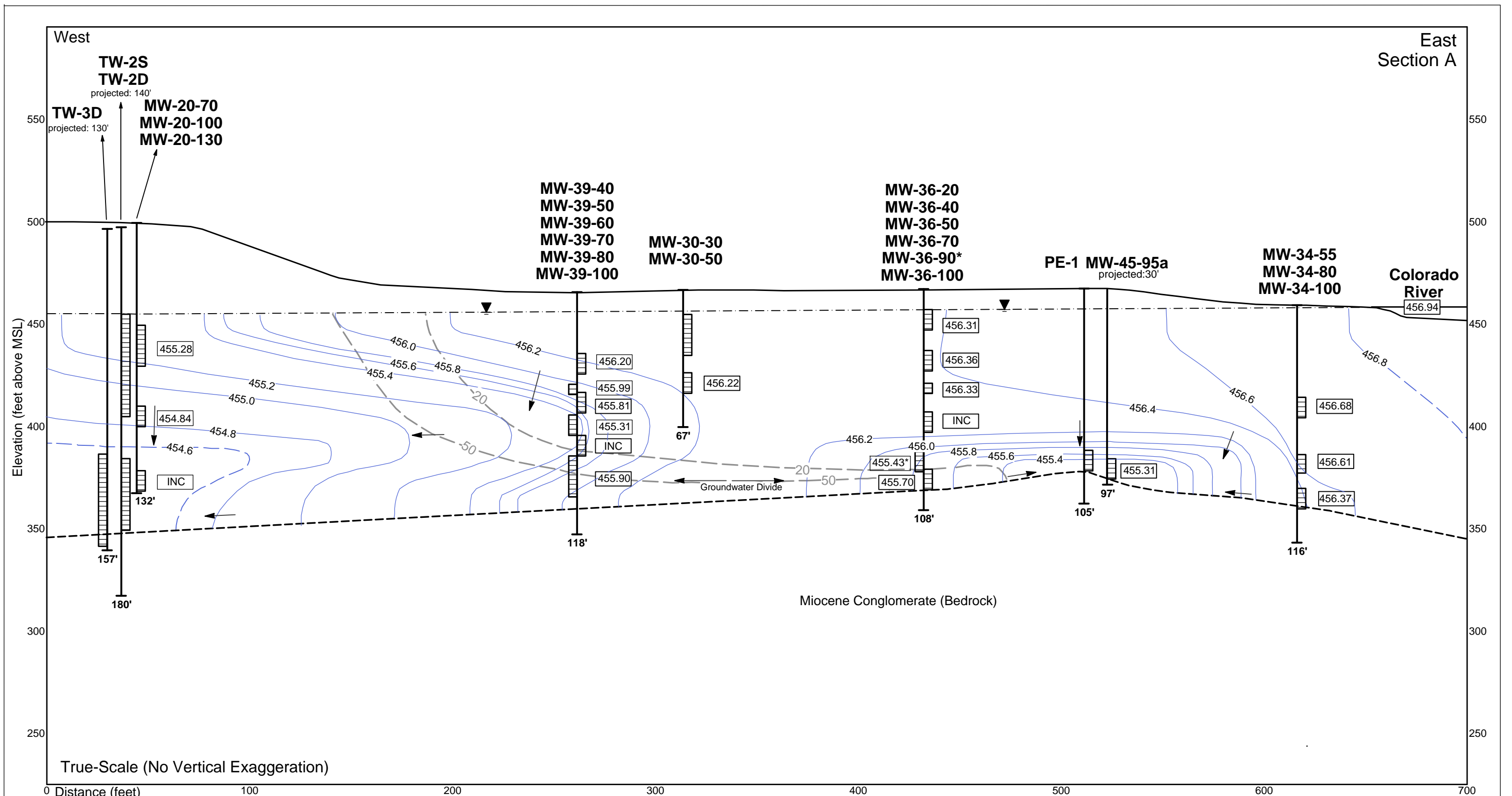
- MW-29 Average Groundwater Elevation at Monitoring Station (ft AMSL) 455.85
- MW-29 (455.85) Average Groundwater Elevation at Monitoring Station (ft AMSL) Not Used for Contouring
- INC Data Incomplete for Reporting Period
- ..... Bedrock Contact at 425 ft AMSL elevation
- Monitoring Well
- Extraction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

**FIGURE 4-4b**  
**AVERAGE GROUNDWATER ELEVATIONS**  
**IN MID-DEPTH WELLS,**  
**SECOND QUARTER 2014**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT, PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

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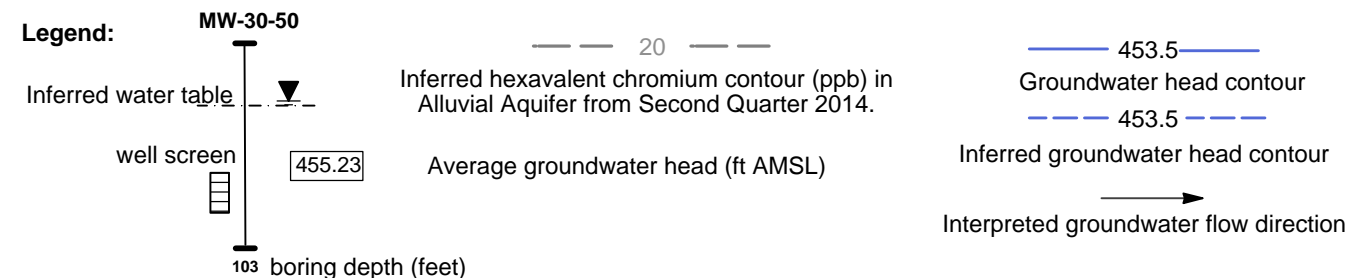




Notes:  
Results show average groundwater elevations for April 1, 2014 through June 30, 2014 measured with transducers at 30 minute intervals.

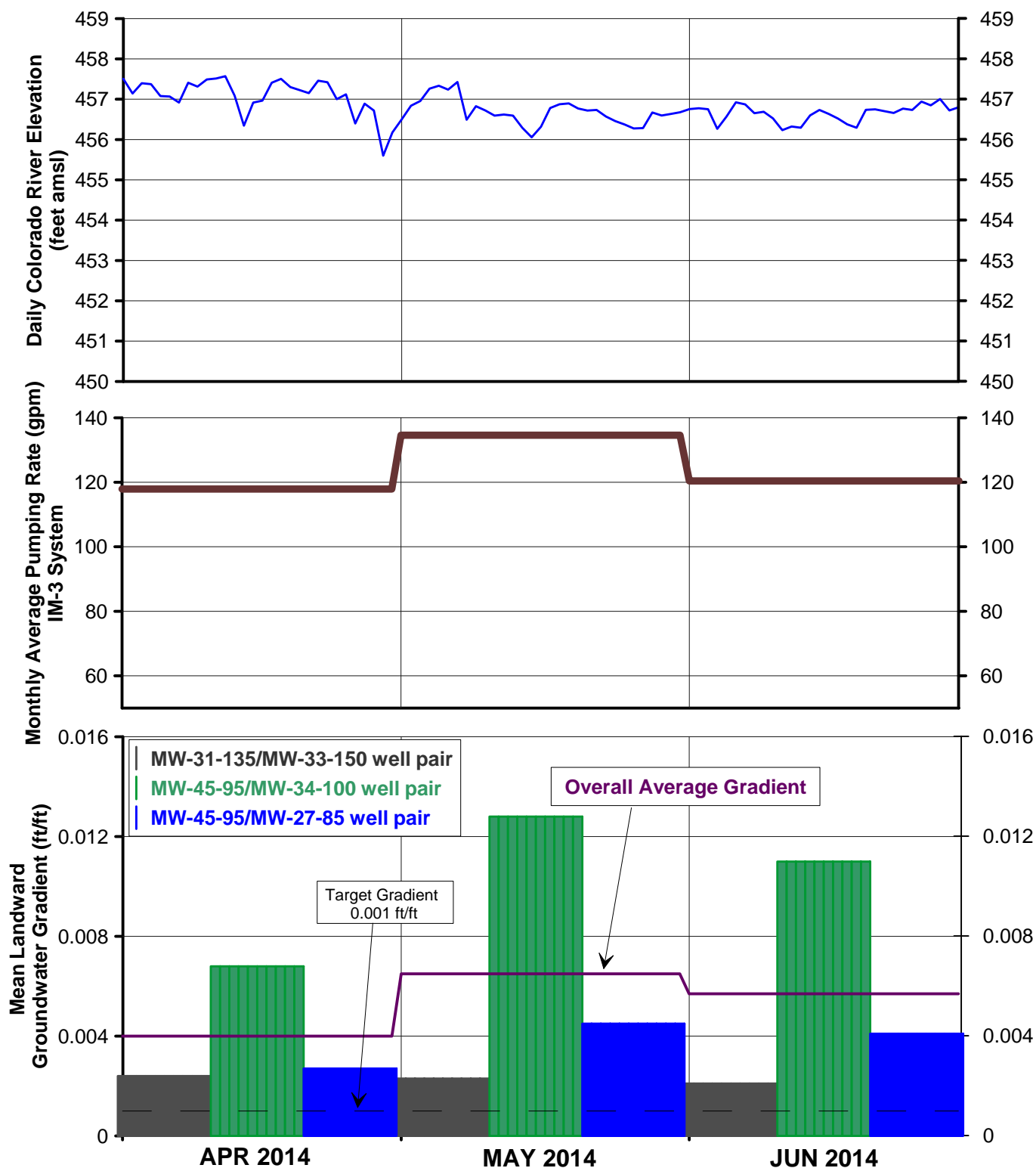
Groundwater elevations adjusted for salinity and temperature.  
Well MW-36-90\* is excluded from contouring.  
River elevation (R-27) is the calculated average river level based upon the river gradient between RRB and I-3.

INC = Data incomplete for reporting period.



**FIGURE 4-5  
AVERAGE GROUNDWATER ELEVATIONS  
FOR WELLS IN FLOODPLAIN CROSS-SECTION A,  
SECOND QUARTER 2014**

SECOND QUARTER 2014 INTERIM MEASURES  
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**Notes:**

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

amsl = above mean sea level.

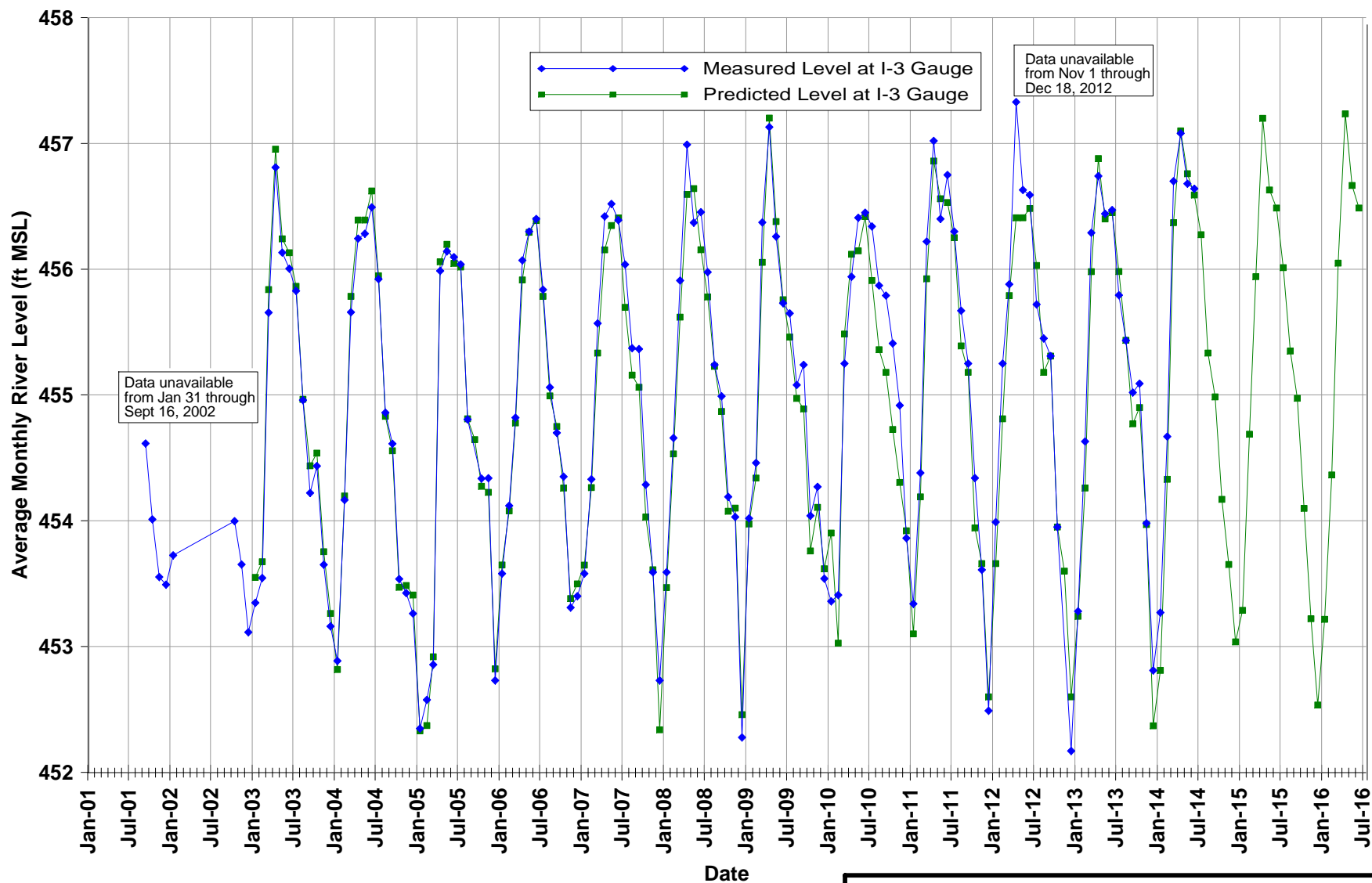
ft/ft = feet/foot.

gpm = gallons per minute.

**FIGURE 4-6  
MEASURED HYDRAULIC GRADIENTS,  
RIVER ELEVATIONS, AND PUMPING RATE,  
SECOND QUARTER 2014**

SECOND QUARTER 2014 INTERIM MEASURES  
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**CH2MHILL**



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 2014 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 2014 INTERIM MEASURES  
 PERFORMANCE MONITORING AND SITE-WIDE GROUNDWATER AND  
 SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

**Appendix A**  
**Well Inspection and Maintenance Log,**  
**Second Quarter 2014**

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Table A-1  
Well Inspection Log, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

Well/ Piezometer	Inspection Date	Survey Mark Present? (Y/N)	Standing or Poned Water? (Y/N)	Lock in Place? (Y/N)	Evidence of Well Subsidence? (Y/N)	Well Labeled on Casing or Pad? (Y/N)	Traffic Poles Intact? (Y/N)	Concrete Pad Intact? (Y/N)	Erosion Around Wellhead? (Y/N)	Steel Casing Intact? (Y/N)	PVC Cap Present? (Y/N)	Standing Water in Annulus? (Y/N)	Well Casing Intact? (Y/N)	Photo on file? (Y/N)	Notes	Required Actions	Action Completed? (Y/N)	Action Completed Date
CW-1D	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-1M	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-2D	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-2M	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-3D	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-3M	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-4D	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
CW-4M	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-01	05/27/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-03	05/27/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-04	05/27/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-05	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-06	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-07	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-08	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-09	05/28/14	Y	N	Y	N	Y	Y <sup>a</sup>	Y	N	Y	Y	N	Y	NA	One traffic pole is bent over. Recompletion with flood-resistant surface monument is scheduled for mid-July; will need resurvey.			
MW-10	05/28/14	N*	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA	Recompletion with flood-resistant surface monument is scheduled for mid-July; will need resurvey.			
MW-11	05/28/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-12	06/16/14	Y	N	Y	N	Y	Y	a	N <sup>a</sup>	Y	Y	N	Y	NA	Pad buried by soil deposition. No change.			
MW-13	06/17/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-14	06/17/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-15	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				

**Table A-1**  
**Well Inspection Log, Second Quarter 2014**  
*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide Groundwater and Surface Water Monitoring Report,*  
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Well/ Piezometer	Inspection Date	Survey Mark Present? (Y/N)	Standing or Ponded Water? (Y/N)	Lock in Place? (Y/N)	Evidence of Well Subsidence? (Y/N)	Well Labeled on Casing or Pad? (Y/N)	Traffic Poles Intact? (Y/N)	Concrete Pad Intact? (Y/N)	Erosion Around Wellhead? (Y/N)	Steel Casing Intact? (Y/N)	PVC Cap Present? (Y/N)	Standing Water in Annulus? (Y/N)	Well Casing Intact? (Y/N)	Photo on file? (Y/N)	Notes	Required Actions	Action Completed? (Y/N)	Action Completed Date
MW-16	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-17	05/27/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-18	06/05/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-19	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-20-070	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-20-100	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-20-130	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-21	06/16/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-22	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-23-060 MW-23-080	06/16/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-24 BR	05/28/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-24A	05/28/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-24B	05/28/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-25	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-26	06/16/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-27-020	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-27-060	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-27-085	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-28-025	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-28-090	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-29	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-30-030	06/03/14	Y	N	Y	N	Y	NA	Y	N*	Y	Y	N	Y	NA	Sand deposited on pad.			
MW-30-050	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				

Table A-1  
Well Inspection Log, Second Quarter 2014  
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MW-31-060	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-31-135	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-32-020	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-32-035	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-33-150	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-33-210	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-33-40	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-33-90	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-34-055	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-34-080	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-34-100	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-35-135	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-35-60	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-36-020 MW-36-070	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-36-090 MW-36-040	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-36-050 MW-36-100	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-37D	05/28/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA	Only 2 bollards. No change.			
MW-37S	05/28/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-38S	05/28/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-38D	05/28/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-39-040 MW-39-070	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-39-050 MW-39-080	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-39-060 MW-39-100	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				



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Well Inspection Log, Second Quarter 2014  
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MW-40D	05/27/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-40S	05/27/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-41D	05/28/14	Y	N	Y	N	Y	NA	Y	Y <sup>a</sup>	Y	Y	N	Y	NA	Slight erosion under pad, 1"; no change.			
MW-41M	05/28/14	Y	N	Y	N	Y	NA	Y	Y <sup>a</sup>	Y	Y	N	Y	NA	Slight erosion under pad, 1"; no change.			
MW-41S	05/28/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-42-030	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-42-055	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-42-065	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-43-025	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-43-075	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-43-090	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-44-125 MW-44-070	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-44-115	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-45-095a MW-45-095b	06/03/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-46-175 MW-46-205	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-47-055 MW-47-115	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-48	06/16/14	Y	N	Y	N	Y	Y	Y	N <sup>a</sup>	Y	Y	N	Y	NA	Soil deposition on pad. No change.			
MW-49-135 MW-49-275 MW-49-365	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-50-095 MW-50-200	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-51	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-52	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-53	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				

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MW-54-085	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-54-140																		
MW-54-195	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-55-045 MW-55-120	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-56 D/S/M	06/16/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
MW-57-050	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-57-070	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-57-185	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-58BR	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-58-065	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-60-125	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-60BR-245	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-61-110	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-59-100	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-62-110 MW-62-190	06/17/14	N <sup>a</sup>	N	NA	N	Y	NA	Y	N	Y	NA	N	Y	NA	Static water level not measured in flute wells.			
MW-62-065	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-63-065	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-64-BR	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-65-160 MW-65-225	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-66-165 MW-66-230	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-66BR-270	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-67-185	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-67-225 MW-67-260	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-68BR	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				

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MW-68-180 MW-68-290	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-69-195	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-70BR-225	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-70-105	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-71-035	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-72-080	06/17/14	Y	N	NA	N	Y	NA	Y	N <sup>a</sup>	Y	Y	N	Y	NA	Soil deposition on pad. No change.			
MW-72BR-200	06/17/14	Y	N	NA	N	Y	NA	Y	N <sup>a</sup>	Y	Y	N	Y	NA	Soil deposition on pad. No change.			
MW-73-080	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MW-74-240	06/17/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MWP-08	05/27/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
MWP-10	05/27/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-1D	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-1M	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-1S	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-2D	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-2M	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-2S	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-3D	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-3M	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-3S	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-5D	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
OW-5M	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				

Table A-1  
Well Inspection Log, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

Well/ Piezometer	Inspection Date	Survey Mark Present? (Y/N)	Standing or Poned Water? (Y/N)	Lock in Place? (Y/N)	Evidence of Well Subsidence? (Y/N)	Well Labeled on Casing or Pad? (Y/N)	Traffic Poles Intact? (Y/N)	Concrete Pad Intact? (Y/N)	Erosion Around Wellhead? (Y/N)	Steel Casing Intact? (Y/N)	PVC Cap Present? (Y/N)	Standing Water in Annulus? (Y/N)	Well Casing Intact? (Y/N)	Photo on file? (Y/N)	Notes	Required Actions	Action Completed? (Y/N)	Action Completed Date
OW-5S	06/17/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
P2	05/27/14	Y	N	Y	N	Y <sup>a</sup>	NA	Y	N	Y	Y	N	Y	NA	There is a different well labeled P2 on the steel casing at the quarry but PVC case inside says MWP-12. This inspected well is at the new ponds near MW-4. It is labeled PX-2 on the lid and P3 on the steel casing, but shows up as P2 on the map. Since the quarry well is located near the "old ponds" area, there is a chance that the well is actually an MWP designation well.			
PG&E-8	06/17/14	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	Y	NA				
PGE-7	05/28/14	N <sup>a</sup>	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA	New surface completion. Needs survey.			
PT-1 WELLS <sup>3</sup>	06/05/14	Y	N	Y	N	Y	NA	Y	Y <sup>a</sup>	Y	Y	N	Y	NA	Very slight erosion under pad. No change.			
PT-2 WELLS <sup>3</sup>	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-3 3 WELLS	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-4 3 WELLS	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-5 3 WELLS	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-6 3 WELLS	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-7 S/D	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-7M	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-8 S/D	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-8M	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-9 S/D	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PT-9M	05/28/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PTI-1D	06/05/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PTI-1M	06/05/14	Y	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				
PTI-1S	06/05/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
TW-01	05/28/14	N	N	NA	N	Y	NA	Y	N	Y	Y	N	Y	NA				

Table A-1  
Well Inspection Log, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

Well/ Piezometer	Inspection Date	Survey Mark Present? (Y/N)	Standing or Poned Water? (Y/N)	Lock in Place? (Y/N)	Evidence of Well Subsidence? (Y/N)	Well Labeled on Casing or Pad? (Y/N)	Traffic Poles Intact? (Y/N)	Concrete Pad Intact? (Y/N)	Erosion Around Wellhead? (Y/N)	Steel Casing Intact? (Y/N)	PVC Cap Present? (Y/N)	Standing Water in Annulus? (Y/N)	Well Casing Intact? (Y/N)	Photo on file? (Y/N)	Notes	Required Actions	Action Completed? (Y/N)	Action Completed Date
TW-04	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				
TW-05	06/16/14	Y	N	Y	N	Y	NA	Y	N	Y	Y	N	Y	NA				

Notes:  
<sup>a</sup> There is a note with more information on this parameter.  
NA = Not applicable  
PVC = polyvinyl chloride

**Appendix B**  
**Lab Reports, Second Quarter 2014**  
(Provided on CD-ROM only with hard copy submittal)

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# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

April 24, 2014

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-217, GROUNDWATER MONITORING PROJECT, TLI No.: 812969

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-217 groundwater-monitoring project. 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 8, 2014, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


Samples for pH analysis by SM 4500-H B were received past the method specified holding time. Mr. Duffy approved the analysis of the 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.

  
Mona Nassimi  
Manager, Analytical Services

  
Michael Ngo  
Quality Assurance/Quality Control Officer

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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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.:** 428648.IM.CS.EX.AC

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

**Laboratory No.:** 812969

**Date:** April 24, 2014

**Collected:** April 8, 2014

**Received:** April 8, 2014

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Jenny Tankunakorn
SM 4500-H B	pH	Himani Vaishnav / Felipe Mendoza
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Himani Vaishnav
EPA 300.0	Anions	Giawad Ghenniwa
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Ethel Suico
EPA 218.6	Hexavalent Chromium	Naheed Eidinejad
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

**Project Name:** PG&E Topock Project  
**Project No.:** 428648.IM.CS.EX.AC  
**P.O. No.:** PGEIM11111001

**Laboratory No.:** 812969  
**Date Received:** April 8, 2014

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
812969-001	PE-01-217	E120.1	NONE	4/8/2014	14:15	EC	4150	umhos/cm	2.00
812969-001	PE-01-217	E200.7	LABFLT	4/8/2014	14:15	Calcium	119000	ug/L	25000
812969-001	PE-01-217	E200.7	LABFLT	4/8/2014	14:15	Iron	ND	ug/L	20.0
812969-001	PE-01-217	E200.7	LABFLT	4/8/2014	14:15	Magnesium	24200	ug/L	2000
812969-001	PE-01-217	E200.7	LABFLT	4/8/2014	14:15	Sodium	817000	ug/L	25000
812969-001	PE-01-217	E200.8	LABFLT	4/8/2014	14:15	Chromium	4.2	ug/L	1.0
812969-001	PE-01-217	E200.8	LABFLT	4/8/2014	14:15	Manganese	66.3	ug/L	1.0
812969-001	PE-01-217	E218.6	LABFLT	4/8/2014	14:15	Chromium, Hexavalent	4.0	ug/L	0.20
812969-001	PE-01-217	E300	NONE	4/8/2014	14:15	Chloride	1050	mg/L	50.0
812969-001	PE-01-217	E300	NONE	4/8/2014	14:15	Nitrate as N	ND	mg/L	0.500
812969-001	PE-01-217	E300	NONE	4/8/2014	14:15	Sulfate	376	mg/L	25.0
812969-001	PE-01-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity	218	mg/L	5.00
812969-001	PE-01-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity, Bicarbonate (As CaCO3)	218	mg/L	5.00
812969-001	PE-01-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity, Carbonate (As CaCO3)	ND	mg/L	5.00
812969-001	PE-01-217	SM2540C	NONE	4/8/2014	14:15	Total Dissolved Solids	2700	mg/L	125
812969-001	PE-01-217	SM4500HB	NONE	4/8/2014	14:15	PH	7.51 J	pH	4.00

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
812969-002	TW-03D-217	E120.1	NONE	4/8/2014	14:15	EC	7810	umhos/cm	2.000
812969-002	TW-03D-217	E200.7	LABFLT	4/8/2014	14:15	Calcium	235000	ug/L	50000
812969-002	TW-03D-217	E200.7	LABFLT	4/8/2014	14:15	Iron	ND	ug/L	20.0
812969-002	TW-03D-217	E200.7	LABFLT	4/8/2014	14:15	Magnesium	35700	ug/L	10000
812969-002	TW-03D-217	E200.7	LABFLT	4/8/2014	14:15	Sodium	1490000	ug/L	250000
812969-002	TW-03D-217	E200.8	LABFLT	4/8/2014	14:15	Chromium	772	ug/L	5.0
812969-002	TW-03D-217	E200.8	LABFLT	4/8/2014	14:15	Manganese	7.0	ug/L	1.0
812969-002	TW-03D-217	E300	NONE	4/8/2014	14:15	Chloride	2440	mg/L	50.0
812969-002	TW-03D-217	E300	NONE	4/8/2014	14:15	Nitrate as N	3.27	mg/L	0.500
812969-002	TW-03D-217	E300	NONE	4/8/2014	14:15	Sulfate	528	mg/L	25.0
812969-002	TW-03D-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity	145	mg/L	5.00
812969-002	TW-03D-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	145	mg/L	5.00
812969-002	TW-03D-217	SM2320B	NONE	4/8/2014	14:15	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	mg/L	5.00
812969-002	TW-03D-217	SM2540C	NONE	4/8/2014	14:15	Total Dissolved Solids	5210	mg/L	250
812969-002	TW-03D-217	SM3500-CrB	LABFLT	4/8/2014	14:15	Chromium, Hexavalent	662	ug/L	250
812969-002	TW-03D-217	SM4500HB	NONE	4/8/2014	14:15	PH	7.39 J	pH	4.00

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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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project Number: 428648.IM.CS.EX.AC

P.O. Number: PGEIM11111001

Release Number:

Laboratory No. 812969

Page 1 of 19

Printed 4/24/2014

Samples Received on 4/8/2014 8:05:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-217	812969-001	04/08/2014 14:15	Water
TW-03D-217	812969-002	04/08/2014 14:15	Water

### Anions By I.C. - EPA 300.0

Batch 04AN14H

Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Chloride	mg/L	04/09/2014 13:09	500	17.4	50.0	1050
Nitrate as Nitrogen	mg/L	04/09/2014 10:53	5.00	0.0415	0.500	ND
Sulfate	mg/L	04/09/2014 12:32	50.0	1.54	25.0	376
812969-002 Chloride	mg/L	04/09/2014 13:22	500	17.4	50.0	2440
Nitrate as Nitrogen	mg/L	04/09/2014 11:05	5.00	0.0415	0.500	3.27
Sulfate	mg/L	04/09/2014 12:44	50.0	1.54	25.0	528

### Method Blank

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

### Duplicate

Lab ID = 812942-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	25.0	84.2	86.2	2.37	0 - 20

### Duplicate

Lab ID = 812966-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.27	2.30	1.44	0 - 20
Sulfate	mg/L	100	511	523	2.28	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.52	2.53	0.237	0 - 20

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**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 2 of 19****Project Number: 428648.IM.CS.EX.AC****Printed 4/24/2014****Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.84	4.00	96.1	90 - 110
Fluoride	mg/L	1.00	3.97	4.00	99.2	90 - 110
Sulfate	mg/L	1.00	19.3	20.0	96.4	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.84	4.00	96.1	90 - 110

**Matrix Spike**

Lab ID = 812942-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	25.0	185	186(100)	98.9	85 - 115

**Matrix Spike**

Lab ID = 812966-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	21.8	22.3(20.0)	97.4	85 - 115
Sulfate	mg/L	100	1480	1520(1000)	95.4	85 - 115
Nitrate as Nitrogen	mg/L	5.00	22.0	22.5(20.0)	97.3	85 - 115

**MRCSS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	4.02	4.00	100	90 - 110
Fluoride	mg/L	1.00	4.14	4.00	103	90 - 110
Sulfate	mg/L	1.00	20.0	20.0	100	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.03	4.00	101	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.87	3.00	95.7	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.26	3.00	108	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.12	3.00	104	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.03	3.00	101	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 4/24/2014

Alkalinity by SM 2320B		Batch 04ALK14B				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Alkalinity as CaCO <sub>3</sub>	mg/L	04/09/2014	1.00	1.68	5.00	218
Bicarbonate (Calculated)	mg/L	04/09/2014	1.00	1.68	5.00	218
Carbonate (Calculated)	mg/L	04/09/2014	1.00	1.68	5.00	ND
812969-002 Alkalinity as CaCO <sub>3</sub>	mg/L	04/09/2014	1.00	1.68	5.00	145
Bicarbonate (Calculated)	mg/L	04/09/2014	1.00	1.68	5.00	145
Carbonate (Calculated)	mg/L	04/09/2014	1.00	1.68	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	ND

Duplicate

Lab ID = 812969-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	146	145	0.687	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	99.0	100	99.0	90 - 110

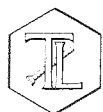
Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	99.0	100	99.0	90 - 110

Matrix Spike

Lab ID = 812969-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	310	318(100)	92.0	75 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 4/24/2014

**Specific Conductivity - EPA 120.1**

Batch 04EC14B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Specific Conductivity	umhos/cm	04/11/2014	1.00	0.606	2.00	4150
812969-002 Specific Conductivity	umhos/cm	04/11/2014	1.00	0.606	2.00	7810

**Method Blank**

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

**Duplicate**

Lab ID = 812966-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	35800	35900	0.279	0 - 10

**Lab Control Sample**

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

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	693	706	98.2	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	1000	100	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1010	1000	101	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 4/24/2014

Chrome VI by EPA 218.6		Batch 04CrH14 A				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Chromium, Hexavalent	ug/L	04/10/2014 15:15	1.00	0.00600	0.20	4.0
Method Blank						
Parameter	Unit	DF	Result			
Chromium, Hexavalent	ug/L	1.00	ND			
Duplicate				Lab ID = 812967-015		
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	19.8	19.8	0.00707	0 - 20
Low Level Calibration Verification						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.198	0.200	99.2	70 - 130
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.04	5.00	101	90 - 110
Matrix Spike				Lab ID = 812966-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	5.35	5.10(5.00)	105	90 - 110
Matrix Spike				Lab ID = 812966-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	1.17	1.12(1.00)	105	90 - 110
Matrix Spike				Lab ID = 812966-002		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	1260	1240(625)	104	90 - 110
Matrix Spike				Lab ID = 812966-003		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	ND	1.00(1.00)		90 - 110
Matrix Spike				Lab ID = 812966-003		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	5.86	5.96(5.00)	98.1	90 - 110
Matrix Spike				Lab ID = 812966-003		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.0	11.6	10.8(10.0)	107	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 10 of 19****Project Number: 428648.IM.CS.EX.AC****Printed 4/24/2014****Matrix Spike**

Lab ID = 812967-015

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	39.7	39.8(20.0)	99.6	90 - 110

**Matrix Spike**

Lab ID = 812969-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.10	9.02(5.00)	102	90 - 110

**MRCVS - Secondary**

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

**MRCVS - Primary**

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

**MRCVS - Primary**

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

**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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<b>Chromium, Hexavalent by SM 3500-Cr B</b>		Batch 04CrH14A				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-002 Chromium, Hexavalent	ug/L	04/16/2014 17:39	25.0	110	250	662
<b>Method Blank</b>						
Parameter	Unit	DF	Result			
Chromium, Hexavalent	ug/L	1.00	ND			
<b>Duplicate</b>					Lab ID = 812969-002	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	632	662	4.72	0 - 20
<b>Lab Control Sample</b>						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	99.0	100	99.0	90 - 110
<b>Matrix Spike</b>					Lab ID = 812969-002	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	3110	3160(2500)	97.9	85 - 115
<b>MRCCS - Secondary</b>						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	99.0	100	99.0	90 - 110
<b>MRCVS - Primary</b>						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	96.6	100	96.6	90 - 110



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pH by SM 4500-H B		Batch 04PH14H				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 pH	pH	04/09/2014 11:02	1.00	0.0250	4.00	7.51
812969-002 pH	pH	04/09/2014 11:04	1.00	0.0250	4.00	7.39
Duplicate		Lab ID = 812969-002				
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.41	7.39	0.270	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.05	7.00	101	90 - 110
Lab Control Sample Duplicate						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.10	7.00	101	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.08	7.00	101	90 - 110

Total Dissolved Solids by SM 2540 C			Batch 04TDS14C			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Total Dissolved Solids	mg/L	04/14/2014	1.00	1.76	125	2700
812969-002 Total Dissolved Solids	mg/L	04/14/2014	1.00	1.76	250	5210
Method Blank						
Parameter	Unit	DF	Result			
Total Dissolved Solids	mg/L	1.00	ND			
Duplicate					Lab ID = 812966-001	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4330	4440	2.51	0 - 10
Duplicate					Lab ID = 812966-003	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	27900	27500	1.32	0 - 10
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	499	500	99.8	90 - 110



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Metals by EPA 200.8, Dissolved		Batch 040914A-1				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Chromium	ug/L	04/09/2014 23:26	2.00	0.142	1.0	4.2
Manganese	ug/L	04/09/2014 23:26	2.00	0.120	1.0	66.3
812969-002 Chromium	ug/L	04/09/2014 23:58	10.0	0.710	5.0	772
Manganese	ug/L	04/09/2014 23:52	2.00	0.120	1.0	7.0

Method Blank

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

Duplicate

Lab ID = 812969-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	2.00	3.90	4.25	8.46	0 - 20
Manganese	ug/L	2.00	63.0	66.3	5.05	0 - 20

Low Level Calibration Verification

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.532	0.500	106	70 - 130
Manganese	ug/L	1.00	0.383	0.500	76.6	70 - 130

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	2.00	50.0	50.0	100	85 - 115
Manganese	ug/L	2.00	48.1	50.0	96.2	85 - 115

Matrix Spike

Lab ID = 812969-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	51.5	54.2(50.0)	94.5	75 - 125
Manganese	ug/L	2.00	112	116(50.0)	92.0	75 - 125

Matrix Spike Duplicate

Lab ID = 812969-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	52.7	54.2(50.0)	96.9	75 - 125
Manganese	ug/L	2.00	112	116(50.0)	90.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	19.0	20.0	95.2	90 - 110
Manganese	ug/L	1.00	19.1	20.0	95.5	90 - 110



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Metals by 200.7, Dissolved		Batch 041514A-Th2				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
812969-001 Calcium	ug/L	04/15/2014 15:58	50.0	850	25000	119000
Iron	ug/L	04/15/2014 18:21	2.00	6.00	20.0	ND
Magnesium	ug/L	04/15/2014 18:21	2.00	936	2000	24200
Sodium	ug/L	04/15/2014 15:58	50.0	2990	25000	817000
812969-002 Calcium	ug/L	04/15/2014 16:33	100	1700	50000	235000
Iron	ug/L	04/15/2014 17:50	2.00	6.00	20.0	ND
Magnesium	ug/L	04/15/2014 16:58	10.0	4680	10000	35700
Sodium	ug/L	04/15/2014 15:33	500	29900	250000	1490000

Method Blank

Parameter	Unit	DF	Result
Calcium	ug/L	1.00	ND
Iron	ug/L	1.00	ND
Sodium	ug/L	1.00	ND
Magnesium	ug/L	1.00	ND

Duplicate

Lab ID = 812969-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Calcium	ug/L	100	234000	235000	0.640	0 - 20
Iron	ug/L	2.00	ND	0	0	0 - 20
Sodium	ug/L	500	1530000	1490000	2.45	0 - 20
Magnesium	ug/L	10.0	35300	35700	1.18	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	2070	2000	104	85 - 115
Iron	ug/L	1.00	2140	2000	107	85 - 115
Sodium	ug/L	1.00	1890	2000	94.6	85 - 115
Magnesium	ug/L	1.00	2140	2000	107	85 - 115

Matrix Spike

Lab ID = 812969-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Calcium	ug/L	100	446000	435000(200000)	105	75 - 125
Iron	ug/L	2.00	2010	2000(2000)	100	75 - 125
Sodium	ug/L	500	2580000	2490000(1000000)	109	75 - 125
Magnesium	ug/L	10.0	53900	55700(20000)	91.2	75 - 125

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 17 of 19****Project Number: 428648.IM.CS.EX.AC****Printed 4/24/2014****Matrix Spike Duplicate**

Lab ID = 812969-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	2.00	1940	2000(2000)	96.8	75 - 125

**MRCSS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5100	5000	102	95 - 105
Iron	ug/L	1.00	5150	5000	103	95 - 105
Sodium	ug/L	1.00	4920	5000	98.5	95 - 105
Magnesium	ug/L	1.00	5080	5000	102	95 - 105

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5150	5000	103	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5230	5000	105	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5290	5000	106	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5290	5000	106	90 - 110
Sodium	ug/L	1.00	5290	5000	106	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	4940	5000	98.9	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	4970	5000	99.5	90 - 110
Magnesium	ug/L	1.00	5110	5000	102	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2190	2000	110	80 - 120

## Interference Check Standard AB

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	2050	2000	103	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	1830	2000	91.6	80 - 120
Magnesium	ug/L	1.00	2010	2000	100	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Magnesium	ug/L	1.00	1950	2000	97.7	80 - 120

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



## Total Dissolved Solids by SM 2540 C

## Calculations

Batch: 04TDS14C

Date Analyzed: 4/14/2014

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	79.0554	79.0556	79.0555	0.0001	No	0.0001	1.0	25.0	ND	1
812966-1	20	28.8877	28.9770	28.9766	0.0004	No	0.0889	4445.0	125.0	4445.0	1
812966-2	20	30.5001	30.5926	30.5925	0.0001	No	0.0924	4620.0	125.0	4620.0	1
812966-3	3	29.2834	29.3661	29.3660	0.0001	No	0.0826	27533.3	833.3	27533.3	1
812967-1	20	28.8149	28.9058	28.9053	0.0005	No	0.0904	4520.0	125.0	4520.0	1
812967-2	20	28.5920	28.6805	28.6801	0.0004	No	0.0881	4405.0	125.0	4405.0	1
812967-3	20	28.8540	28.9420	28.9418	0.0002	No	0.0878	4390.0	125.0	4390.0	1
812967-4	20	29.3961	29.4832	29.4830	0.0002	No	0.0869	4345.0	125.0	4345.0	1
812967-5	20	28.4726	28.5611	28.5607	0.0004	No	0.0881	4405.0	125.0	4405.0	1
812967-6	20	29.3281	29.4189	29.4189	0.0000	No	0.0908	4540.0	125.0	4540.0	1
812967-7	20	28.8877	28.9826	28.9826	0.0000	No	0.0949	4745.0	125.0	4745.0	1
812966-1 Dup	20	29.3764	29.4633	29.4630	0.0003	No	0.0866	4330.0	125.0	4330.0	1
LCS	100	69.7928	69.8431	69.8427	0.0004	No	0.0499	499.0	25.0	499.0	1
812967-8	20	28.6296	28.7122	28.7120	0.0002	No	0.0824	4120.0	125.0	4120.0	1
812967-9	20	29.5519	29.6368	29.6368	0.0000	No	0.0849	4245.0	125.0	4245.0	1
812967-10	50	51.9142	51.9715	51.9712	0.0003	No	0.0570	1140.0	50.0	1140.0	1
812967-11	50	50.4824	50.6119	50.6118	0.0001	No	0.1294	2588.0	50.0	2588.0	1
812967-14	10	30.4193	30.4737	30.4735	0.0002	No	0.0542	5420.0	250.0	5420.0	1
812967-15	50	51.4982	51.5572	51.5569	0.0003	No	0.0587	1174.0	50.0	1174.0	1
812969-1	20	28.7834	28.8373	28.8373	0.0000	No	0.0539	2695.0	125.0	2695.0	1
812969-2	10	30.1415	30.1936	30.1936	0.0000	No	0.0521	5210.0	250.0	5210.0	1
813001-1	100	66.7875	66.8365	66.8362	0.0003	No	0.0487	487.0	25.0	487.0	1
813001-2	100	79.4964	79.5455	79.5453	0.0002	No	0.0489	489.0	25.0	489.0	1
812966-3 Dup	3	30.4361	30.5197	30.5197	0.0000	No	0.0836	27866.7	833.3	27866.7	1

Calculation as follows:

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)

## Laboratory Control Sample (LCS) Summary

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	Percent Rec	Acceptance Limit	QC Within Control?
LCS	499.0	500	99.8%	90-110%	Yes
LCSD					

## LCS Recovery

$$P = \left( \frac{LC}{LT} \right) \times 100$$

P = Percent recovery.

LC = Measured LCS value (ppm).

LT = Theoretical LCS value (ppm).

## Duplicate Determinations Difference Summary

Lab Number	Sample Weight, g	Sample Dup Weight, g	% RPD	Acceptance Limit	QC Within Control?
812966-1	0.0889	0.0866	1.3%	≤5%	Yes
812966-3	0.0826	0.0836	0.6%	≤5%	Yes

## Duplicate Determination Difference

$$\% \text{ Difference} = \frac{|A - B|}{C} \times 100$$

$$\text{where } C = \frac{A + B}{2}$$

A = Weight of the first sample in (g).

B = Weight of the second sample in (g).

C = Average weight in (g).

Jenny T.

Analyst Printed Name

Analyst Signature

Maksim G.

Reviewer Printed Name

Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 04TDS14C  
Date Analyzed: 4/14/2014

Laboratory Number	EC	TDS/EC Ratio: 0.55-0.90	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
812966-1	6850	0.65	4452.5	1.00
812966-2	6910	0.67	4491.5	1.03
812966-3	35900	0.77	23335	1.18
812967-1	6850	0.66	4452.5	1.02
812967-2	6680	0.66	4342	1.01
812967-3	6810	0.64	4426.5	0.99
812967-4	6810	0.64	4426.5	0.98
812967-5	6910	0.64	4491.5	0.98
812967-6	8220	0.55	5343	0.85
812967-7	6800	0.70	4420	1.07
812966-1 Dup	6850	0.63	4452.5	0.97
LCS				
812967-8	6510	0.63	4231.5	0.97
812967-9	5810	0.73	3776.5	1.12
812967-10	2050	0.56	1332.5	0.86
812967-11	3890	0.67	2528.5	1.02
812967-14	8260	0.66	5369	1.01
812967-15	2050	0.57	1332.5	0.88
812969-1	4150	0.65	2697.5	1.00
812969-2	7810	0.67	5076.5	1.03
813001-1	885	0.55	575.25	0.85
813001-2	827	0.59	537.55	0.91
812966-3 Dup	35900	0.78	23335	1.19







Analytical Batch:	04ALK14B
Matrix:	WATER
Date of Analysis:	4/9/2014

[illegible]

T or P =

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

T = Total Alkalinity, mg CaCO<sub>3</sub>/L  
P = Phenolphthalein Alkalinity, mg CaCO<sub>3</sub>/L  
A = mL standard acid used  
N = normality of standard acid

**Low Alkalinity:** =  $\frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$   
as mg/L CaCO<sub>3</sub>

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

---

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

Reporting Limit, RL	Measured Value, ppm	Accept Limit	QC Within Control?
5 ppm	0	<5	Yes

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	% Recovery	Acceptance Limit	QC Within Control?
LCS	99	100	99.0%	90-110	Yes
LCSD	99	100	99.0%	90-110	Yes

Lab Number I.D.	Measured Value, ppm	Dup Value, ppm	RPD	Acceptance Limit	QC Within Control?
812969-2	145	146	0.7%	≤20%	Yes

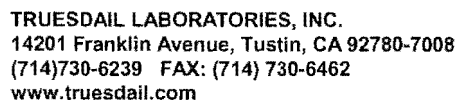
Lab Number	Conc of Unspk spl	Dil Factor	Added Spk Conc	MS/MSD Amt	Measrd Conc of Spk Spl	Theor Conc of Spk Spl	MS/MSD % Rec	MS Accept Limit	QC Within Control?	RPD	RPD Accept Limit	QC Within Control?
812969-1	218	1	100	100	310	318.00	92%	75-125	Yes			
				0								

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature \_\_\_\_\_



[IM3Plant-EW-217]

TURNAROUND TIME 10 Days  
DATE 04/08/14 PAGE 1 OF 1

COMPANY		CH2M HILL /E2														COMMENTS				
PROJECT NAME		PG&E Topock IM3Plant-EW																		
PHONE		530-229-3303			FAX			530-339-3303												
ADDRESS		155 Grand Ave Ste 1000 Oakland, CA 94612																		
P.O. NUMBER		428648.IM.CS.EX.AC																		
SAMPLERS (SIGNATURE)		<i>[Signature]</i>																		
SAMPLE I.D.	DATE	TIME	DESCRIPTION	Dissolved Cr, Mn (200.8) Lab filtered	Cr(VI) (3500-Cr B)	pH (150.0) EC (120.1) Cl, SO <sub>4</sub> , NO <sub>3</sub> (300.0)	TDS (160.1), Alk (SM2320B)	Cr(VI) (218.6)	Dis Ca, Mg, Na, Fe (200.7) Lab filtered											
PE-01-217	04/08/14	1415	Ground water	X		X	X	X	X								4	<i>pH=7 (200.7/200.8)</i>		
TW-03D-217	04/08/14	1415	Ground water	X	X	X	X		X								4			
																	8	TOTAL NUMBER OF CONTAINERS		

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"/> 5.2 °C		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED YES <input type="checkbox"/> NO <input checked="" 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			

076

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

for 4/14/14



## Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest (Y/N)	Time of Adjustment to pH 2	Date/Time of 2nd pH check	Comments
812829	>1	<2	4/3/14	KD	Yes			
812830	>1	<2						
812833 (4)	>1	<2						
812848	>1	<2						
812849-4	>1	<2						
812851 (1-2)	>1	<2						
812852	>1	<2						
812858	>1	<2	4/3/14	KD	Yes			
812820	>1	<2						
812821	>1	<2						
812823	<1	>2			NO	1110	4/4/14 12:30	pH <2
812859	<1	>2	4/4/14	KD	NO			
812872	>1	<2			Yes			
812866	>1	>2			YES			
812912	>1	<2	4/7/14	ES	Yes			
812922	<1	<2						
812923 (1-4)	>1	<2						
812929 (1-2)	>1	<2	4/8/14	ES	Yes			
812937-6	<1	>2			NO	10:00		
812942 (1,2,4)	<1	>2	4/8/14	KD	NO	1305		
812944	<1	<2	4/9/14	ES	Yes			
812945	↓							
812946	>1							
812947	↓							
812949	<1							
812950								
812951								
812952								
812953								
812954								
812965 (1-2)	↓	>2			NO	11:00		
812967 (1-11, 14-15)	<1	<2	4/9/14	ES	Yes			
812966 (1, 3)	<1	<2						
966-2	↓	>2				1:00		pH <2
812969 (1-2)	↓					1:00		Filter and then acidify
812934 (10-12)	<1	>2	4/10/14	KD	NO	1220		
812991	>1	<2			Yes			
812992 (4)	>1	<2			Yes			
812993 (4)	>1	<2			Yes			
812986 (1, 2)	>1	>2			NO	1220		
813007 (1-4)	<1	>2			NO	↓		
813002	<1	<2			Yes			
813001 (1, 2)	>1	<2			Yes			
813004	<1	<2			Yes			

## Notes:

1. Samples should be analyzed after 24 hrs of pH adjustment to pH2 for Dissolved Analytes.
2. All Total Recoverable Analytes must be pH adjusted and digested.
3. Do not use disposable pipette to measure pH; pour a little amount of sample from the bottle.



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 812 968

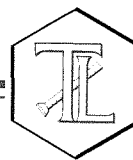
Date Delivered: 04/08/14 Time: 20:05 By: ☐ Mail ☒ Field Service ☐ Client

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)? 5.2 °C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☐ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A
12. Were samples pH checked? pH = See 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

ALERT !!  
Level III QC

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

May 30, 2014

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-218, GROUNDWATER MONITORING PROJECT, TLI NO.: 813316

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-218 groundwater-monitoring project. 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 6, 2014, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

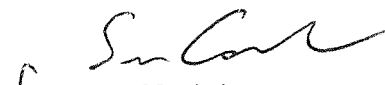
Samples for pH analysis by SM 4500-H B were received past the method specified holding time. Mr. Duffy approved the analysis of the samples.

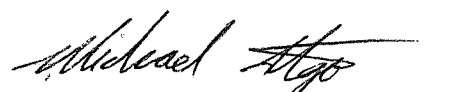
Due to the discrepancy between the Total Dissolved Chromium (741 ug/L) and Hexavalent Chromium (601 ug/L) results for sample TW-03D-218, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were 720 ug/L and 761 ug/L, respectively. The original Total Dissolved Chromium digestate was re-analyzed for confirmation and yielded a result of 751 ug/L. The Hexavalent Chromium result was also confirmed. After reviewing the data, the original results were 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

  
Michael Ngo  
Quality Assurance/Quality Control Officer

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

**Attention:** Shawn Duffy

**Sample:** Two (2) Groundwater Samples

**Project Name:** PG&E Topock Project

**Project No.:** 428648.IM.CS.EX.AC

**Laboratory No.:** 813316

**Date:** May 30, 2014

**Collected:** May 6, 2014

**Received:** May 6, 2014

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Jenny Tankunakorn
SM 4500-H B	pH	Felipe Mendoza
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Alex Luna
EPA 300.0	Anions	Giawad Ghenniwa
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Ethel Suico
EPA 218.6	Hexavalent Chromium	Naheed Eidinejad
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

**Project Name:** PG&E Topock Project  
**Project No.:** 428648.IM.CS.EX.AC  
**P.O. No.:** PGEIM11111001

**Laboratory No.:** 813316  
**Date Received:** May 6, 2014

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
813316-001	PE-01-218	E120.1	NONE	5/6/2014	15:10	EC	4540	umhos/cm	2.00
813316-001	PE-01-218	E200.7	LABFLT	5/6/2014	15:10	Calcium	126000	ug/L	50000
813316-001	PE-01-218	E200.7	LABFLT	5/6/2014	15:10	Iron	ND	ug/L	20.0
813316-001	PE-01-218	E200.7	LABFLT	5/6/2014	15:10	Magnesium	23400	ug/L	10000
813316-001	PE-01-218	E200.7	LABFLT	5/6/2014	15:10	Sodium	802000	ug/L	50000
813316-001	PE-01-218	E200.8	LABFLT	5/6/2014	15:10	Chromium	4.3	ug/L	1.0
813316-001	PE-01-218	E200.8	LABFLT	5/6/2014	15:10	Manganese	72.2	ug/L	1.0
813316-001	PE-01-218	E218.6	LABFLT	5/6/2014	15:10	Chromium, Hexavalent	3.9	ug/L	0.20
813316-001	PE-01-218	E300	NONE	5/6/2014	15:10	Chloride	1170	mg/L	50.0
813316-001	PE-01-218	E300	NONE	5/6/2014	15:10	Nitrate as N	ND	mg/L	0.500
813316-001	PE-01-218	E300	NONE	5/6/2014	15:10	Sulfate	395	mg/L	25.0
813316-001	PE-01-218	SM2320B	NONE	5/6/2014	15:10	Alkalinity	178	mg/L	5.00
813316-001	PE-01-218	SM2320B	NONE	5/6/2014	15:10	Alkalinity, Bicarbonate (As CaCO3)	178	mg/L	5.00
813316-001	PE-01-218	SM2320B	NONE	5/6/2014	15:10	Alkalinity, Carbonate (As CaCO3)	ND	mg/L	5.00
813316-001	PE-01-218	SM2540C	NONE	5/6/2014	15:10	Total Dissolved Solids	2680	mg/L	125
813316-001	PE-01-218	SM4500HB	NONE	5/6/2014	15:10	PH	7.38 J	pH	4.00

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
813316-002	TW-03D-218	E120.1	NONE	5/6/2014	15:15	EC	8270	umhos/cm	2.00
813316-002	TW-03D-218	E200.7	LABFLT	5/6/2014	15:15	Calcium	236000	ug/L	50000
813316-002	TW-03D-218	E200.7	LABFLT	5/6/2014	15:15	Iron	ND	ug/L	20.0
813316-002	TW-03D-218	E200.7	LABFLT	5/6/2014	15:15	Magnesium	30400	ug/L	10000
813316-002	TW-03D-218	E200.7	LABFLT	5/6/2014	15:15	Sodium	1480000	ug/L	250000
813316-002	TW-03D-218	E200.8	LABFLT	5/6/2014	15:15	Chromium	742	ug/L	5.0
813316-002	TW-03D-218	E200.8	LABFLT	5/6/2014	15:15	Manganese	8.9	ug/L	0.50
813316-002	TW-03D-218	E300	NONE	5/6/2014	15:15	Chloride	2520	mg/L	50.0
813316-002	TW-03D-218	E300	NONE	5/6/2014	15:15	Nitrate as N	3.33	mg/L	0.500
813316-002	TW-03D-218	E300	NONE	5/6/2014	15:15	Sulfate	541	mg/L	25.0
813316-002	TW-03D-218	SM2320B	NONE	5/6/2014	15:15	Alkalinity	77.0	mg/L	5.00
813316-002	TW-03D-218	SM2320B	NONE	5/6/2014	15:15	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	77.0	mg/L	5.00
813316-002	TW-03D-218	SM2320B	NONE	5/6/2014	15:15	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	mg/L	5.00
813316-002	TW-03D-218	SM2540C	NONE	5/6/2014	15:15	Total Dissolved Solids	4820	mg/L	250
813316-002	TW-03D-218	SM3500-CrB	LABFLT	5/6/2014	15:15	Chromium, Hexavalent	601	ug/L	250
813316-002	TW-03D-218	SM4500HB	NONE	5/6/2014	15:15	PH	7.33 J	pH	4.00

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

Project Number: 428648.IM.CS.EX.AC

P.O. Number: PGEIM11111001

Release Number:

Laboratory No. 813316

Page 1 of 15

Printed 5/30/2014

Samples Received on 5/6/2014 8:50:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-218	813316-001	05/06/2014 15:10	Water
TW-03D-218	813316-002	05/06/2014 15:15	Water

### Anions By I.C. - EPA 300.0

Batch 05AN14C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Chloride	mg/L	05/07/2014 17:16	500	17.4	50.0	1170
Nitrate as Nitrogen	mg/L	05/07/2014 16:14	5.00	0.0415	0.500	ND
Sulfate	mg/L	05/07/2014 16:51	50.0	1.54	25.0	395
813316-002 Chloride	mg/L	05/07/2014 17:29	500	17.4	50.0	2520
Nitrate as Nitrogen	mg/L	05/07/2014 16:27	5.00	0.0415	0.500	3.33
Sulfate	mg/L	05/07/2014 17:04	50.0	1.54	25.0	541

### Method Blank

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

### Duplicate

Lab ID = 813315-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	50.0	499	500	0.228	0 - 20

### Duplicate

Lab ID = 813315-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.35	2.34	0.512	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.76	2.64	4.62	0 - 20

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**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 2 of 15****Project Number: 428648.IM.CS.EX.AC****Printed 5/30/2014**

Duplicate						Lab ID = 813325-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	25.0	81.3	82.6	1.55	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.93	4.00	98.2	90 - 110
Fluoride	mg/L	1.00	4.09	4.00	102	90 - 110
Sulfate	mg/L	1.00	19.6	20.0	98.2	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.03	4.00	101	90 - 110
Matrix Spike						Lab ID = 813315-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	50.0	1010	1000(500)	102	85 - 115
Matrix Spike						Lab ID = 813315-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.7	22.3(20.0)	102	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.1	22.6(20.0)	102	85 - 115
Matrix Spike						Lab ID = 813325-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	25.0	177	183(100)	94.2	85 - 115
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.99	4.00	99.6	90 - 110
Fluoride	mg/L	1.00	4.14	4.00	103	90 - 110
Sulfate	mg/L	1.00	19.8	20.0	99.1	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.06	3.00	102	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.02	3.00	101	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.00	3.00	99.8	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**Alkalinity by SM 2320B**

Batch 05ALK14C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Alkalinity as CaCO <sub>3</sub>	mg/L	05/19/2014	1.00	1.68	5.00	178
Bicarbonate (Calculated)	mg/L	05/19/2014	1.00	0.153	5.00	178
Carbonate (Calculated)	mg/L	05/19/2014	1.00	0.153	5.00	ND
813316-002 Alkalinity as CaCO <sub>3</sub>	mg/L	05/19/2014	1.00	1.68	5.00	77.0
Bicarbonate (Calculated)	mg/L	05/19/2014	1.00	0.153	5.00	77.0
Carbonate (Calculated)	mg/L	05/19/2014	1.00	0.153	5.00	ND

**Method Blank**

Parameter	Unit	DF	Result
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	ND

**Duplicate**

Lab ID = 813316-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	175	178	1.70	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	100	100	100	90 - 110

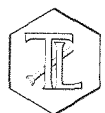
**Lab Control Sample Duplicate**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	99.0	100	99.0	90 - 110

**Matrix Spike**

Lab ID = 813316-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	169	177(100)	92.0	75 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**Specific Conductivity - EPA 120.1**

Batch 05EC14B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Specific Conductivity	umhos/cm	05/12/2014	1.00	0.606	2.00	4540
813316-002 Specific Conductivity	umhos/cm	05/12/2014	1.00	0.606	2.00	8270

**Method Blank**

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

**Duplicate**

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	903	903	0	0 - 10

Lab ID = 813334-004

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	728	706	103	90 - 110

**MRCCS - Secondary**

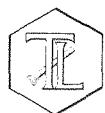
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	726	706	103	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	975	1000	97.5	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	984	1000	98.4	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**Chrome VI by EPA 218.6**

Batch 05CrH14 B

Parameter		Unit	Analyzed		DF	MDL	RL	Result
813316-001 Chromium, Hexavalent		ug/L	05/09/2014 11:52		1.00	0.00600	0.20	3.9
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID = 813316-001	
Parameter	Unit	DF	Result	Expected	RPD		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	3.90	3.91	0.328		0 - 20	
Low Level Calibration Verification								
Parameter	Unit	DF	Result	Expected	Recovery		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	0.200	0.200	100		70 - 130	
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 = 813316-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	8.78	8.91(5.00)	97.5		90 - 110	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Recovery		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	5.03	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	10.1	10.0	101		95 - 105	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102		95 - 105	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Recovery		Acceptance Range	
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101		95 - 105	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**Chromium, Hexavalent by SM 3500-Cr B**

Batch 05CrH14A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-002 Chromium, Hexavalent	ug/L	05/14/2014 14:53	25.0	110	250	601

**Method Blank**

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

**Duplicate**

Lab ID = 813316-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	632	601	4.95	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	90.6	100	90.6	90 - 110

**Matrix Spike**

Lab ID = 813316-002

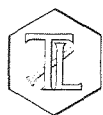
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	2960	3100(2500)	94.3	85 - 115

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	90.6	100	90.6	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	95.4	100	95.4	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**pH by SM 4500-H B**

Batch 05PH14H

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 pH	pH	05/07/2014 14:17	1.00	0.0250	4.00	7.38
813316-002 pH	pH	05/07/2014 14:21	1.00	0.0250	4.00	7.33

**Duplicate**

Lab ID = 813316-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.39	7.33	0.815	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.03	7.00	100	90 - 110

**Lab Control Sample Duplicate**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.08	7.00	101	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.08	7.00	101	90 - 110

**Total Dissolved Solids by SM 2540 C**

Batch 05TDS14B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Total Dissolved Solids	mg/L	05/12/2014	1.00	1.76	125	2680
813316-002 Total Dissolved Solids	mg/L	05/12/2014	1.00	1.76	250	4820

**Method Blank**

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

**Duplicate**

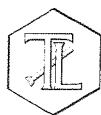
Lab ID = 813315-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4330	4410	1.83	0 - 10

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	460	500	92.0	90 - 110




**Client: E2 Consulting Engineers, Inc.**
**Project Name: PG&E Topock Project**
**Page 9 of 15**
**Project Number: 428648.IM.CS.EX.AC**
**Printed 5/30/2014**
**Metals by EPA 200.8, Dissolved**

Batch 051314A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Chromium	ug/L	05/13/2014 16:24	2.00	0.142	1.0	4.3
Manganese	ug/L	05/13/2014 16:24	2.00	0.120	1.0	72.2
813316-002 Chromium	ug/L	05/13/2014 17:29	10.0	0.710	5.0	742
Manganese	ug/L	05/13/2014 17:22	1.00	0.0600	0.50	8.9

**Method Blank**

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

**Duplicate**

Lab ID = 813316-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	2.00	4.48	4.32	3.59	0 - 20
Manganese	ug/L	2.00	75.2	72.2	4.08	0 - 20

**Low Level Calibration Verification**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.544	0.500	109	70 - 130
Manganese	ug/L	1.00	0.460	0.500	91.9	70 - 130

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.7	50.0	107	85 - 115
Manganese	ug/L	1.00	53.8	50.0	108	85 - 115

**Matrix Spike**

Lab ID = 813316-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	55.0	54.3(50.0)	101	75 - 125
Manganese	ug/L	2.00	126	122(50.0)	107	75 - 125

**Matrix Spike Duplicate**

Lab ID = 813316-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	54.3	54.3(50.0)	100.	75 - 125
Manganese	ug/L	2.00	123	122(50.0)	102	75 - 125

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	19.0	20.0	95.2	90 - 110
Manganese	ug/L	1.00	19.1	20.0	95.4	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

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## Serial Dilution

Lab ID = 813316-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	10.0	68.5	72.2	5.22	0 - 10

## Serial Dilution

Lab ID = 813316-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	779	742	4.83	0 - 10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

Printed 5/30/2014

**Metals by 200.7, Dissolved**

Batch 051314A-Th2

Parameter	Unit	Analyzed	DF	MDL	RL	Result
813316-001 Calcium	ug/L	05/13/2014 14:57	100	1700	50000	126000
Iron	ug/L	05/13/2014 17:01	1.00	3.00	20.0	ND
Magnesium	ug/L	05/13/2014 16:07	10.0	4680	10000	23400
Sodium	ug/L	05/13/2014 14:57	100	5980	50000	802000
813316-002 Calcium	ug/L	05/13/2014 15:02	100	1700	50000	236000
Iron	ug/L	05/13/2014 16:36	1.00	3.00	20.0	ND
Maghesium	ug/L	05/13/2014 15:46	10.0	4680	10000	30400
Sodium	ug/L	05/13/2014 14:19	500	29900	250000	1480000

**Method Blank**

Parameter	Unit	DF	Result
Calcium	ug/L	1.00	ND
Iron	ug/L	1.00	ND
Sodium	ug/L	1.00	ND
Magnesium	ug/L	1.00	ND

**Duplicate**

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Calcium	ug/L	100	240000	236000	1.80	0 - 20
Iron	ug/L	1.00	ND	0	0	0 - 20
Sodium	ug/L	500	1360000	1480000	8.16	0 - 20
Magnesium	ug/L	10.0	31000	30400	1.89	0 - 20

Lab ID = 813316-002

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	2220	2000	111	85 - 115
Iron	ug/L	1.00	2110	2000	106	85 - 115
Sodium	ug/L	1.00	2000	2000	99.8	85 - 115
Magnesium	ug/L	1.00	1890	2000	94.4	85 - 115

**Matrix Spike**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Calcium	ug/L	100	452000	436000(200000)	108	75 - 125
Iron	ug/L	1.00	1950	2000(2000)	97.6	75 - 125
Sodium	ug/L	500	2570000	2480000(100000)	109	75 - 125
Magnesium	ug/L	10.0	49000	50400(20000)	93.2	75 - 125

Lab ID = 813316-002

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 13 of 15****Project Number: 428648.IM.CS.EX.AC****Printed 5/30/2014****Matrix Spike Duplicate****Lab ID = 813316-002**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1910	2000(2000)	95.3	75 - 125

**MRCSS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5240	5000	105	95 - 105
Iron	ug/L	1.00	5050	5000	101	95 - 105
Sodium	ug/L	1.00	4930	5000	98.7	95 - 105
Magnesium	ug/L	1.00	4770	5000	95.3	95 - 105

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5080	5000	102	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5310	5000	106	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5250	5000	105	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5350	5000	107	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5160	5000	103	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5400	5000	108	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5090	5000	102	90 - 110
Sodium	ug/L	1.00	5060	5000	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: 428648.IM.CS.EX.AC

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## Interference Check Standard AB

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2170	2000	109	80 - 120

## Interference Check Standard AB

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	1960	2000	98.0	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	1950	2000	97.7	80 - 120
Magnesium	ug/L	1.00	2130	2000	106	80 - 120

## Interference Check Standard AB

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.



Mona Nassimi

Manager, Analytical Services



e2

**Total Dissolved Solids by SM 2540 C****Calculations**

Batch: 05TDS14B

Date Analyzed: 5/12/2014

Laboratory Number	Sample volume, mL	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
Blank	100	67.7776	67.7779	67.7779	0.0000	No	0.0003	3.0	25.0	ND	1
813315-1	10	30.0515	30.0959	30.0956	0.0003	No	0.0441	4410.0	250.0	4410.0	1
813315-2	10	29.5359	29.5803	29.5801	0.0002	No	0.0442	4420.0	250.0	4420.0	1
813316-1	20	29.2560	29.3098	29.3095	0.0003	No	0.0535	2675.0	125.0	2675.0	1
813316-2	10	29.4154	29.4639	29.4636	0.0003	No	0.0482	4820.0	250.0	4820.0	1
813325-7	100	70.8766	70.9345	70.9345	0.0000	No	0.0579	579.0	25.0	579.0	1
813329-1	100	72.5254	72.5585	72.5582	0.0003	No	0.0328	328.0	25.0	328.0	1
813334-1	100	76.7862	76.8368	76.8367	0.0001	No	0.0505	505.0	25.0	505.0	1
813334-2	100	74.7001	74.7506	74.7505	0.0001	No	0.0504	504.0	25.0	504.0	1
813334-3	100	73.4317	73.4811	73.4811	0.0000	No	0.0494	494.0	25.0	494.0	1
813334-4	100	76.2495	76.2993	76.2993	0.0000	No	0.0498	498.0	25.0	498.0	1
813315-1 Dup	10	30.4523	30.4960	30.4956	0.0004	No	0.0433	4330.0	250.0	4330.0	1
LCS	100	74.4535	74.4995	74.4995	0.0000	No	0.0460	460.0	25.0	460.0	1
813345-1	100	65.6719	65.7213	65.7213	0.0000	No	0.0494	494.0	25.0	494.0	1
813345-2	100	73.5706	73.6215	73.6212	0.0003	No	0.0506	506.0	25.0	506.0	1
813349-2	100	80.5714	80.5902	80.5902	0.0000	No	0.0188	188.0	25.0	188.0	1
813349-4	100	75.6057	75.6480	75.6480	0.0000	No	0.0423	423.0	25.0	423.0	1
813350-1	50	50.9271	50.9777	50.9777	0.0000	No	0.0506	1012.0	50.0	1012.0	1
813350-2	100	68.7237	68.7753	68.7753	0.0000	No	0.0516	516.0	25.0	516.0	1
813350-3	100	72.4021	72.4618	72.4616	0.0002	No	0.0595	595.0	25.0	595.0	1
813350-4	50	48.9740	49.0051	49.0050	0.0001	No	0.0310	620.0	50.0	620.0	1
813383-1	100	74.4531	74.4985	74.4985	0.0000	No	0.0454	454.0	25.0	454.0	1
813383-2	100	72.4800	72.5295	72.5293	0.0002	No	0.0493	493.0	25.0	493.0	1
813350-4 Dup	50	47.9106	47.9422	47.9422	0.0000	No	0.0316	632.0	50.0	632.0	1

Calculation as follows:

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)

**Laboratory Control Sample (LCS) Summary**

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	Percent Rec	Acceptance Limit	QC Within Control?
LCS	460.0	500	92.0%	90-110%	Yes
LCSD					

**LCS Recovery**

$$P = \left( \frac{LC}{LT} \right) \times 100$$

P = Percent recovery.

LC = Measured LCS value (ppm).

LT = Theoretical LCS value (ppm).

**Duplicate Determinations Difference Summary**

Lab Number	Sample Weight, g	Sample Dup Weight, g	% RPD	Acceptance Limit	QC Within Control?
813315-1	0.0441	0.0433	0.9%	≤5%	Yes
813350-4	0.0310	0.0316	1.0%	≤5%	Yes

**Duplicate Determination Difference**

$$\% \text{ Difference} = \frac{|A - B|}{C} \times 100$$

$$\text{where } C = \frac{A + B}{2}$$

A = Weight of the first sample in (g).

B = Weight of the second sample in (g).

C = Average weight in (g).

Jenny T.

Analyst Printed Name

Analyst Signature

Maksim G.

Reviewer Printed Name

Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 05TDS14B  
Date Analyzed: 5/12/2014

Laboratory Number	EC	TDS/EC Ratio: 0.55-0.90	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
813315-1	7310	0.60	4751.5	0.93
813315-2	7470	0.59	4855.5	0.91
813316-1	4540	0.59	2951	0.91
813316-2	8270	0.58	5375.5	0.90
813325-7	920	0.63	598	0.97
813329-1	522	0.63	339.3	0.97
813334-1	903	0.56	586.95	0.86
813334-2	905	0.56	588.25	0.86
813334-3	903	0.55	586.95	0.84
813334-4	903	0.55	586.95	0.85
813315-1 Dup	7310	0.59	4751.5	0.91
LCS				
813345-1	893	0.55	580.45	0.85
813345-2	877	0.58	570.05	0.89
813349-2	306	0.61	198.9	0.95
813349-4	723	0.59	469.95	0.90
813350-1	1715	0.59	1114.75	0.91
813350-2	900	0.57	585	0.88
813350-3	990	0.60	643.5	0.92
813350-4	1090	0.57	708.5	0.88
813383-1	835	0.54	542.75	0.84
813383-2	832	0.59	540.8	0.91
813350-4 Dup	1090	0.58	708.5	0.89



Analytical Batch:	05ALK14C
Matrix:	WATER
Date of Analysis:	5/19/2014

[illegible]

T or P =

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

**Where:**

T = Total Alkalinity, mg CaCO<sub>3</sub>/L

P = Phenolphthalein Alkalinity, mg CaCO<sub>3</sub>/L

A = mL standard acid used

**N** = normality of standard acid

$$\text{Low Alkalinity: as mg/L CaCO}_3 = \frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

Where:  $B$  = mL titrant to first recorded pH

C = Total mL titrant to reach pH 0.3 unit lower

**N** = Normality of standard acid

LCS = Laboratory Control Standard/Duplicate

MS/MSD = Matrix Spike/Duplicate

ND = Not Detected (below the reporting limit)

## Blank Summary

Reporting Limit, RL	Measured Value, ppm	Accept Limit	QC Within Control?
5 ppm	0	<5	Yes

### Laboratory Control Sample (LCS/LCSD) Summary

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	% Recovery	Acceptance Limit	QC Within Control?
LCS	100	100	100.0%	90-110	Yes
LCSD	99	100	99.0%	90-110	Yes

### Duplicate Determination Difference Summary

Lab Number I.D.	Measured Value, ppm	Dup Value, ppm	RPD	Acceptance Limit	QC Within Control?
813316-1	178	175	1.7%	≤20%	Yes

### Sample Matrix Spike (MS/MSD) Summary

Lab Number	Conc of Unspk spl	Dil Factor	Added Spk Conc	MS/MSD Amt	Measrd Conc of Spk Spl	Theor Conc of Spk Spl	MS/MSD % Rec	MS Accept Limit	QC Within Control?	RPD	RPD Accept Limit	QC Within Control?
813316-2	77	1	100	100	169	177.00	92%	75-125	Yes			

ALEX L

Analyst Printed Name

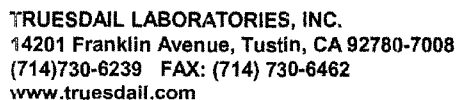
Analyst Signature

Maksim Gorbunov

Reviewer Printed Name

Reviewer Signature \_\_\_\_\_





## CHAIN OF CUSTODY RECORD

[IM3Plant-EW-218]

TURNAROUND TIME 10 Days  
DATE 05/06/14 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"/> °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			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			

067

# 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
3/26/14	812753	7.00	2ml / 100ml	9.5	7:30	NE
4/9/14	812966-1	7.00	2ml / 100ml	9.5	7:20	NE
	↓ -2	↓	↓	↓	↓	↓
	✓ -3	✓	✓	↓	✓	↓
	812967-1	9.5	N/A	N/A	N/A	↓
	↓ -2	↓	↓	↓	↓	↓
	↓ -3	↓	↓	↓	↓	↓
	↓ -4	↓	↓	↓	↓	↓
	↓ -5	↓	↓	↓	↓	↓
	↓ -6	↓	↓	↓	↓	↓
	↓ -7	↓	↓	↓	↓	↓
	↓ -8	↓	↓	↓	↓	↓
	↓ -9	↓	↓	↓	↓	↓
	↓ -10	↓	↓	↓	↓	↓
	↓ -11	↓	↓	↓	↓	↓
	↓ -12	↓	↓	↓	↓	↓
	↓ -13	↓	↓	↓	↓	↓
	↓ -14	↓	↓	↓	↓	↓
	✓ -15	↓	↓	↓	↓	↓
	812968 (slog) ✓	↓	✓	✓	✓	↓
	812969-1	7.00	2ml / 100ml	9.5	7:20	NE
✓	↓ -2	↓	↓	↓	↓	↓
4/16/14	813068	7.00	2ml / 100ml	9.5	7:40	NE
4/23/14	813140	7.00	2ml / 100ml	9.5	7:30	NE
4/30/14	813212	7.00	2ml / 100ml	9.5	7:30	NE
5/7/14	813315-1	7.00	2ml / 100ml	9.5	11:45	NE
↓	↓ -2	↓	↓	↓	↓	↓
↓	813316-1	↓	↓	↓	↓	↓
↓	↓ -2	↓	↓	↓	↓	↓

/m

NE  
5/9/14

### Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest (Y/N)	Time of Adjustment to pH 2	Date/Time of 2nd pH check	Comments
813336	<1	<2	5/11/14	ES	Yes			
813341	↓	↓	↓	↓	↓			
813345(1-2)	↓	↓	↓	↓	↓			-1 TU > 1
813358	↓	↓	↓	↓	↓			
813346	↓	↓	↓	↓	↓			
813365	>1	↓	↓	↓	↓			
813325(4-6)	<1	7.2	↓	↓	No	10:00	11:00 5/12/14	pH < 2
813326(1-3)	↓	↓	↓	↓	↓	↓	↓	↓
813327(10-12)	↓	↓	↓	↓	↓	↓	↓	↓
813324(1-2)	↓	↓	↓	↓	↓	↓	↓	↓
813349(1-2, 4)	↓	↓	↓	↓	↓	↓	↓	↓
813350(1-4)	↓	↓	↓	↓	↓	↓	↓	↓
813315(1-2)	<1	7.2	5/12/14	ES	Yes	10:00		TOTAL
-2	↓	↓	↓	↓	↓	↓		Filtered then acidify
813316(1-2)	↓	↓	↓	↓	↓	↓		-1 TU > 1
813383(1-2)	<1	<2	5/14/14	ES	Yes			
813384	>1	↓	↓	↓	↓			
813394-4	<1	↓	↓	↓	↓			
813395	↓	↓	↓	↓	↓			
813407	↓	↓	↓	↓	↓			
813416	↓	↓	↓	↓	↓			
813417	↓	↓	↓	↓	↓			
813418	>1	↓	↓	↓	↓			
813419	↓	↓	↓	↓	↓			
813390(1-2, 4)	<1	7.2	↓	↓	no	10:00		
813406	↓	↓	↓	↓	↓	↓		
813434(1, 2)	>1	<2	5/5/14	ES	Yes			
813442	>1	<2	↓	↓	↓			
813415	<1	7.2	5/19/14	ES	Yes	11:00		pH < 2
813429(10-12)	↓	↓	↓	↓	NO	11:00		
813442(1-2)	↓	↓	↓	↓	↓	↓		
813445(1-2)	↓	↓	↓	↓	↓	↓		
813434(1-2)	>1	↓	↓	↓	Yes			
813444	<1	↓	↓	↓	↓			
813458	↓	↓	↓	↓	↓			
813474	↓	<	5/19/14	ES	Yes			
813475	↓	↓	↓	↓	↓			
813482(1-2)	>1	<2	5/20/14	ES	Yes			

Notes:

1. Samples should be analyzed after 24 hrs of pH adjustment to pH2 for Dissolved Analytes.
2. All Total Recoverable Analytes must be pH adjusted and digested.
3. Do not use disposable pipette to measure pH; pour a little amount of sample from the bottle.



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 813316

Date Delivered: 05/06/14 Time: 20:50 By: ☐ Mail ☒ Field Service ☐ Client

1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A
2. Does Customer require an acknowledgement of the COC? ☐ Yes ☒ No ☐ N/A
3. Are there any special requirements or notes on the COC? ☐ Yes ☒ No ☐ N/A
4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A
5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A
6. Were samples received in a chilled condition?  
Temperature (if yes)? 3.4 °C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☐ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A
12. Were samples pH checked? pH = see c. qc. ☒ 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

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

July 2, 2014

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-219, GROUNDWATER MONITORING  
PROJECT, TLI NO.: 814025

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-219 groundwater-monitoring project. 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 3, 2014, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Samples were analyzed and recorded in the raw data as SDG 14F0025 but are reported as SDG 814025 in all final report pages.

Samples for pH analysis by SM 4500-H B were received past the method specified holding time. Mr. Duffy approved the analysis of the samples.


Due to an error during sample log-in, Alkalinity on sample TW-03D-219 was analyzed nearly 14 days past the 14 day method specified holding time. Mr. Duffy was notified.

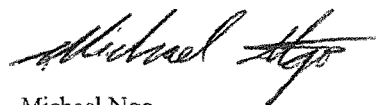
Sample TW-03D-219 for Hexavalent Chromium was analyzed by method EPA 218.6 rather than SW 3500-Cr B as requested on the COC.

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.

  
to Mona Nassimi  
Manager, Analytical Services

  
Michael Ngo  
Quality Assurance/Quality Control Officer

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** Two (2) Groundwater Samples

**Project Name:** PG&E Topock Project

**Project No.:** 428648.IM.CS.EX.AC

14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
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**Laboratory No.:** 814025

**Date:** July 2, 2014

**Collected:** June 3, 2014

**Received:** June 3, 2014

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Jenny Tankunakorn
SM 4500-H B	pH	Jennine Ta
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Alex Luna / Jennine Ta
EPA 300.0	Anions	Giawad Ghenniwa
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Ethel Suico
EPA 218.6	Hexavalent Chromium	Naheed Eidinejad



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

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project  
**Project No.:** 428648.IM.CS.EX.AC  
**P.O. No.:** PGEIM11111001

**Laboratory No.:** 814025  
**Date Received:** June 3, 2014

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
814025-001	PE-01-219	E120.1	NONE	6/3/2014	9:00	EC	4480	umhos/cm	2.00
814025-001	PE-01-219	E200.7	LABFLT	6/3/2014	9:00	Calcium	110000	ug/L	50000
814025-001	PE-01-219	E200.7	LABFLT	6/3/2014	9:00	Iron	127	ug/L	20.0
814025-001	PE-01-219	E200.7	LABFLT	6/3/2014	9:00	Magnesium	24000	ug/L	2500
814025-001	PE-01-219	E200.7	LABFLT	6/3/2014	9:00	Sodium	762000	ug/L	50000
814025-001	PE-01-219	E200.8	LABFLT	6/3/2014	9:00	Chromium	4.1	ug/L	1.0
814025-001	PE-01-219	E200.8	LABFLT	6/3/2014	9:00	Manganese	68.7	ug/L	0.50
814025-001	PE-01-219	E218.6	LABFLT	6/3/2014	9:00	Chromium, Hexavalent	3.7	ug/L	0.20
814025-001	PE-01-219	E300	NONE	6/3/2014	9:00	Chloride	1140	mg/L	50.0
814025-001	PE-01-219	E300	NONE	6/3/2014	9:00	Nitrate as N	ND	mg/L	0.500
814025-001	PE-01-219	E300	NONE	6/3/2014	9:00	Sulfate	396	mg/L	25.0
814025-001	PE-01-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity	224	mg/L	5.00
814025-001	PE-01-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	224	mg/L	5.00
814025-001	PE-01-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	mg/L	5.00
814025-001	PE-01-219	SM2540C	NONE	6/3/2014	9:00	Total Dissolved Solids	2610	mg/L	125
814025-001	PE-01-219	SM4500HB	NONE	6/3/2014	9:00	PH	7.46	pH	4.00



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
814025-002	TW-03D-219	E120.1	NONE	6/3/2014	9:00	EC	8090	umhos/cm	2.00
814025-002	TW-03D-219	E200.7	LABFLT	6/3/2014	9:00	Calcium	212000	ug/L	50000
814025-002	TW-03D-219	E200.7	LABFLT	6/3/2014	9:00	Iron	136	ug/L	20.0
814025-002	TW-03D-219	E200.7	LABFLT	6/3/2014	9:00	Magnesium	31700	ug/L	10000
814025-002	TW-03D-219	E200.7	LABFLT	6/3/2014	9:00	Sodium	1540000	ug/L	250000
814025-002	TW-03D-219	E200.8	LABFLT	6/3/2014	9:00	Chromium	737	ug/L	5.0
814025-002	TW-03D-219	E200.8	LABFLT	6/3/2014	9:00	Manganese	7.9	ug/L	0.50
814025-002	TW-03D-219	E218.6	LABFLT	6/3/2014	9:00	Chromium, Hexavalent	725	ug/L	10.0
814025-002	TW-03D-219	E300	NONE	6/3/2014	9:00	Chloride	2360	mg/L	50.0
814025-002	TW-03D-219	E300	NONE	6/3/2014	9:00	Nitrate as N	3.28	mg/L	0.500
814025-002	TW-03D-219	E300	NONE	6/3/2014	9:00	Sulfate	535	mg/L	25.0
814025-002	TW-03D-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity	134 J	mg/L	5.00
814025-002	TW-03D-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity, Bicarbonate (As CaCO3)	134 J	mg/L	5.00
814025-002	TW-03D-219	SM2320B	NONE	6/3/2014	9:00	Alkalinity, Carbonate (As CaCO3)	ND J	mg/L	5.00
814025-002	TW-03D-219	SM2540C	NONE	6/3/2014	9:00	Total Dissolved Solids	4750	mg/L	250
814025-002	TW-03D-219	SM4500HB	NONE	6/3/2014	9:00	PH	7.43	pH	4.00

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

Project Number: 428648.IM.CS.EX.AC

P.O. Number: PGEIM11111001

Release Number:

Laboratory No. 814025

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Printed 7/2/2014

Samples Received on 6/3/2014 2:00:00 PM

Field ID	Lab ID	Collected	Matrix
PE-01-219	814025-001	06/03/2014 09:00	Water
TW-03D-219	814025-002	06/03/2014 09:00	Water

### Anions By I.C. - EPA 300.0

Batch 1406066

Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Chloride	mg/L	06/04/2014 15:21	500	17.4	50.0	1140
Nitrate as Nitrogen	mg/L	06/04/2014 16:10	5.00	0.0415	0.500	ND
Sulfate	mg/L	06/04/2014 16:35	50.0	1.54	25.0	396
814025-002 Chloride	mg/L	06/04/2014 15:58	500	17.4	50.0	2360
Nitrate as Nitrogen	mg/L	06/04/2014 16:23	5.00	0.0415	0.500	3.28
Sulfate	mg/L	06/04/2014 16:48	50.0	1.54	25.0	535

### Method Blank

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

### Duplicate

Lab ID = 814025-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	500	1080	1140	5.38	0 - 20

### Duplicate

Lab ID = 814026-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	50.0	503	506	0.621	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.



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

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## Duplicate

Lab ID = 814026-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.54	2.41	5.41	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.57	2.60	1.20	0 - 20

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	4.06	4.00	101	90 - 110
Fluoride	mg/L	1.00	4.21	4.00	105	90 - 110
Sulfate	mg/L	1.00	20.7	20.0	104	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.06	4.00	102	90 - 110

## Matrix Spike

Lab ID = 814025-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	500	3190	3140(2000)	102	85 - 115

## Matrix Spike

Lab ID = 814026-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	50.0	700	706(200)	97.2	85 - 115

## Matrix Spike

Lab ID = 814026-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.9	22.4(20.0)	102	85 - 115
Nitrate as Nitrogen	mg/L	5.00	22.8	22.6(20.0)	101	85 - 115

## MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	4.00	4.00	100	90 - 110
Fluoride	mg/L	1.00	4.22	4.00	105	90 - 110
Sulfate	mg/L	1.00	20.5	20.0	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.05	4.00	101	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.06	3.00	102	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.02	3.00	100	90 - 110
Fluoride	mg/L	1.00	3.15	3.00	105	90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

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Alkalinity by SM 2320B		Batch 1406157				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Alkalinity as CaCO <sub>3</sub>	mg/L	06/10/2014	1.00	1.68	5.00	224
Bicarbonate (Calculated)	mg/L	06/10/2014	1.00	1.68	5.00	224
Carbonate (Calculated)	mg/L	06/10/2014	1.00	1.68	5.00	ND
Method Blank						
Parameter	Unit	DF	Result			
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	ND			
Carbonate (Calculated)	mg/L	1.00	ND			
Bicarbonate (Calculated)	mg/L	1.00	ND			
Duplicate					Lab ID = 814089-021	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	120	119	0.837	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	100	100	100	90 - 110
Lab Control Sample Duplicate						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	102	100	102	90 - 110
Matrix Spike					Lab ID = 814025-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	313	324(100)	89.0	75 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&amp;E Topock Project

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Project Number: 428648.IM.CS.EX.AC

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**Alkalinity by SM 2320B**

Batch 1407022

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
814025-002 Alkalinity as CaCO <sub>3</sub>	mg/L	07/01/2014	1.00	1.68	5.00	134	J
Bicarbonate (Calculated)	mg/L	07/01/2014	1.00	1.68	5.00	134	J
Carbonate (Calculated)	mg/L	07/01/2014	1.00	1.68	5.00	ND	J

**Method Blank**

Parameter	Unit	DF	Result
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	ND

**Duplicate**

Lab ID = 814025-002

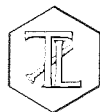
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	134	134	0	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	95.0	100	95.0	90 - 110

**Lab Control Sample Duplicate**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	95.0	100	95.0	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 428648.IM.CS.EX.AC

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Specific Conductivity - EPA 120.1		Batch 1406070				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Specific Conductivity	umhos/cm	06/03/2014	1.00	0.706	2.00	4480
814025-002 Specific Conductivity	umhos/cm	06/03/2014	1.00	0.706	2.00	8090
Method Blank						
Parameter	Unit	DF	Result			
Specific Conductivity	umhos	1.00	ND			
Duplicate					Lab ID = 814026-001	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7510	7490	0.267	0 - 10
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707	706	100	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707	706	100	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1060	1000	106	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1060	1000	106	90 - 110



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Chrome VI by EPA 218.6		Batch 1406028				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Chromium, Hexavalent	ug/L	06/04/2014 12:10	1.00	0.00600	0.20	3.7
Method Blank						
Parameter	Unit	DF	Result			
Chromium, Hexavalent	ug/L	1.00	ND			
Duplicate					Lab ID = 814025-001	
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	3.76	3.74	0.464	0 - 20
Low Level Calibration Verification						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.197	0.200	98.4	70 - 130
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00	100	90 - 110
Matrix Spike					Lab ID = 813618-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	5.26	5.22(5.00)	101	90 - 110
Matrix Spike					Lab ID = 813618-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	1.27	1.21(1.00)	106	90 - 110
Matrix Spike					Lab ID = 814025-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	8.71	8.74(5.00)	99.3	90 - 110
Matrix Spike					Lab ID = 814026-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.00	5.26	5.21(5.00)	101	90 - 110
Matrix Spike					Lab ID = 814026-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	1.18	1.16(1.00)	102	90 - 110
Matrix Spike					Lab ID = 814026-002	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	25.0	1200	1140(625)	109	90 - 110


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**Chrome VI by EPA 218.6**

Batch 1407024

Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-002 Chromium, Hexavalent	ug/L	07/01/2014 19:23	50.0	0.300	10.0	725

**Method Blank**

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

**Duplicate**

Lab ID = 814395-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	958	949	0.934	0 - 20

**Low Level Calibration Verification**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.194	0.200	97.0	70 - 130

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.94	5.00	98.8	90 - 110

**Matrix Spike**

Lab ID = 814025-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	50.0	1480	1480(750)	101	90 - 110

**MRCSS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	98.9	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.0	10.0	100	95 - 105

**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	10.0	10.0	100	95 - 105



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pH by SM 4500-H B		Batch 1406021				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 pH	pH	06/03/2014 17:48	1.00	0.0250	4.00	7.46
814025-002 pH	pH	06/03/2014 17:50	1.00	0.0250	4.00	7.43

Duplicate

Lab ID = 814018-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
pH	pH	1.00	7.56	7.49	0.930	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	6.98	7.00	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
pH	pH	1.00	7.09	7.00	101	90 - 110

Total Dissolved Solids by SM 2540 C		Batch 1406069				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Total Dissolved Solids	mg/L	06/03/2014	1.00	1.76	125	2610
814025-002 Total Dissolved Solids	mg/L	06/03/2014	1.00	1.76	250	4750

Method Blank

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

Duplicate

Lab ID = 814025-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	2610	2610	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	517	500	103	90 - 110




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<b>Metals by EPA 200.8, Dissolved</b>		Batch 061014A				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Chromium	ug/L	06/10/2014 15:51	2.00	0.142	1.0	4.1
Manganese	ug/L	06/10/2014 15:51	2.00	0.120	0.50	68.7
814025-002 Chromium	ug/L	06/10/2014 16:43	10.0	0.710	5.0	737
Manganese	ug/L	06/10/2014 16:36	2.00	0.120	0.50	7.9

**Method Blank**

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

**Duplicate**
**Lab ID = 814025-001**

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	2.00	4.06	4.13	1.66	0 - 20
Manganese	ug/L	2.00	69.4	68.7	0.991	0 - 20

**Low Level Calibration Verification**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	0.545	0.500	109	70 - 130
Manganese	ug/L	1.00	0.221	0.200	110	70 - 130

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	54.6	50.0	109	85 - 115
Manganese	ug/L	1.00	54.1	50.0	108	85 - 115

**Matrix Spike**
**Lab ID = 814025-001**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	51.0	54.1(50.0)	93.7	75 - 125
Manganese	ug/L	2.00	115	119(50.0)	93.2	75 - 125

**Matrix Spike Duplicate**
**Lab ID = 814025-001**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	2.00	50.6	54.1(50.0)	92.9	75 - 125
Manganese	ug/L	2.00	114	119(50.0)	90.8	75 - 125

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	19.0	20.0	94.9	90 - 110
Manganese	ug/L	1.00	18.7	20.0	93.6	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

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## Serial Dilution

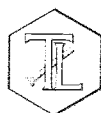
Lab ID = 814025-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	10.0	70.5	68.7	2.64	0 - 10

## Serial Dilution

Lab ID = 814025-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	745	737	1.09	0 - 10


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<b>Metals by 200.7, Dissolved</b>		<b>Batch 061114A-Th2</b>				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
814025-001 Calcium	ug/L	06/11/2014 15:04	100	1700	50000	110000
Iron	ug/L	06/11/2014	1.00	3.00	20.0	127
Magnesium	ug/L	06/11/2014 16:12	5.00	234	2500	24000
Sodium	ug/L	06/11/2014 15:04	100	5980	50000	762000
814025-002 Calcium	ug/L	06/11/2014 15:10	100	1700	50000	212000
Iron	ug/L	06/11/2014 16:28	1.00	3.00	20.0	136
Magnesium	ug/L	06/11/2014 15:51	20.0	936	10000	31700
Sodium	ug/L	06/11/2014 14:19	500	29900	250000	1540000

**Method Blank**

Parameter	Unit	DF	Result
Calcium	ug/L	1.00	ND
Iron	ug/L	1.00	ND
Sodium	ug/L	1.00	ND
Magnesium	ug/L	1.00	ND

**Duplicate**
**Lab ID = 814025-002**

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Calcium	ug/L	100	214000	212000	1.12	0 - 20
Iron	ug/L	1.00	132	136	3.29	0 - 20
Sodium	ug/L	500	1480000	1540000	4.31	0 - 20
Magnesium	ug/L	20.0	30400	31700	4.22	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	1970	2000	98.4	85 - 115
Iron	ug/L	1.00	2140	2000	107	85 - 115
Sodium	ug/L	1.00	1890	2000	94.5	85 - 115
Magnesium	ug/L	1.00	2190	2000	109	85 - 115

**Matrix Spike**
**Lab ID = 814025-002**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Calcium	ug/L	100	411000	412000(200000)	99.7	75 - 125
Iron	ug/L	1.00	1810	2140(2000)	83.6	75 - 125
Sodium	ug/L	500	2390000	2540000(1000000)	85.1	75 - 125
Magnesium	ug/L	20.0	71100	71700(40000)	98.6	75 - 125

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



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Matrix Spike Duplicate

Lab ID = 814025-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1790	2140(2000)	82.5	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	5070	5000	101	95 - 105
Iron	ug/L	1.00	5050	5000	101	95 - 105
Sodium	ug/L	1.00	4900	5000	97.9	95 - 105
Magnesium	ug/L	1.00	5090	5000	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	4780	5000	95.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	4920	5000	98.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	ug/L	1.00	4860	5000	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4880	5000	97.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4970	5000	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4940	5000	98.9	90 - 110
Sodium	ug/L	1.00	5040	5000	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	4780	5000	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	4720	5000	94.5	90 - 110
Magnesium	ug/L	1.00	5040	5000	101	90 - 110



# TRUESDAIL LABORATORIES, INC.

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## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB


Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	ug/L	1.00	1930	2000	96.6	80 - 120
Magnesium	ug/L	1.00	2120	2000	106	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Magnesium	ug/L	1.00	1940	2000	96.8	80 - 120

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services



Living

1406069

### Total Dissolved Solids by SM 2540 C

## Calculations

Batch: ~~9/8/5749~~

Date Analyzed: 6/3/2014

[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)

### Laboratory Control Sample (LCS) Summary

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	Percent Rec	Acceptance Limit	QC Within Control?
LCS	517.0	500	103.4%	90-110%	Yes
LCSD					

## LCS Recovery

$$P = \left( \frac{LC}{LT} \right) \times 100$$

$P$  = Percent recovery.

LC= Measured LCS value (ppm).

$LT$  = Theoretical LCS value (ppm).

### Duplicate Determinations Difference Summary

Lab Number	Sample Weight, g	Sample Dup Weight, g	% RPD	Acceptance Limit	QC Within Control?
14F0025-01	0.0522	0.0522	0.0%	≤5%	Yes

### Duplicate Determination Difference

$$\% \text{ Difference} = \frac{|A \text{ or } B - C|}{C} \times 100$$

where  $C = \frac{A+B}{2}$

A = Weight of the first sample in (g).

B = Weghl of the second sample in (g).

C = Average weight in (g).

Jenny T.

**Analyst Printed Name**

Analyst Signature

**Maksim G.**

Reviewer Printed Name

Reviewer Signature \_\_\_\_\_

**TDS/EC CHECK**

Date Analyzed: 6/3/2014

[illegible]

A handwritten signature in dark ink, appearing to be "M. L." or similar, written over a horizontal line.







Analytical Batch:	1407022
Matrix:	WATER
Date of Analysis:	7/1/2014

[illegible]

T or P =

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

T = Total Alkalinity, mg CaCO<sub>3</sub>/L

P = Phenolphthalein Alkalinity, mg CaCO<sub>3</sub>/L

A = mL standard acid used

**N** = normality of standard acid

$$\text{Low Alkalinity: as mg/L CaCO}_3 = \frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

Where: B = mL titrant to first recorded pH

**C** = Total mL titrant to reach pH 0.3 unit lower

**N** = Normality of standard acid

LCS = Laboratory Control Standard/Duplicate

**MS/MSD = Matrix Spike/Duplicate**

ND = Not Detected (below the reporting limit)

Reporting Limit, RL	Measured Value, ppm	Accept Limit	QC Within Control?
5 ppm	0	<5	Yes

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	% Recovery	Acceptance Limit	QC Within Control?
LCS	109	100	109.0%	90-110	Yes
LCSD	109	100	109.0%	90-110	Yes

Lab Number I.D.	Measured Value, ppm	Dup Value, ppm	RPD	Acceptance Limit	QC Within Control?
14F0025-	134	134	0.0%	≤20%	Yes

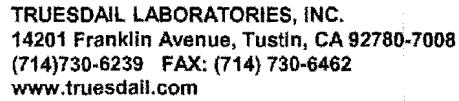
Lab Number	Conc of Unspk spl	Dil Factor	Added Spk Conc	MS/MSD Amt	Measrd Conc of Spk Spl	Theor Conc of Spk Spl	MS/MSD % Rec	MS Accept Limit	QC Within Control?	RPD	RPD Accept Limit	QC Within Control?
1				0								
				0								

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature



814025/14F0025

TURNAROUND TIME 10 Days  
DATE 06/03/14 PAGE 1 OF 1

ALERT !!  
Level III QC

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"/>
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		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time		

073

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

NE  
7/2/14



TRUESDAIL LABORATORIES, INC.  
Metals

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest (Y/N)	Time of Adjustment to pH 2	Date/Time of 2nd pH check	Comments
813517	<1	72	5/22/14	ES	Yes	1:00		pH < 2
813555 (1-8)	↓	72	↓	↓	Yes			-7.8 TU71
813502 (1-2, 4)	<1	72	5/23/14	ES	No	9:30	5/26/14 10:00	pH < 2
813512 (1-3)	↓	↓	↓	↓	↓	↓	↓	↓
813543 (10-12)	↓	↓	↓	↓	↓	↓	↓	↓
813553	>1	<2	↓	↓	Yes			
813544 (1-2)	<1	72	↓	↓	Yes	9:00		
813552 (1-2)	>1	<2	↓	↓	Yes			
813623	>1	<2	5/29/14	ES	Yes			
813624	>1	<2	↓	↓	↓			
813627	>1	<2	↓	↓	↓			
813628	>1	<2	↓	↓	↓			
813629	>1	<2	↓	↓	↓			
813630	>1	<2	↓	↓	↓			
813647	>1	<2	↓	↓	↓			
813651	>1	<2	↓	↓	↓			
813652	>1	<2	↓	↓	↓			
813618	<1	>2	5/29/14	ES	Yes	12:20		CH2M
813568 (1-5)	>1	<2	↓	↓	↓			CH2M Cations
813557 (1,2)	-	-	5/30/14	ES	Yes			Solid
813475 (1-3)	-	-	↓	↓	↓			↓
813576	-	-	↓	↓	↓			↓
14F0030	>1	>2	6/4/14	ES	Yes	6/4/14 12:30		CH2M
14F0026 (1,2)	<1	<2	↓	↓	↓			
14F0004 (1,2)	>1	<2	↓	↓	↓			
14F0006	↓	↓	↓	↓	↓			
14F0007	↓	↓	↓	↓	↓			
14F0008	↓	↓	↓	↓	↓			
14F0033	↓	↓	↓	↓	↓			
14F0034 - OT 6/11/14	↓	↓	↓	↓	↓			
14F0035 - OT 6/11/14	↓	↓	↓	↓	↓			
14F0036	↓	↓	↓	↓	↓			
14F0044	↓	↓	↓	↓	↓			
14F0055	↓	↓	↓	↓	↓			
14F0056	↓	↓	↓	↓	↓			
14F0061	↓	↓	↓	↓	↓			
14F0075 (1-2)	<1	>2	6/10/14	ES	Yes	11:00		Filtered thru acidified
14F0076 - 2	↓	↓	↓	↓	↓	↓		↓
14F0070 (1-2)	>1	<2	6/10/14	ES	Yes			
14F0074 -	↓	↓	↓	↓	↓			
14F0075	↓	↓	↓	↓	↓			
14F0084	<1	↓	↓	↓	↓			
14F0090	>1	↓	↓	↓	↓			
14F0091	<1	↓	↓	↓	↓			

Notes:

1. Samples should be analyzed after 24 hrs of pH adjustment to pH2 for Dissolved Analytes.
2. All Total Recoverable Analytes must be pH adjusted and digested.
3. Do not use disposable pipette to measure pH; pour a little amount of sample from the bottle.



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 14F0025

Date Delivered: 06/03/14 Time: 14:00 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)? 3.9 °C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☐ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A
12. Were samples pH checked? pH = see C.O.C. ☒ Yes ☐ No ☐ N/A
13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager. ☒ Yes ☐ No ☐ N/A
14. Have Project due dates been checked and accepted?  
Turn Around Time (TAT): ☐ RUSH ☒ Std ☒ Yes ☐ No ☐ N/A
15. **Sample Matrix:** ☐ Liquid ☐ Drinking Water ☐ Ground Water ☐ Waste Water  
☐ Sludge ☐ Soil ☐ Wipe ☐ Paint ☐ Solid ☒ Other Water

16. Comments: \_\_\_\_\_

17. Sample Check-In completed by Truesdail Log-In/Receiving: See above

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

July 7, 2014

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-219, GROUNDWATER MONITORING  
PROJECT, TLI NO.: 815007

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-EW-219 groundwater-monitoring project. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, wet chemistry raw data, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.


The samples were received and delivered with the chain of custody on July 1, 2014, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


Sample TW-03D-219-B was analyzed and recorded in the raw data as SDG 14G0036 but is reported as SDG 815007 in all final report pages.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*for*   
Mona Nassimi  
Manager, Analytical Services

  
Michael Ngo  
Quality Assurance/Quality Control Officer

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 428648.IM.CS.EX.AC

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

**Laboratory No.:** 815007

**Date:** July 7, 2014

**Collected:** July 1, 2014

**Received:** July 1, 2014

## ANALYST LIST

METHOD	PARAMETER	ANALYST
SM 2320B	Total Alkalinity	Jennine Ta



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

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project  
**Project No.:** 428648.IM.CS.EX.AC  
**P.O. No.:** PGEIM11111001

**Laboratory No.:** 815007  
**Date Received:** July 1, 2014

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
815007-001	TW-03D-219-B	SM2320B	NONE	6/30/2014	18:00	Alkalinity	140	mg/L	5.00
815007-001	TW-03D-219-B	SM2320B	NONE	6/30/2014	18:00	Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	140	mg/L	5.00
815007-001	TW-03D-219-B	SM2320B	NONE	6/30/2014	18:00	Alkalinity, Carbonate (As CaCO <sub>3</sub> )	ND	mg/L	5.00

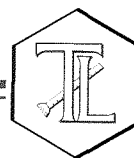
**ND:** Non Detected (below reporting limit)

**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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www.truesdail.com

## REPORT

**Client: E2 Consulting Engineers, Inc.**

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project Number: 428648.IM.CS.EX.AC

P.O. Number: PGEIM11111001

Release Number:

Laboratory No. 815007

Page 1 of 2

Printed 7/7/2014

Samples Received on 7/1/2014 6:50:00 PM

Field ID	Lab ID	Collected	Matrix
TW-03D-219-B	815007-001	06/30/2014 18:00	Water

### Alkalinity by SM 2320B

Batch 1407087

Parameter	Unit	Analyzed	DF	MDL	RL	Result
815007-001 Alkalinity as CaCO <sub>3</sub>	mg/L	07/03/2014	1.00	1.68	5.00	140
Bicarbonate (Calculated)	mg/L	07/03/2014	1.00	1.68	5.00	140
Carbonate (Calculated)	mg/L	07/03/2014	1.00	1.68	5.00	ND

### Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	ND

### Duplicate

Lab ID = 814000-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	102	98.0	4.00	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	99.0	100	99.0	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	95.0	100	95.0	90 - 110

### Matrix Spike

Lab ID = 814000-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO <sub>3</sub>	mg/L	1.00	194	198(100)	96.0	75 - 125

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

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**TRUESDAIL LABORATORIES, INC.**

*Report Continued*

**Client: E2 Consulting Engineers, Inc.**

**Project Name: PG&E Topock Project**

**Page 2 of 2**

**Project Number: 428648.IM.CS.EX.AC**

**Printed 7/7/2014**

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

*fw- [Signature]*

**Mona Nassimi**

**Manager, Analytical Services**

## Alkalinity by SM 2320B

<b>Analytical Batch:</b>	1407087
<b>Matrix:</b>	WATER
<b>Date of Analysis:</b>	7/3/2014

[illegible]

**Calculations as follows:**

**T or P =**

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

**Where:**

T = Total Alkalinity, mg CaCO<sub>3</sub>/L

P = Phenolphthalein Alkalinity, mg CaCO<sub>3</sub>/L

**A** = mL standard acid used

**N** = normality of standard acid

**Low Alkalinity:** = 
$$\frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

Where:  $B$  = mL titrant to first recorded pH

**C = Total mL titrant to reach pH 0.3 unit lower**

**N = Normality of standard acid**

**LCS = Laboratory Control Standard/Duplicate**

**MS/MSD = Matrix Spike/Duplicate**

ND = Not Detected (below the reporting limit)

## Blank Summary

Reporting Limit, RL	Measured Value, ppm	Accept Limit	QC Within Control?
5 ppm	0	<5	Yes

### Laboratory Control Sample (LCS/LCSD) Summary

QC Std I.D.	Measured Value, ppm	Theoretical Value, ppm	% Recovery	Acceptance Limit	QC Within Control?
LCS	99	100	99.0%	90-110	Yes
LCSD	95	100	95.0%	90-110	Yes

### Duplicate Determination Difference Summary

Lab Number I.D.	Measured Value, ppm	Dup Value, ppm	RPD	Acceptance Limit	QC Within Control?
14G0041-	98	102	4.0%	≤20%	Yes

### Sample Matrix Spike (MS/MSD) Summary

Lab Number	Conc of Unspk spl	Dil Factor	Added Spk Conc	MS/MSD Amt	Measrd Conc of Spk Spl	Theor Conc of Spk Spl	MS/MSD % Rec	MS Accept Limit	QC Within Control?	RPD	RPD Accept Limit	QC Within Control?
14G0041-01A	98	1	100	100	194	198.00	96%	75-125	Yes			
				0								

JENNINE

Analyst Printed Name

Analyst Signature

Maksim Gorbunov

Reviewer Printed Name

Reviewer-Signature \_\_\_\_\_



TRUESDAIL LABORATORIES, INC.  
14201 Franklin Avenue, Tustin, CA 92780-7008  
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# CHAIN OF CUSTODY RECORD

[IM3Plant-EW-219]

TURNAROUND TIME

10 Days

DATE 06/03/14

PAGE 1 OF 1

COMPANY	CH2M HILL /E2			<div>Diagonal text labels for analytical methods: Dissolved Cr, Mn (200.8) Lab filtered; Cr(VI) (3500-Cr B); pH (150.0) EC (120.1) Cl, SO4, NO3 (300.0); TDS (180.1); Alk (SM2320B); Cr(VI) (218.6); Dis Ca, Mg, Na, Fe (200.7) Lab filtered; and a vertical label: NUMBER OF CONTAINERS</div>												COMMENTS	
PROJECT NAME	PG&E Topock IM3Plant-EW																
PHONE	530-229-3303	FAX	530-339-3303														
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612																
P.O. NUMBER	428648.IM.CS.EX.AC																
SAMPLERS (SIGNATURE)																	
SAMPLE I.D.	DATE	TIME	DESCRIPTION														
PE 01 219	06/03/14		Ground water	X	X	X	X	X								4	SW
TW 03D-219	06/03/14		Ground water	X	X	X	X	X								4	SW
TW 03D-219-B	6/30/14	1900	Ground water			X										1	ALK TEST
<div>ALERT !! Level III QC</div>																	
																1	TOTAL NUMBER OF CONTAINERS

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SAMPLE CONDITIONS RECEIVED COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> <u>4.2°C</u>
<i>[Signature]</i>	Laneron 9600	E2	6-30-14/435	
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED YES <input type="checkbox"/> NO <input type="checkbox"/>
<i>[Signature]</i>	THANK NEO	TRUESDAIL	7-1-14/35	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:
<i>[Signature]</i>	THANK NEO	TRUESDAIL	7-18-14/18:58	
Signature (Received)	Printed Name	Company/Agency	Date/Time	
<i>[Signature]</i>	Maksim Gordunov	Truesdail	7/1/14/18:50	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	
Signature (Received)	Printed Name	Company/Agency	Date/Time	

013

## WORK ORDER

Printed: 7/2/14 11:37:59AM

14G0036

## Truesdail Laboratories, Inc

Client: E2 Consulting Engineers, Inc.  
Project: Topock IM3Plant

Project Manager: Sean Condon  
Project Number: Topock IM3Plant

Report To:

E2 Consulting Engineers, Inc.  
Christi Gitlin  
1900 Powell Street, Suite 250  
Emeryville, CA 94608  
Phone: 510-428-4728  
Fax: 510-652-5604

Invoice To:

E2 Consulting Engineers, Inc.  
Christi Gitlin  
1900 Powell Street, Suite 250  
Emeryville, CA 94608  
Phone :510-428-4728  
Fax: 510-652-5604

Date Due: 07/14/2014 16:30 (7 day TAT)

Received By: Maksim Gorbunov

Date Received: 07/01/2014 18:50

Logged In By: Luda Shabunina

Date Logged In: 07/02/2014 11:35

Samples Received at: 4.2°C

Chain of Custody re	Yes	Samples intact?	Yes
Letter (if sent) matc	No	Custody seals (if an	No
Requested analyses	Yes	Analyses within hol	Yes
Samples received in	Yes		

Analysis	Due	TAT	Expires	Comments
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14G0036-01 TW-03D-219-B [Water] Sampled 06/30/2014 18:00 Pacific

Alkalinity	07/14/2014 12:00	7	07/14/2014 18:00	
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ALERT II  
Level III QC

Reviewed By

Date

April 30, 2014

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-00922

Workorder No.: N012390

RE: PG&E Topock, 423575.MP.02.GM.0

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on April 17, 2014 by ASSET Laboratories. 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, 423575.MP.02.GM.0  
**Lab Order:** N012390

**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 218.6:**

Dilution was necessary for samples N012390-003, N012390-004 and N012390-031 due to matrix interference. Samples were analyzed at lower dilutions however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 218.6R:**

Dilution was necessary for samples N012390-011, N012390-028 and N012390-037 due to matrix interference. Samples were analyzed at lower dilutions however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 300.0:**

Dilution was necessary on samples N012390-011, N012390-019 and N012390-024 due to matrix.

**Analytical Comments for EPA 6020\_Dissolved:**

Because the results for total dissolved chromium (1.598 ug/L) and hexavalent chromium (0.2315 ug/L) for sample N012390-015 (MW-42-055-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.688 and 2.078 ug/L, respectively. Since

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab Order:** N012390

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**CASE NARRATIVE**

these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (5.123 ug/L) and hexavalent chromium (0 ug/L) for sample N012390-032 (MW-125-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 5.381 and 5.294 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (5.484 ug/L) and hexavalent chromium (0 ug/L) for sample N012390-042 (MW-44-125-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 5.932 and 5.401 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.



**ASSET Laboratories**

Date: 30-Apr-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab Order:** N012390  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012390-001A	MW-63-065-198	Water	4/9/2014 2:12:00 PM	4/17/2014	4/30/2014
N012390-001B	MW-63-065-198	Water	4/9/2014 2:12:00 PM	4/17/2014	4/30/2014
N012390-001C	MW-63-065-198	Water	4/9/2014 2:12:00 PM	4/17/2014	4/30/2014
N012390-002A	MW-200-198	Water	4/10/2014 6:18:00 AM	4/17/2014	4/30/2014
N012390-003A	MW-37D-198	Water	4/10/2014 10:03:00 AM	4/17/2014	4/30/2014
N012390-003B	MW-37D-198	Water	4/10/2014 10:03:00 AM	4/17/2014	4/30/2014
N012390-003C	MW-37D-198	Water	4/10/2014 10:03:00 AM	4/17/2014	4/30/2014
N012390-004A	MW-41D-198	Water	4/10/2014 7:57:00 AM	4/17/2014	4/30/2014
N012390-004B	MW-41D-198	Water	4/10/2014 7:57:00 AM	4/17/2014	4/30/2014
N012390-005A	MW-121-198	Water	4/14/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-005B	MW-121-198	Water	4/14/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-005C	MW-121-198	Water	4/14/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-005D	MW-121-198	Water	4/14/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-006A	MW-201-198	Water	4/14/2014 6:00:00 AM	4/17/2014	4/30/2014
N012390-007A	MW-27-020-198	Water	4/14/2014 10:13:00 AM	4/17/2014	4/30/2014
N012390-007B	MW-27-020-198	Water	4/14/2014 10:13:00 AM	4/17/2014	4/30/2014
N012390-007C	MW-27-020-198	Water	4/14/2014 10:13:00 AM	4/17/2014	4/30/2014
N012390-007D	MW-27-020-198	Water	4/14/2014 10:13:00 AM	4/17/2014	4/30/2014
N012390-008A	MW-27-020-198-EB	Water	4/14/2014 9:30:00 AM	4/17/2014	4/30/2014
N012390-008B	MW-27-020-198-EB	Water	4/14/2014 9:30:00 AM	4/17/2014	4/30/2014
N012390-009A	MW-27-060-198	Water	4/14/2014 11:00:00 AM	4/17/2014	4/30/2014
N012390-009B	MW-27-060-198	Water	4/14/2014 11:00:00 AM	4/17/2014	4/30/2014
N012390-009C	MW-27-060-198	Water	4/14/2014 11:00:00 AM	4/17/2014	4/30/2014
N012390-009D	MW-27-060-198	Water	4/14/2014 11:00:00 AM	4/17/2014	4/30/2014
N012390-010A	MW-27-060-198-EB	Water	4/14/2014 10:27:00 AM	4/17/2014	4/30/2014
N012390-010B	MW-27-060-198-EB	Water	4/14/2014 10:27:00 AM	4/17/2014	4/30/2014
N012390-011A	MW-27-085-198	Water	4/14/2014 11:36:00 AM	4/17/2014	4/30/2014
N012390-011B	MW-27-085-198	Water	4/14/2014 11:36:00 AM	4/17/2014	4/30/2014
N012390-011C	MW-27-085-198	Water	4/14/2014 11:36:00 AM	4/17/2014	4/30/2014

Advanced Technology Laboratories, Inc.

dba **ASSET Laboratories**

3151 W. Post Rd, Las Vegas, NV 89118  
P: 702.307.2659 F: 702.307.2691  
www.assetlaboratories.com

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab Order:** N012390  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012390-011D	MW-27-085-198	Water	4/14/2014 11:36:00 AM	4/17/2014	4/30/2014
N012390-012A	MW-27-085-198-EB	Water	4/14/2014 10:40:00 AM	4/17/2014	4/30/2014
N012390-012B	MW-27-085-198-EB	Water	4/14/2014 10:40:00 AM	4/17/2014	4/30/2014
N012390-013A	MW-30-030-198	Water	4/14/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-013B	MW-30-030-198	Water	4/14/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-013C	MW-30-030-198	Water	4/14/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-013D	MW-30-030-198	Water	4/14/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-014A	MW-30-030-198-EB	Water	4/14/2014 1:14:00 PM	4/17/2014	4/30/2014
N012390-014B	MW-30-030-198-EB	Water	4/14/2014 1:14:00 PM	4/17/2014	4/30/2014
N012390-015A	MW-42-055-198	Water	4/14/2014 8:12:00 AM	4/17/2014	4/30/2014
N012390-015B	MW-42-055-198	Water	4/14/2014 8:12:00 AM	4/17/2014	4/30/2014
N012390-015C	MW-42-055-198	Water	4/14/2014 8:12:00 AM	4/17/2014	4/30/2014
N012390-016A	MW-42-055-198-EB	Water	4/14/2014 7:22:00 AM	4/17/2014	4/30/2014
N012390-016B	MW-42-055-198-EB	Water	4/14/2014 7:22:00 AM	4/17/2014	4/30/2014
N012390-017A	MW-42-065-198	Water	4/14/2014 8:48:00 AM	4/17/2014	4/30/2014
N012390-017B	MW-42-065-198	Water	4/14/2014 8:48:00 AM	4/17/2014	4/30/2014
N012390-017C	MW-42-065-198	Water	4/14/2014 8:48:00 AM	4/17/2014	4/30/2014
N012390-018A	MW-42-065-198-EB	Water	4/14/2014 7:24:00 AM	4/17/2014	4/30/2014
N012390-018B	MW-42-065-198-EB	Water	4/14/2014 7:24:00 AM	4/17/2014	4/30/2014
N012390-019A	MW-122-198	Water	4/15/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-019B	MW-122-198	Water	4/15/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-019C	MW-122-198	Water	4/15/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-019D	MW-122-198	Water	4/15/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-020A	MW-202-198	Water	4/15/2014 6:05:00 AM	4/17/2014	4/30/2014
N012390-021A	MW-203-198	Water	4/15/2014 6:10:00 AM	4/17/2014	4/30/2014
N012390-022A	MW-28-025-198	Water	4/15/2014 8:59:00 AM	4/17/2014	4/30/2014
N012390-022B	MW-28-025-198	Water	4/15/2014 8:59:00 AM	4/17/2014	4/30/2014
N012390-022C	MW-28-025-198	Water	4/15/2014 8:59:00 AM	4/17/2014	4/30/2014
N012390-022D	MW-28-025-198	Water	4/15/2014 8:59:00 AM	4/17/2014	4/30/2014
N012390-023A	MW-28-025-198-EB	Water	4/15/2014 8:30:00 AM	4/17/2014	4/30/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab Order:** N012390  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012390-023B	MW-28-025-198-EB	Water	4/15/2014 8:30:00 AM	4/17/2014	4/30/2014
N012390-024A	MW-28-090-198	Water	4/15/2014 9:34:00 AM	4/17/2014	4/30/2014
N012390-024B	MW-28-090-198	Water	4/15/2014 9:34:00 AM	4/17/2014	4/30/2014
N012390-024C	MW-28-090-198	Water	4/15/2014 9:34:00 AM	4/17/2014	4/30/2014
N012390-024D	MW-28-090-198	Water	4/15/2014 9:34:00 AM	4/17/2014	4/30/2014
N012390-025A	MW-28-090-198-EB	Water	4/15/2014 8:47:00 AM	4/17/2014	4/30/2014
N012390-025B	MW-28-090-198-EB	Water	4/15/2014 8:47:00 AM	4/17/2014	4/30/2014
N012390-026A	MW-43-025-198	Water	4/15/2014 6:45:00 AM	4/17/2014	4/30/2014
N012390-026B	MW-43-025-198	Water	4/15/2014 6:45:00 AM	4/17/2014	4/30/2014
N012390-026C	MW-43-025-198	Water	4/15/2014 6:45:00 AM	4/17/2014	4/30/2014
N012390-027A	MW-43-025-198-EB	Water	4/15/2014 6:20:00 AM	4/17/2014	4/30/2014
N012390-027B	MW-43-025-198-EB	Water	4/15/2014 6:20:00 AM	4/17/2014	4/30/2014
N012390-028A	MW-43-090-198	Water	4/15/2014 7:28:00 AM	4/17/2014	4/30/2014
N012390-028B	MW-43-090-198	Water	4/15/2014 7:28:00 AM	4/17/2014	4/30/2014
N012390-028C	MW-43-090-198	Water	4/15/2014 7:28:00 AM	4/17/2014	4/30/2014
N012390-029A	MW-43-090-198-EB	Water	4/15/2014 6:58:00 AM	4/17/2014	4/30/2014
N012390-029B	MW-43-090-198-EB	Water	4/15/2014 6:58:00 AM	4/17/2014	4/30/2014
N012390-030A	MW-46-175-198	Water	4/15/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-030B	MW-46-175-198	Water	4/15/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-030C	MW-46-175-198	Water	4/15/2014 1:36:00 PM	4/17/2014	4/30/2014
N012390-031A	MW-46-205-198	Water	4/15/2014 12:05:00 PM	4/17/2014	4/30/2014
N012390-031B	MW-46-205-198	Water	4/15/2014 12:05:00 PM	4/17/2014	4/30/2014
N012390-032A	MW-125-198	Water	4/16/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-032B	MW-125-198	Water	4/16/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-032C	MW-125-198	Water	4/16/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-032D	MW-125-198	Water	4/16/2014 7:00:00 AM	4/17/2014	4/30/2014
N012390-033A	MW-204-198	Water	4/16/2014 6:10:00 AM	4/17/2014	4/30/2014
N012390-034A	MW-205-198	Water	4/16/2014 6:12:00 AM	4/17/2014	4/30/2014
N012390-035A	MW-29-198	Water	4/16/2014 2:20:00 PM	4/17/2014	4/30/2014
N012390-035B	MW-29-198	Water	4/16/2014 2:20:00 PM	4/17/2014	4/30/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab Order:** N012390  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012390-035C	MW-29-198	Water	4/16/2014 2:20:00 PM	4/17/2014	4/30/2014
N012390-035D	MW-29-198	Water	4/16/2014 2:20:00 PM	4/17/2014	4/30/2014
N012390-036A	MW-29-198-EB	Water	4/16/2014 1:56:00 PM	4/17/2014	4/30/2014
N012390-036B	MW-29-198-EB	Water	4/16/2014 1:56:00 PM	4/17/2014	4/30/2014
N012390-037A	MW-32-035-198	Water	4/16/2014 1:38:00 PM	4/17/2014	4/30/2014
N012390-037B	MW-32-035-198	Water	4/16/2014 1:38:00 PM	4/17/2014	4/30/2014
N012390-037C	MW-32-035-198	Water	4/16/2014 1:38:00 PM	4/17/2014	4/30/2014
N012390-038A	MW-32-035-198-EB	Water	4/16/2014 1:00:00 PM	4/17/2014	4/30/2014
N012390-038B	MW-32-035-198-EB	Water	4/16/2014 1:00:00 PM	4/17/2014	4/30/2014
N012390-039A	MW-44-070-198	Water	4/16/2014 8:18:00 AM	4/17/2014	4/30/2014
N012390-039B	MW-44-070-198	Water	4/16/2014 8:18:00 AM	4/17/2014	4/30/2014
N012390-039C	MW-44-070-198	Water	4/16/2014 8:18:00 AM	4/17/2014	4/30/2014
N012390-040A	MW-44-070-198-EB	Water	4/16/2014 7:33:00 AM	4/17/2014	4/30/2014
N012390-040B	MW-44-070-198-EB	Water	4/16/2014 7:33:00 AM	4/17/2014	4/30/2014
N012390-041A	MW-44-115-198	Water	4/16/2014 7:38:00 AM	4/17/2014	4/30/2014
N012390-041B	MW-44-115-198	Water	4/16/2014 7:38:00 AM	4/17/2014	4/30/2014
N012390-041C	MW-44-115-198	Water	4/16/2014 7:38:00 AM	4/17/2014	4/30/2014
N012390-042A	MW-44-125-198	Water	4/16/2014 11:59:00 AM	4/17/2014	4/30/2014
N012390-042B	MW-44-125-198	Water	4/16/2014 11:59:00 AM	4/17/2014	4/30/2014
N012390-042C	MW-44-125-198	Water	4/16/2014 11:59:00 AM	4/17/2014	4/30/2014
N012390-042D	MW-44-125-198	Water	4/16/2014 11:59:00 AM	4/17/2014	4/30/2014
N012390-043A	MW-44-125-198-EB	Water	4/16/2014 8:25:00 AM	4/17/2014	4/30/2014
N012390-043B	MW-44-125-198-EB	Water	4/16/2014 8:25:00 AM	4/17/2014	4/30/2014
N012390-044A	MW-206-198	Water	4/17/2014 6:20:00 AM	4/17/2014	4/30/2014
N012390-045A	MW-207-198	Water	4/17/2014 6:10:00 AM	4/17/2014	4/30/2014

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-001

**Client Sample ID:** MW-63-065-198  
**Collection Date:** 4/9/2014 2:12:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140418B      **QC Batch:** R93159      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      6600      0.10      0.10      umhos/cm      1      4/18/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-37D-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/10/2014 10:03:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	15000	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-121-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	900	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-020-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 10:13:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	1000	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-060-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	920	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-085-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:36:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	11000	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-30-030-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 1:36:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6800	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-122-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6600	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-025-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 8:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	910	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 9:34:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6700	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-46-175-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 1:36:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	19000	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	9200	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-29-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 2:20:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-035		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	2300	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-115-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:38:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-041		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	11000	0.10	0.10
		umhos/cm	1
			4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 11:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-042		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140418B</b>	QC Batch: <b>R93159</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	9200 0.10 0.10	umhos/cm	1 4/18/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 120.1\_WPGE

Sample ID: <b>N012390-024D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93159</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93159</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>4/18/2014</b>				SeqNo: <b>1766159</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	6690.000	0.10						6670	0.299	10	

Sample ID: <b>N012390-042D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93159</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93159</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>4/18/2014</b>				SeqNo: <b>1766165</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9200.000	0.10						9190	0.109	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

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:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-001

**Client Sample ID:** MW-63-065-198  
**Collection Date:** 4/9/2014 2:12:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	1.4	0.016	0.20		µg/L	1	4/21/2014 12:43 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	1.1	0.030	1.0		µg/L	1	4/25/2014 01:01 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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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-200-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/10/2014 6:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 01:03 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-37D-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/10/2014 10:03:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	110	0.32	4.0		µg/L	20	4/21/2014 03:12 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	99	0.030	1.0		µg/L	1	4/25/2014 01:28 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-41D-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/10/2014 7:57:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	2.6	0.080	1.0		µg/L	5	4/21/2014 02:52 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	2.4	0.030	1.0		µg/L	1	4/25/2014 01:34 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-005

**Client Sample ID:** MW-121-198  
**Collection Date:** 4/14/2014 7:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 03:12 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 01:39 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-201-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 6:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 03:32 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-020-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 10:13:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 03:31 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 01:45 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-020-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 9:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 03:52 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 01:50 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-009

**Client Sample ID:** MW-27-060-198  
**Collection Date:** 4/14/2014 11:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 04:47 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 01:56 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-010

**Client Sample ID:** MW-27-060-198-EB  
**Collection Date:** 4/14/2014 10:27:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	ND	0.016	0.20	µg/L	1	4/21/2014 04:32 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>			PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>
Chromium	ND	0.030	1.0	µg/L	1	4/25/2014 02:01 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-011

**Client Sample ID:** MW-27-085-198  
**Collection Date:** 4/14/2014 11:36:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.080	1.0		µg/L	5	4/21/2014 06:41 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:07 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-012

**Client Sample ID:** MW-27-085-198-EB  
**Collection Date:** 4/14/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 04:54 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:12 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-30-030-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 1:36:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	0.21	0.016	0.20		µg/L	1	4/21/2014 10:30 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:18 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-014

**Client Sample ID:** MW-30-030-198-EB  
**Collection Date:** 4/14/2014 1:14:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 05:15 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:34 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-42-055-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 8:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140422A</b>	QC Batch: <b>R93219</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	0.23 0.016	0.20	µg/L 1 4/22/2014 02:22 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	1.6 0.030	1.0	µg/L 1 4/25/2014 02:39 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-016

**Client Sample ID:** MW-42-055-198-EB  
**Collection Date:** 4/14/2014 7:22:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 05:35 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-42-065-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 8:48:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 07:02 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 02:52 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-42-065-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 7:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 05:55 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 02:57 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-122-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 05:44 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 03:03 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-202-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:05:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**

**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 06:35 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-203-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 06:55 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-025-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 8:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 06:02 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 03:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-025-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 8:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 07:15 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45479</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 03:14 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 9:34:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 07:11 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 03:42 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-090-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 8:47:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 07:35 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 03:47 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-025-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:45:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 07:30 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 03:53 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-025-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:20:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 07:54 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 03:58 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:28:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140422A</b>	QC Batch: <b>R93219</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.080	1.0		µg/L	5	4/22/2014 10:17 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 04:04 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-090-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:58:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 08:34 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 07:23 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-030

**Client Sample ID:** MW-46-175-198  
**Collection Date:** 4/15/2014 1:36:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	21	0.080	1.0		µg/L	5	4/21/2014 08:54 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	19	0.030	1.0		µg/L	1	4/25/2014 04:15 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-46-205-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 12:05:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	5.5	0.080	1.0		µg/L	5	4/22/2014 10:22 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	4.8	0.030	1.0		µg/L	1	4/25/2014 04:20 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 08:36 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	5.1	0.030	1.0		µg/L	1	4/25/2014 04:24 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-204-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 6:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-033		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140421A</b>	QC Batch: <b>R93202</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 09:34 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-205-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 6:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-034		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/22/2014 10:42 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-29-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 2:20:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-035		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 08:55 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 04:32 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-29-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 1:56:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-036		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/22/2014 11:02 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 04:48 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-037

**Client Sample ID:** MW-32-035-198  
**Collection Date:** 4/16/2014 1:38:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140422A</b>	QC Batch: <b>R93219</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.080	1.0		µg/L	5	4/22/2014 10:37 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/25/2014 04:54 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:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-038

**Client Sample ID:** MW-32-035-198-EB  
**Collection Date:** 4/16/2014 1:00:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	ND	0.016	0.20	µg/L	1	4/22/2014 11:22 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>			PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>
Chromium	ND	0.030	1.0	µg/L	1	4/25/2014 07:51 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-070-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-039		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/21/2014 09:33 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 05:05 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-070-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:33:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-040		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/22/2014 12:22 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/25/2014 05:11 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-115-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:38:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-041		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	40	0.080	1.0		µg/L	5	4/22/2014 12:42 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	37	0.030	1.0		µg/L	1	4/25/2014 05:16 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 11:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-042		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140421A</b>	QC Batch: <b>R93201</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/21/2014 09:52 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>		PrepDate: <b>4/21/2014</b>		Analyst: <b>CEI</b>		
Chromium	5.5	0.030	1.0		µg/L	1	4/25/2014 05:21 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-125-198-EB
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 8:25:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-043		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20 µg/L	1 4/22/2014 01:02 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425B</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0 µg/L	1 4/25/2014 05:27 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-206-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/17/2014 6:20:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-044		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/22/2014 01:22 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-207-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/17/2014 6:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-045		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140422A</b>	QC Batch: <b>R93215</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/22/2014 02:02 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93202</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769726</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.033	0.20									

Sample ID: <b>LCS-R93202</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769727</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.023	0.20	5.000	0	100	90	110				

Sample ID: <b>N012390-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769729</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.345	0.20	1.000	1.353	99.1	90	110				

Sample ID: <b>N012390-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769731</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0.06220	97.0	90	110				

Sample ID: <b>N012390-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769734</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.340	0.20						1.353	0.980	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

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769735</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.392	0.20	1.000	1.353	104	90	110	2.345	2.00	20	

Sample ID: <b>N012390-004A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769737</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.386	1.0	5.000	2.561	96.5	90	110				

Sample ID: <b>N012390-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769739</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	210.046	4.0	100.0	112.3	97.7	90	110				

Sample ID: <b>N012390-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769741</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.073	0.20	1.000	0.07850	99.4	90	110				

Sample ID: <b>N012390-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769745</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.054	0.20	1.000	0.1098	94.4	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769747</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.077	0.20	1.000	0.08870	98.8	90	110				

Sample ID: <b>N012390-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769749</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0.07350	99.0	90	110				

Sample ID: <b>N012390-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769751</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.089	0.20	1.000	0.08330	101	90	110				

Sample ID: <b>N012390-016A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769753</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.079	0.20	1.000	0.07020	101	90	110				

Sample ID: <b>N012390-018A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93202</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769757</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-020A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.097	0.20	1.000	0.08040	102	90	110				
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Sample ID: <b>N012390-021A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769761</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.117	0.20	1.000	0.07030	105	90	110				
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Sample ID: <b>N012390-023A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769763</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.131	0.20	1.000	0.09270	104	90	110				
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Sample ID: <b>N012390-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769765</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.152	0.20	1.000	0.09200	106	90	110				
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Sample ID: <b>N012390-027A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769769</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.134	0.20	1.000	0.08270	105	90	110				
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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

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-029A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769771</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.136	0.20	1.000	0.07440	106	90	110				

Sample ID: <b>N012390-030A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769773</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45.300	1.0	25.00	20.61	98.8	90	110				

Sample ID: <b>N012390-033A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93202</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93202</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769775</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.132	0.20	1.000	0.09140	104	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93215</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770150</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93215</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770151</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.930	0.20	5.000	0	98.6	90	110				

Sample ID: <b>N012390-031A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770153</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.158	1.0	25.00	5.492	98.7	90	110				

Sample ID: <b>N012390-034A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770155</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0.08330	98.0	90	110				

Sample ID: <b>N012390-036A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770157</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.074	0.20	1.000	0.09060	98.3	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-038A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770159</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0.07820	98.2	90	110				

Sample ID: <b>N012390-034A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770162</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.096	0.20						0.08330	0	20	

Sample ID: <b>N012390-034A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770163</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0.08330	98.0	90	110	1.063	0.00941	20	

Sample ID: <b>N012390-040A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770165</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.110	0.20	1.000	0.07390	104	90	110				

Sample ID: <b>N012390-041A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770167</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.651	1.0	25.00	39.82	99.3	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012390-043A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770169</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.061	0.20	1.000	0.09640	96.5	90	110				
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Sample ID: <b>N012390-044A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770171</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.082	0.20	1.000	0.08240	99.9	90	110				
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Sample ID: <b>N012390-045A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93215</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93215</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>	SeqNo: <b>1770175</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.109	0.20	1.000	0.09980	101	90	110				
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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

H Holding times for preparation or analysis exceeded  
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**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 218.6R\_WPGE**

Sample ID: <b>MB-R93201</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769681</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93201</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769682</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.967	0.20	5.000	0	99.3	90	110				

Sample ID: <b>N012390-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769684</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0.02570	99.5	90	110				

Sample ID: <b>N012390-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769686</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.071	0.20	1.000	0.06350	101	90	110				

Sample ID: <b>N012390-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769687</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.023	0.20						0.02570	0	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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 S Spike/Surrogate outside of limits due to matrix interference

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

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 218.6R\_WPGE**

Sample ID: <b>N012390-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769688</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.076	0.20	1.000	0.06350	101	90	110	1.071	0.419	20	

Sample ID: <b>N012390-009AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769692</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.041	0.20	1.000	0.03040	101	90	110				

Sample ID: <b>N012390-017AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769693</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.064	0.20	1.000	0.04310	102	90	110				

Sample ID: <b>N012390-019AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769695</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID: <b>N012390-022AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769697</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0.04530	100	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>N012390-011AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769701</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.059	1.0	5.000	0	101	90	110				

Sample ID: <b>N012390-024AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769704</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID: <b>N012390-026AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769706</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: <b>N012390-032AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769710</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID: <b>N012390-035AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93201</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/21/2014</b>	SeqNo: <b>1769712</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>N012390-039AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769714</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.069	0.20	1.000	0.02140	105	90	110				

Sample ID: <b>N012390-042AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769716</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

Sample ID: <b>N012390-013AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93201</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93201</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/21/2014</b>				SeqNo: <b>1769720</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.249	0.20	1.000	0.2147	103	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>MB-R93219</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770347</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93219</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770348</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.044	0.20	5.000	0	101	90	110				

Sample ID: <b>N012390-028AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770350</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.928	1.0	5.000	0	98.6	90	110				

Sample ID: <b>N012390-037AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770352</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.912	1.0	5.000	0	98.2	90	110				

Sample ID: <b>N012410-014ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770354</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20						1.008	2.03	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 218.6R\_WPGE**

Sample ID: <b>N012410-014AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770355</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.990	0.20	1.000	1.008	98.2	90	110				

Sample ID: <b>N012410-014AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770356</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.029	0.20	1.000	1.008	102	90	110	1.990	1.96	20	

Sample ID: <b>N012390-015AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93219</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93219</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/22/2014</b>				SeqNo: <b>1770370</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.236	0.20	1.000	0.2315	100	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45479</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772343</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45479</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.925	1.0	10.00	0	99.3	85	115				

Sample ID: <b>N012397-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772348</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.131	1.0	10.00	11.66	94.7	75	125				

Sample ID: <b>N012397-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772349</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.169	1.0	10.00	11.66	95.1	75	125	21.13	0.180	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45480</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772366</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45480</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772367</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.084	1.0	10.00	0	101	85	115				

Sample ID: <b>N012390-024B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772390</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.856	1.0	10.00	0	88.6	75	125				

Sample ID: <b>N012390-024B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772391</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.966	1.0	10.00	0	89.7	75	125	8.856	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>MB-45479</b>	SampType: <b>MBLK</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772417</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45479</b>	SampType: <b>LCS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772418</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.925	1.0	10.00	0	99.3	85	115				

Sample ID: <b>N012397-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772422</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.131	1.0	10.00	11.66	94.7	75	125				

Sample ID: <b>N012397-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772423</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.169	1.0	10.00	11.66	95.1	75	125	21.13	0.180	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>MB-45480</b>	SampType: <b>MBLK</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772437</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45480</b>	SampType: <b>LCS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772438</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.084	1.0	10.00	0	101	85	115				

Sample ID: <b>N012390-024B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772458</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.856	1.0	10.00	0	88.6	75	125				

Sample ID: <b>N012390-024B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772459</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.966	1.0	10.00	0	89.7	75	125	8.856	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-121-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140418A</b>	QC Batch: <b>R93183</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	0.80 0.011 0.10	mg/L	1 4/18/2014 02:17 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-060-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140418A</b>	QC Batch: <b>R93183</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	0.73 0.011 0.10	mg/L	1 4/18/2014 02:29 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-085-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:36:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140418A</b>	QC Batch: <b>R93183</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/18/2014 03:33 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-122-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140418A</b>	QC Batch: <b>R93183</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/18/2014 02:42 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 9:34:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140418A</b>	QC Batch: <b>R93183</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/18/2014 02:55 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N012390  
 Project: PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

TestCode: 300\_W\_FPGE

Sample ID: <b>MB-R93183_F</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W_FPGE</b> Units: <b>mg/L</b>				Prep Date:			RunNo: <b>93183</b>		
Client ID: <b>PBW</b>	Batch ID: <b>R93183</b>	TestNo: <b>EPA 300.0</b>				Analysis Date: <b>4/18/2014</b>			SeqNo: <b>1767972</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: <b>LCS-R93183_F</b>	SampType: <b>LCS</b>	TestCode: <b>300_W_FPGE</b> Units: <b>mg/L</b>				Prep Date:			RunNo: <b>93183</b>		
Client ID: <b>LCSW</b>	Batch ID: <b>R93183</b>	TestNo: <b>EPA 300.0</b>				Analysis Date: <b>4/18/2014</b>			SeqNo: <b>1767973</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.352	0.10	2.500	0	94.1	90	110				

Sample ID: <b>N012390-009D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>300_W_FPGE</b> Units: <b>mg/L</b>				Prep Date:			RunNo: <b>93183</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93183</b>	TestNo: <b>EPA 300.0</b>				Analysis Date: <b>4/18/2014</b>			SeqNo: <b>1767983</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.734	0.10						0.7300	0.546	20	

Sample ID: <b>N012390-009D-MS</b>	SampType: <b>MS</b>	TestCode: <b>300_W_FPGE</b> Units: <b>mg/L</b>				Prep Date:			RunNo: <b>93183</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93183</b>	TestNo: <b>EPA 300.0</b>				Analysis Date: <b>4/18/2014</b>			SeqNo: <b>1767984</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.248	0.10	2.500	0.7300	101	80	120				

Sample ID: <b>N012390-009D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>300_W_FPGE</b> Units: <b>mg/L</b>				Prep Date:			RunNo: <b>93183</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93183</b>	TestNo: <b>EPA 300.0</b>				Analysis Date: <b>4/18/2014</b>			SeqNo: <b>1767985</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.257	0.10	2.500	0.7300	101	80	120	3.248	0.277	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0  
**Lab ID:** N012390-001

**Client Sample ID:** MW-63-065-198  
**Collection Date:** 4/9/2014 2:12:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**
**RunID:** ICP7\_140425C

**QC Batch:** 45479

**PrepDate:**
**4/21/2014**
**Analyst:** CEI

Arsenic	1.5	0.027	0.10		µg/L	1	4/25/2014 01:01 PM
Manganese	ND	0.026	0.50		µg/L	1	4/25/2014 01:01 PM
Molybdenum	20	0.15	0.50		µg/L	1	4/25/2014 01:01 PM
Selenium	0.81	0.069	0.50		µg/L	1	4/25/2014 01:01 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-37D-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/10/2014 10:03:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Molybdenum	47 0.15	0.50	µg/L 1 4/25/2014 01:28 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 01:28 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-121-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	7.2 0.027	0.10	µg/L 1 4/25/2014 01:39 PM
Manganese	190 0.13	2.5	µg/L 5 4/25/2014 06:22 PM
Molybdenum	4.2 0.15	0.50	µg/L 1 4/25/2014 01:39 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 01:39 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-020-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 10:13:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.84 0.027	0.10	µg/L 1 4/25/2014 01:45 PM
Manganese	21 0.026	0.50	µg/L 1 4/25/2014 01:45 PM
Molybdenum	3.4 0.15	0.50	µg/L 1 4/25/2014 01:45 PM
Selenium	12 0.069	0.50	µg/L 1 4/25/2014 01:45 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-060-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	6.9 0.027	0.10	µg/L 1 4/25/2014 01:56 PM
Manganese	200 0.13	2.5	µg/L 5 4/25/2014 06:28 PM
Molybdenum	4.1 0.15	0.50	µg/L 1 4/25/2014 01:56 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 01:56 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-27-085-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 11:36:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.18	0.027	0.10
Manganese	6.3	0.026	0.50
Molybdenum	2.2	0.15	0.50
Selenium	ND	0.069	0.50

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-30-030-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 1:36:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Molybdenum	22 0.15	0.50	µg/L 1 4/25/2014 02:18 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 02:18 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-42-055-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 8:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	11 0.027 0.10	µg/L	1 4/25/2014 02:39 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-42-065-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/14/2014 8:48:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.0 0.027	0.10	µg/L 1 4/25/2014 02:52 PM
Manganese	710 0.13	2.5	µg/L 5 4/25/2014 06:34 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-122-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.8 0.027	0.10	µg/L 1 4/25/2014 03:03 PM
Manganese	120 0.026	0.50	µg/L 1 4/25/2014 03:03 PM
Molybdenum	21 0.15	0.50	µg/L 1 4/25/2014 03:03 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 03:03 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-025-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 8:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45479</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.8 0.027	0.10	µg/L 1 4/25/2014 03:09 PM
Manganese	15 0.026	0.50	µg/L 1 4/25/2014 03:09 PM
Molybdenum	4.5 0.15	0.50	µg/L 1 4/25/2014 03:09 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 03:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-28-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 9:34:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.8 0.027	0.10	µg/L 1 4/25/2014 03:42 PM
Manganese	130 0.13	2.5	µg/L 5 4/25/2014 05:33 PM
Molybdenum	22 0.15	0.50	µg/L 1 4/25/2014 03:42 PM
Selenium	ND 0.069	0.50	µg/L 1 4/25/2014 03:42 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-025-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 6:45:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	16 0.027	0.10	µg/L 1 4/25/2014 03:53 PM
Manganese	320 0.13	2.5	µg/L 5 4/25/2014 07:01 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-43-090-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 7:28:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.1 0.027 0.10	µg/L	1 4/25/2014 04:04 PM
Manganese	930 0.26 5.0	µg/L	10 4/25/2014 07:18 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-46-175-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/15/2014 1:36:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Molybdenum	170 0.76	µg/L	5 4/25/2014 07:29 PM
Selenium	ND 0.34	µg/L	5 4/25/2014 07:29 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-032		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.2	0.13	0.50
Manganese	620	0.13	2.5
Molybdenum	110	0.76	2.5
Selenium	ND	0.34	2.5

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-29-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 2:20:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-035		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	5.7 0.027	0.10	µg/L 1 4/25/2014 04:32 PM
Manganese	270 0.13	2.5	µg/L 5 4/25/2014 07:40 PM
Molybdenum	19 0.15	0.50	µg/L 1 4/25/2014 04:32 PM
Selenium	9.5 0.069	0.50	µg/L 1 4/25/2014 04:32 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-32-035-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 1:38:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-037		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	27	0.027	0.10
Manganese	1200	0.26	5.0

µg/L	1	4/25/2014 04:54 PM
µg/L	10	4/25/2014 07:45 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-070-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-039		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	4.2 0.027 0.10	µg/L	1 4/25/2014 05:05 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-115-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 7:38:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-041		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	5.8 0.027 0.10	µg/L	1 4/25/2014 05:16 PM
Manganese	ND 0.026 0.50	µg/L	1 4/25/2014 05:16 PM
Molybdenum	84 0.15 0.50	µg/L	1 4/25/2014 05:16 PM
Selenium	ND 0.069 0.50	µg/L	1 4/25/2014 05:16 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**

Print Date: 30-Apr-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-44-125-198
<b>Lab Order:</b>	N012390	<b>Collection Date:</b>	4/16/2014 11:59:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.0	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012390-042		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140425C</b>	QC Batch: <b>45480</b>	PrepDate: <b>4/21/2014</b>	Analyst: <b>CEI</b>
Arsenic	2.7	0.027	0.10
Manganese	620	0.13	2.5
Molybdenum	98	0.15	0.50
Selenium	ND	0.069	0.50

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N012390  
 Project: PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>MB-45479</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772492</b>						
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									

Sample ID: <b>LCS-45479</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.159	0.10	10.00	0	102	85	115				
Manganese	99.192	0.50	100.0	0	99.2	85	115				
Molybdenum	9.833	0.50	10.00	0	98.3	85	115				
Selenium	10.496	0.50	10.00	0	105	85	115				

Sample ID: <b>N012397-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.347	0.10	10.00	2.364	99.8	75	125				
Manganese	165.885	0.50	100.0	71.94	93.9	75	125				
Molybdenum	12.405	0.50	10.00	1.588	108	75	125				
Selenium	10.307	0.50	10.00	0.2260	101	75	125				

Sample ID: <b>N012397-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772498</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.318	0.10	10.00	2.364	99.5	75	125	12.35	0.236	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
 3151 W. Post Rd, Las Vegas, NV 89118  
 P: 702.307.2659 F: 702.307.2691  
[www.assetlaboratories.com](http://www.assetlaboratories.com)

**CLIENT:** CH2M HILL  
**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012397-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>				RunNo: <b>93261</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772498</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	165.767	0.50	100.0	71.94	93.8	75	125	165.9	0.0715	20	
Molybdenum	12.507	0.50	10.00	1.588	109	75	125	12.40	0.818	20	
Selenium	10.082	0.50	10.00	0.2260	98.6	75	125	10.31	2.21	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

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>MB-45480</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772516</b>						
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									

Sample ID: <b>LCS-45480</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.247	0.10	10.00	0	102	85	115				
Manganese	101.368	0.50	100.0	0	101	85	115				
Molybdenum	10.157	0.50	10.00	0	102	85	115				
Selenium	10.473	0.50	10.00	0	105	85	115				

Sample ID: <b>N012390-024B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772539</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.654	0.10	10.00	1.819	98.3	75	125				
Molybdenum	33.483	0.50	10.00	22.23	113	75	125				
Selenium	9.764	0.50	10.00	0	97.6	75	125				

Sample ID: <b>N012390-024B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.746	0.10	10.00	1.819	99.3	75	125	11.65	0.786	20	
Molybdenum	33.646	0.50	10.00	22.23	114	75	125	33.48	0.486	20	
Selenium	10.105	0.50	10.00	0	101	75	125	9.764	3.44	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

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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012390-024B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772546</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	234.696	2.5	100.0	128.7	106	75	125				
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Sample ID: <b>N012390-024B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/21/2014</b>	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772547</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	231.284	2.5	100.0	128.7	103	75	125	234.7	1.46	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.0 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/17/2014 <b>COC Number:</b> 1				<b>Container:</b> 250 ml Poly (NH4)2S O4/NH4O H, 4°C Filtered: Field Holding Time: 28	2x250 ml Poly (NH4)2S O4/NH4O H, 4°C Field 28	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	2x500 ml Poly HNO3, 4°C Field 180	250 ml Poly 4°C NA	250 ml Poly 4°C NA	Number of Containers	COMMENTS	
<b>DATE</b> <b>TIME</b> <b>Matrix</b>	C/6 (E218.6) Field Filtered	C/6 (E218.6f) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo,Se,Mn	Metals (6020A) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)							
MW-63-065-198	4/9/2014	14:12	Water	X		X	X			X			X	N012390-1	3	
MW-200-198	4/10/2014	6:18	Water	X										-2	1	
MW-37D-198	4/10/2014	10:03	Water	X			X		X				X	-3	3	
MW-41D-198	4/10/2014	7:57	Water	X			X							-4	2	
MW-121-198	4/14/2014	7:00	Water		X	X				X	X	X	X	-5	6	
MW-201-198	4/14/2014	6:00	Water	X										-6	1	
MW-27-020-198	4/14/2014	10:13	Water		X	X				X	X		X	-7	6	
MW-27-020-198-EB	4/14/2014	9:30	Water	X			X							-8	2	
MW-27-060-198	4/14/2014	11:00	Water		X	X				X	X	X	X	-9	6	
MW-27-060-198-EB	4/14/2014	10:27	Water	X			X							-10	2	
MW-27-085-198	4/14/2014	11:36	Water		X	X				X	X	X	X	-11	6	
MW-27-085-198-EB	4/14/2014	10:40	Water	X			X							-12	2	
MW-30-030-198	4/14/2014	13:36	Water		X				X			X		-13	6	
MW-30-030-198-EB	4/14/2014	13:14	Water	X			X							-14	2	

<b>Signatures</b> Approved by _____ Sampled by _____ Relinquished by _____ Received by _____ Relinquished by _____ Received by _____		<b>Date/Time</b> 4-17-14 1635 17APR14 1635 17APR14 1840		<b>Shipping Details</b> Method of Shipment: courier On Ice: <input checked="" type="checkbox"/> no 3.5, 4.6, 5.2, 3.2 °C Airbill No: 102 Lab Name: ADVANCED TECHNOLOGY LABORATORY Lab Phone: (702) 307-2659		<b>ATTN:</b> Sample Custody and Marlon		<b>Special Instructions:</b> April 9 to May 15, 2014 Report Copy to Shawn Duffy (530) 229-3303	
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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C		
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	NA	NA			
Holding Time:				28	28	180	180	180	180	180	180	180	28	28			
Project Number 423575.MP.02.GM.0 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/17/2014 COC Number: 1					Cr6 (E218.6) Field Filtered	Cr6 (E218.6) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo,Se,Mn	Metals (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)			
DATE	TIME	Matrix															
MW-42-055-198	4/14/2014	8:12	Water		X	X						X				NO12390-15	5
MW-42-055-198-EB	4/14/2014	7:22	Water	X			X									-16	2
MW-42-065-198	4/14/2014	8:48	Water		X	X		X				X				-17	5
MW-42-065-198-EB	4/14/2014	7:24	Water	X			X									-18	2
MW-122-198	4/15/2014	7:00	Water		X	X				X	X	X	X			-19	6
MW-202-198	4/15/2014	6:05	Water	X												-20	1
MW-203-198	4/15/2014	6:10	Water	X												-21	1
MW-28-025-198	4/15/2014	8:59	Water		X	X				X	X		X			-22	6
MW-28-025-198-EB	4/15/2014	8:30	Water	X			X									-23	2
MW-28-090-198	4/15/2014	9:34	Water		X	X				X	X	X	X			-24	6
MW-28-090-198-EB	4/15/2014	8:47	Water	X			X									-25	2
MW-43-025-198	4/15/2014	6:45	Water		X	X		X				X				-26	5
MW-43-025-198-EB	4/15/2014	6:20	Water	X			X									-27	2
MW-43-090-198	4/15/2014	7:28	Water		X	X		X				X				-28	5

<b>Signatures</b> Approved by _____ Sampled by _____ Relinquished by _____ Received by _____ Relinquished by _____ Received by _____		<b>Date/Time</b> 4-17-14 1635 17 APR 14 1635 17 APR 14 1840		<b>Shipping Details</b> Method of Shipment: courier On Ice: <input checked="" type="checkbox"/> no 3.5, 4.6, 5.2, 3.2 8 1122 Airbill No: Lab Name: ADVANCED TECHNOLOGY LABORATO Lab Phone: (702) 307-2659		<b>ATTN:</b> Sample Custody and Marlon		<b>Special Instructions:</b> April 9 to May 15, 2014  <b>Report Copy to</b> Shawn Duffy (530) 229-3303	
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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy Project Number 423575.MP.02.GM.0 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/17/2014 COC Number: 1				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly	Number of Containers	COMMENTS
DATE	TIME	Matrix	Preservatives:	(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C			
			Filtered:	Field	Field	Field	Field	Field	Field	Field	Field	Field	NA	NA			
			Holding Time:	28	28	180	180	180	180	180	180	180	28	28			
				Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo, Se	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (6020A-R) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)				
MW-43-090-198-EB	4/15/2014	6:58	Water	X			X								NO12390-29	2	
MW-46-175-198	4/15/2014	13:36	Water	X			X		X				X		-30	3	
MW-46-205-198	4/15/2014	12:05	Water	X			X								-31	2	
MW-125-198	4/16/2014	7:00	Water		X	X				X	X		X		-32	6	
MW-204-198	4/16/2014	6:10	Water	X											-33	1	
MW-205-198	4/16/2014	6:12	Water	X											-34	1	
MW-29-198	4/16/2014	14:20	Water		X	X				X	X		X		-35	6	
MW-29-198-EB	4/16/2014	13:56	Water	X			X								-36	2	
MW-32-035-198	4/16/2014	13:38	Water		X	X		X			X				-37	5	
MW-32-035-198-EB	4/16/2014	13:00	Water	X			X								-38	2	
MW-44-070-198	4/16/2014	8:18	Water		X	X					X				-39	5	
MW-44-070-198-EB	4/16/2014	7:33	Water	X			X								-40	2	
MW-44-115-198	4/16/2014	7:38	Water	X		X	X			X			X		-41	3	
MW-44-125-198	4/16/2014	11:59	Water		X	X				X	X		X		-42	6	

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		4-17-14 1635	Method of Shipment:	courier		
Sampled by			On Ice: <input checked="" type="checkbox"/> yes / no	3.5, 4.6, 5.2, 3.2 °C		
Relinquished by		17APR14 1635	Airbill No:	102		
Received by		17APR14 1840	Lab Name:	ADVANCED TECHNOLOGY LABORATO		Report Copy to
Relinquished by			Lab Phone:	(702) 307-2659		Shawn Duffy (530) 229-3303
Received by						

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy  <b>Project Number</b> 423575.MP.02.GM.0 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/17/2014 <b>COC Number:</b> 1				<b>Container:</b>		250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly			
				<b>Preservatives:</b>		(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C			4°C
				<b>Filtered:</b>		Field	Field	Field	Field	Field	Field	Field	Field	NA	NA			
				<b>Holding Time:</b>		28	28	180	180	180	180	180	180	180	28			28
						Cr6 (E218.6) Field Filtered	Cr6 (E218.6) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo,Se	Metals (6020A) Field Filtered Mo,Se,Mn	Metals (6020A-R) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)			
<b>DATE</b>	<b>TIME</b>	<b>Matrix</b>																
MW-44-125-198-EB	4/16/2014	8:25	Water	X			X											
MW-206-198	4/17/2014	6:20	Water	X														
MW-207-198	4/17/2014	6:10	Water	X														
TOTAL NUMBER OF CONTAINERS															148			

<b>Signatures</b> Approved by  Sampled by  Relinquished by  Received by  Relinquished by  Received by 		<b>Date/Time</b> 4-17-14 1635  17 APR 14 1635 17 APR 14 1840	<b>Shipping Details</b> Method of Shipment: courier On Ice: <u>yes</u> / no 3.5, 4.6, 5.2, 3.2°C Airbill No: 102 Lab Name: ADVANCED TECHNOLOGY LABORATO Lab Phone: (702) 307-2659	<b>ATTN:</b> Sample Custody and Marlon	<b>Special Instructions:</b> April 9 to May 15, 2014  <b>Report Copy to</b> Shawn Duffy (530) 229-3303
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## Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 4/17/2014

Workorder: N012390

Rep sample Temp (Deg C): 3.5/4.6/5.2/3.2

IR Gun ID: 2

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.: NA


Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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 For: MBC  4/18/2014

Reviewed By:  04/21/14

## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012390-003A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 5.6173 * 20 \\ &= 112.346\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 110$$

*Monney* 4/29/2014



## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012390-013A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 0.2147 * 1 \\ &= 0.2147\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 0.21$$

 4/29/2014

### Sample Calculation

**METHOD:** EPA 300  
**TEST NAME:** INORGANIC ANIONS BY IC  
**MATRIX:** WATER

FORMULA:

Calculate the Fluoride concentration, in mg/L, in the original sample as follows:

$$\text{Fluoride, mg/L} = A * DF$$

where:

A = mg/L, IC calculated concentration  
DF = dilution factor

For **N012390-005D**, concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Fluoride, mg/L} &= 0.797 * 1 \\ &= 0.797\end{aligned}$$

Reporting result in two significant figures,

$$\text{Fluoride, mg/L} = 0.80$$

*Nancy*

4/30/2014

## 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 **N012390-005B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 7.19642806592856 * 1 * (25/25) \\ &= 7.19642806592856\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 7.2$$

*Moncy*

4/30/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012390  
Test Method: EPA 6020  
Analysis Date: 4/25/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45479

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Mo, Se & Cr. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012397-001A-DT 5X	Arsenic	µg/L	2.221438985	NA	2.36406027	6.03%	10
N012397-001A-DT 5X	Manganese	µg/L	73.85165718	PASS	71.93615798	2.66%	10
N012397-001A-DT 5X	Molybdenum	µg/L	1.525165432	NA	1.587516839	3.93%	10
N012397-001A-DT 5X	Selenium	µg/L	0	NA	0.226015046	100.00%	10
N012397-001A-DT 5X	Chromium	µg/L	11.80752337	NA	11.6617115	1.25%	10

Note: NA - Not applicable

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012390  
Test Method: EPA 6020  
Analysis Date: 4/25/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45480

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Se & Cr. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	&Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012390-024B-DT 5X	Arsenic	µg/L	1.848747142	NA	1.819403596	1.61%	10
N012390-024B-DT 25X	Manganese	µg/L	132.9899546	PASS	128.732773	3.31%	10
N012390-024B-DT 5X	Molybdenum	µg/L	20.56856118	PASS	22.22861913	7.47%	10
N012390-024B-DT 5X	Selenium	µg/L	0	NA	0		10
N012390-024B-DT 5X	Chromium	µg/L	0	NA	0		10

Note: NA - Not applicable

**CLIENT:** CH2M HILL  
**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>N012397-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93261</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772496</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	23.863	0.20	20.00	2.364	107	75	125				
Manganese	277.188	1.0	200.0	71.94	103	75	125				
Molybdenum	24.043	1.0	20.00	1.588	112	75	125				
Selenium	21.948	1.0	20.00	0.2260	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

**CLIENT:** CH2M HILL  
**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: N012390-024B-PS	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 93261						
Client ID: ZZZZZZ	Batch ID: 45480	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2014	SeqNo: 1772533						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.931	0.20	20.00	1.819	106	75	125				
Molybdenum	46.546	1.0	20.00	22.23	122	75	125				
Selenium	21.248	1.0	20.00	0	106	75	125				

Sample ID: N012390-024B-PS	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 93261						
Client ID: ZZZZZZ	Batch ID: 45480	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/25/2014	SeqNo: 1772545						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	619.983	2.5	500.0	128.7	98.3	75	125				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012397-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772347</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	32.799	2.0	20.00	11.66	106	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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012390-024B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93260</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772384</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.270	2.0	20.00	0	96.3	80	120				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>N012397-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020RDIS_Cr</b> Units: <b>µg/L</b>				Prep Date:			RunNo: <b>93260</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45479</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>		Analysis Date: <b>4/25/2014</b>			SeqNo: <b>1772421</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	32.799	2.0	20.00	11.66	106	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:** N012390  
**Project:** PG&E Topock, 423575.MP.02.GM.0

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>N012390-024B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020RDIS_Cr</b> Units: <b>µg/L</b>				Prep Date:			RunNo: <b>93260</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45480</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>		Analysis Date: <b>4/25/2014</b>			SeqNo: <b>1772452</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.270	2.0	20.00	0	96.3	80	120				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

July 28, 2014

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-00922

Workorder No.: N012433

RE: PG&E Topock, 423575.MP.02.GM.02

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on April 24, 2014 by ASSET Laboratories. 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.



**ASSET LABORATORIES**  
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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[www.assetlaboratories.com](http://www.assetlaboratories.com)

ASSET Laboratories

Date: 28-Jul-14

CLIENT: CH2M HILL  
Project: PG&E Topock, 423575.MP.02.GM.02  
Lab Order: N012433

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.

Sample results have been switched for samples MW-23-060-198 and MW-23-080-198 due to sample label not matching Chain of Custody (COC).

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N012433-006 and N012433-029 due to matrix interference. Samples were analyzed at lower dilution however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

Analytical Comments for EPA 300.0:

Dilution was necessary for samples N012433-003, N012433-009, N012433-012 and N012433-013 due to matrix interference.

Analytical Comments for EPA 6010B\_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020\_Dissolved:

Because the results for total dissolved chromium (4.743 ug/L) and hexavalent chromium (6.195 ug/L) for sample N012433-014 (MW-72BR-200-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.623 and 4.965 ug/L, respectively. Since



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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012433

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**CASE NARRATIVE**

these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Dilution was necessary on samples N012433-003, N012433-013, N012433-014, N012433-020, N012433-022 and N012433-021 due to failed Internal Standard when samples were analyzed at no dilution.



**ASSET Laboratories**

Date: 08-May-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012433  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012433-001A	MW-33-040-198	Water	4/17/2014 2:34:00 PM	4/24/2014	5/8/2014
N012433-001B	MW-33-040-198	Water	4/17/2014 2:34:00 PM	4/24/2014	5/8/2014
N012433-001C	MW-33-040-198	Water	4/17/2014 2:34:00 PM	4/24/2014	5/8/2014
N012433-001D	MW-33-040-198	Water	4/17/2014 2:34:00 PM	4/24/2014	5/8/2014
N012433-002A	MW-33-040-198-EB	Water	4/17/2014 1:02:00 PM	4/24/2014	5/8/2014
N012433-002B	MW-33-040-198-EB	Water	4/17/2014 1:02:00 PM	4/24/2014	5/8/2014
N012433-003A	MW-33-150-198	Water	4/17/2014 1:48:00 PM	4/24/2014	5/8/2014
N012433-003B	MW-33-150-198	Water	4/17/2014 1:48:00 PM	4/24/2014	5/8/2014
N012433-003C	MW-33-150-198	Water	4/17/2014 1:48:00 PM	4/24/2014	5/8/2014
N012433-004A	MW-34-080-198	Water	4/17/2014 9:12:00 AM	4/24/2014	5/8/2014
N012433-004B	MW-34-080-198	Water	4/17/2014 9:12:00 AM	4/24/2014	5/8/2014
N012433-004C	MW-34-080-198	Water	4/17/2014 9:12:00 AM	4/24/2014	5/8/2014
N012433-005A	MW-34-080-198-EB	Water	4/17/2014 7:16:00 AM	4/24/2014	5/8/2014
N012433-005B	MW-34-080-198-EB	Water	4/17/2014 7:16:00 AM	4/24/2014	5/8/2014
N012433-006A	MW-34-100-198	Water	4/17/2014 7:40:00 AM	4/24/2014	5/8/2014
N012433-006B	MW-34-100-198	Water	4/17/2014 7:40:00 AM	4/24/2014	5/8/2014
N012433-007A	MW-36-090-198	Water	4/17/2014 10:44:00 AM	4/24/2014	5/8/2014
N012433-007B	MW-36-090-198	Water	4/17/2014 10:44:00 AM	4/24/2014	5/8/2014
N012433-008A	MW-36-100-198	Water	4/17/2014 11:24:00 AM	4/24/2014	5/8/2014
N012433-008B	MW-36-100-198	Water	4/17/2014 11:24:00 AM	4/24/2014	5/8/2014
N012433-008C	MW-36-100-198	Water	4/17/2014 11:24:00 AM	4/24/2014	5/8/2014
N012433-009A	MW-123-198	Water	4/21/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-009B	MW-123-198	Water	4/21/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-009C	MW-123-198	Water	4/21/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-010A	MW-208-198	Water	4/21/2014 7:05:00 AM	4/24/2014	5/8/2014
N012433-011A	MW-209-198	Water	4/21/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-012A	MW-33-090-198	Water	4/21/2014 8:18:00 AM	4/24/2014	5/8/2014
N012433-012B	MW-33-090-198	Water	4/21/2014 8:18:00 AM	4/24/2014	5/8/2014
N012433-012C	MW-33-090-198	Water	4/21/2014 8:18:00 AM	4/24/2014	5/8/2014

Advanced Technology Laboratories, Inc.

dba **ASSET Laboratories**

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P: 702.307.2659 F: 702.307.2691  
www.assetlaboratories.com

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012433  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012433-013A	MW-33-210-198	Water	4/21/2014 9:32:00 AM	4/24/2014	5/8/2014
N012433-013B	MW-33-210-198	Water	4/21/2014 9:32:00 AM	4/24/2014	5/8/2014
N012433-013C	MW-33-210-198	Water	4/21/2014 9:32:00 AM	4/24/2014	5/8/2014
N012433-014A	MW-72BR-200-198	Water	4/21/2014 2:52:00 PM	4/24/2014	5/8/2014
N012433-014B	MW-72BR-200-198	Water	4/21/2014 2:52:00 PM	4/24/2014	5/8/2014
N012433-014C	MW-72BR-200-198	Water	4/21/2014 2:52:00 PM	4/24/2014	5/8/2014
N012433-015A	MW-16-198	Water	4/22/2014 8:14:00 AM	4/24/2014	5/8/2014
N012433-015B	MW-16-198	Water	4/22/2014 8:14:00 AM	4/24/2014	5/8/2014
N012433-016A	MW-210-198	Water	4/22/2014 6:30:00 AM	4/24/2014	5/8/2014
N012433-017A	MW-211-198	Water	4/22/2014 6:32:00 AM	4/24/2014	5/8/2014
N012433-018A	MW-21-198	Water	4/22/2014 11:10:00 AM	4/24/2014	5/8/2014
N012433-018B	MW-21-198	Water	4/22/2014 11:10:00 AM	4/24/2014	5/8/2014
N012433-018C	MW-21-198	Water	4/22/2014 11:10:00 AM	4/24/2014	5/8/2014
N012433-018D	MW-21-198	Water	4/22/2014 11:10:00 AM	4/24/2014	5/8/2014
N012433-019A	MW-21-198-EB	Water	4/22/2014 11:00:00 AM	4/24/2014	5/8/2014
N012433-019B	MW-21-198-EB	Water	4/22/2014 11:00:00 AM	4/24/2014	5/8/2014
N012433-020A	MW-23-080-198	Water	4/22/2014 2:15:00 PM	4/24/2014	5/8/2014
N012433-020B	MW-23-080-198	Water	4/22/2014 2:15:00 PM	4/24/2014	5/8/2014
N012433-021A	MW-23-060-198	Water	4/22/2014 12:47:00 PM	4/24/2014	5/8/2014
N012433-021B	MW-23-060-198	Water	4/22/2014 12:47:00 PM	4/24/2014	5/8/2014
N012433-022A	MW-57-185-198	Water	4/22/2014 11:06:00 AM	4/24/2014	5/8/2014
N012433-022B	MW-57-185-198	Water	4/22/2014 11:06:00 AM	4/24/2014	5/8/2014
N012433-022C	MW-57-185-198	Water	4/22/2014 11:06:00 AM	4/24/2014	5/8/2014
N012433-023A	MW-126-198	Water	4/23/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-023B	MW-126-198	Water	4/23/2014 7:00:00 AM	4/24/2014	5/8/2014
N012433-024A	MW-17-198	Water	4/23/2014 8:25:00 AM	4/24/2014	5/8/2014
N012433-024B	MW-17-198	Water	4/23/2014 8:25:00 AM	4/24/2014	5/8/2014
N012433-025A	MW-212-198	Water	4/23/2014 7:38:00 AM	4/24/2014	5/8/2014
N012433-026A	MW-213-198	Water	4/23/2014 7:30:00 AM	4/24/2014	5/8/2014
N012433-027A	MW-47-055-198	Water	4/23/2014 9:29:00 AM	4/24/2014	5/8/2014





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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012433  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012433-027B	MW-47-055-198	Water	4/23/2014 9:29:00 AM	4/24/2014	5/8/2014
N012433-028A	MW-47-115-198	Water	4/23/2014 10:11:00 AM	4/24/2014	5/8/2014
N012433-028B	MW-47-115-198	Water	4/23/2014 10:11:00 AM	4/24/2014	5/8/2014
N012433-029A	MW-48-198	Water	4/23/2014 12:54:00 PM	4/24/2014	5/8/2014
N012433-029B	MW-48-198	Water	4/23/2014 12:54:00 PM	4/24/2014	5/8/2014
N012433-030A	MW-50-095-198	Water	4/23/2014 12:06:00 PM	4/24/2014	5/8/2014
N012433-030B	MW-50-095-198	Water	4/23/2014 12:06:00 PM	4/24/2014	5/8/2014
N012433-031A	MW-214-198	Water	4/24/2014 6:30:00 AM	4/24/2014	5/8/2014

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-040-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 2:34:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	5600 0.10 0.10	umhos/cm	1 4/24/2014

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-150-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 1:48:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	14000	0.10	0.10
		umhos/cm	1
			4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-36-100-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	7000	0.10	0.10
		umhos/cm	1
			4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-123-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	8700 0.10 0.10	umhos/cm	1 4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	8800	0.10	0.10
		umhos/cm	1
			4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-210-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 9:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	17000	0.10	0.10	umhos/cm	1	4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-72BR-200-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 2:52:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	14000	0.10	0.10	umhos/cm	1	4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-21-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	8300	0.10	0.10
		umhos/cm	1
			4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-57-185-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:06:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140424C</b>	QC Batch: <b>R93249</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	17000	0.10	0.10	umhos/cm	1	4/24/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 120.1\_WPGE**

Sample ID: <b>N012433-022C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:	RunNo: <b>93249</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93249</b>	TestNo: <b>EPA 120.1</b>	Analysis Date: <b>4/24/2014</b>	SeqNo: <b>1771925</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17160.000	0.10						17210	0.291	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-001

**Client Sample ID:** MW-33-040-198  
**Collection Date:** 4/17/2014 2:34:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/25/2014 10:51 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430C</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/30/2014 09:19 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-002

**Client Sample ID:** MW-33-040-198-EB  
**Collection Date:** 4/17/2014 1:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

**RunID:** IC6\_140425A      **QC Batch:** R93269      **PrepDate:**      **Analyst:** RB  
 Hexavalent Chromium      ND      0.016      0.20      µg/L      1      4/25/2014 10:04 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

**RunID:** ICP7\_140430B      **QC Batch:** 45535      **PrepDate:** 4/25/2014      **Analyst:** CEI  
 Chromium      ND      0.030      1.0      µg/L      1      4/30/2014 09:25 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-150-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 1:48:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	12 0.080	1.0	µg/L 5 4/25/2014 06:19 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45595</b>	PrepDate: <b>5/5/2014</b>	Analyst: <b>CEI</b>
Chromium	9.6 0.030	1.0	µg/L 1 5/6/2014 10:36 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-34-080-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 9:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 11:10 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430C</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/30/2014 09:36 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-34-080-198-EB
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 7:16:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 10:24 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/30/2014 09:41 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-34-100-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 7:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140428A</b>	QC Batch: <b>R93270</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	3.0 0.080	1.0	µg/L 5 4/28/2014 11:38 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	3.5 0.030	1.0	µg/L 1 4/30/2014 09:47 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-36-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 10:44:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 10:44 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/30/2014 09:52 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-36-100-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	48	0.080	1.0		µg/L	5	4/26/2014 01:43 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	47	0.030	1.0		µg/L	1	4/30/2014 10:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-123-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140429A</b>	QC Batch: <b>R93281</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	12	0.016	0.20		µg/L	1	4/29/2014 11:05 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	9.8	0.030	1.0		µg/L	1	4/30/2014 10:14 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-208-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:05:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC****EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016 0.20	µg/L	1 4/25/2014 11:04 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-209-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140429A</b>	QC Batch: <b>R93281</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/29/2014 10:45 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	11 0.016	0.20	µg/L 1 4/25/2014 03:59 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	10 0.030	1.0	µg/L 1 4/30/2014 10:20 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-210-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 9:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	10 0.080	1.0	µg/L 5 4/25/2014 06:38 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	8.4 0.030	1.0	µg/L 1 4/30/2014 10:25 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-014

**Client Sample ID:** MW-72BR-200-198  
**Collection Date:** 4/21/2014 2:52:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	6.2	0.080	1.0		µg/L	5	4/25/2014 06:58 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	4.7	0.030	1.0		µg/L	1	4/30/2014 10:31 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-16-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 8:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	9.9 0.016	0.20	µg/L 1 4/25/2014 04:29 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	9.7 0.030	1.0	µg/L 1 4/30/2014 07:29 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-210-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 6:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/26/2014 12:03 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-211-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 6:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140429A</b>	QC Batch: <b>R93281</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/29/2014 10:25 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-21-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	1.9	0.016	0.20		µg/L	1	4/25/2014 11:29 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430C</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	1.8	0.030	1.0		µg/L	1	4/30/2014 10:36 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-21-198-EB
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	4/26/2014 12:43 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	4/30/2014 10:42 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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## ANALYTICAL RESULTS

Print Date: 28-Jul-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-020

**Client Sample ID:** MW-23-080-198  
**Collection Date:** 4/22/2014 2:15:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	15	0.080	1.0		µg/L	5	4/25/2014 04:39 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	13	0.030	1.0		µg/L	1	4/30/2014 10:47 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



## ASSET Laboratories

## ANALYTICAL RESULTS

Print Date: 28-Jul-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-021

**Client Sample ID:** MW-23-060-198  
**Collection Date:** 4/22/2014 12:47:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	39	0.080	1.0		µg/L	5	4/25/2014 07:38 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	34	0.030	1.0		µg/L	1	4/30/2014 10:53 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





**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-57-185-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:06:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	8.8	0.080	1.0		µg/L	5	4/25/2014 08:03 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	7.8	0.030	1.0		µg/L	1	4/30/2014 07:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-126-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140425A</b>	QC Batch: <b>R93269</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	24 0.080	1.0	µg/L 5 4/25/2014 08:24 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	20 0.030	1.0	µg/L 1 4/30/2014 07:40 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-17-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 8:25:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	12 0.016	0.20	µg/L 1 4/25/2014 12:26 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	12 0.030	1.0	µg/L 1 4/30/2014 07:35 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-212-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 7:38:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 02:34 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-213-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 7:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 03:50 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-47-055-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 9:29:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	16	0.032	0.40		µg/L	2	4/25/2014 01:19 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	14	0.030	1.0		µg/L	1	4/30/2014 07:57 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-47-115-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 10:11:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	23	0.080	1.0		µg/L	5	4/25/2014 01:38 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	20	0.030	1.0		µg/L	1	4/30/2014 08:02 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-48-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 12:54:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-029		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.080	1.0	µg/L 5 4/25/2014 04:18 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 4/30/2014 08:08 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-50-095-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 12:06:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-030		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>		PrepDate:		Analyst: <b>QBM</b>		
Hexavalent Chromium	13	0.032	0.40		µg/L	2	4/25/2014 01:56 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>		PrepDate: <b>4/25/2014</b>		Analyst: <b>CEI</b>		
Chromium	12	0.030	1.0		µg/L	1	4/30/2014 08:13 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-214-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/24/2014 6:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-031		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140425A</b>	QC Batch: <b>R93266</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 4/25/2014 03:31 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6\_WPGE

Sample ID: <b>MB-R93266</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772880</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93266</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772881</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.961	0.20	5.000	0	99.2	90	110				

Sample ID: <b>N012433-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772885</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Sample ID: <b>N012433-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772888</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.041	0.20						0.04360	0	20	

Sample ID: <b>N012433-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772889</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110	0.9759	0.113	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012433-024AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772893</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.072	0.20	5.000	12.25	96.4	90	110				

Sample ID: <b>N012433-027AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772895</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	25.327	0.40	10.00	15.60	97.3	90	110				

Sample ID: <b>N012433-028AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772897</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.431	1.0	25.00	23.47	99.8	90	110				

Sample ID: <b>N012433-030AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772901</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.909	0.40	10.00	13.08	98.3	90	110				

Sample ID: <b>N012433-025AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772903</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0.03600	98.9	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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Work Order: N012433  
Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6\_WPGE

Sample ID: <b>N012433-026AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772904</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0.03090	98.5	90	110				

Sample ID: <b>N012433-031AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772906</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0.03260	99.8	90	110				

Sample ID: <b>N012433-029AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772911</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.251	1.0	5.000	0.3080	98.9	90	110				

### Qualifiers:

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**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93269</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93269</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772982</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93269</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93269</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772983</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.005	0.20	5.000	0	100	90	110				

Sample ID: <b>N012433-020A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93269</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772989</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.364	1.0						15.24	0.791	20	

Sample ID: <b>N012433-020A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93269</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772990</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	40.008	1.0	25.00	15.24	99.1	90	110				

Sample ID: <b>N012433-020A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93269</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772991</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	40.552	1.0	25.00	15.24	101	90	110	40.01	1.35	20	

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**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012433-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772993</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.727	1.0	25.00	11.87	99.4	90	110				

Sample ID: <b>N012433-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772995</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	35.388	1.0	25.00	9.992	102	90	110				

Sample ID: <b>N012433-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772997</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.289	1.0	25.00	6.194	100	90	110				

Sample ID: <b>N012433-021A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773001</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.378	1.0	25.00	39.33	100	90	110				

Sample ID: <b>N012433-022A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773003</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	33.813	1.0	25.00	8.832	99.9	90	110				

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012433-023A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773005</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.531	1.0	25.00	23.95	98.3	90	110				

Sample ID: <b>N012433-015A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773008</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.117	0.20	5.000	9.914	104	90	110				

Sample ID: <b>N012433-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773010</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.085	0.20	1.000	0.07670	101	90	110				

Sample ID: <b>N012433-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773012</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0.06580	101	90	110				

Sample ID: <b>N012433-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.111	0.20	1.000	0.06630	104	90	110				

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012433-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1773016</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.100	0.20	1.000	0.06930	103	90	110				

Sample ID: <b>N012433-016A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/26/2014</b>	SeqNo: <b>1773020</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.05470	105	90	110				

Sample ID: <b>N012433-019A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/26/2014</b>	SeqNo: <b>1773022</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0.06690	101	90	110				

Sample ID: <b>N012433-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/26/2014</b>	SeqNo: <b>1773026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	72.766	1.0	25.00	47.76	100	90	110				

Sample ID: <b>N012433-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93269</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93269</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/26/2014</b>	SeqNo: <b>1773027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.461	0.20	5.000	11.46	100	90	110				

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93270</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93270</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93270</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/28/2014</b>				SeqNo: <b>1773036</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.048	0.20									

Sample ID: <b>LCS-R93270</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93270</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93270</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/28/2014</b>				SeqNo: <b>1773037</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	90	110				

Sample ID: <b>N012433-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93270</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93270</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/28/2014</b>				SeqNo: <b>1773039</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	28.038	1.0	25.00	2.964	100	90	110				

Sample ID: <b>N012433-006A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93270</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93270</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/28/2014</b>				SeqNo: <b>1773040</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	27.918	1.0	25.00	2.964	99.8	90	110	28.04	0.427	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93281</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93281</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.031	0.20									

Sample ID: <b>LCS-R93281</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93281</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773577</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.158	0.20	5.000	0.03050	103	90	110				

Sample ID: <b>N012433-017A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93281</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773579</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0.05900	95.2	90	110				

Sample ID: <b>N012433-011A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93281</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773581</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID: <b>N012433-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93281</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.425	0.20	5.000	11.55	97.5	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012454-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93281</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>				SeqNo: <b>1773585</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.806	0.20	1.000	0.8026	100	90	110				

Sample ID: <b>N012454-003A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93281</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>				SeqNo: <b>1773588</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.812	0.20						0.8026	1.10	20	

Sample ID: <b>N012454-003A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93281</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93281</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/29/2014</b>				SeqNo: <b>1773589</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.852	0.20	1.000	0.8026	105	90	110	1.806	2.53	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits  
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**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>MB-R93266</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772840</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium ND 0.20

Sample ID: <b>LCS-R93266</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.961 0.20 5.000 0 99.2 90 110

Sample ID: <b>N012433-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772843</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 1.040 0.20 1.000 0.04360 99.6 90 110

Sample ID: <b>N012433-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772845</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 0.976 0.20 1.000 0 97.6 90 110

Sample ID: <b>N012433-018AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772847</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 2.844 0.20 1.000 1.888 95.7 90 110

### Qualifiers:

B Analyte detected in the associated Method Blank  
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 DO Surrogate Diluted Out

E Value above quantitation range  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>N012433-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772848</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.041	0.20						0.04360	0	20	

Sample ID: <b>N012433-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93266</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93266</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>4/25/2014</b>	SeqNo: <b>1772849</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110	0.9759	0.113	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45535</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775295</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45535</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775296</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.433	1.0	10.00	0	94.3	85	115				

Sample ID: <b>N012426-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775300</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12.321	1.0	10.00	3.103	92.2	75	125				

Sample ID: <b>N012426-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775303</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12.150	1.0	10.00	3.103	90.5	75	125	12.32	1.40	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45536</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775279</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45536</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775280</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.643	1.0	10.00	0	96.4	85	115				

Sample ID: <b>N012433-022B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775284</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	15.614	1.0	10.00	7.777	78.4	75	125				

Sample ID: <b>N012433-022B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775285</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	15.879	1.0	10.00	7.777	81.0	75	125	15.61	1.68	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45595</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/5/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45595</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776800</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45595</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/5/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45595</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776801</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.851	1.0	10.00	0	98.5	85	115				

Sample ID: <b>N012429-003B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/5/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45595</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776805</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.013	1.0	10.00	8.985	90.3	75	125				

Sample ID: <b>N012429-003B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/5/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45595</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776806</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	17.746	1.0	10.00	8.985	87.6	75	125	18.01	1.50	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>MB-45535</b>	SampType: <b>MBLK</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93319</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775341</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45535</b>	SampType: <b>LCS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93319</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775342</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.433	1.0	10.00	0	94.3	85	115				

Sample ID: <b>N012426-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93319</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775346</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12.321	1.0	10.00	3.103	92.2	75	125				

Sample ID: <b>N012426-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93319</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775349</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	12.150	1.0	10.00	3.103	90.5	75	125	12.32	1.40	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-040-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 2:34:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140425A</b>	QC Batch: <b>R93258</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	9.8 0.11	1.0	mg/L 10 4/25/2014 10:42 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-150-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 1:48:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140425A</b>	QC Batch: <b>R93258</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/25/2014 10:55 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-123-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140425A</b>	QC Batch: <b>R93258</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/25/2014 11:08 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140425A</b>	QC Batch: <b>R93258</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/25/2014 11:20 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-210-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 9:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140425A</b>	QC Batch: <b>R93258</b>	PrepDate:	Analyst: <b>QBM</b>
Fluoride	ND 0.055	0.50	mg/L 5 4/25/2014 11:33 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 300\_W\_FPGE

Sample ID: <b>MB-R93258_F</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93258</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93258</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772256</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: <b>LCS-R93258_F</b>	SampType: <b>LCS</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93258</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93258</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772257</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.343	0.10	2.500	0	93.7	90	110				

Sample ID: <b>N012433-001D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93258</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93258</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772263</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.820	1.0						9.770	0.510	20	

Sample ID: <b>N012433-001D-MS</b>	SampType: <b>MS</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93258</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93258</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772264</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	34.200	1.0	25.00	9.770	97.7	80	120				

Sample ID: <b>N012433-001D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93258</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93258</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>4/25/2014</b>				SeqNo: <b>1772265</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	34.460	1.0	25.00	9.770	98.8	80	120	34.20	0.757	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-16-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 8:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP**
**EPA 3010A**
**EPA 6010B**

RunID: <b>ICP2_140502B</b>	QC Batch: <b>45532</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>SF</b>			
Aluminum	ND	6.2	50	ug/L	1	5/2/2014 04:16 PM
Boron	250	19	100	ug/L	1	5/2/2014 04:16 PM
Calcium	24000	58	500	ug/L	1	5/2/2014 04:16 PM
Iron	ND	1.3	20	ug/L	1	5/2/2014 04:16 PM
Magnesium	4300	11	100	ug/L	1	5/2/2014 04:16 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-17-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 8:25:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP**
**EPA 3010A**
**EPA 6010B**

RunID: <b>ICP2_140502B</b>	QC Batch: <b>45532</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>SF</b>			
Aluminum	ND	6.2	50	ug/L	1	5/2/2014 04:21 PM
Boron	190	19	100	ug/L	1	5/2/2014 04:21 PM
Calcium	61000	58	500	ug/L	1	5/2/2014 04:21 PM
Iron	ND	1.3	20	ug/L	1	5/2/2014 04:21 PM
Magnesium	9000	11	100	ug/L	1	5/2/2014 04:21 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010\_WDPGEPPB

Sample ID: MB-45532	SampType: MBLK	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/25/2014	RunNo: 93332						
Client ID: PBW	Batch ID: 45532	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/2/2014	SeqNo: 1776072						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	19.460	50									
Boron	39.441	100									
Calcium	ND	500									
Iron	9.062	20									
Magnesium	28.060	100									

Sample ID: LCS1-45532	SampType: LCS	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/25/2014	RunNo: 93332						
Client ID: LCSW	Batch ID: 45532	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/2/2014	SeqNo: 1776075						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9180.402	50	10000	0	91.8	85	115				
Boron	4408.816	100	5000	0	88.2	85	115				
Calcium	9444.663	500	10000	0	94.4	85	115				
Iron	100.172	20	100.0	0	100	85	115				
Magnesium	9481.117	100	10000	0	94.8	85	115				

Sample ID: N012402-029B-MS1	SampType: MS	TestCode: 6010_WDPGE	Units: ug/L	Prep Date: 4/25/2014	RunNo: 93332						
Client ID: ZZZZZZ	Batch ID: 45532	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 5/2/2014	SeqNo: 1776081						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9018.388	50	10000	7.905	90.1	75	125				
Boron	4603.369	100	5000	206.3	87.9	75	125				
Calcium	49223.327	500	10000	43620	56.0	75	125				S
Iron	170.356	20	100.0	74.72	95.6	75	125				
Magnesium	18143.664	100	10000	9036	91.1	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

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6010\_WDPGEPPB

Sample ID: <b>N012402-029B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_WDPGE</b>	Units: <b>ug/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93332</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45532</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/2/2014</b>	SeqNo: <b>1776082</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9046.103	50	10000	7.905	90.4	75	125	9018	0.307	20	S
Boron	4616.307	100	5000	206.3	88.2	75	125	4603	0.281	20	
Calcium	48930.106	500	10000	43620	53.1	75	125	49220	0.597	20	
Iron	167.927	20	100.0	74.72	93.2	75	125	170.4	1.44	20	
Magnesium	17975.095	100	10000	9036	89.4	75	125	18140	0.933	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-040-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 2:34:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>			
Arsenic	14	0.027	0.10	µg/L	1	4/30/2014 09:19 PM
Manganese	ND	0.026	0.50	µg/L	1	4/30/2014 09:19 PM
Molybdenum	130	0.15	0.50	µg/L	1	4/30/2014 09:19 PM
Selenium	ND	0.069	0.50	µg/L	1	4/30/2014 09:19 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-150-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 1:48:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.1 0.027	0.10	µg/L 1 4/30/2014 09:30 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 09:30 PM
Molybdenum	24 0.76	2.5	µg/L 5 5/1/2014 01:37 PM
Selenium	ND 0.34	2.5	µg/L 5 5/1/2014 01:37 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-34-080-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 9:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.4 0.027	0.10	µg/L 1 4/30/2014 09:36 PM
Manganese	8.0 0.026	0.50	µg/L 1 4/30/2014 09:36 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-34-100-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 7:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.027 0.10	µg/L	1 4/30/2014 09:47 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-36-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 10:44:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	19 0.027	0.10	µg/L 1 4/30/2014 09:52 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-36-100-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/17/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	8.5 0.027	0.10	µg/L 1 4/30/2014 10:09 PM
Manganese	17 0.026	0.50	µg/L 1 4/30/2014 10:09 PM
Molybdenum	35 0.15	0.50	µg/L 1 4/30/2014 10:09 PM
Selenium	ND 0.069	0.50	µg/L 1 4/30/2014 10:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-123-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.027	0.10	µg/L 1 4/30/2014 10:14 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 10:14 PM
Molybdenum	15 0.15	0.50	µg/L 1 4/30/2014 10:14 PM
Selenium	ND 0.069	0.50	µg/L 1 4/30/2014 10:14 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-090-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 8:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.027	0.10	µg/L 1 4/30/2014 10:20 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 10:20 PM
Molybdenum	15 0.15	0.50	µg/L 1 4/30/2014 10:20 PM
Selenium	ND 0.069	0.50	µg/L 1 4/30/2014 10:20 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-33-210-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 9:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140501B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.94 0.13	0.50	µg/L 5 5/1/2014 01:42 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 10:25 PM
Molybdenum	17 0.76	2.5	µg/L 5 5/1/2014 01:42 PM
Selenium	ND 0.34	2.5	µg/L 5 5/1/2014 01:42 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-72BR-200-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/21/2014 2:52:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	14 0.027	0.10	µg/L 1 4/30/2014 10:31 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 10:31 PM
Molybdenum	75 0.76	2.5	µg/L 5 5/1/2014 01:48 PM
Selenium	ND 0.34	2.5	µg/L 5 5/1/2014 01:48 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-16-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 8:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Antimony	ND 0.18	0.50	µg/L 1 4/30/2014 07:29 PM
Arsenic	10 0.027	0.10	µg/L 1 4/30/2014 07:29 PM
Barium	29 0.030	1.0	µg/L 1 4/30/2014 07:29 PM
Beryllium	ND 0.010	0.50	µg/L 1 4/30/2014 07:29 PM
Cadmium	ND 0.013	0.50	µg/L 1 5/1/2014 01:03 PM
Cobalt	ND 0.017	0.50	µg/L 1 4/30/2014 07:29 PM
Copper	ND 0.040	1.0	µg/L 1 4/30/2014 07:29 PM
Lead	ND 0.011	1.0	µg/L 1 4/30/2014 07:29 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 07:29 PM
Molybdenum	13 0.15	0.50	µg/L 1 4/30/2014 07:29 PM
Nickel	2.0 0.032	1.0	µg/L 1 4/30/2014 07:29 PM
Selenium	1.8 0.069	0.50	µg/L 1 4/30/2014 07:29 PM
Silver	ND 0.094	0.50	µg/L 1 4/30/2014 07:29 PM
Thallium	ND 0.0080	0.50	µg/L 1 4/30/2014 07:29 PM
Vanadium	32 0.16	1.0	µg/L 1 4/30/2014 07:29 PM
Zinc	14 0.23	10	µg/L 1 4/30/2014 07:29 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-21-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45535</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Molybdenum	69 0.15	0.50	µg/L 1 4/30/2014 10:36 PM
Selenium	27 0.069	0.50	µg/L 1 4/30/2014 10:36 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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## ASSET Laboratories

## ANALYTICAL RESULTS

Print Date: 28-Jul-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-23-080-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 2:15:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140501B</b>	QC Batch: <b>45535</b>			PrepDate:	<b>4/25/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.7	0.13	0.50		µg/L	5	5/1/2014 01:53 PM
Manganese	ND	0.026	0.50		µg/L	1	4/30/2014 10:47 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



## ASSET Laboratories

## ANALYTICAL RESULTS

Print Date: 28-Jul-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012433-021

**Client Sample ID:** MW-23-060-198  
**Collection Date:** 4/22/2014 12:47:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140501B</b>	QC Batch: <b>45535</b>			PrepDate:	<b>4/25/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.6	0.13	0.50		µg/L	5	5/1/2014 01:59 PM
Manganese	ND	0.026	0.50		µg/L	1	4/30/2014 10:53 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



**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-57-185-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 11:06:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Arsenic	13 0.027	0.10	µg/L 1 4/30/2014 07:00 PM
Manganese	280 0.13	2.5	µg/L 5 4/30/2014 07:06 PM
Molybdenum	89 0.76	2.5	µg/L 5 4/30/2014 07:06 PM
Selenium	ND 0.34	2.5	µg/L 5 4/30/2014 07:06 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-17-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 8:25:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140430B</b>	QC Batch: <b>45536</b>	PrepDate: <b>4/25/2014</b>	Analyst: <b>CEI</b>
Antimony	ND 0.18	0.50	µg/L 1 4/30/2014 07:35 PM
Arsenic	1.4 0.027	0.10	µg/L 1 4/30/2014 07:35 PM
Barium	25 0.030	1.0	µg/L 1 4/30/2014 07:35 PM
Beryllium	ND 0.010	0.50	µg/L 1 4/30/2014 07:35 PM
Cadmium	ND 0.013	0.50	µg/L 1 5/1/2014 01:09 PM
Cobalt	ND 0.017	0.50	µg/L 1 4/30/2014 07:35 PM
Copper	ND 0.040	1.0	µg/L 1 4/30/2014 07:35 PM
Lead	ND 0.011	1.0	µg/L 1 4/30/2014 07:35 PM
Manganese	ND 0.026	0.50	µg/L 1 4/30/2014 07:35 PM
Molybdenum	16 0.15	0.50	µg/L 1 4/30/2014 07:35 PM
Nickel	ND 0.032	1.0	µg/L 1 4/30/2014 07:35 PM
Selenium	8.6 0.069	0.50	µg/L 1 4/30/2014 07:35 PM
Silver	ND 0.094	0.50	µg/L 1 4/30/2014 07:35 PM
Thallium	ND 0.0080	0.50	µg/L 1 4/30/2014 07:35 PM
Vanadium	5.4 0.16	1.0	µg/L 1 4/30/2014 07:35 PM
Zinc	21 0.23	10	µg/L 1 4/30/2014 07:35 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>MB-45535</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775203</b>						
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									

Sample ID: <b>LCS-45535</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775204</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.437	0.10	10.00	0	94.4	85	115				
Manganese	93.359	0.50	100.0	0	93.4	85	115				
Molybdenum	9.349	0.50	10.00	0	93.5	85	115				
Selenium	9.642	0.50	10.00	0	96.4	85	115				

Sample ID: <b>N012426-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775208</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.017	0.10	10.00	1.531	94.9	75	125				
Manganese	139.956	0.50	100.0	49.90	90.1	75	125				
Molybdenum	13.704	0.50	10.00	3.396	103	75	125				
Selenium	9.491	0.50	10.00	0	94.9	75	125				

Sample ID: <b>N012426-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775211</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.007	0.10	10.00	1.531	94.8	75	125	11.02	0.0920	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

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012426-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775211</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	140.213	0.50	100.0	49.90	90.3	75	125	140.0	0.183	20	
Molybdenum	13.778	0.50	10.00	3.396	104	75	125	13.70	0.535	20	
Selenium	9.601	0.50	10.00	0	96.0	75	125	9.491	1.15	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

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>MB-45536</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775187</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Barium	ND	1.0									
Beryllium	ND	0.50									
Cobalt	ND	0.50									
Copper	ND	1.0									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	ND	0.50									
Vanadium	ND	1.0									
Zinc	ND	10									

Sample ID: <b>LCS-45536</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>			RunNo: <b>93318</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>			SeqNo: <b>1775188</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.085	0.50	10.00	0	101	85	115				
Arsenic	10.274	0.10	10.00	0	103	85	115				
Barium	88.449	1.0	100.0	0	88.4	85	115				
Beryllium	9.827	0.50	10.00	0	98.3	85	115				
Cobalt	9.858	0.50	10.00	0	98.6	85	115				
Copper	10.898	1.0	10.00	0	109	85	115				
Lead	10.513	1.0	10.00	0	105	85	115				
Manganese	85.422	0.50	100.0	0	85.4	85	115				
Molybdenum	10.011	0.50	10.00	0	100	85	115				
Nickel	10.783	1.0	10.00	0	108	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

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>LCS-45536</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775188</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.078	0.50	10.00	0	111	85	115				
Silver	10.859	0.50	10.00	0	109	85	115				
Thallium	10.132	0.50	10.00	0	101	85	115				
Vanadium	9.497	1.0	10.00	0	95.0	85	115				
Zinc	102.087	10	100.0	0	102	85	115				

Sample ID: <b>N012433-022B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775192</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.597	0.10	10.00	13.17	84.3	75	125				
Cobalt	7.511	0.50	10.00	0.04074	74.7	75	125				S
Copper	8.151	1.0	10.00	0	81.5	75	125				
Nickel	9.303	1.0	10.00	0.06481	92.4	75	125				
Vanadium	10.404	1.0	10.00	1.197	92.1	75	125				
Zinc	95.697	10	100.0	28.49	67.2	75	125				S

Sample ID: N012433-022B-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 4/25/2014	RunNo: 93318						
Client ID: ZZZZZZ	Batch ID: 45536	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/30/2014	SeqNo: 1775193						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.245	0.10	10.00	13.17	90.7	75	125	21.60	2.96	20	
Cobalt	7.624	0.50	10.00	0.04074	75.8	75	125	7.511	1.49	20	
Copper	8.296	1.0	10.00	0	83.0	75	125	8.151	1.76	20	
Nickel	9.138	1.0	10.00	0.06481	90.7	75	125	9.303	1.78	20	
Vanadium	10.439	1.0	10.00	1.197	92.4	75	125	10.40	0.329	20	
Zinc	96.043	10	100.0	28.49	67.6	75	125	95.70	0.361	20	S

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020\_DIS**

Sample ID: <b>MB-45536</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1776349</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	ND	0.50									
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Sample ID: <b>LCS-45536</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1776350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	10.086	0.50	10.00	0	101	85	115				
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Sample ID: <b>N012433-022B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1776367</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	10.757	2.5	10.00	0	108	75	125				
Barium	152.175	5.0	100.0	54.99	97.2	75	125				
Beryllium	10.413	2.5	10.00	0	104	75	125				
Cadmium	8.265	2.5	10.00	0	82.7	75	125				
Silver	10.025	2.5	10.00	0	100	75	125				

Sample ID: <b>N012433-022B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1776368</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	10.949	2.5	10.00	0	109	75	125	10.76	1.77	20	
Barium	152.551	5.0	100.0	54.99	97.6	75	125	152.2	0.247	20	
Beryllium	10.341	2.5	10.00	0	103	75	125	10.41	0.688	20	
Cadmium	8.220	2.5	10.00	0	82.2	75	125	8.265	0.550	20	
Silver	10.097	2.5	10.00	0	101	75	125	10.02	0.715	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020\_DIS**

Sample ID: <b>N012433-022B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	10.500	5.0	10.00	0	105	75	125				
Thallium	11.154	2.5	10.00	0.7576	104	75	125				

Sample ID: <b>N012433-022B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776833</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	10.565	5.0	10.00	0	106	75	125	10.50	0.619	20	
Thallium	11.075	2.5	10.00	0.7576	103	75	125	11.15	0.708	20	

Sample ID: <b>N012433-022B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1778297</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	338.036	2.5	100.0	278.4	59.6	75	125				S
Molybdenum	92.724	2.5	10.00	89.17	35.5	75	125				S
Selenium	10.451	2.5	10.00	0	105	75	125				

Sample ID: <b>N012433-022B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/25/2014</b>	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1778298</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	341.112	2.5	100.0	278.4	62.7	75	125	338.0	0.906	20	S
Molybdenum	92.503	2.5	10.00	89.17	33.3	75	125	92.72	0.239	20	S
Selenium	9.989	2.5	10.00	0	99.9	75	125	10.45	4.51	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

H Holding times for preparation or analysis exceeded  
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**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-16-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/22/2014 8:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**
**EPA 7470A**

RunID: <b>AA1_140429C</b>	QC Batch: <b>45553</b>	PrepDate: <b>4/29/2014</b>	Analyst: <b>LCC</b>
Mercury	ND 0.038	0.20	4/29/2014 12:05 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**dba ASSET Laboratories**

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 08-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-17-198
<b>Lab Order:</b>	N012433	<b>Collection Date:</b>	4/23/2014 8:25:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012433-024		

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

**DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**
**EPA 7470A**

RunID: <b>AA1_140429C</b>	QC Batch: <b>45553</b>	PrepDate: <b>4/29/2014</b>	Analyst: <b>LCC</b>
Mercury	ND 0.038	0.20	µg/L 1 4/29/2014 12:08 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 7470\_W\_DISSPGE

Sample ID: <b>MB-45553</b>	SampType: <b>MBLK</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/29/2014</b>	RunNo: <b>93289</b>
Client ID: <b>PBW</b>	Batch ID: <b>45553</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773721</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.20			

Sample ID: <b>LCS-45553</b>	SampType: <b>LCS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/29/2014</b>	RunNo: <b>93289</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45553</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773722</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.239	0.20	5.000	0	105 85 115

Sample ID: <b>N012433-015B-MS</b>	SampType: <b>MS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/29/2014</b>	RunNo: <b>93289</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45553</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773725</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.173	0.20	5.000	0	103 75 125

Sample ID: <b>N012433-015B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>4/29/2014</b>	RunNo: <b>93289</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45553</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>4/29/2014</b>	SeqNo: <b>1773726</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.168	0.20	5.000	0	103 75 125 5.173 0.0905 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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference


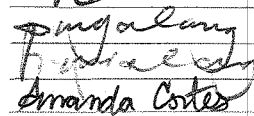
Calculations are based on raw values

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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly	Number of Containers	COMMENTS	
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C				
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	Field	NA	NA			
Holding Time:				28	28	180	180	180	180	180	180	180	180	28	28			
Project Number 423575.MP.02.GM.09 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/24/2014 COC Number: 3				Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Arsenic (6020A) Field Filtered	Metals (SW6010B/SW6020A)dis) Field Filtered AlSbAsBaBeBCaCdCoCuFePbMg	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo,Se	Metals (6020A) Field Filtered Mo,Se,Mn	Metals (6020A) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)				
DATE	TIME	Matrix																
MW-33-040-198	4/17/2014	14:34	Water		X	X					X	X	X	X	NO12433-1		6	
MW-33-040-198-EB	4/17/2014	13:02	Water	X				X								-2	2	
MW-33-150-198	4/17/2014	13:48	Water	X		X		X			X		X	X		-3	3	
MW-34-080-198	4/17/2014	9:12	Water		X	X			X			X				-4	5	
MW-34-080-198-EB	4/17/2014	7:16	Water	X				X								-5	2	
MW-34-100-198	4/17/2014	7:40	Water	X		X		X								-6	2	
MW-36-090-198	4/17/2014	10:44	Water	X		X		X								-7	2	
MW-36-100-198	4/17/2014	11:24	Water	X		X		X			X			X		-8	3	
MW-123-198	4/21/2014	7:00	Water	X		X		X			X		X	X		-9	3	
MW-208-198	4/21/2014	7:05	Water	X												-10	1	
MW-209-198	4/21/2014	7:00	Water	X												-11	1	
MW-33-090-198	4/21/2014	8:18	Water	X		X		X			X		X	X		-12	3	
MW-33-210-198	4/21/2014	9:32	Water	X		X		X			X		X	X		-13	3	
MW-72BR-200-198	4/21/2014	14:52	Water	X		X		X			X			X		-14	3	

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		4-24-14	Method of Shipment:	courier		
Sampled by		1230	On Ice:	yes / no 2, 4, 2-8, 2		
Relinquished by			Airbill No:	1A#2		
Received by		4/24/14 1425	Lab Name:	ADVANCED TECHNOLOGY LABORATO		
Relinquished by			Lab Phone:	(702) 307-2659	Sample Custody and Marlon	
Received by						
						Report Copy to Shawn Duffy (530) 229-3303

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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly	Please note the metals list for MW-16-198 and MW-17-198 is the following:  *Metals (SW6010B/SW6020A dis) Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, and Zn.  <i>Shawn P. Duffy</i> 04/25/2014	Number of Containers	COMMENTS	
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C				
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	Field	NA	NA					
Holding Time:				28	28	180	180	180	180	180	180	180	180	180	28	28				
Project Number 423575.MP.02.GM.02 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/24/2014 COC Number: 3				Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Arsenic (6020A) Field Filtered	AlSbAsBaBeBCaCdCoCuFePbMg Field Filtered	Metals (SW6010B/SW6020A dis) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo, Se	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (6020A) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)					
DATE	TIME	Matrix																		
MW-16-198	4/22/2014	8:14	Water	X				X	X									N012433-15	2	
MW-210-198	4/22/2014	6:30	Water	X														-16	1	
MW-211-198	4/22/2014	6:32	Water	X														-17	1	
MW-21-198	4/22/2014	11:10	Water		X						X		X		X			-18	6	
MW-21-198-EB	4/22/2014	11:00	Water	X					X									-19	2	
MW-23-060-198	4/22/2014	12:47	Water	X		X			X	X								-20	2	
MW-23-080-198	4/22/2014	14:15	Water	X		X			X	X								-21	2	
MW-57-185-198	4/22/2014	11:06	Water	X		X			X			X			X			-22	3	
MW-126-198	4/23/2014	7:00	Water	X					X									-23	2	
MW-17-198	4/23/2014	8:25	Water	X			X	X										-24	2	
MW-212-198	4/23/2014	7:38	Water	X														-25	1	
MW-213-198	4/23/2014	7:30	Water	X														-26	1	
MW-47-055-198	4/23/2014	9:29	Water	X					X									-27	2	
MW-47-115-198	4/23/2014	10:11	Water	X					X									-28	2	



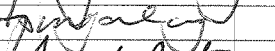

Signatures		Date/Time	Shipping Details		ATTN:  Sample Custody and Marion	Special Instructions:
Approved by	<i>[Signature]</i>	4-24-14 1230	Method of Shipment:	courier		April 9 to May 15, 2014
Sampled by	<i>[Signature]</i>		On Ice:	yes / no 2.4°C / 2-5°C		
Relinquished by	<i>[Signature]</i>		Airbill No:	1242		
Received by	<i>[Signature]</i>	4/24/14 1230	Lab Name: ADVANCED TECHNOLOGY LABORATO			Report Copy to
Relinquished by	<i>[Signature]</i>	4/24/14 1425	Lab Phone: (702) 307-2659			Shawn Duffy (530) 229-3303
Received by	<i>[Signature]</i>	4/24/14 1425				

Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	HNO3 4°C	4°C	4°C			
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	Field	NA	NA			
Holding Time:				28	28	180	180	180	180	180	180	180	180	28	28			
Project Number 423575.MP.02.GM.02 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/24/2014 COC Number: 3																		
DATE	TIME	Matrix																
MW-16-198	4/22/2014	8:14	Water	X			X	X									N012433-15	
MW-210-198	4/22/2014	6:30	Water	X													-16	
MW-211-198	4/22/2014	6:32	Water	X													-17	
MW-21-198	4/22/2014	11:10	Water		X					X		X		X			-18	
MW-21-198-EB	4/22/2014	11:00	Water	X				X									-19	
MW-23-060-198	4/22/2014	12:47	Water	X		X		X	X								-20	
MW-23-080-198	4/22/2014	14:15	Water	X		X		X	X								-21	
MW-57-185-198	4/22/2014	11:06	Water	X		X		X		X				X			-22	
MW-126-198	4/23/2014	7:00	Water	X				X									-23	
MW-17-198	4/23/2014	8:25	Water	X			X	X									-24	
MW-212-198	4/23/2014	7:38	Water	X													-25	
MW-213-198	4/23/2014	7:30	Water	X													-26	
MW-47-055-198	4/23/2014	9:29	Water	X				X									-27	
MW-47-115-198	4/23/2014	10:11	Water	X				X									-28	

Signatures		Date/Time	Shipping Details		ATTN:  Sample Custody and Marlon	Special Instructions:
Approved by		4-24-14	Method of Shipment:	courier		April 9 to May 15, 2014
Sampled by		1230	On Ice:	(yes) / no		
Relinquished by			Airbill No:			
Received by		4/24/14 1230	Lab Name:	ADVANCED TECHNOLOGY LABORATO		Report Copy to
Relinquished by		4/24/14 1230	Lab Phone:	(702) 307-2659		Shawn Duffy
Received by		4/24/14 1425				(530) 229-3303



<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy  <b>Project Number</b> 423575.MP.02.GM.02 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/24/2014 <b>COC Number:</b> 3				<b>Container:</b>		250 ml Poly	2x250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	250 ml Poly			
				<b>Preservatives:</b>		(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C				
				<b>Filtered:</b>		Field	Field	Field	Field	Field	Field	Field	Field	Field	Field	Field	NA			NA
				<b>Holding Time:</b>		28	28	180	180	180	180	180	180	180	180	180	28			28
					C6 (E218.6) Field Filtered	C6 (E218.6R) Field Filtered	Arsenic (6020A) Field Filtered	AlSbAsBaBeBcCaCdCoCuFePbMg Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mn	Metals (6020A) Field Filtered Mo,Se,Mn	Metals (6020A) Field Filtered	Metals (6020A-R) Field Filtered Chromium	Anions (E300.0) Fluoride	Specific Conductance (E120.1)					
<b>DATE</b>	<b>TIME</b>	<b>Matrix</b>																		
MW-48-198	4/23/2014	12:54	Water	X				X									N012433-29	2		
MW-50-095-198	4/23/2014	12:06	Water	X				X									- 30	2		
MW-214-198	4/24/2014	6:30	Water	X													- 31	1		
TOTAL NUMBER OF CONTAINERS																	73			

<b>Signatures</b>		<b>Date/Time</b>	<b>Shipping Details</b>		<b>ATTN:</b>  Sample Custody and Marlon	<b>Special Instructions:</b> April 9 to May 15, 2014
Approved by		4-24-14 1230	<b>Method of Shipment:</b> courier			<b>Report Copy to</b> Shawn Duffy (530) 229-3303
Sampled by			<b>On Ice:</b> yes / no 3.90C			
Relinquished by			<b>Airbill No:</b> 1472			
Received by		4/24/14 1230	<b>Lab Name:</b> ADVANCED TECHNOLOGY LABORATO			
Relinquished by		4/24/14 1425	<b>Lab Phone:</b> (702) 307-2659			

## Advanced Technology Laboratories, Inc.

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 4/24/2014

Workorder: N012433

Rep sample Temp (Deg C): 2.4, 2.8, 3.9

IR Gun ID: 2

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.: NA

Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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 AC Cortez 4/25/2014

Reviewed By: gog 04/28/14

## ATLInc Reports

---

**From:** amanda cortes [amanda.cortes@assetlaboratories.com]  
**Sent:** Friday, April 25, 2014 8:24 AM  
**To:** Shawn.Duffy@CH2M.com  
**Cc:** 'Marlon Cartin'; 'Sample Control'  
**Subject:** Topock Analyte Selection List  
**Attachments:** SKMBT\_60114042508200.pdf

Hello, Shawn.

I am trying to verify a selection list for the Topock samples that were received yesterday. On the COC, there is a list of analytes listed as 6010B/6020Adis (Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cu, Fe, Pb, Mg). Since these are not in the normal selection lists for these projects, I would like to verify which analytes by which method you would like us to run. Please reference attached COC.

Thank you,  
Amanda Cortes

Advanced Technology Laboratories, Inc.  
**dba ASSET Laboratories**

3151 W. Post Road Las Vegas NV 89118

[www.assetlaboratories.com](http://www.assetlaboratories.com)

Tel: (702)307-2659 Ext. 404

Fax (702) 307-2691

**Asset Laboratories** is a full-service woman owned environmental laboratory providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. **Asset Laboratories** is certified by the State of California, NELAP-Oregon, and the State of Nevada. It is also a certified UDBE, SBE and DBE. **Asset Laboratories** takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates.

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## 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  $\text{Cr}^{+6}$  calculated concentration  
 $\text{DF} = \text{dilution factor}$

For **N012433-008A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 9.5517 * 5 \\ &= 47.7585\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 48$$

*Moncy*

5/6/2014

## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012433-018A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 1.8875 * 1 \\ &= 1.8875\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 1.9$$

*Nancy* 5/7/2014

## Sample Calculation

**METHOD:** EPA 300.0  
**TEST NAME:** INORGANIC ANIONS BY IC  
**MATRIX:** Water

FORMULA:

Calculate the Fluoride concentration, in mg/L, in the original sample as follows:

$$\text{Fluoride, mg/L} = A * DF$$

where:


A = mg/L, IC calculated concentration  
DF = dilution factor

For **N012433-001D**, concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Fluoride, mg/L} &= 0.977 * 10 \\ &= 9.77\end{aligned}$$

Reporting result in two significant figures,

$$\text{Fluoride, mg/L} = 9.8$$

 05/0814

## Sample Calculation

**METHOD:** EPA 6010

**TEST NAME:** Heavy Metals by ICP

**MATRIX:** Groundwater

### FORMULA:

Calculate the Calcium concentration, in ug/L, in the original sample as follows:

$$\text{Calcium, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Amt. of Sample mL

For Sample **N012433-015B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Calcium, ug/L} &= 23604.3754 * 1 * (25/25) \\ &= 23604.3754\end{aligned}$$

Reporting results in two significant figures,

$$\text{Calcium, ug/L} = 24000$$



5/8/2014

**Advanced Technology Laboratories, Inc.****ICP-Metals in Water**

Work Order No.: N012433  
Test Method: EPA 6010  
Analysis Date: 05/02/14

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45532

Instrument ID: ICP-02  
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Sara Ferrer

Dilution Test is not applicable for Fe, Al and B. The calculated concentration was < 25X the RL. However the PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N012402-029B-DT 5X	Calcium	µg/L	42673.9087700000	Passed	43622.6916500000	2.17%	10
N012402-029B-DT 5X	Iron	µg/L	83.2054700000	NA	74.7162410000	11.36%	10
N012402-029B-DT 5X	Magnesium	µg/L	9562.0133650000	Passed	9035.7902830000	5.82%	10
N012402-029B-DT 5X	Aluminum	µg/L	0.0000000000	NA	7.9054450000	100.00%	10
N012402-029B-DT 5X	Boron	µg/L	271.7623750000	NA	206.2976480000	31.73%	10

Note: NA - Not Applicable



**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6010\_WDPGEPPB**

Sample ID	<b>N012402-029B-PS</b>	SampType:	<b>PS</b>	TestCode:	<b>6010_WDPG</b>	Units:	<b>ug/L</b>	Prep Date:		RunNo:	<b>93332</b>
Client ID:	<b>ZZZZZZ</b>	Batch ID:	<b>45532</b>	TestNo:	<b>EPA 6010B EPA 3010A</b>			Analysis Date:	<b>5/2/2014</b>	SeqNo:	<b>1776080</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Aluminum		4883.078		100	5000	7.905	97.5	80	120		
Boron		2465.954		200	2500	206.3	90.4	80	120		
Calcium		48400.433		1000	5000	43620	95.6	80	120		
Iron		4826.364		40	5000	74.72	95.0	80	120		
Magnesium		14199.180		200	5000	9036	103	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

## 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 **N012433-007B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Arsenic, ug/L} &= 19.309437378756 * 1 * (25/25) \\ &= 19.309437378756\end{aligned}$$

Reporting results in two significant figures,

$$\text{Arsenic, ug/L} = 19$$

 5/7/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012433  
Test Method: EPA 6020  
Analysis Date: 4/30/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45535

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Cr, Mo & Se. The calculated values are <25X RL. PS @ 2x passed criteria.

Dilution test failed to Mn. However, PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012426-001A-DT 5X	Arsenic	µg/L	1.579816207	NA	1.530968216	3.19%	10
N012426-001A-DT 5X	Chromium	µg/L	3.443018688	NA	3.103182873	10.95%	10
N012426-001A-DT 5X	Molybdenum	µg/L	3.580434027	NA	3.396403623	5.42%	10
N012426-001A-DT 5X	Selenium	µg/L	0.034435296	NA	0.067240377	48.79%	10
N012426-001A-DT 5X	Manganese	µg/L	55.63862084	FAIL	49.90416504	11.49%	10

Note: NA - Not applicable

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012433  
Test Method: EPA 6020  
Analysis Date: 4/30/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45536

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr, Co, Ni, V & Zn. The calculated values are <25X RL. PS @ 2x passed criteria.

Dilution test failed to As. However, PS @2X passed criteria.

Dilution test is not applicable to Cu. The calculated value is <25X RL. MS/MSD passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012433-022B-DT 5X	Arsenic	µg/L	14.96873046	FAIL	13.17027008	13.66%	10
N012433-022B-DT 5X	Chromium	µg/L	8.434431619	NA	7.776777199	8.46%	10
N012433-022B-DT 5X	Cobalt	µg/L	0	NA	0.040736336	100.00%	10
N012433-022B-DT 5X	Copper	µg/L	0	NA	0		10
N012433-022B-DT 5X	Nickel	µg/L	0	NA	0.064811433	100.00%	10
N012433-022B-DT 5X	Vanadium	µg/L	1.103187261	NA	1.197079862	7.84%	10
N012433-022B-DT 5X	Zinc	µg/L	24.70045934	NA	28.48794743	13.30%	10

Note: NA - Not applicable

**ASSET Laboratories**

**ICP-Metals in Water**

Work Order No.: N012433  
 Test Method: EPA 6020  
 Analysis Date: 5/1/2014

**Dilution Test Summary**

Matrix: Water  
 Batch No.: 45536

Instrument ID: ICP-MS #2  
 Instrument Description: Agilent 7700x

Comments: Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Sb, Be, Cd, Se & Ag. The calculated values are <25X RL. PS @ 5x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012433-022B-DT 25X	Antimony	µg/L	0	NA	0	0.00%	10
N012433-022B-DT 25X	Barium	µg/L	54.0636343	PASS	55.0486549	-1.87%	10
N012433-022B-DT 25X	Beryllium	µg/L	0	NA	0	0.00%	10
N012433-022B-DT 25X	Cadmium	µg/L	0	NA	0	0.00%	10
N012433-022B-DT 25X	Manganese	µg/L	288.7994	PASS	278.3879617	3.74%	10
N012433-022B-DT 25X	Molybdenum	µg/L	86.70471077	PASS	89.16999252	-2.76%	10
N012433-022B-DT 25X	Selenium	µg/L	0	NA	0	0.00%	10
N012433-022B-DT 25X	Silver	µg/L	0	NA	0	0.00%	10

Note: NA - Not applicable

*Nancy* 5/8/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012433  
Test Method: EPA 6020  
Analysis Date: 5/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45536

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Pb & Tl. The calculated values are <25X RL. PS @ 5x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012433-022B-DT 25X	Lead	µg/L	0	NA	0		10
N012433-022B-DT 25X	Thallium	µg/L	0.550516209	NA	<del>0.681198467</del>	<del>-19.18%</del>	10

Note: NA - Not applicable

0.757645 27.3

*Mary*

5/8/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012433  
Test Method: EPA 6020  
Analysis Date: 5/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45595

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr. The calculated value is <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012429-003B-DT 25X	Chromium	µg/L	9.615192969	NA	8.98469095	7.02%	10

Note: NA - Not applicable

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>N012426-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775207</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.822	0.20	20.00	1.531	101	80	120				
Manganese	248.143	1.0	200.0	49.90	99.1	80	120				
Molybdenum	25.021	1.0	20.00	3.396	108	80	120				
Selenium	20.319	1.0	20.00	0	102	80	120				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference



CLIENT: CH2M HILL  
 Work Order: N012433  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>N012433-022B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775191</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	34.159	0.20	20.00	13.17	105	80	120				
Cobalt	16.106	1.0	20.00	0.04074	80.3	80	120				
Copper	3.804	2.0	20.00	0	19.0	80	120				S
Nickel	17.782	2.0	20.00	0.06481	88.6	80	120				
Vanadium	20.304	2.0	20.00	1.197	95.5	80	120				
Zinc	197.170	20	200.0	28.49	84.3	80	120				

Sample ID: <b>N012433-022B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1776366</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	54.496	2.5	50.00	0	109	80	120				
Barium	559.136	5.0	500.0	54.99	101	80	120				
Beryllium	53.422	2.5	50.00	0	107	80	120				
Cadmium	48.631	2.5	50.00	0	97.3	80	120				
Silver	51.768	2.5	50.00	0	104	80	120				

Sample ID: <b>N012433-022B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1776831</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	55.024	5.0	50.00	0	110	80	120				
Thallium	54.085	2.5	50.00	0.7576	107	80	120				

Sample ID: <b>N012433-022B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1778299</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	706.845	2.5	500.0	278.4	85.7	75	125				
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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			

MS/MSD of Copper is within criteria

*Money*

5/8/2014

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012433-022B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93336</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45536</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1778299</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	148.571	2.5	50.00	89.17	119	75	125				
Selenium	47.736	2.5	50.00	0	95.5	75	125				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012426-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93318</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45535</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>4/30/2014</b>	SeqNo: <b>1775299</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.200	2.0	20.00	3.103	100	80	120				

### Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: N012433-022B-PS	SampType: PS	TestCode: 6020DIS_CrP	Units: µg/L	Prep Date:	RunNo: 93318						
Client ID: ZZZZZZ	Batch ID: 45536	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/30/2014	SeqNo: 1775283						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	25.647	2.0	20.00	7.777	89.4	80	120				

### Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: N012429-003B-PS	SampType: PS	TestCode: 6020DIS_CrP	Units: µg/L	Prep Date:	RunNo: 93353						
Client ID: ZZZZZZ	Batch ID: 45595	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/6/2014	SeqNo: 1776804						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	28.700	2.0	20.00	8.985	98.6	80	120				

### Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

**CLIENT:** CH2M HILL  
**Work Order:** N012433  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: N012426-001A-PS	SampType: PS	TestCode: 6020RDIS_Cr	Units: µg/L	Prep Date:	RunNo: 93319						
Client ID: ZZZZZZ	Batch ID: 45535	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/30/2014	SeqNo: 1775345						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	23.200	2.0	20.00	3.103	100	80	120				

### Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Sample Calculation

Work Order No.: N012433  
Test Method: EPA 7470  
Matrix: Aqueous

FORMULA:

Calculate the Mercury concentration in ug/L in the original sample as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

where:

A = ug/L, instrument calculated concentration  
DF = dilution factor

For: **N012433-015B**

The concentration in ug/L is calculated as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

$$\text{Hg} = \left[ \begin{array}{c} 0.00800 \end{array} \right] \left[ \begin{array}{c} 1 \end{array} \right]$$

$$\text{Hg} = \begin{array}{c} 0.00800 \end{array} \text{ ug/L}$$

Since result is less than reporting limit.

$$\text{Hg} = \begin{array}{c} \text{ND} \end{array} \text{ ug/L}$$

  
4/30/2014

May 14, 2014

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-00922

Workorder No.: N012465

RE: PG&E Topock, 423575.MP.02.GM.02

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on April 30, 2014 by ASSET Laboratories . 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, 423575.MP.02.GM.02  
**Lab Order:** N012465

**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 218.6R:**

Dilution was necessary on samples N012465-024, N012465-025, N012465-027 and N012465-028 due to matrix interference. Samples were analyzed at lower dilution however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 218.6:**

Dilution was necessary on samples N012465-015, N012465-016 and N012465-023 due to matrix interference. Samples were analyzed at lower dilution however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 6020\_Dissolved:**

Dilution was necessary on samples N012465-001, N012465-004, N012465-007, N012465-016, N012465-017, N012465-019, N012465-020, N012465-023, N012465-024 and N012465-027 due to failed Internal Standards when samples were analyzed at no dilution.

Because the results for total dissolved chromium (81.61 ug/L) and hexavalent chromium (101.09 ug/L) for sample N012465-007 (MW-72-080-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 83.409 and 87.404 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012465

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**CASE NARRATIVE**

Because the results for total dissolved chromium (1.166 ug/L) and hexavalent chromium (0 ug/L) for sample N012465-016 (MW-60BR-245-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.237 and 1.744 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) on QC samples N012460-001A-MS and N012460-001A-MSD are outside recovery criteria for Chromium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) on QC samples N012465-023B-MS and N012465-023B-MSD are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

**ASSET Laboratories**

Date: 14-May-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012465  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012465-001A	MW-124-198	Water	4/24/2014 7:30:00 AM	4/30/2014	5/14/2014
N012465-001B	MW-124-198	Water	4/24/2014 7:30:00 AM	4/30/2014	5/14/2014
N012465-001C	MW-124-198	Water	4/24/2014 7:30:00 AM	4/30/2014	5/14/2014
N012465-002A	MW-35-060-198	Water	4/24/2014 10:33:00 AM	4/30/2014	5/14/2014
N012465-002B	MW-35-060-198	Water	4/24/2014 10:33:00 AM	4/30/2014	5/14/2014
N012465-002C	MW-35-060-198	Water	4/24/2014 10:33:00 AM	4/30/2014	5/14/2014
N012465-003A	MW-35-135-198	Water	4/24/2014 10:19:00 AM	4/30/2014	5/14/2014
N012465-003B	MW-35-135-198	Water	4/24/2014 10:19:00 AM	4/30/2014	5/14/2014
N012465-004A	MW-40D-198	Water	4/24/2014 12:44:00 PM	4/30/2014	5/14/2014
N012465-004B	MW-40D-198	Water	4/24/2014 12:44:00 PM	4/30/2014	5/14/2014
N012465-004C	MW-40D-198	Water	4/24/2014 12:44:00 PM	4/30/2014	5/14/2014
N012465-005A	MW-65-160-198	Water	4/24/2014 8:55:00 AM	4/30/2014	5/14/2014
N012465-005B	MW-65-160-198	Water	4/24/2014 8:55:00 AM	4/30/2014	5/14/2014
N012465-005C	MW-65-160-198	Water	4/24/2014 8:55:00 AM	4/30/2014	5/14/2014
N012465-006A	MW-71-035-198	Water	4/24/2014 2:00:00 PM	4/30/2014	5/14/2014
N012465-006B	MW-71-035-198	Water	4/24/2014 2:00:00 PM	4/30/2014	5/14/2014
N012465-006C	MW-71-035-198	Water	4/24/2014 2:00:00 PM	4/30/2014	5/14/2014
N012465-007A	MW-72-080-198	Water	4/24/2014 7:56:00 AM	4/30/2014	5/14/2014
N012465-007B	MW-72-080-198	Water	4/24/2014 7:56:00 AM	4/30/2014	5/14/2014
N012465-007C	MW-72-080-198	Water	4/24/2014 7:56:00 AM	4/30/2014	5/14/2014
N012465-008A	MW-19-198	Water	4/28/2014 9:30:00 AM	4/30/2014	5/14/2014
N012465-008B	MW-19-198	Water	4/28/2014 9:30:00 AM	4/30/2014	5/14/2014
N012465-009A	MW-215-198	Water	4/28/2014 6:15:00 AM	4/30/2014	5/14/2014
N012465-010A	MW-216-198	Water	4/28/2014 6:18:00 AM	4/30/2014	5/14/2014
N012465-011A	MW-57-070-198	Water	4/28/2014 8:20:00 AM	4/30/2014	5/14/2014
N012465-011B	MW-57-070-198	Water	4/28/2014 8:20:00 AM	4/30/2014	5/14/2014
N012465-012A	MW-70-105-198	Water	4/28/2014 11:02:00 AM	4/30/2014	5/14/2014
N012465-012B	MW-70-105-198	Water	4/28/2014 11:02:00 AM	4/30/2014	5/14/2014
N012465-012C	MW-70-105-198	Water	4/28/2014 11:02:00 AM	4/30/2014	5/14/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012465  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012465-013A	MW-217-198	Water	4/29/2014 5:40:00 AM	4/30/2014	5/14/2014
N012465-014A	MW-218-198	Water	4/29/2014 5:48:00 AM	4/30/2014	5/14/2014
N012465-015A	MW-24BR-198	Water	4/29/2014 9:42:00 AM	4/30/2014	5/14/2014
N012465-015B	MW-24BR-198	Water	4/29/2014 9:42:00 AM	4/30/2014	5/14/2014
N012465-016A	MW-60BR-245-198	Water	4/29/2014 10:54:00 AM	4/30/2014	5/14/2014
N012465-016B	MW-60BR-245-198	Water	4/29/2014 10:54:00 AM	4/30/2014	5/14/2014
N012465-016C	MW-60BR-245-198	Water	4/29/2014 10:54:00 AM	4/30/2014	5/14/2014
N012465-017A	MW-61-110-198	Water	4/29/2014 11:40:00 AM	4/30/2014	5/14/2014
N012465-017B	MW-61-110-198	Water	4/29/2014 11:40:00 AM	4/30/2014	5/14/2014
N012465-017C	MW-61-110-198	Water	4/29/2014 11:40:00 AM	4/30/2014	5/14/2014
N012465-018A	MW-62-065-198	Water	4/29/2014 1:19:00 PM	4/30/2014	5/14/2014
N012465-018B	MW-62-065-198	Water	4/29/2014 1:19:00 PM	4/30/2014	5/14/2014
N012465-019A	MW-65-225-198	Water	4/29/2014 2:13:00 PM	4/30/2014	5/14/2014
N012465-019B	MW-65-225-198	Water	4/29/2014 2:13:00 PM	4/30/2014	5/14/2014
N012465-019C	MW-65-225-198	Water	4/29/2014 2:13:00 PM	4/30/2014	5/14/2014
N012465-020A	MW-73-080-198	Water	4/29/2014 6:35:00 AM	4/30/2014	5/14/2014
N012465-020B	MW-73-080-198	Water	4/29/2014 6:35:00 AM	4/30/2014	5/14/2014
N012465-020C	MW-73-080-198	Water	4/29/2014 6:35:00 AM	4/30/2014	5/14/2014
N012465-021A	MW-219-198	Water	4/30/2014 5:36:00 AM	4/30/2014	5/14/2014
N012465-022A	MW-220-198	Water	4/30/2014 5:30:00 AM	4/30/2014	5/14/2014
N012465-023A	MW-22-198	Water	4/30/2014 7:14:00 AM	4/30/2014	5/14/2014
N012465-023B	MW-22-198	Water	4/30/2014 7:14:00 AM	4/30/2014	5/14/2014
N012465-024A	MW-52D-198	Water	4/30/2014 11:01:00 AM	4/30/2014	5/14/2014
N012465-024B	MW-52D-198	Water	4/30/2014 11:01:00 AM	4/30/2014	5/14/2014
N012465-024C	MW-52D-198	Water	4/30/2014 11:01:00 AM	4/30/2014	5/14/2014
N012465-025A	MW-52M-198	Water	4/30/2014 12:29:00 PM	4/30/2014	5/14/2014
N012465-025B	MW-52M-198	Water	4/30/2014 12:29:00 PM	4/30/2014	5/14/2014
N012465-025C	MW-52M-198	Water	4/30/2014 12:29:00 PM	4/30/2014	5/14/2014
N012465-026A	MW-52S-198	Water	4/30/2014 10:27:00 AM	4/30/2014	5/14/2014
N012465-026B	MW-52S-198	Water	4/30/2014 10:27:00 AM	4/30/2014	5/14/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012465  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012465-026C	MW-52S-198	Water	4/30/2014 10:27:00 AM	4/30/2014	5/14/2014
N012465-027A	MW-53D-198	Water	4/30/2014 9:10:00 AM	4/30/2014	5/14/2014
N012465-027B	MW-53D-198	Water	4/30/2014 9:10:00 AM	4/30/2014	5/14/2014
N012465-027C	MW-53D-198	Water	4/30/2014 9:10:00 AM	4/30/2014	5/14/2014
N012465-028A	MW-53M-198	Water	4/30/2014 8:27:00 AM	4/30/2014	5/14/2014
N012465-028B	MW-53M-198	Water	4/30/2014 8:27:00 AM	4/30/2014	5/14/2014
N012465-028C	MW-53M-198	Water	4/30/2014 8:27:00 AM	4/30/2014	5/14/2014

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-124-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	5700 0.10 0.10	umhos/cm	1 5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-35-060-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 10:33:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	5600 0.10 0.10	umhos/cm	1 5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-40D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 12:44:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	13000	0.10	0.10	umhos/cm	1	5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-160-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 8:55:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3600	0.10	0.10
		umhos/cm	1
			5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-71-035-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 2:00:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	7700	0.10	0.10	umhos/cm	1	5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-72-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	16000	0.10	0.10
		umhos/cm	1
			5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-70-105-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 11:02:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3200 0.10 0.10	umhos/cm	1 5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-60BR-245-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 10:54:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	16000	0.10	0.10
		umhos/cm	1
			5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-61-110-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 11:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	15000	0.10	0.10	umhos/cm	1	5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-225-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 2:13:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	12000	0.10	0.10	umhos/cm	1	5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-73-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 6:35:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140501A</b>	QC Batch: <b>R93335</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	11000 0.10	0.10	umhos/cm 1 5/1/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 120.1\_WPGE

Sample ID: <b>N012465-019C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93335</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93335</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1776144</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	11750.000	0.10						11680	0.598	10	

Sample ID: <b>N012465-020C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93335</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93335</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1776146</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	10560.000	0.10						10530	0.284	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

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:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-124-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	25 0.080	1.0	5/1/2014 12:12 PM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	22 0.030	1.0	5/6/2014 03:20 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-35-060-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 10:33:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	25 0.080	1.0	5/1/2014 10:42 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	24 0.030	1.0	5/6/2014 03:25 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-35-135-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 10:19:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	29 0.080	1.0	5/1/2014 10:52 AM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	25 0.030	1.0	5/6/2014 03:31 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-40D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 12:44:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	130 0.32	4.0	5/1/2014 11:02 AM
		µg/L	20

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	110 0.030	1.0	5/6/2014 03:36 PM
		µg/L	1

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-160-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 8:55:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	110 0.32	4.0	5/1/2014 11:12 AM
		µg/L	20

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	95 0.030	1.0	5/6/2014 03:42 PM
		µg/L	1

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-71-035-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 2:00:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	1.0 0.016	0.20	5/1/2014 11:22 AM
		µg/L	1

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	1.0 0.030	1.0	5/6/2014 03:47 PM
		µg/L	1

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-72-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	100 0.32	4.0	5/1/2014 11:32 AM
		µg/L	20

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	82 0.030	1.0	5/6/2014 03:53 PM
		µg/L	1

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-19-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 9:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM2_140501A</b>	QC Batch: <b>R93309</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	550 1.4	10 µg/L	1 5/1/2014

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	520 0.15	5.0 µg/L	5 5/6/2014 06:11 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-215-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 6:15:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/1/2014 11:42 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-216-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 6:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/1/2014 02:21 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-57-070-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 8:20:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	430 0.80	10	5/1/2014 02:31 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	460 0.15	5.0	5/6/2014 06:17 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-70-105-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 11:02:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	75 0.32	4.0	µg/L 20 5/1/2014 02:41 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	70 0.030	1.0	µg/L 1 5/6/2014 04:21 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-217-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 5:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/1/2014 02:51 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-218-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 5:48:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	0.40 0.016	0.20	µg/L 1 5/1/2014 03:01 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-24BR-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 9:42:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 07:08 PM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/6/2014 04:26 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-60BR-245-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 10:54:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 07:28 PM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	1.2 0.030	1.0	5/6/2014 04:32 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-61-110-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 11:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	470 1.6	20	5/1/2014 02:30 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	460 0.15	5.0	5/6/2014 07:51 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-62-065-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 1:19:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	550 1.6	20	µg/L 100 5/1/2014 02:40 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	550 0.15	5.0	µg/L 5 5/6/2014 07:56 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-225-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 2:13:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	460 0.80	10	5/1/2014 03:31 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	450 0.15	5.0	5/6/2014 08:02 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-73-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 6:35:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140502A</b>	QC Batch: <b>R93323</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	53 0.080	1.0	5/2/2014 12:39 PM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	48 0.030	1.0	5/6/2014 05:44 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-219-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 5:36:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/1/2014 06:09 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-220-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 5:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140501A</b>	QC Batch: <b>R93322</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/1/2014 06:29 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-22-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 7:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140502A</b>	QC Batch: <b>R93323</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.080	1.0	5/2/2014 12:19 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/8/2014 01:47 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 11:01:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 11:38 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/6/2014 05:49 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52M-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 12:29:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 12:18 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506A</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/6/2014 05:55 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52S-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 10:27:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.016	0.20 µg/L	1 5/1/2014 01:14 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0 µg/L	1 5/8/2014 03:10 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-53D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 9:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 12:37 PM
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/8/2014 03:16 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-53M-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 8:27:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140501A</b>	QC Batch: <b>R93328</b>	PrepDate:	Analyst: <b>QBM</b>
Hexavalent Chromium	ND 0.080	1.0	5/1/2014 01:33 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	5/8/2014 03:49 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93322</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775649</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93322</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.933	0.20	5.000	0	98.7	90	110				

Sample ID: <b>N012465-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775661</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	24.793	1.0						25.02	0.897	20	

Sample ID: <b>N012465-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775662</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.912	1.0	25.00	25.02	99.6	90	110				

Sample ID: <b>N012465-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775663</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.292	1.0	25.00	25.02	97.1	90	110	49.91	1.25	20	

## Qualifiers:

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 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.223	1.0	25.00	24.86	97.5	90	110				

Sample ID: <b>N012465-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775665</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.506	1.0	25.00	28.64	99.4	90	110				

Sample ID: <b>N012465-004A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775666</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	231.214	4.0	100.0	134.0	97.2	90	110				

Sample ID: <b>N012465-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775667</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	205.368	4.0	100.0	106.0	99.4	90	110				

Sample ID: <b>N012465-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775668</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.042	0.20	1.000	1.020	102	90	110				

### Qualifiers:

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 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775669</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	202.908	4.0	100.0	101.1	102	90	110				

Sample ID: <b>N012465-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775672</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.109	0.20	1.000	0.08130	103	90	110				

Sample ID: <b>N012465-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775681</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0.05530	99.7	90	110				

Sample ID: <b>N012465-011A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775682</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	688.135	10	250.0	434.9	101	90	110				

Sample ID: <b>N012465-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775683</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	175.048	4.0	100.0	75.23	99.8	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.074	0.20	1.000	0	107	90	110				
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Sample ID: <b>N012465-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.352	0.20	1.000	0.3982	95.4	90	110				
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Sample ID: <b>N012465-019A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	708.765	10	250.0	463.6	98.1	90	110				
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Sample ID: <b>N012465-021A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93322</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1775690</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.044	0.20	1.000	0.07670	96.7	90	110				
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Sample ID: <b>N012465-022A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775692</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.017	0.20	1.000	0.06360	95.3	90	110				
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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

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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-015A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775694</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.364	1.0	5.000	0	107	90	110				
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Sample ID: <b>N012465-016A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93322</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93322</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.368	1.0	5.000	0	107	90	110				
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### Qualifiers:

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E Value above quantitation range  
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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93323</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93323</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/2/2014</b>				SeqNo: <b>1775705</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93323</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93323</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/2/2014</b>				SeqNo: <b>1775706</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	0.20	5.000	0	101	90	110				

Sample ID: <b>N012465-023A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93323</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/2/2014</b>				SeqNo: <b>1775708</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	1.0	5.000	0	98.1	90	110				

Sample ID: <b>N012465-020A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93323</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/2/2014</b>				SeqNo: <b>1775710</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.182	1.0						53.49	0.587	20	

Sample ID: <b>N012465-020A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93323</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/2/2014</b>				SeqNo: <b>1775711</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	78.284	1.0	25.00	53.49	99.2	90	110				

### Qualifiers:

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H Holding times for preparation or analysis exceeded  
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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-020A-MSD</b>		SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93323</b>			
Client ID: <b>ZZZZZZ</b>		Batch ID: <b>R93323</b>	TestNo: <b>EPA 218.6</b>			Analysis Date: <b>5/2/2014</b>			SeqNo: <b>1775712</b>			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium		78.733	1.0	25.00	53.49	101	90	110	78.28	0.573	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

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93328</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775855</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93328</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775856</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.903	0.20	5.000	0	98.1	90	110				

Sample ID: <b>N012465-026AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775866</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.959	0.20	1.000	0	95.9	90	110				

Sample ID: <b>N012465-026ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775871</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: <b>N012465-026AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775872</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.958	0.20	1.000	0	95.8	90	110	0.9593	0.146	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012465-017AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775881</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	966.630	20	500.0	473.0	98.7	90	110				
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Sample ID: <b>N012465-018AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775882</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1045.940	20	500.0	548.2	99.5	90	110				
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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

H Holding times for preparation or analysis exceeded  
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**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>MB-R93328</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775819</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium ND 0.20

Sample ID: <b>LCS-R93328</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775820</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.903 0.20 5.000 0 98.1 90 110

Sample ID: <b>N012465-024AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775822</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.785 1.0 5.000 0 95.7 90 110

Sample ID: <b>N012465-025AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775826</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.961 1.0 5.000 0 99.2 90 110

Sample ID: <b>N012465-027AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93328</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>	SeqNo: <b>1775828</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.854 1.0 5.000 0 97.1 90 110

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode: 218.6R\_WPGE**

Sample ID: <b>N012465-026AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93328</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1775830</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.959	0.20	1.000	0	95.9	90	110				

Sample ID: <b>N012465-028AMS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93328</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1775832</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.904	1.0	5.000	0.1075	95.9	90	110				

Sample ID: <b>N012465-026ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93328</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1775835</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: <b>N012465-026AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93328</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93328</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1775836</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.958	0.20	1.000	0	95.8	90	110	0.9593	0.146	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 3500\_CrBPGE

Sample ID: <b>LCS-R93309</b>	SampType: <b>LCS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93309</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93309</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1774894</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	260.093	10	250.0	0	104	85	115				

Sample ID: <b>MB-R93309</b>	SampType: <b>MBLK</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93309</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93309</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1774895</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID: <b>N012465-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93309</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93309</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1774897</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	800.216	10	250.0	546.2	102	85	115				

Sample ID: <b>N012465-008A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93309</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93309</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/1/2014</b>				SeqNo: <b>1774898</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	792.389	10	250.0	546.2	98.5	85	115	800.2	0.983	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45580</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777634</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45580</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.564	1.0	10.00	0	95.6	85	115				

Sample ID: <b>N012460-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777665</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1063.303	25	10.00	1035	280	75	125				S

Sample ID: <b>N012460-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777666</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1065.881	25	10.00	1035	305	75	125	1063	0.242	20	S

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45598</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1778782</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45598</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1778783</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.058	1.0	10.00	0	101	85	115				

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1778787</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.799	1.0	10.00	0.2988	85.0	75	125				

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1778788</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.722	1.0	10.00	0.2988	84.2	75	125	8.799	0.882	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

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>MB-45580</b>	SampType: <b>MBLK</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777714</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium ND 1.0

Sample ID: <b>LCS-45580</b>	SampType: <b>LCS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777715</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium 9.564 1.0 10.00 0 95.6 85 115

Sample ID: <b>N012460-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium 1063.303 25 10.00 1035 280 75 125 S

Sample ID: <b>N012460-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium 1065.881 25 10.00 1035 305 75 125 1063 0.242 20 S

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>MB-45598</b>	SampType: <b>MBLK</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779091</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45598</b>	SampType: <b>LCS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779092</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.058	1.0	10.00	0	101	85	115				

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.799	1.0	10.00	0.2988	85.0	75	125				

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.722	1.0	10.00	0.2988	84.2	75	125	8.799	0.882	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

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:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-124-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.0 0.027	0.10	µg/L 1 5/6/2014 03:20 PM
Manganese	ND 0.026	0.50	µg/L 1 5/6/2014 03:20 PM
Molybdenum	11 0.76	2.5	µg/L 5 5/6/2014 06:00 PM
Selenium	0.98 0.069	0.50	µg/L 1 5/6/2014 03:20 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-35-060-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 10:33:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.0 0.027	0.10	µg/L 1 5/6/2014 03:25 PM
Manganese	1.8 0.026	0.50	µg/L 1 5/6/2014 03:25 PM
Molybdenum	9.8 0.15	0.50	µg/L 1 5/6/2014 03:25 PM
Selenium	1.1 0.069	0.50	µg/L 1 5/6/2014 03:25 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-40D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 12:44:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.9 0.027	0.10	µg/L 1 5/6/2014 03:36 PM
Manganese	ND 0.026	0.50	µg/L 1 5/6/2014 03:36 PM
Molybdenum	48 0.76	2.5	µg/L 5 5/6/2014 06:06 PM
Selenium	1.6 0.069	0.50	µg/L 1 5/6/2014 03:36 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-160-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 8:55:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.72	0.027	0.10
Manganese	ND	0.026	0.50
Molybdenum	27	0.15	0.50
Selenium	8.2	0.069	0.50

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-71-035-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 2:00:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.027	0.10	µg/L 1 5/6/2014 03:47 PM
Manganese	ND 0.026	0.50	µg/L 1 5/6/2014 03:47 PM
Molybdenum	59 0.15	0.50	µg/L 1 5/6/2014 03:47 PM
Selenium	3.7 0.069	0.50	µg/L 1 5/6/2014 03:47 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-72-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/24/2014 7:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	10 0.027	0.10	µg/L 1 5/6/2014 03:53 PM
Manganese	ND 0.026	0.50	µg/L 1 5/6/2014 03:53 PM
Molybdenum	76 0.76	2.5	µg/L 5 5/9/2014 04:15 PM
Selenium	ND 0.34	2.5	µg/L 5 5/9/2014 04:15 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-70-105-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/28/2014 11:02:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>			
Arsenic	4.6	0.027	0.10	µg/L	1	5/6/2014 04:21 PM
Manganese	130	0.026	0.50	µg/L	1	5/6/2014 04:21 PM
Molybdenum	100	0.15	0.50	µg/L	1	5/6/2014 04:21 PM
Selenium	3.1	0.069	0.50	µg/L	1	5/6/2014 04:21 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-60BR-245-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 10:54:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	6.8 0.027 0.10	µg/L	1 5/6/2014 04:32 PM
Manganese	ND 0.026 0.50	µg/L	1 5/6/2014 04:32 PM
Molybdenum	68 0.76 2.5	µg/L	5 5/6/2014 07:45 PM
Selenium	ND 0.34 2.5	µg/L	5 5/6/2014 07:45 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-61-110-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 11:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.1 0.027	0.10	µg/L 1 5/6/2014 04:37 PM
Manganese	89 0.026	0.50	µg/L 1 5/6/2014 04:37 PM
Molybdenum	25 0.76	2.5	µg/L 5 5/6/2014 07:51 PM
Selenium	ND 0.34	2.5	µg/L 5 5/6/2014 07:51 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-65-225-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 2:13:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	2.2 0.027	0.10	µg/L 1 5/6/2014 05:38 PM
Manganese	ND 0.026	0.50	µg/L 1 5/6/2014 05:38 PM
Molybdenum	39 0.76	2.5	µg/L 5 5/6/2014 08:02 PM
Selenium	5.2 0.069	0.50	µg/L 1 5/6/2014 05:38 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-73-080-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/29/2014 6:35:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>		PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.4	0.027	0.10	µg/L 1 5/6/2014 05:44 PM
Manganese	ND	0.026	0.50	µg/L 1 5/6/2014 05:44 PM
Molybdenum	22	0.76	2.5	µg/L 5 5/6/2014 08:07 PM
Selenium	4.7	0.069	0.50	µg/L 1 5/6/2014 05:44 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-22-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 7:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Antimony	ND 0.92	2.5	µg/L 5 5/8/2014 01:54 PM
Arsenic	12 0.027	0.10	µg/L 1 5/8/2014 01:47 PM
Barium	53 0.15	5.0	µg/L 5 5/8/2014 01:54 PM
Beryllium	ND 0.051	2.5	µg/L 5 5/8/2014 01:54 PM
Cadmium	ND 0.066	2.5	µg/L 5 5/8/2014 01:54 PM
Cobalt	1.1 0.017	0.50	µg/L 1 5/8/2014 01:47 PM
Copper	ND 0.040	1.0	µg/L 1 5/8/2014 01:47 PM
Lead	ND 0.053	5.0	µg/L 5 5/8/2014 01:54 PM
Manganese	2100 0.64	12	µg/L 25 5/8/2014 02:16 PM
Molybdenum	38 0.76	2.5	µg/L 5 5/8/2014 01:54 PM
Nickel	2.8 0.032	1.0	µg/L 1 5/8/2014 01:47 PM
Selenium	0.55 0.069	0.50	µg/L 1 5/8/2014 01:47 PM
Silver	ND 0.47	2.5	µg/L 5 5/8/2014 01:54 PM
Thallium	ND 0.040	2.5	µg/L 5 5/8/2014 01:54 PM
Vanadium	ND 0.16	1.0	µg/L 1 5/8/2014 01:47 PM
Zinc	ND 0.23	10	µg/L 1 5/8/2014 01:47 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 11:01:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.3 0.13	0.50	µg/L 5 5/6/2014 08:13 PM
Manganese	140 0.13	2.5	µg/L 5 5/6/2014 08:13 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52M-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 12:29:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140506B</b>	QC Batch: <b>45580</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.4 0.027 0.10	µg/L	1 5/6/2014 05:55 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-52S-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 10:27:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.21 0.027 0.10	µg/L	1 5/8/2014 03:10 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-53D-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 9:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-027		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.4 0.13	0.50	µg/L 5 5/8/2014 03:21 PM
Manganese	1300 0.26	5.0	µg/L 10 5/8/2014 03:27 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-53M-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 8:27:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-028		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140508B</b>	QC Batch: <b>45598</b>	PrepDate: <b>5/7/2014</b>	Analyst: <b>CEI</b>
Arsenic	0.84 0.027	0.10	µg/L 1 5/8/2014 03:49 PM
Manganese	280 0.13	2.5	µg/L 5 5/8/2014 03:32 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>MB-45580</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777558</b>						
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									

Sample ID: <b>LCS-45580</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.593	0.10	10.00	0	95.9	85	115				
Manganese	96.739	0.50	100.0	0	96.7	85	115				
Molybdenum	9.813	0.50	10.00	0	98.1	85	115				
Selenium	9.976	0.50	10.00	0	99.8	85	115				

Sample ID: <b>N012460-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.584	0.10	10.00	1.139	94.5	75	125				
Molybdenum	18.534	0.50	10.00	7.993	105	75	125				
Selenium	9.418	0.50	10.00	0.1403	92.8	75	125				

Sample ID: <b>N012460-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777564</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.727	0.10	10.00	1.139	95.9	75	125	10.58	1.34	20	
Molybdenum	18.481	0.50	10.00	7.993	105	75	125	18.53	0.287	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

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012460-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777564</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium	8.954	0.50	10.00	0.1403	88.1	75	125	9.418	5.06	20	
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Sample ID: <b>N012460-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777570</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	410.164	2.5	100.0	316.2	94.0	75	125				
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Sample ID: <b>N012460-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93372</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	408.548	2.5	100.0	316.2	92.3	75	125	410.2	0.395	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

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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>MB-45598</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779194</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Barium	ND	1.0									
Beryllium	ND	0.50									
Cadmium	ND	0.50									
Cobalt	0.026	0.50									
Copper	ND	1.0									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	0.008	0.50									
Vanadium	ND	1.0									
Zinc	ND	10									

Sample ID: <b>LCS-45598</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>			RunNo: <b>93394</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>			SeqNo: <b>1779195</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.632	0.50	10.00	0	106	85	115				
Arsenic	9.610	0.10	10.00	0	96.1	85	115				
Barium	106.009	1.0	100.0	0	106	85	115				
Beryllium	9.925	0.50	10.00	0	99.3	85	115				
Cadmium	10.406	0.50	10.00	0	104	85	115				
Cobalt	10.076	0.50	10.00	0	101	85	115				
Copper	10.227	1.0	10.00	0	102	85	115				
Lead	10.600	1.0	10.00	0	106	85	115				
Manganese	97.448	0.50	100.0	0	97.4	85	115				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>LCS-45598</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779195</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	10.024	0.50	10.00	0	100	85	115				
Nickel	9.916	1.0	10.00	0	99.2	85	115				
Selenium	9.794	0.50	10.00	0	97.9	85	115				
Silver	10.353	0.50	10.00	0	104	85	115				
Thallium	10.680	0.50	10.00	0	107	85	115				
Vanadium	10.555	1.0	10.00	0	106	85	115				
Zinc	104.102	10	100.0	0	104	85	115				

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779199</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.998	0.10	10.00	12.26	97.4	75	125				
Cobalt	8.856	0.50	10.00	1.085	77.7	75	125				
Copper	ND	1.0	10.00	0	0	75	125				S
Nickel	11.561	1.0	10.00	2.788	87.7	75	125				
Selenium	10.858	0.50	10.00	0.5471	103	75	125				
Vanadium	10.173	1.0	10.00	0.5798	95.9	75	125				
Zinc	79.864	10	100.0	0	79.9	75	125				

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>				RunNo: <b>93394</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779200</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.208	0.10	10.00	12.26	99.5	75	125	22.00	0.947	20	S
Cobalt	8.727	0.50	10.00	1.085	76.4	75	125	8.856	1.46	20	
Copper	ND	1.0	10.00	0	0	75	125	0	0	20	
Nickel	11.502	1.0	10.00	2.788	87.1	75	125	11.56	0.513	20	
Selenium	11.083	0.50	10.00	0.5471	105	75	125	10.86	2.05	20	
Vanadium	10.091	1.0	10.00	0.5798	95.1	75	125	10.17	0.809	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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Advanced Technology Laboratories, Inc.  
 dba **ASSET Laboratories**

**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779200</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	78.932	10	100.0	0	78.9	75	125	79.86	1.17	20	

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779203</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.616	2.5	10.00	0	116	75	125				
Barium	164.197	5.0	100.0	52.96	111	75	125				
Beryllium	11.243	2.5	10.00	0	112	75	125				
Cadmium	8.371	2.5	10.00	0	83.7	75	125				
Lead	11.059	5.0	10.00	0	111	75	125				
Molybdenum	50.322	2.5	10.00	38.35	120	75	125				
Silver	9.817	2.5	10.00	0	98.2	75	125				
Thallium	12.062	2.5	10.00	0.07308	120	75	125				

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>			RunNo: <b>93394</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>			SeqNo: <b>1779206</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.623	2.5	10.00	0	116	75	125	11.62	0.0625	20	
Barium	164.165	5.0	100.0	52.96	111	75	125	164.2	0.0194	20	
Beryllium	11.037	2.5	10.00	0	110	75	125	11.24	1.85	20	
Cadmium	8.273	2.5	10.00	0	82.7	75	125	8.371	1.18	20	
Lead	11.064	5.0	10.00	0	111	75	125	11.06	0.0466	20	
Molybdenum	49.348	2.5	10.00	38.35	110	75	125	50.32	1.96	20	
Silver	9.874	2.5	10.00	0	98.7	75	125	9.817	0.584	20	
Thallium	11.448	2.5	10.00	0.07308	114	75	125	12.06	5.22	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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 S Spike/Surrogate outside of limits due to matrix interference

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**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779209</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	2238.591	12	100.0	2142	96.8	75	125				
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Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/7/2014</b>	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779210</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	2269.928	12	100.0	2142	128	75	125	2239	1.39	20	S
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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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 14-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-22-198
<b>Lab Order:</b>	N012465	<b>Collection Date:</b>	4/30/2014 7:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012465-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**
**EPA 7470A**

RunID: <b>AA1_140502A</b>	QC Batch: <b>45583</b>	PrepDate: <b>5/2/2014</b>	Analyst: <b>PS</b>
Mercury	ND 0.038	0.20	µg/L 1 5/2/2014 01:07 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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: N012465  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 7470\_W\_DISSPGE

Sample ID: <b>MB-45583</b>	SampType: <b>MBLK</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93325</b>
Client ID: <b>PBW</b>	Batch ID: <b>45583</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/2/2014</b>	SeqNo: <b>1775726</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.20			

Sample ID: <b>LCS-45583</b>	SampType: <b>LCS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93325</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45583</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/2/2014</b>	SeqNo: <b>1775727</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.055	0.20	5.000	0	101 85 115

Sample ID: <b>N012465-023B-MS</b>	SampType: <b>MS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93325</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45583</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/2/2014</b>	SeqNo: <b>1775728</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	4.848	0.20	5.000	0	97.0 75 125

Sample ID: <b>N012465-023B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/2/2014</b>	RunNo: <b>93325</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45583</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/2/2014</b>	SeqNo: <b>1775729</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	4.823	0.20	5.000	0	96.5 75 125 4.848 0.508 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

H Holding times for preparation or analysis exceeded  
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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy Project Number 423575.MP.02.GM.0 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/30/2014 COC Number: 5				Container:	250 ml Poly	2x250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C			
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	NA			
Holding Time:				28	28	28	180	180	180	180	180	180	28			
DATE	TIME	Matrix		Cr6 (E218, 6) Field Filtered	Cr6 (E218, 6R) Field Filtered	Cr6 (SM3500B) Field Filtered	Arsenic (6020A) Field Filtered	(6010B/6020A/7470ads) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (6020A) Field Filtered Chromium	Specific Conductance (E120, 1)				
MW-124-198	4/24/2014	7:30	Water	X			X		X		X	X	N012465-1	3		
MW-35-060-198	4/24/2014	10:33	Water	X			X		X		X	X	-2	3		
MW-35-135-198	4/24/2014	10:19	Water	X					X				-3	2		
MW-40D-198	4/24/2014	12:44	Water	X			X		X		X	X	-4	3		
MW-65-160-198	4/24/2014	8:55	Water	X			X		X		X	X	-5	3		
MW-71-035-198	4/24/2014	14:00	Water	X			X		X		X	X	-6	3		
MW-72-080-198	4/24/2014	7:56	Water	X			X		X		X	X	-7	3		
MW-19-198	4/28/2014	9:30	Water			X			X				-8	2		
MW-215-198	4/28/2014	6:15	Water	X									-9	1		
MW-216-198	4/28/2014	6:18	Water	X									-10	1		
MW-57-070-198	4/28/2014	8:20	Water	X					X				-11	2		
MW-70-105-198	4/28/2014	11:02	Water	X			X		X		X	X	-12	3		
MW-217-198	4/29/2014	5:40	Water	X									-13	1		
MW-218-198	4/29/2014	5:48	Water	X									-14	1		

Signatures		Date/Time	Shipping Details		ATTN:  Sample Custody and Marlon	Special Instructions:
Approved by		4-30-14	Method of Shipment:	courier		April 9 to May 15, 2014
Sampled by		1439	On Ice: <input checked="" type="radio"/> yes <input type="radio"/> no	1, 9, 2, 1, 1, 1°C		
Relinquished by		4/30/14 1439	Airbill No:	10# 1P#2		
Received by		4/30/14 1838	Lab Name:	ADVANCED TECHNOLOGY LABORATO		Report Copy to
Relinquished by		4/30/14 1838	Lab Phone:	(702) 307-2659		Shawn Duffy (530) 229-3303

Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	2x250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2x500 ml Poly	250 ml Poly	* Where provided w/multiple bottles for Cr6 + metals, please analyze 1 + hold 1	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C				
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	Field	NA				
Holding Time:				28	28	28	180	180	180	180	180	180	28				
Project Number 423575.MP.02.GM.0 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/30/2014 COC Number: 5					Cr6 (E218.6) Field Filtered	Cr6 (E218.6R) Field Filtered	Cr6 (SM3500B) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6010B/6020A/7470ads) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mo, Se, Mn	Metals (6020A) Field Filtered Chromium	Specific Conductance (E120.1)				
DATE	TIME	Matrix															
MW-24BR-198	4/29/2014	9:42	Water	X						X					N012465-15	2	
MW-60BR-245-198	4/29/2014	10:54	Water	X			X			X		X			-16	3	
MW-61-110-198	4/29/2014	11:40	Water	X			X			X		X			-17	3	
MW-62-065-198	4/29/2014	13:19	Water	X						X					-18	2	
MW-65-225-198	4/29/2014	14:13	Water	X			X			X		X			-19	3	
MW-73-080-198	4/29/2014	6:35	Water	X			X			X		X			-20	3	
MW-219-198	4/30/2014	5:36	Water	X											-21	1	
MW-220-198	4/30/2014	5:30	Water	X											-22	1	
MW-22-198	4/30/2014	7:14	Water	X				X	X	X					-23	2	
MW-52D-198	4/30/2014	11:01	Water		X		X				X	X			-24	5	*
MW-52M-198	4/30/2014	12:29	Water		X		X					X			-25	5	*
MW-52S-198	4/30/2014	10:27	Water		X		X					X			-26	5	*
MW-53D-198	4/30/2014	9:10	Water		X		X				X	X			-27	5	*
MW-53M-198	4/30/2014	8:27	Water		X		X				X	X			-28	5	*

<b>Signatures</b> Approved by _____ Sampled by _____ Relinquished by _____ Received by _____ Relinquished by _____ Received by _____		<b>Date/Time</b> 4-30-14 1439 4/30/14 21439 4/30/14 21838		<b>Shipping Details</b> Method of Shipment: courier On Ice: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no 1.9, 2.1, 1.1 °C Airbill No: 115 12#2 Lab Name: ADVANCED TECHNOLOGY LABORATORY Lab Phone: (702) 307-2659		<b>ATTN:</b> Sample Custody and Marlon		<b>Special Instructions:</b> April 9 to May 15, 2014 <b>Report Copy to</b> Shawn Duffy (530) 229-3303	
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## ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 4/30/2014

Workorder: N012465

Rep sample Temp (Deg C): 1.1, 1.9, 2.1

IR Gun ID: 2

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.: NA

Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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: Received 2 COCs. COCs were labeled page 1 of 3 and page 2 of 2.

Checklist Completed By MBC For: AlCortez 5/1/2014

Reviewed By: fgg 05/06/14

## Sample Control

---

**From:** amanda cortes [amanda.cortes@assetlaboratories.com]  
**Sent:** Friday, May 02, 2014 10:23 AM  
**To:** 'Sample Control'  
**Subject:** FW: GMP Topock

Forwarding.

---

**From:** [Shawn.Duffy@CH2M.com](mailto:Shawn.Duffy@CH2M.com) [<mailto:Shawn.Duffy@CH2M.com>]  
**Sent:** Friday, May 02, 2014 10:08 AM  
**To:** [Barry.Collom@CH2M.com](mailto:Barry.Collom@CH2M.com); [amanda.cortes@assetlaboratories.com](mailto:amanda.cortes@assetlaboratories.com)  
**Cc:** [marlon@atl-labs.com](mailto:marlon@atl-labs.com)  
**Subject:** RE: GMP Topock

Yes, Title 22 plus Mn.

Shawn

---

**From:** Collom, Barry/RIV  
**Sent:** Friday, May 02, 2014 9:47 AM  
**To:** amanda cortes; Duffy, Shawn/RDD  
**Cc:** 'Marlon Cartin'  
**Subject:** RE: GMP Topock

Hi Amanda,

This appears to be the result of a glitch in our electronic data collection and sample management program, which generates the COC's.

According to our planned sampling table for this event (PST), MW-22 needs to be analyzed for title 22 metals.

Do you need an amended COC for your records?

Shawn, do you concur?

Thanks for your attention to detail Amanda!

B.

*Barry E. Collom*  
PG&E Topock Site Coordinator

CH2M HILL  
1770 Iowa Ave. Suite 200  
Riverside, CA 92507  
Direct 760.326.2708  
Fax 714.424.2022  
Mobile 541.740.3250  
[Barry.Collom@ch2mhill.com](mailto:Barry.Collom@ch2mhill.com)

Privileged and Confidential

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**From:** amanda cortes [<mailto:amanda.cortes@assetlaboratories.com>]  
**Sent:** Friday, May 02, 2014 8:16 AM  
**To:** Duffy, Shawn/RDD  
**Cc:** Collom, Barry/RIV; 'Marlon Cartin'  
**Subject:** GMP Topock

Good Morning, Shawn.

On one of the COCs we received on Wednesday, a sample named MW-22-198, has a metal method toggled for 6010/6020/7470. However, there are no analytes toggled. Per historical data for this well, the analytes are full list. Please confirm.

Thank you,  
Amanda Cortes

Advanced Technology Laboratories, Inc.  
**dba ASSET Laboratories**

3151 W. Post Road Las Vegas NV 89118  
[www.assetlaboratories.com](http://www.assetlaboratories.com)  
Tel: (702)307-2659 Ext. 404  
Fax (702) 307-2691

**Asset Laboratories** is a full-service woman owned environmental laboratory providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. **Asset Laboratories** is certified by the State of California, NELAP-Oregon, and the State of Nevada. It is also a certified UDBE, SBE and DBE. **Asset Laboratories** takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates.

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## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012465-019A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 9.2721 * 50 \\ &= 463.605\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 460$$

*Nancy*

5/13/2014

## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012465-028A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 0.0215 * 5 \\ &= 0.1075\end{aligned}$$

Since PQL is  $\frac{1.0}{0.20} \mu\text{g/L}$ ,

$$\text{Cr}^{+6}, \mu\text{g/L} = \text{ND}$$

*Monney*

5/13/2014

## SAMPLE CALCULATION

**METHOD:** SM 3500-Cr B

**TEST NAME:** Hexavalent Chromium by Colorimetric Method

**MATRIX:** Water

**FORMULA:**

Calculate the Hexavalent Chromium concentration, in ug/L, in the original sample as follows:

$$\text{Hexavalent Chromium, ug/L} = A * DF$$

Where:

A= ug/L, UV-VIS Hexavalent Chromium calculated concentration

DF= dilution factor

For **N012465-008A**, concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Hexavalent Chromium, ug/L} &= 546.224 * 1 \\ &= 546.224 \text{ ug/L}\end{aligned}$$

Reporting result in 2 significant figures,

$$\text{Hexavalent Chromium, ug/L} = 550$$

*Nancy*

5/14/2014

## Sample Calculation

**METHOD:** EPA 6020

**TEST NAME:** Heavy Metals by ICP-MS

**MATRIX:** Aqueous

### FORMULA:

Calculate the Molybdenum concentration, in ug/L, in the original sample as follows:

$$\text{Molybdenum, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N012465-002B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned} \text{Molybdenum, ug/L} &= 9.80662870762474 * 1 * (25/25) \\ &= 9.80662870762474 \end{aligned}$$

Reporting results in two significant figures,

$$\text{Molybdenum, ug/L} = 9.8$$

*Nancy*

5/13/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012465  
Test Method: EPA 6020  
Analysis Date: 5/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45580

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Mo & Se. The calculated values are <25X RL. PS @ 2x & 5X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012460-001A-DT 5X	Arsenic	µg/L	1.21644668	NA	1.138694889	6.83%	10
N012460-001A-DT 25X	Manganese	µg/L	323.0243233	PASS	316.2123386	2.15%	10
N012460-001A-DT 5X	Molybdenum	µg/L	8.260898746	NA	7.993011793	3.35%	10
N012460-001A-DT 25X	Selenium	µg/L	0	NA	<del>0</del> 0.14	100 %	10
N012460-001A-DT 125X	Chromium	µg/L	1116.103533	PASS	1035.352825	7.80%	10

Note: NA - Not applicable

  
for 5/14/2014



**ASSET Laboratories**
**ICP-Metals in Water**

Work Order No.: N012465  
 Test Method: EPA 6020  
 Analysis Date: 5/8/2014

**Dilution Test Summary**

Matrix: Water  
 Batch No.: 45598

Instrument ID: ICP-MS #2  
 Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr, Co, Ni, Se, V & Zn. The calculated value is <25X RL. PS @ 2x passed criteria. DT is not applicable to Cu. PS @2x also failed.

Dilution test is not applicable to Cu, Sb, Ba, Be, Cd, Pb, Ag & Tl. The calculated values are <25X RL. PS @ 5x passed criteria.

~~Dilution test is not applicable to Mo. The calculated value is <25X RL.~~ DT failed for Mo.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012465-023B-DT 5X	Arsenic	µg/L	12.44829615	PASS	12.25507867	1.58%	10
N012465-023B-DT 5X	Chromium	µg/L	0.325162724	NA	0.298832756	8.81%	10
N012465-023B-DT 5X	Cobalt	µg/L	1.339294631	NA	1.08546765	23.38%	10
N012465-023B-DT 25X 5x	Copper	µg/L	0	NA	0		10
N012465-023B-DT 5X	Nickel	µg/L	3.300704769	NA	2.787795982	18.40%	10
N012465-023B-DT 5X	Selenium	µg/L	0.433358902	NA	0.54714434	20.80%	10
N012465-023B-DT 5X	Vanadium	µg/L	0	NA	0.57977244	100.00%	10
N012465-023B-DT 5X	Zinc	µg/L	0	NA	0		10
N012465-023B-DT 25X	Antimony	µg/L	0	NA	0		10
N012465-023B-DT 25X	Barium	µg/L	55.6475858	NA	52.95984317	5.08%	10
N012465-023B-DT 25X	Beryllium	µg/L	0	NA	0		10
N012465-023B-DT 25X	Cadmium	µg/L	0	NA	0		10
N012465-023B-DT 25X	Lead	µg/L	0	NA	0		10
N012465-023B-DT 25X	Molybdenum	µg/L	45.93154436	NA	38.35131498	19.77%	10
N012465-023B-DT 25X	Silver	µg/L	0	NA	0		10
N012465-023B-DT 25X	Thallium	µg/L	1.685030487	NA	0.073078422	2205.78%	10
N012465-023B-DT 125X	Manganese	µg/L	2242.879724	PASS	2141.790339	4.72%	10

Note: NA - Not applicable

*Mary*

5/14/2014

**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: N012460-001A-PS	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 93372						
Client ID: ZZZZZZ	Batch ID: 45580	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/6/2014	SeqNo: 1777562						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.346	0.20	20.00	1.139	101	80	120				
Molybdenum	30.407	1.0	20.00	7.993	112	80	120				
Selenium	20.058	1.0	20.00	0.1403	99.6	80	120				

Sample ID: N012460-001A-PS	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 93372						
Client ID: ZZZZZZ	Batch ID: 45580	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/6/2014	SeqNo: 1777569						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	844.238	2.5	500.0	316.2	106	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: N012465  
Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: N012465-023B-PS	SampType: PS	TestCode: 6020_DIS		Units: µg/L	Prep Date:			RunNo: 93394			
Client ID: ZZZZZZ	Batch ID: 45598	TestNo: EPA 6020		EPA 3010A	Analysis Date: 5/8/2014			SeqNo: 1779198			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	33.709	0.20	20.00	12.26	107	80	120				
Cobalt	18.303	1.0	20.00	1.085	86.1	80	120				
Copper	9.963	2.0	20.00	0	49.8	75	125				S
Nickel	21.772	2.0	20.00	2.788	94.9	80	120				
Selenium	20.983	1.0	20.00	0.5471	102	80	120				
Vanadium	21.078	2.0	20.00	0.5798	102	80	120				
Zinc	179.211	20	200.0	0	89.6	80	120				

Sample ID: <b>N012465-023B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93394</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>			SeqNo: <b>1779202</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	59.347	2.5	50.00	0	119	80	120				
Barium	603.582	5.0	500.0	52.96	110	80	120				
Beryllium	57.782	2.5	50.00	0	116	80	120				
Cadmium	51.418	2.5	50.00	0	103	80	120				
Lead	58.843	5.0	50.00	0	118	80	120				
Molybdenum	99.537	2.5	50.00	38.35	122	80	120				S
Silver	52.367	2.5	50.00	0	105	80	120				
Thallium	55.086	2.5	50.00	0.07308	110	80	120				

Sample ID: N012465-023B-PS	SampType: PS	TestCode: 6020_DIS	Units: µg/L	Prep Date:	RunNo: 93394						
Client ID: ZZZZZZ	Batch ID: 45598	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/8/2014	SeqNo: 1779208						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4503.352	12	2500	2142	94.5	80	120				

MS/MSD of Molybdenum is within criteria

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

*Money*

5/14/2014

**CLIENT:** CH2M HILL  
**Work Order:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012460-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777664</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1312.039	25	250.0	1035	111	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012465-023B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93394</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1778786</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.829	2.0	20.00	0.2988	92.7	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>N012460-001A-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020RDIS_Cr</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93353</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45580</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/6/2014</b>	SeqNo: <b>1777731</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1312.039	25	250.0	1035	111	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:** N012465  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020RDIS\_CrPGE

Sample ID: <b>N012465-023B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020RDIS_Cr</b> Units: <b>µg/L</b>				Prep Date:			RunNo: <b>93394</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45598</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>		Analysis Date: <b>5/8/2014</b>			SeqNo: <b>1779095</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	18.829	2.0	20.00	0.2988	92.7	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

Sample Calculation

Work Order No.: N012465  
Test Method: EPA 7470 A  
Matrix: Aqueous

FORMULA:

Calculate the Mercury concentration in ug/L in the original sample as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

where:

A = ug/L, instrument calculated concentration  
DF = dilution factor

For: **N012465-023B**

The concentration in ug/L is calculated as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

$$\text{Hg} = \left[ \begin{array}{c} -0.09820 \end{array} \right] \left[ \begin{array}{c} 1 \end{array} \right]$$

$$\text{Hg} = -0.09820 \text{ ug/L}$$

Since result is less than reporting limit.

$$\text{Hg} = \text{ND} \text{ ug/L}$$

  
5/5/2014



May 22, 2014

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-00922

Workorder No.: N012512

RE: PG&E Topock, 423575.MP.02.GM.02

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 08, 2014 by ASSET Laboratories. 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.

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012512

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**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 218.6:**

Dilution was necessary on samples N012512-016 and N012512-024 due to matrix interference. Samples were analyzed at lower dilution however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 6020\_Dissolved:**

Dilution was necessary on samples N012512-011, N012512-012, N012512-013, N012512-018, N012512-022, N012512-024 and N012512-025 due to failed Internal Standards when samples were analyzed at no dilution.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium since the analyte concentration in the sample is disproportionate to the spike level. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

**ASSET Laboratories**

Date: 22-May-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012512  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012512-001A	MW-12-198	Water	5/1/2014 12:14:00 PM	5/8/2014	5/22/2014
N012512-001B	MW-12-198	Water	5/1/2014 12:14:00 PM	5/8/2014	5/22/2014
N012512-001C	MW-12-198	Water	5/1/2014 12:14:00 PM	5/8/2014	5/22/2014
N012512-002A	MW-127-198	Water	5/1/2014 7:00:00 AM	5/8/2014	5/22/2014
N012512-002B	MW-127-198	Water	5/1/2014 7:00:00 AM	5/8/2014	5/22/2014
N012512-002C	MW-127-198	Water	5/1/2014 7:00:00 AM	5/8/2014	5/22/2014
N012512-003A	MW-60-125-198	Water	5/1/2014 1:31:00 PM	5/8/2014	5/22/2014
N012512-003B	MW-60-125-198	Water	5/1/2014 1:31:00 PM	5/8/2014	5/22/2014
N012512-003C	MW-60-125-198	Water	5/1/2014 1:31:00 PM	5/8/2014	5/22/2014
N012512-004A	MW-66-165-198	Water	5/1/2014 10:32:00 AM	5/8/2014	5/22/2014
N012512-004B	MW-66-165-198	Water	5/1/2014 10:32:00 AM	5/8/2014	5/22/2014
N012512-004C	MW-66-165-198	Water	5/1/2014 10:32:00 AM	5/8/2014	5/22/2014
N012512-005A	MW-69-195-198	Water	5/1/2014 8:52:00 AM	5/8/2014	5/22/2014
N012512-005B	MW-69-195-198	Water	5/1/2014 8:52:00 AM	5/8/2014	5/22/2014
N012512-005C	MW-69-195-198	Water	5/1/2014 8:52:00 AM	5/8/2014	5/22/2014
N012512-006A	MW-74-240-198	Water	5/1/2014 8:10:00 AM	5/8/2014	5/22/2014
N012512-006B	MW-74-240-198	Water	5/1/2014 8:10:00 AM	5/8/2014	5/22/2014
N012512-006C	MW-74-240-198	Water	5/1/2014 8:10:00 AM	5/8/2014	5/22/2014
N012512-007A	MW-221-198	Water	5/5/2014 6:00:00 AM	5/8/2014	5/22/2014
N012512-008A	MW-222-198	Water	5/5/2014 6:05:00 AM	5/8/2014	5/22/2014
N012512-009A	MW-26-198	Water	5/5/2014 11:24:00 AM	5/8/2014	5/22/2014
N012512-009B	MW-26-198	Water	5/5/2014 11:24:00 AM	5/8/2014	5/22/2014
N012512-009C	MW-26-198	Water	5/5/2014 11:24:00 AM	5/8/2014	5/22/2014
N012512-010A	MW-67-185-198	Water	5/5/2014 1:48:00 PM	5/8/2014	5/22/2014
N012512-010B	MW-67-185-198	Water	5/5/2014 1:48:00 PM	5/8/2014	5/22/2014
N012512-010C	MW-67-185-198	Water	5/5/2014 1:48:00 PM	5/8/2014	5/22/2014
N012512-011A	MW-67-260-198	Water	5/5/2014 1:06:00 PM	5/8/2014	5/22/2014
N012512-011B	MW-67-260-198	Water	5/5/2014 1:06:00 PM	5/8/2014	5/22/2014
N012512-011C	MW-67-260-198	Water	5/5/2014 1:06:00 PM	5/8/2014	5/22/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012512  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012512-012A	MW-70BR-225-198	Water	5/5/2014 9:04:00 AM	5/8/2014	5/22/2014
N012512-012B	MW-70BR-225-198	Water	5/5/2014 9:04:00 AM	5/8/2014	5/22/2014
N012512-012C	MW-70BR-225-198	Water	5/5/2014 9:04:00 AM	5/8/2014	5/22/2014
N012512-013A	MW-128-198	Water	5/6/2014 8:30:00 AM	5/8/2014	5/22/2014
N012512-013B	MW-128-198	Water	5/6/2014 8:30:00 AM	5/8/2014	5/22/2014
N012512-013C	MW-128-198	Water	5/6/2014 8:30:00 AM	5/8/2014	5/22/2014
N012512-014A	MW-223-198	Water	5/6/2014 5:15:00 AM	5/8/2014	5/22/2014
N012512-015A	MW-58BR-198	Water	5/6/2014 11:18:00 AM	5/8/2014	5/22/2014
N012512-015B	MW-58BR-198	Water	5/6/2014 11:18:00 AM	5/8/2014	5/22/2014
N012512-016A	MW-64BR-198	Water	5/6/2014 2:05:00 PM	5/8/2014	5/22/2014
N012512-016B	MW-64BR-198	Water	5/6/2014 2:05:00 PM	5/8/2014	5/22/2014
N012512-017A	MW-67-225-198	Water	5/6/2014 8:32:00 AM	5/8/2014	5/22/2014
N012512-017B	MW-67-225-198	Water	5/6/2014 8:32:00 AM	5/8/2014	5/22/2014
N012512-017C	MW-67-225-198	Water	5/6/2014 8:32:00 AM	5/8/2014	5/22/2014
N012512-018A	MW-68-240-198	Water	5/6/2014 7:38:00 AM	5/8/2014	5/22/2014
N012512-018B	MW-68-240-198	Water	5/6/2014 7:38:00 AM	5/8/2014	5/22/2014
N012512-018C	MW-68-240-198	Water	5/6/2014 7:38:00 AM	5/8/2014	5/22/2014
N012512-019A	MW-20-070-198	Water	5/7/2014 10:17:00 AM	5/8/2014	5/22/2014
N012512-019B	MW-20-070-198	Water	5/7/2014 10:17:00 AM	5/8/2014	5/22/2014
N012512-019C	MW-20-070-198	Water	5/7/2014 10:17:00 AM	5/8/2014	5/22/2014
N012512-020A	MW-20-100-198	Water	5/7/2014 11:46:00 AM	5/8/2014	5/22/2014
N012512-020B	MW-20-100-198	Water	5/7/2014 11:46:00 AM	5/8/2014	5/22/2014
N012512-020C	MW-20-100-198	Water	5/7/2014 11:46:00 AM	5/8/2014	5/22/2014
N012512-021A	MW-224-198	Water	5/7/2014 5:30:00 AM	5/8/2014	5/22/2014
N012512-022A	MW-59-100-198	Water	5/7/2014 8:23:00 AM	5/8/2014	5/22/2014
N012512-022B	MW-59-100-198	Water	5/7/2014 8:23:00 AM	5/8/2014	5/22/2014
N012512-022C	MW-59-100-198	Water	5/7/2014 8:23:00 AM	5/8/2014	5/22/2014
N012512-023A	MW-62-110-198	Water	5/7/2014 1:50:00 PM	5/8/2014	5/22/2014
N012512-023B	MW-62-110-198	Water	5/7/2014 1:50:00 PM	5/8/2014	5/22/2014
N012512-023C	MW-62-110-198	Water	5/7/2014 1:50:00 PM	5/8/2014	5/22/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012512  
**Contract No:** 2014-GMP-198-

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012512-024A	MW-62-190-198	Water	5/7/2014 2:05:00 PM	5/8/2014	5/22/2014
N012512-024B	MW-62-190-198	Water	5/7/2014 2:05:00 PM	5/8/2014	5/22/2014
N012512-024C	MW-62-190-198	Water	5/7/2014 2:05:00 PM	5/8/2014	5/22/2014
N012512-025A	MW-66-230-198	Water	5/7/2014 7:14:00 AM	5/8/2014	5/22/2014
N012512-025B	MW-66-230-198	Water	5/7/2014 7:14:00 AM	5/8/2014	5/22/2014
N012512-025C	MW-66-230-198	Water	5/7/2014 7:14:00 AM	5/8/2014	5/22/2014
N012512-026A	MW-225-198	Water	5/8/2014 9:45:00 AM	5/8/2014	5/22/2014

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-12-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 12:14:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6000 0.10 0.10	umhos/cm	1 5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 22-May-14

CLIENT: CH2M HILL

Client Sample ID: MW-127-198

Lab Order: N012512

Collection Date: 5/1/2014 7:00:00 AM

Project: PG&amp;E Topock, 423575.MP.02.GM.02

Matrix: WATER

Lab ID: N012512-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: WETCHEM\_140508B

QC Batch: R93384

PrepDate:

Analyst: LCC

Specific Conductance

3800 0.10

0.10

umhos/cm

1

5/8/2014

**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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-003

**Client Sample ID:** MW-60-125-198  
**Collection Date:** 5/1/2014 1:31:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140508B      **QC Batch:** R93384      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      7700      0.10      0.10      umhos/cm      1      5/8/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66-165-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 10:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3800	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-69-195-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 8:52:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3100 0.10 0.10	umhos/cm	1 5/8/2014

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-74-240-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 8:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	800	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-26-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3600	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-010

**Client Sample ID:** MW-67-185-198  
**Collection Date:** 5/5/2014 1:48:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140508B      **QC Batch:** R93384      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      5000      0.10      0.10      umhos/cm      1      5/8/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-011

**Client Sample ID:** MW-67-260-198  
**Collection Date:** 5/5/2014 1:06:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140508B      **QC Batch:** R93384      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      15000      0.10      0.10      umhos/cm      1      5/8/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-70BR-225-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 9:04:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	12000	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-128-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 8:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	14000	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-67-225-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 8:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6300	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68-240-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 7:38:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	14000	0.10	0.10
	umhos/cm	1	5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-070-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 10:17:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	1600	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-100-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 11:46:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	2400	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-59-100-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 8:23:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	9600	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-023

**Client Sample ID:** MW-62-110-198  
**Collection Date:** 5/7/2014 1:50:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140508B      **QC Batch:** R93384      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      8000      0.10      0.10      umhos/cm      1      5/8/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-024

**Client Sample ID:** MW-62-190-198  
**Collection Date:** 5/7/2014 2:05:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

**RunID:** WETCHEM\_140508B      **QC Batch:** R93384      **PrepDate:**      **Analyst:** LCC  
 Specific Conductance      16000      0.10      0.10      umhos/cm      1      5/8/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66-230-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 7:14:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140508B</b>	QC Batch: <b>R93384</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	17000	0.10	0.10
		umhos/cm	1
			5/8/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 120.1\_WPGE

Sample ID: <b>N012512-012C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93384</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93384</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1778416</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	11640.000	0.10						11630	0.0859	10	

Sample ID: <b>N012512-025C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93384</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93384</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1778426</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	17220.000	0.10						17250	0.174	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

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:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-12-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 12:14:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	2400 6.9	50	5/16/2014
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513B</b>	QC Batch: <b>45642</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	2200 0.76	25	5/13/2014 01:19 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-002

**Client Sample ID:** MW-127-198  
**Collection Date:** 5/1/2014 7:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	720	1.6	20	µg/L	100	5/9/2014 04:22 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	750	0.30	10	µg/L	10	5/14/2014 03:10 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-003

**Client Sample ID:** MW-60-125-198  
**Collection Date:** 5/1/2014 1:31:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	1200	1.6	20	µg/L	100	5/9/2014 04:41 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	1100	0.30	10	µg/L	10	5/14/2014 04:18 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66-165-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 10:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	750 1.6	20	5/9/2014 10:19 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	720 0.30	10	5/14/2014 04:23 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-005

**Client Sample ID:** MW-69-195-198  
**Collection Date:** 5/1/2014 8:52:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140513A</b>	QC Batch: <b>R93435</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	1000	1.6	20		µg/L	100	5/13/2014 10:26 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>		PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>		
Chromium	1000	0.30	10		µg/L	10	5/14/2014 04:29 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-006

**Client Sample ID:** MW-74-240-198  
**Collection Date:** 5/1/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	ND	0.016	0.20	µg/L	1	5/9/2014 05:00 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513B</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	ND	0.030	1.0	µg/L	1	5/13/2014 05:05 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-221-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 6:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140508B</b>	QC Batch: <b>R93405</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/8/2014 09:57 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-222-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 6:05:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140508B</b>	QC Batch: <b>R93405</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	5/8/2014 10:37 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-26-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	2200 6.9	50	5/16/2014
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	2200 0.76	25	5/14/2014 04:34 PM
		µg/L	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-010

**Client Sample ID:** MW-67-185-198  
**Collection Date:** 5/5/2014 1:48:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	2300	8.0	100	µg/L	500	5/9/2014 10:48 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	2500	0.76	25	µg/L	25	5/14/2014 04:45 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-011

**Client Sample ID:** MW-67-260-198  
**Collection Date:** 5/5/2014 1:06:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	2000	8.0	100	µg/L	500	5/9/2014 10:59 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	1900	0.76	25	µg/L	25	5/14/2014 05:07 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-012

**Client Sample ID:** MW-70BR-225-198  
**Collection Date:** 5/5/2014 9:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	2400	8.0	100	µg/L	500	5/9/2014 11:09 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	2500	0.76	25	µg/L	25	5/14/2014 05:18 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-013

**Client Sample ID:** MW-128-198  
**Collection Date:** 5/6/2014 8:30:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	2200	8.0	100	µg/L	500	5/9/2014 02:57 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	2100	0.76	25	µg/L	25	5/14/2014 05:29 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-223-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 5:15:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140508B</b>	QC Batch: <b>R93405</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	5/8/2014 10:56 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-58BR-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 11:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	0.87 0.016	0.20	µg/L 1 5/9/2014 11:18 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513B</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 5/13/2014 04:15 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-016

**Client Sample ID:** MW-64BR-198  
**Collection Date:** 5/6/2014 2:05:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>						Analyst: <b>RB</b>
Hexavalent Chromium	ND	0.080	1.0		µg/L	5	5/9/2014 06:59 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513B</b>	QC Batch: <b>45641</b>						Analyst: <b>CEI</b>
Chromium	ND	0.030	1.0		µg/L	1	5/13/2014 04:21 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-017

**Client Sample ID:** MW-67-225-198  
**Collection Date:** 5/6/2014 8:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	3200	8.0	100	µg/L	500	5/9/2014 11:37 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140515A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	3300	0.76	25	µg/L	25	5/15/2014 05:06 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-018

**Client Sample ID:** MW-68-240-198  
**Collection Date:** 5/6/2014 7:38:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	2200	8.0	100	µg/L	500	5/9/2014 03:06 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	2100	0.76	25	µg/L	25	5/14/2014 05:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-070-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 10:17:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	2200 6.9	50	5/16/2014
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	2400 0.76	25	5/14/2014 05:51 PM
		µg/L	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-100-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 11:46:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	2900 6.9	50	5/16/2014
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Chromium	2900 0.76	25	5/14/2014 06:08 PM
		µg/L	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-224-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 5:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140508B</b>	QC Batch: <b>R93405</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/8/2014 11:16 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-022

**Client Sample ID:** MW-59-100-198  
**Collection Date:** 5/7/2014 8:23:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	4000	8.0	100	µg/L	500	5/9/2014 03:16 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	4000	0.76	25	µg/L	25	5/14/2014 06:19 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-023

**Client Sample ID:** MW-62-110-198  
**Collection Date:** 5/7/2014 1:50:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	910	1.6	20	µg/L	100	5/9/2014 05:22 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	940	0.30	10	µg/L	10	5/14/2014 06:24 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-024

**Client Sample ID:** MW-62-190-198  
**Collection Date:** 5/7/2014 2:05:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	ND	0.080	1.0	µg/L	5	5/9/2014 07:19 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513B</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	ND	0.030	1.0	µg/L	1	5/13/2014 05:16 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-025

**Client Sample ID:** MW-66-230-198  
**Collection Date:** 5/7/2014 7:14:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC7_140509A</b>	QC Batch: <b>R93418</b>			PrepDate:		Analyst: <b>RB</b>
Hexavalent Chromium	6700	16	200	µg/L	1000	5/9/2014 04:03 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140514A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Chromium	6700	1.5	50	µg/L	50	5/14/2014 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-225-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/8/2014 9:45:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-026		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140508B</b>	QC Batch: <b>R93405</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	5/8/2014 11:36 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93405</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779780</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.052	0.20									

Sample ID: <b>LCS-R93405</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779781</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.878	0.20	5.000	0	97.6	90	110				

Sample ID: <b>N012509-029A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779783</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.960	0.20	1.000	0	96.0	90	110				

Sample ID: <b>N012509-030A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779787</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.962	0.20	1.000	0	96.2	90	110				

Sample ID: <b>N012509-031A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779789</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012509-034A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93405</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779791</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

Sample ID: <b>N012509-034A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93405</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779792</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: <b>N012509-034A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93405</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779793</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.2	90	110	1.012	3.93	20	

Sample ID: <b>N012512-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93405</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779795</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: <b>N012512-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93405</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>				SeqNo: <b>1779799</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.956	0.20	1.000	0	95.6	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012512-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779801</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.041	0.20	1.000	0	104	90	110				

Sample ID: <b>N012512-021A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779803</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID: <b>N012512-026A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93405</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93405</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/8/2014</b>	SeqNo: <b>1779805</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits  
 Calculations are based on raw values  
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H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93418</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781468</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93418</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.030	0.20	5.000	0	101	90	110				

Sample ID: <b>N012512-004A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781478</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1234.520	20	500.0	748.4	97.2	90	110				

Sample ID: <b>N012512-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781479</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4758.300	100	2500	2322	97.4	90	110				

Sample ID: <b>N012512-011A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781480</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4497.100	100	2500	1991	100	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012512-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93418</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>				SeqNo: <b>1781481</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4863.450	100	2500	2434	97.2	90	110				

Sample ID: <b>N012512-015A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93418</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>				SeqNo: <b>1781482</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.798	0.20	1.000	0.8704	92.8	90	110				

Sample ID: <b>N012512-017A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93418</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>				SeqNo: <b>1781483</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5514.450	100	2500	3175	93.6	90	110				

Sample ID: <b>N012512-004A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93418</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>				SeqNo: <b>1781484</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	738.070	20						748.4	1.39	20	

Sample ID: <b>N012512-004A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93418</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>				SeqNo: <b>1781485</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1230.520	20	500.0	748.4	96.4	90	110	1235	0.325	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

H Holding times for preparation or analysis exceeded  
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**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012512-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11859.000	200	5000	6724	103	90	110				

Sample ID: <b>N012512-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781496</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1230.420	20	500.0	723.3	101	90	110				

Sample ID: <b>N012512-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781498</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1677.390	20	500.0	1164	103	90	110				

Sample ID: <b>N012512-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781500</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.144	0.20	1.000	0.1690	97.5	90	110				

Sample ID: <b>N012512-023A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781502</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1391.650	20	500.0	912.9	95.8	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012512-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781505</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4699.150	100	2500	2203	99.8	90	110				

Sample ID: <b>N012512-018A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781506</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4665.500	100	2500	2165	100	90	110				

Sample ID: <b>N012512-022A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781507</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6514.750	100	2500	3977	102	90	110				

Sample ID: <b>N012512-016A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781509</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.230	1.0	5.000	0.1005	103	90	110				

Sample ID: <b>N012512-024A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93418</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93418</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/9/2014</b>	SeqNo: <b>1781511</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.022	1.0	5.000	0.08300	98.8	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93435</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782367</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.026	0.20									

Sample ID: <b>LCS-R93435</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782368</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.031	0.20	5.000	0	101	90	110				

Sample ID: <b>N012536-001I-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782370</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: <b>N012512-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782372</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1530.800	20	500.0	1041	98.0	90	110				

Sample ID: <b>N012534-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782374</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.869	0.20	1.000	1.876	99.4	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012534-003A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782375</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	2.870	0.20	1.000	1.876	99.5	90	110	2.869	0.0314	20	
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Sample ID: <b>N012536-001I-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93435</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93435</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782376</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	0.990	0.20	1.000	0	99.0	90	110				
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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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 3500\_CrBPGE

Sample ID: <b>LCS-R93492</b>	SampType: <b>LCS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784495</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	102.351	10	100.0	0	102	85	115				

Sample ID: <b>MB-R93492</b>	SampType: <b>MBLK</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784496</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID: <b>N012512-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784503</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	3333.755	50	1250	2174	92.8	85	115				

Sample ID: <b>N012512-009A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784504</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	3377.265	50	1250	2174	96.3	85	115	3334	1.30	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

H Holding times for preparation or analysis exceeded  
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## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45641</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783669</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45641</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783670</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.517	1.0	10.00	0	95.2	85	115				

Sample ID: <b>N012512-002B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93479</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/14/2014</b>	SeqNo: <b>1784238</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	859.336	10	10.00	747.0	1120	75	125				S

Sample ID: <b>N012512-002B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93479</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/14/2014</b>	SeqNo: <b>1784239</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	723.766	10	10.00	747.0	-232	75	125	859.3	17.1	20	S

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45642</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783653</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45642</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783654</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.610	1.0	10.00	0	96.1	85	115				

Sample ID: <b>N012512-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783665</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2471.550	25	10.00	2191	2810	75	125				S

Sample ID: <b>N012512-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93464</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783666</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2453.636	25	10.00	2191	2630	75	125	2472	0.727	20	S

### Qualifiers:

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**ANALYTICAL RESULTS**

Print Date: 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-001

**Client Sample ID:** MW-12-198  
**Collection Date:** 5/1/2014 12:14:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: ICP7\_140513A

QC Batch: 45642

PrepDate:

5/9/2014

Analyst: CEI

Antimony	ND	0.18	0.50		µg/L	1	5/13/2014 12:46 PM
Arsenic	38	0.027	0.10		µg/L	1	5/13/2014 12:46 PM
Barium	54	0.030	1.0		µg/L	1	5/13/2014 12:46 PM
Beryllium	ND	0.010	0.50		µg/L	1	5/13/2014 12:46 PM
Cadmium	ND	0.013	0.50		µg/L	1	5/13/2014 12:46 PM
Cobalt	ND	0.017	0.50		µg/L	1	5/13/2014 12:46 PM
Copper	ND	0.040	1.0		µg/L	1	5/13/2014 12:46 PM
Lead	ND	0.011	1.0		µg/L	1	5/13/2014 12:46 PM
Manganese	ND	0.026	0.50		µg/L	1	5/13/2014 12:46 PM
Molybdenum	11	0.15	0.50		µg/L	1	5/13/2014 12:46 PM
Nickel	ND	0.032	1.0		µg/L	1	5/13/2014 12:46 PM
Selenium	16	0.069	0.50		µg/L	1	5/13/2014 12:46 PM
Silver	ND	0.094	0.50		µg/L	1	5/13/2014 12:46 PM
Thallium	ND	0.0080	0.50		µg/L	1	5/13/2014 12:46 PM
Vanadium	16	0.16	1.0		µg/L	1	5/13/2014 12:46 PM
Zinc	ND	0.23	10		µg/L	1	5/13/2014 12:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-127-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.027	0.10	µg/L 1 5/13/2014 03:09 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 03:09 PM
Molybdenum	5.8 0.15	0.50	µg/L 1 5/13/2014 03:09 PM
Selenium	35 0.069	0.50	µg/L 1 5/13/2014 03:09 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-003

**Client Sample ID:** MW-60-125-198  
**Collection Date:** 5/1/2014 1:31:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	1.5	0.027	0.10	µg/L	1	5/13/2014 03:14 PM
Manganese	ND	0.026	0.50	µg/L	1	5/13/2014 03:14 PM
Molybdenum	18	0.15	0.50	µg/L	1	5/13/2014 03:14 PM
Selenium	5.7	0.069	0.50	µg/L	1	5/13/2014 03:14 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66-165-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 10:32:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.2 0.027	0.10	µg/L 1 5/13/2014 03:20 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 03:20 PM
Molybdenum	5.6 0.15	0.50	µg/L 1 5/13/2014 03:20 PM
Selenium	34 0.069	0.50	µg/L 1 5/13/2014 03:20 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-69-195-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 8:52:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	2.3 0.027	0.10	µg/L 1 5/13/2014 03:25 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 03:25 PM
Molybdenum	84 0.15	0.50	µg/L 1 5/13/2014 03:25 PM
Selenium	12 0.069	0.50	µg/L 1 5/13/2014 03:25 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-006

**Client Sample ID:** MW-74-240-198  
**Collection Date:** 5/1/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	12	0.027	0.10	µg/L	1	5/13/2014 03:31 PM
Manganese	ND	0.026	0.50	µg/L	1	5/13/2014 05:05 PM
Molybdenum	48	0.15	0.50	µg/L	1	5/13/2014 03:31 PM
Selenium	1.9	0.069	0.50	µg/L	1	5/13/2014 03:31 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-26-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/5/2014 11:24:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.7 0.027	0.10	µg/L 1 5/13/2014 03:36 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 03:36 PM
Molybdenum	30 0.15	0.50	µg/L 1 5/13/2014 03:36 PM
Selenium	49 0.069	0.50	µg/L 1 5/13/2014 03:36 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-010

**Client Sample ID:** MW-67-185-198  
**Collection Date:** 5/5/2014 1:48:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**
**RunID:** ICP7\_140513A

**QC Batch:** 45641

**PrepDate:**
**5/9/2014**
**Analyst:** CEI

Arsenic	1.5	0.027	0.10		µg/L	1	5/13/2014 03:42 PM
Manganese	ND	0.026	0.50		µg/L	1	5/13/2014 03:42 PM
Molybdenum	8.9	0.15	0.50		µg/L	1	5/13/2014 03:42 PM
Selenium	240	0.34	2.5		µg/L	5	5/14/2014 04:40 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-011

**Client Sample ID:** MW-67-260-198  
**Collection Date:** 5/5/2014 1:06:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	11	0.027	0.10	µg/L	1	5/13/2014 03:59 PM
Manganese	58	0.026	0.50	µg/L	1	5/13/2014 03:59 PM
Molybdenum	72	0.76	2.5	µg/L	5	5/14/2014 05:02 PM
Selenium	ND	0.34	2.5	µg/L	5	5/14/2014 05:02 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-012

**Client Sample ID:** MW-70BR-225-198  
**Collection Date:** 5/5/2014 9:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**
**RunID:** ICP7\_140513A

**QC Batch:** 45641

**PrepDate:**
**5/9/2014**
**Analyst:** CEI

Arsenic	1.9	0.027	0.10		µg/L	1	5/13/2014 04:04 PM
Manganese	ND	0.026	0.50		µg/L	1	5/13/2014 04:04 PM
Molybdenum	17	0.76	2.5		µg/L	5	5/14/2014 05:13 PM
Selenium	2.5	0.069	0.50		µg/L	1	5/13/2014 04:04 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-128-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 8:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.8 0.027	0.10	µg/L 1 5/13/2014 04:10 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 04:10 PM
Molybdenum	20 0.76	2.5	µg/L 5 5/14/2014 05:24 PM
Selenium	5.1 0.34	2.5	µg/L 5 5/14/2014 05:24 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-58BR-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/6/2014 11:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.0 0.027 0.10	µg/L	1 5/13/2014 04:15 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-016

**Client Sample ID:** MW-64BR-198  
**Collection Date:** 5/6/2014 2:05:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**
**RunID:** ICP7\_140513A

**QC Batch:** 45641

**PrepDate:**
**5/9/2014**
**Analyst:** CEI

Arsenic

2.9 0.027

0.10

µg/L

1

5/13/2014 04:21 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-017

**Client Sample ID:** MW-67-225-198  
**Collection Date:** 5/6/2014 8:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	3.1	0.027	0.10	µg/L	1	5/13/2014 04:26 PM
Manganese	ND	0.026	0.50	µg/L	1	5/13/2014 04:26 PM
Molybdenum	37	0.15	0.50	µg/L	1	5/13/2014 04:26 PM
Selenium	75	0.069	0.50	µg/L	1	5/13/2014 04:26 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-018

**Client Sample ID:** MW-68-240-198  
**Collection Date:** 5/6/2014 7:38:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	1.9	0.027	0.10	µg/L	1	5/13/2014 04:32 PM
Manganese	ND	0.026	0.50	µg/L	1	5/13/2014 04:32 PM
Molybdenum	20	0.76	2.5	µg/L	5	5/14/2014 05:40 PM
Selenium	4.3	0.34	2.5	µg/L	5	5/14/2014 05:40 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-070-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 10:17:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Molybdenum	51 0.15	0.50	µg/L 1 5/13/2014 04:37 PM
Selenium	5.0 0.069	0.50	µg/L 1 5/13/2014 04:37 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-100-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 11:46:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Molybdenum	4.1 0.15	0.50	µg/L 1 5/13/2014 04:43 PM
Selenium	6.6 0.069	0.50	µg/L 1 5/13/2014 04:43 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-59-100-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/7/2014 8:23:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>	PrepDate: <b>5/9/2014</b>	Analyst: <b>CEI</b>
Arsenic	2.1 0.027	0.10	µg/L 1 5/13/2014 04:48 PM
Manganese	ND 0.026	0.50	µg/L 1 5/13/2014 04:48 PM
Molybdenum	5.4 0.76	2.5	µg/L 5 5/14/2014 06:13 PM
Selenium	4.0 0.34	2.5	µg/L 5 5/15/2014 05:10 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-023

**Client Sample ID:** MW-62-110-198  
**Collection Date:** 5/7/2014 1:50:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**
**RunID:** ICP7\_140513A

**QC Batch:** 45641

**PrepDate:**
**5/9/2014**
**Analyst:** CEI

Arsenic	6.0	0.027	0.10		µg/L	1	5/13/2014 05:10 PM
Manganese	71	0.026	0.50		µg/L	1	5/13/2014 05:10 PM
Molybdenum	48	0.15	0.50		µg/L	1	5/13/2014 05:10 PM
Selenium	3.1	0.069	0.50		µg/L	1	5/13/2014 05:10 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-024

**Client Sample ID:** MW-62-190-198  
**Collection Date:** 5/7/2014 2:05:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	3.6	0.027	0.10	µg/L	1	5/13/2014 05:16 PM
Manganese	440	0.13	2.5	µg/L	5	5/14/2014 06:30 PM
Molybdenum	61	0.76	2.5	µg/L	5	5/14/2014 06:30 PM
Selenium	ND	0.34	2.5	µg/L	5	5/14/2014 06:30 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab ID:** N012512-025

**Client Sample ID:** MW-66-230-198  
**Collection Date:** 5/7/2014 7:14:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140513A</b>	QC Batch: <b>45641</b>			PrepDate: <b>5/9/2014</b>		Analyst: <b>CEI</b>
Arsenic	8.5	0.027	0.10	µg/L	1	5/13/2014 05:21 PM
Manganese	ND	0.026	0.50	µg/L	1	5/13/2014 05:21 PM
Molybdenum	81	0.76	2.5	µg/L	5	5/14/2014 06:35 PM
Selenium	11	0.34	2.5	µg/L	5	5/14/2014 06:35 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: N012512  
 Project: PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>MB-45641</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783534</b>						
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									

Sample ID: <b>LCS-45641</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783535</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.804	0.10	10.00	0	98.0	85	115				
Manganese	97.695	0.50	100.0	0	97.7	85	115				
Molybdenum	9.766	0.50	10.00	0	97.7	85	115				
Selenium	9.731	0.50	10.00	0	97.3	85	115				

Sample ID: <b>N012512-002B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.125	0.10	10.00	1.325	98.0	75	125				
Manganese	73.539	0.50	100.0	0	73.5	75	125				S
Molybdenum	17.363	0.50	10.00	5.831	115	75	125				
Selenium	46.074	0.50	10.00	35.40	107	75	125				

Sample ID: <b>N012512-002B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783564</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.299	0.10	10.00	1.325	99.7	75	125	11.12	1.56	20	

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012512-002B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783564</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	72.897	0.50	100.0	0	72.9	75	125	73.54	0.877	20	S
Molybdenum	17.477	0.50	10.00	5.831	116	75	125	17.36	0.654	20	
Selenium	48.356	0.50	10.00	35.40	130	75	125	46.07	4.83	20	S

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>MB-45642</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Barium	ND	1.0									
Beryllium	ND	0.50									
Cadmium	ND	0.50									
Cobalt	0.031	0.50									
Copper	0.051	1.0									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	0.027	0.50									
Vanadium	ND	1.0									
Zinc	ND	10									

Sample ID: <b>LCS-45642</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>			RunNo: <b>93451</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>			SeqNo: <b>1783510</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.241	0.50	10.00	0	102	85	115				
Arsenic	10.029	0.10	10.00	0	100	85	115				
Barium	105.503	1.0	100.0	0	106	85	115				
Beryllium	10.094	0.50	10.00	0	101	85	115				
Cadmium	10.391	0.50	10.00	0	104	85	115				
Cobalt	9.671	0.50	10.00	0	96.7	85	115				
Copper	9.931	1.0	10.00	0	99.3	85	115				
Lead	10.452	1.0	10.00	0	105	85	115				
Manganese	96.944	0.50	100.0	0	96.9	85	115				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values

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**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>LCS-45642</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>	RunNo: <b>93451</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.665	0.50	10.00	0	96.7	85	115				
Nickel	9.965	1.0	10.00	0	99.6	85	115				
Selenium	9.375	0.50	10.00	0	93.7	85	115				
Silver	10.006	0.50	10.00	0	100	85	115				
Thallium	10.481	0.50	10.00	0	105	85	115				
Vanadium	10.013	1.0	10.00	0	100	85	115				
Zinc	107.410	10	100.0	0	107	85	115				

Sample ID: <b>N012512-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>			RunNo: <b>93451</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>			SeqNo: <b>1783514</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.165	0.50	10.00	0	102	75	125				
Arsenic	48.064	0.10	10.00	38.39	96.8	75	125				
Barium	153.248	1.0	100.0	54.41	98.8	75	125				
Beryllium	12.966	0.50	10.00	0	130	75	125				S
Cadmium	9.270	0.50	10.00	0	92.7	75	125				
Cobalt	7.948	0.50	10.00	0	79.5	75	125				
Copper	4.755	1.0	10.00	0	47.5	75	125				S
Lead	10.661	1.0	10.00	0	107	75	125				
Manganese	50.858	0.50	100.0	0	50.9	75	125				S
Molybdenum	22.330	0.50	10.00	11.39	109	75	125				
Nickel	9.195	1.0	10.00	0.06677	91.3	75	125				
Selenium	24.411	0.50	10.00	16.06	83.6	75	125				
Silver	9.103	0.50	10.00	0	91.0	75	125				
Thallium	10.997	0.50	10.00	0.04598	110	75	125				
Vanadium	25.713	1.0	10.00	16.29	94.2	75	125				
Zinc	90.721	10	100.0	3.817	86.9	75	125				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
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**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012512-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date: <b>5/9/2014</b>				RunNo: <b>93451</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>				SeqNo: <b>1783515</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.251	0.50	10.00	0	103	75	125	10.17	0.839	20	
Arsenic	48.835	0.10	10.00	38.39	104	75	125	48.06	1.59	20	
Barium	154.466	1.0	100.0	54.41	100	75	125	153.2	0.792	20	
Beryllium	13.541	0.50	10.00	0	135	75	125	12.97	4.34	20	S
Cadmium	9.283	0.50	10.00	0	92.8	75	125	9.270	0.140	20	
Cobalt	7.908	0.50	10.00	0	79.1	75	125	7.948	0.516	20	
Copper	4.572	1.0	10.00	0	45.7	75	125	4.755	3.93	20	S
Lead	10.736	1.0	10.00	0	107	75	125	10.66	0.705	20	
Manganese	49.095	0.50	100.0	0	49.1	75	125	50.86	3.53	20	S
Molybdenum	22.750	0.50	10.00	11.39	114	75	125	22.33	1.86	20	
Nickel	9.230	1.0	10.00	0.06677	91.6	75	125	9.195	0.377	20	
Selenium	25.482	0.50	10.00	16.06	94.3	75	125	24.41	4.29	20	
Silver	9.148	0.50	10.00	0	91.5	75	125	9.103	0.493	20	
Thallium	10.984	0.50	10.00	0.04598	109	75	125	11.00	0.119	20	
Vanadium	26.301	1.0	10.00	16.29	100	75	125	25.71	2.26	20	
Zinc	89.901	10	100.0	3.817	86.1	75	125	90.72	0.909	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

H Holding times for preparation or analysis exceeded  
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[www.assetlaboratories.com](http://www.assetlaboratories.com)

**Advanced Technology Laboratories, Inc.**  
**dba ASSET Laboratories**

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 22-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-12-198
<b>Lab Order:</b>	N012512	<b>Collection Date:</b>	5/1/2014 12:14:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012512-001		

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

**DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE**
**EPA 7470A**

RunID: <b>AA1_140513C</b>	QC Batch: <b>45659</b>	PrepDate: <b>5/13/2014</b>	Analyst: <b>LCC</b>
Mercury	ND 0.015	0.20	µg/L 1 5/13/2014 11:05 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 7470\_W\_DISSPGE

Sample ID: <b>MB-45659</b>	SampType: <b>MBLK</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/13/2014</b>	RunNo: <b>93439</b>
Client ID: <b>PBW</b>	Batch ID: <b>45659</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782342</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.20			

Sample ID: <b>LCS-45659</b>	SampType: <b>LCS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/13/2014</b>	RunNo: <b>93439</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45659</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782343</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.087	0.20	5.000	0	102 85 115

Sample ID: <b>N012512-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/13/2014</b>	RunNo: <b>93439</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45659</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782344</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.212	0.20	5.000	0	104 75 125

Sample ID: <b>N012512-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7470_W_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/13/2014</b>	RunNo: <b>93439</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45659</b>	TestNo: <b>EPA 7470A</b>		Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1782345</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	5.179	0.20	5.000	0	104 75 125 5.212 0.627 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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly (NH4)2S O4/NH4O H, 4°C	250 ml Poly (NH4)2S O4/NH4O H, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	500 ml Poly HNO3, 4°C	250 ml Poly 4°C	* analyze for title 22 metals + Mn.	Number of Containers	COMMENTS
Preservatives:				Field	Field	Field	Field	Field	Field	Field	NA				
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field				
Holding Time:				28	28	180	180	180	180	180	28				
Project Number 423575.MP.02.GM.02 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 5/8/2014 COC Number: 7				Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6010B/6020A/7470A dis) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mo, Se	Metals (6020A) Field Filtered Mo, Se, Mn	Specific Conductance (E120.1)				
DATE	TIME	Matrix													
MW-12-198	5/1/2014	12:14	Water		X		X	X			X		NO12512-1	3	
MW-127-198	5/1/2014	7:00	Water	X		X		X		X	X		-2	3	
MW-60-125-198	5/1/2014	13:31	Water	X		X		X		X	X		-3	3	
MW-66-165-198	5/1/2014	10:32	Water	X		X		X		X	X		-4	3	
MW-69-195-198	5/1/2014	8:52	Water	X		X		X		X	X		-5	3	
MW-74-240-198	5/1/2014	8:10	Water	X		X		X		X	X		-6	3	
MW-221-198	5/5/2014	6:00	Water	X									-7	1	
MW-222-198	5/5/2014	6:05	Water	X									-8	1	
MW-26-198	5/5/2014	11:24	Water		X	X		X		X	X		-9	3	
MW-67-185-198	5/5/2014	13:48	Water	X		X		X		X	X		-10	3	
MW-67-260-198	5/5/2014	13:06	Water	X		X		X		X	X		-11	3	
MW-70BR-225-198	5/5/2014	9:04	Water	X		X		X		X	X		-12	3	
MW-128-198	5/6/2014	8:30	Water	X		X		X		X	X		-13	3	
MW-223-198	5/6/2014	5:15	Water	X									-14	1	

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		5-8-14	Method of Shipment: courier			April 9 to May 15, 2014
Sampled by		1215	On Ice: <input checked="" type="checkbox"/> yes 3.8/2.6°C ice			
Relinquished by			Airbill No: IR#2			
Received by		08 MAY 14 1215	Lab Name: ADVANCED TECHNOLOGY LABORATO			
Relinquished by		08 MAY 14 1448	Lab Phone: (702) 307-2659		Sample Custody and Marlon	Report Copy to Shawn Duffy (530) 229-3303
Received by		5/8/14 1448				

Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	250 ml Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C			
Filtered:				Field	Field	Field	Field	Field	Field	Field	Field	NA			
Holding Time:				28	28	180	180	180	180	180	180	28			
Project Number 423575.MP.02.GM.0 2 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 5/8/2014 COC Number: 7					Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6010B/6020A/7470ADis) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mo,Se	Metals (6020A) Field Filtered Mo,Se,Mn	Specific Conductance (E120.1)			
DATE	TIME	Matrix													
MW-58BR-198	5/6/2014	11:18	Water	X		X		X					N012512-15	2	
MW-64BR-198	5/6/2014	14:05	Water	X		X		X					-16	2	
MW-67-225-198	5/6/2014	8:32	Water	X		X		X		X	X		-17	3	
MW-68-240-198	5/6/2014	7:38	Water	X		X		X		X	X		-18	3	
MW-20-070-198	5/7/2014	10:17	Water		X			X	X		X		-19	3	
MW-20-100-198	5/7/2014	11:46	Water		X			X	X		X		-20	3	
MW-224-198	5/7/2014	5:30	Water	X									-21	1	
MW-59-100-198	5/7/2014	8:23	Water	X		X		X		X	X		-22	3	
MW-62-110-198	5/7/2014	13:50	Water	X		X		X		X	X		-23	3	
MW-62-190-198	5/7/2014	14:05	Water	X		X		X		X	X		-24	3	
MW-66-230-198	5/7/2014	7:14	Water	X		X		X		X	X		-25	3	
MW-225-198	5/8/2014	9:45	Water	X									-26	1	
TOTAL NUMBER OF CONTAINERS													66		

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		5-8-14	Method of Shipment:	courier		April 9 to May 15, 2014
Sampled by		1215	On Ice:	yes / no 3.8°/2.6°C		
Relinquished by		08 MAY 14 1215	Airbill No:	IR#2 ice		
Received by		08 MAY 14 1448	Lab Name:	ADVANCED TECHNOLOGY LABORATO		Report Copy to
Relinquished by		08 MAY 14 1448	Lab Phone:	(702) 307-2659		Shawn Duffy
Received by	Amanda Cortes	5/8/14 1448				(530) 229-3303

## ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 5/8/2014

Workorder: N012512

Rep sample Temp (Deg C): 3.8, 2.6

IR Gun ID: 2

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.: Na

Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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

AC

*ACortez*

5/8/2014

Reviewed By:

*gog*

05/09/14

## 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  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012512-025A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 6.7243 * 1000 \\ &= 6724.3\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 6700$$



5/22/2014

## Sample Calculation

**METHOD:** EPA 3500-Cr B

**TEST NAME:** HEXAVALENT CHROMIUM BY Colorimetric Method

**MATRIX:** Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in  $\mu\text{g/L}$ , in the original sample as follows:

$$\text{Hexavalent Chromium, } \mu\text{g/L} = A * DF$$

where:

A =  $\mu\text{g/L}$ , UV-VIS Hexavalent Chromium calculated concentration

DF = dilution factor

For **N012512-001A**, concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Hexavalent Chromium, } \mu\text{g/L} &= 484.481 * 5 \\ &= 2422.405 \mu\text{g/L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Hexavalent Chromium, } \mu\text{g/L} = \mathbf{2400} \mu\text{g/L}$$

*Nancy*

5/22/2014



## Sample Calculation

**METHOD:** EPA 6020

**TEST NAME:** Heavy Metals by ICP-MS

**MATRIX:** Aqueous

**FORMULA:**

Calculate the Selenium concentration, in ug/L, in the original sample as follows:

$$\text{Selenium, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N012512-002B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Selenium, ug/L} &= 35.395287916808 * 1 * (25/25) \\ &= 35.395287916808\end{aligned}$$

Reporting result in two significant figures,

$$\text{Selenium, ug/L} = 35$$

*Shoney*

5/22/2014

**ASSET Laboratories**
**ICP-Metals in Water**

Work Order No.: N012512  
 Test Method: EPA 6020  
 Analysis Date: 5/13/2014

**Dilution Test Summary**

Matrix: Water  
 Batch No.: 45642

Instrument ID: ICP-MS #2  
 Instrument Description: Agilent 7700x

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Be, Sb, Cd, Co, Pb, Mo, Ni, Ag, Ti, V & Z. The calculated values are <25X RL. PS @ 2x passed criteria.

Dilution test is not applicable to Cu & Mn. The calculated values are <25X RL. PS @ 5x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012512-001B-DT 5X	Antimony	µg/L	0	NA	0		10
N012512-001B-DT 5X	Arsenic	µg/L	40.88488106	PASS	38.38694402	6.51%	10
N012512-001B-DT 5X	Barium	µg/L	57.15383384	PASS	54.41467729	5.03%	10
N012512-001B-DT 5X	Beryllium	µg/L	0	NA	0		10
N012512-001B-DT 5X	Cadmium	µg/L	0	NA	0		10
N012512-001B-DT 5X	Cobalt	µg/L	0	NA	0		10
N012512-001B-DT 5X	Lead	µg/L	0	NA	0		10
N012512-001B-DT 5X	Molybdenum	µg/L	11.40401114	NA	11.38553272	0.16%	10
N012512-001B-DT 5X	Nickel	µg/L	0.3837519	NA	0.066766084	474.77%	10
N012512-001B-DT 5X	Selenium	µg/L	16.60955383	PASS	16.05534048	3.45%	10
N012512-001B-DT 5X	Silver	µg/L	0	NA	0		10
N012512-001B-DT 5X	Thallium	µg/L	0.08702369	NA	0.045977084	89.28%	10
N012512-001B-DT 5X	Vanadium	µg/L	17.3939646	NA	16.29048998	6.77%	10
N012512-001B-DT 5X	Zinc	µg/L	5.264808024	NA	3.816794679	37.94%	10
N012512-001B-DT 25X	Copper	µg/L	0	NA	0		10
N012512-001B-DT 25X	Manganese	µg/L	0	NA	0		10
N012512-001B-DT 125X	Chromium	µg/L	2183.791932	PASS	2190.846895	0.32%	10

Note: NA - Not applicable

5x  
5x

*Nancy* 5/22/2014  
 for

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012512  
Test Method: EPA 6020  
Analysis Date: 5/13/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45641

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Mn & Mo. The calculated values are <25X RL. PS @ 2x passed criteria.

Dilution test failed in Se.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012512-002B-DT 5X	Arsenic	µg/L	1.312302816	NA	1.325070456	0.96%	10
N012512-002B-DT 5X	Manganese	µg/L	0	NA	0		10
N012512-002B-DT 5X	Molybdenum	µg/L	9.48979154	NA	5.831411233	62.74%	10
N012512-002B-DT 5X	Selenium	µg/L	41.29245332	FAIL	35.39528792	16.66%	10

Note: NA - Not applicable

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012512  
Test Method: EPA 6020  
Analysis Date: 5/14/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45641

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012512-002B-DT 50X	Chromium	µg/L	785.0774732	PASS	747.0091698	5.10%	10

Note: NA - Not applicable

**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>N012512-002B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93451</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783562</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.843	0.20	20.00	1.325	103	80	120				
Manganese	166.547	1.0	200.0	0	83.3	80	120				
Molybdenum	29.584	1.0	20.00	5.831	119	80	120				
Selenium	61.216	1.0	20.00	35.40	129	80	120				S

**Qualifiers:**

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012512-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93451</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>			SeqNo: <b>1783513</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	21.221	1.0	20.00	0	106	80	120				
Arsenic	60.652	0.20	20.00	38.39	111	80	120				
Barium	264.087	2.0	200.0	54.41	105	80	120				
Beryllium	23.787	1.0	20.00	0	119	80	120				
Cadmium	19.664	1.0	20.00	0	98.3	80	120				
Cobalt	17.224	1.0	20.00	0	86.1	80	120				
Copper	14.440	2.0	20.00	0	72.2	75	125				S
Lead	21.936	2.0	20.00	0	110	80	120				
Manganese	142.213	1.0	200.0	0	71.1	75	125				S
Molybdenum	34.639	1.0	20.00	11.39	116	80	120				
Nickel	19.205	2.0	20.00	0.06677	95.7	80	120				
Selenium	35.579	1.0	20.00	16.06	97.6	80	120				
Silver	19.197	1.0	20.00	0	96.0	80	120				
Thallium	20.020	1.0	20.00	0.04598	99.9	80	120				
Vanadium	37.945	2.0	20.00	16.29	108	80	120				
Zinc	186.823	20	200.0	3.817	91.5	80	120				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits  
 Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012512-002B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93479</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45641</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/14/2014</b>	SeqNo: <b>1784237</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	32.176	10	100.0	747.0	-715	80	120				S

DT@50x is within criteria

*Monney* 5/22/2014

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
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:** N012512  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012512-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93464</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45642</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/13/2014</b>	SeqNo: <b>1783662</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2626.853	25	250.0	2191	174	80	120				S

DT @125x is within criteria

*Nancy* 5/22/2014

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
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

Work Order No.: N012512  
Test Method: EPA 7470  
Matrix: Aqueous

FORMULA:

Calculate the Mercury concentration in ug/L in the original sample as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

where:

A = ug/L, instrument calculated concentration  
DF = dilution factor

For: **N012512-001B**

The concentration in ug/L is calculated as follows:

$$\text{Hg} = \left[ \begin{array}{c} A \end{array} \right] \left[ \begin{array}{c} DF \end{array} \right]$$

$$\text{Hg} = \left[ \begin{array}{c} -0.12380 \end{array} \right] \left[ \begin{array}{c} 1 \end{array} \right]$$

$$\text{Hg} = -0.12380 \text{ ug/L}$$

Since result is less than reporting limit.

$$\text{Hg} = \text{ND} \text{ ug/L}$$

  
3/16/2014

May 29, 2014

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-00922

Workorder No.: N012552

RE: PG&E Topock, 423575.MP.08.WM

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 14, 2014 by ASSET Laboratories. 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, 423575.MP.08.WM  
**Lab Order:** N012552

**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 218.6**

Dilution was necessary for sample N012552-002 due to matrix interference. Sample was analyzed at lower dilution however matrix spike was not recovered indicating possible matrix interference. Sample was reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 6020\_Dissolved:**

Because the results for total dissolved chromium (13.764 ug/L) and hexavalent chromium (17.236 ug/L) for sample N012552-002 (MW-38d-198) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 13.412 and 14.720 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Dilution was necessary on sample N012552-002 due to failed Internal Standard when sample was analyzed at no dilution.

**ASSET Laboratories**

Date: 29-May-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.08.WM  
**Lab Order:** N012552  
**Contract No:** 2014-GMP-198B

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012552-001A	MW-38s-198	Water	5/14/2014 10:10:00 AM	5/14/2014	5/29/2014
N012552-001B	MW-38s-198	Water	5/14/2014 10:10:00 AM	5/14/2014	5/29/2014
N012552-001C	MW-38s-198	Water	5/14/2014 10:10:00 AM	5/14/2014	5/29/2014
N012552-001D	MW-38s-198	Water	5/14/2014 10:10:00 AM	5/14/2014	5/29/2014
N012552-001E	MW-38s-198	Water	5/14/2014 10:10:00 AM	5/14/2014	5/29/2014
N012552-002A	MW-38d-198	Water	5/14/2014 1:18:00 PM	5/14/2014	5/29/2014
N012552-002B	MW-38d-198	Water	5/14/2014 1:18:00 PM	5/14/2014	5/29/2014
N012552-002C	MW-38d-198	Water	5/14/2014 1:18:00 PM	5/14/2014	5/29/2014
N012552-002D	MW-38d-198	Water	5/14/2014 1:18:00 PM	5/14/2014	5/29/2014
N012552-002E	MW-38d-198	Water	5/14/2014 1:18:00 PM	5/14/2014	5/29/2014

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38s-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 10:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL FILTERABLE RESIDUE**
**SM2540C**

RunID: <b>WETCHEM_140515D</b>	QC Batch: <b>45691</b>	PrepDate: <b>5/15/2014</b>	Analyst: <b>LCC</b>
Total Dissolved Solids (Residue, Filterable)	950	10	10
		mg/L	1
			5/15/2014 01:23 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38d-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 1:18:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL FILTERABLE RESIDUE**
**SM2540C**

RunID: <b>WETCHEM_140515D</b>	QC Batch: <b>45691</b>	PrepDate: <b>5/15/2014</b>	Analyst: <b>LCC</b>
Total Dissolved Solids (Residue, Filterable)	14000	200	200
		mg/L	1
			5/15/2014 01:23 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 160.1\_2540C\_W

Sample ID: <b>MB-45691</b>	SampType: <b>MBLK</b>	TestCode: <b>160.1_2540C_</b> Units: <b>mg/L</b>	Prep Date: <b>5/15/2014</b>	RunNo: <b>93490</b>
Client ID: <b>PBW</b>	Batch ID: <b>45691</b>	TestNo: <b>SM2540C</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784450</b>
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: <b>LCS-45691</b>	SampType: <b>LCS</b>	TestCode: <b>160.1_2540C_</b> Units: <b>mg/L</b>	Prep Date: <b>5/15/2014</b>	RunNo: <b>93490</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45691</b>	TestNo: <b>SM2540C</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784451</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filtera	959.000	10 1000 0	95.9 80 120	

Sample ID: <b>N012552-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>160.1_2540C_</b> Units: <b>mg/L</b>	Prep Date: <b>5/15/2014</b>	RunNo: <b>93490</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45691</b>	TestNo: <b>SM2540C</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784453</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filtera	959.000	10	953.0 0.628	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38s-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 10:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	1.5 0.016	0.20	µg/L 1 5/15/2014 10:38 AM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	2.1 0.030	1.0	µg/L 1 5/16/2014 01:52 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38d-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 1:18:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	17	0.080	1.0		µg/L	5	5/15/2014 01:19 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>		PrepDate: <b>5/16/2014</b>		Analyst: <b>CEI</b>		
Chromium	14	0.030	1.0		µg/L	1	5/16/2014 01:58 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N012552  
 Project: PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6\_WPGE

Sample ID: <b>MB-R93491</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>
Client ID: <b>PBW</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784461</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	0.038	0.20			

Sample ID: <b>LCS-R93491</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>
Client ID: <b>LCSW</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784462</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	4.969	0.20	5.000	0	99.4 90 110

Sample ID: <b>N012552-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784464</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	2.461	0.20	1.000	1.463	99.8 90 110

Sample ID: <b>N012553-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784466</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	1.136	0.20	1.000	0.1138	102 90 110

Sample ID: <b>N012553-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784470</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Hexavalent Chromium	0.968	0.20	1.000	0	96.8 90 110

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012553-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784472</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				
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Sample ID: <b>N012552-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93491</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784474</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	42.214	1.0	25.00	17.24	99.9	90	110				
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Sample ID: <b>N012552-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784475</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.466	0.20						1.463	0.178	20	
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Sample ID: <b>N012552-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784476</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	2.430	0.20	1.000	1.463	96.6	90	110	2.461	1.28	20	
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Sample ID: <b>N012553-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.799	1.0	5.000	0.6205	104	90	110				
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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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012553-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784482</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.447	1.0	5.000	0	109	90	110				
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Sample ID: <b>N012553-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93491</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784484</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	19714.400	400	10000	9965	97.5	90	110				
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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

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:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45694</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785267</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45694</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785268</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.659	1.0	10.00	0	96.6	85	115				

Sample ID: <b>N012552-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785285</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.118	1.0	10.00	2.100	90.2	75	125				

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785286</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.131	1.0	10.00	2.100	90.3	75	125	11.12	0.121	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

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:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38s-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 10:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ALKALINITY, SPECIATED**
**SM 2320 B**

RunID: <b>WETCHEM_140516D</b>	QC Batch: <b>R93495</b>	PrepDate:	Analyst: <b>LCC</b>			
Alkalinity, Bicarbonate (As CaCO3)	190	1.2	5.0	mg/L	1	5/16/2014
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0	mg/L	1	5/16/2014
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0	mg/L	1	5/16/2014
Alkalinity, Total (As CaCO3)	190	1.2	5.0	mg/L	1	5/16/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38d-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 1:18:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ALKALINITY, SPECIATED**
**SM 2320 B**

RunID: <b>WETCHEM_140516D</b>	QC Batch: <b>R93495</b>	PrepDate:	Analyst: <b>LCC</b>
Alkalinity, Bicarbonate (As CaCO3)	31	1.2	5.0
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0
Alkalinity, Hydroxide (As CaCO3)	ND	1.2	5.0
Alkalinity, Total (As CaCO3)	31	1.2	5.0

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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: N012552  
 Project: PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 2320\_W\_SP

Sample ID: <b>LCS-R93495</b>	SampType: <b>LCS</b>	TestCode: <b>2320_W_SP</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93495</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93495</b>	TestNo: <b>SM 2320 B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	99.558	5.0	100.0	0	99.6	85	115				
Alkalinity, Total (As CaCO3)	103.982	5.0	100.0	0	104	85	115				

Sample ID: <b>MB-R93495</b>	SampType: <b>MBLK</b>	TestCode: <b>2320_W_SP</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93495</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93495</b>	TestNo: <b>SM 2320 B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	2.212	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Hydroxide (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	2.212	5.0									

Sample ID: <b>N012552-001C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>2320_W_SP</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93495</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93495</b>	TestNo: <b>SM 2320 B</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784530</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	190.265	5.0						190.3	0	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	190.265	5.0						190.3	0	30	

Sample ID: <b>N012552-002C-MS</b>	SampType: <b>MS</b>	TestCode: <b>2320_W_SP</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93495</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93495</b>	TestNo: <b>SM 2320 B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	128.319	5.0	100.0	30.97	97.3	75	125				
Alkalinity, Total (As CaCO3)	128.319	5.0	100.0	30.97	97.3	75	125				

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 2320\_W\_SP

Sample ID: <b>N012552-002C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>2320_W_SP</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93495</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93495</b>	TestNo: <b>SM 2320 B</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784533</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	128.319	5.0	100.0	30.97	97.3	75	125	128.3	0	20	
Alkalinity, Total (As CaCO3)	128.319	5.0	100.0	30.97	97.3	75	125	128.3	0	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

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:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38s-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 10:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**NITRATE/NITRITE-N BY CADMIUM REDUCTION**
**SM4500-NO3F**

RunID: <b>WETCHEM_140527C</b>	QC Batch: <b>R93602</b>	PrepDate:	Analyst: <b>PS</b>
Nitrate/Nitrite as N	0.57 0.022	0.050	mg/L 1 5/27/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38d-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 1:18:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**NITRATE/NITRITE-N BY CADMIUM REDUCTION**
**SM4500-NO3F**

RunID: <b>WETCHEM_140527C</b>	QC Batch: <b>R93602</b>	PrepDate:	Analyst: <b>PS</b>
Nitrate/Nitrite as N	0.087	0.022	0.050
			mg/L
			1
			5/27/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 4500N03F\_W

Sample ID: <b>MB-R93602</b>	SampType: <b>MBLK</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93602</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93602</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1788430</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID: <b>LCS-R93602</b>	SampType: <b>LCS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93602</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93602</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1788431</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.959	0.050	1.000	0	95.9	85	115				

Sample ID: <b>N012552-001D-MS</b>	SampType: <b>MS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93602</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93602</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1788439</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.619	0.050	1.000	0.5706	105	85	115				

Sample ID: <b>N012552-001D-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:				RunNo: <b>93602</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93602</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1788440</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.587	0.050	1.000	0.5706	102	85	115	1.619	2.00	20	

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38s-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 10:10:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	11 0.027	0.10	µg/L 1 5/16/2014 01:52 PM
Manganese	220 0.13	2.5	µg/L 5 5/16/2014 03:17 PM
Molybdenum	40 0.15	0.50	µg/L 1 5/16/2014 01:52 PM
Selenium	ND 0.069	0.50	µg/L 1 5/16/2014 01:52 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 29-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-38d-198
<b>Lab Order:</b>	N012552	<b>Collection Date:</b>	5/14/2014 1:18:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.08.WM	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012552-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	6.5 0.027	0.10	µg/L 1 5/16/2014 01:58 PM
Manganese	160 0.026	0.50	µg/L 1 5/16/2014 01:58 PM
Molybdenum	85 0.76	2.5	µg/L 5 5/20/2014 12:33 PM
Selenium	ND 0.34	2.5	µg/L 5 5/20/2014 12:33 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>MB-45694</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785130</b>						
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									

Sample ID: <b>LCS-45694</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	9.840	0.10	10.00	0	98.4	85	115				
Manganese	99.171	0.50	100.0	0	99.2	85	115				
Molybdenum	9.819	0.50	10.00	0	98.2	85	115				
Selenium	9.624	0.50	10.00	0	96.2	85	115				

Sample ID: <b>N012552-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785148</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	20.651	0.10	10.00	11.48	91.8	75	125				
Molybdenum	51.358	0.50	10.00	40.02	113	75	125				
Selenium	9.910	0.50	10.00	0.1867	97.2	75	125				

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785149</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	21.064	0.10	10.00	11.48	95.9	75	125	20.65	1.98	20	
Molybdenum	51.844	0.50	10.00	40.02	118	75	125	51.36	0.943	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
 3151 W. Post Rd, Las Vegas, NV 89118  
 P: 702.307.2659 F: 702.307.2691  
[www.assetlaboratories.com](http://www.assetlaboratories.com)

**CLIENT:** CH2M HILL  
**Work Order:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6020\_DIS**

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785149</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium	9.974	0.50	10.00	0.1867	97.9	75	125	9.910	0.643	20	
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Sample ID: <b>N012552-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785154</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	306.660	2.5	100.0	215.0	91.6	75	125				
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Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785157</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Manganese	310.506	2.5	100.0	215.0	95.5	75	125	306.7	1.25	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

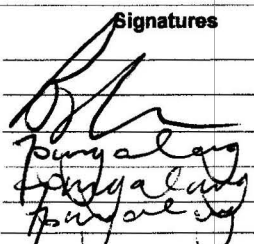
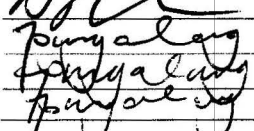
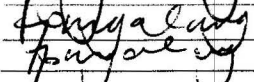
H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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Advanced Technology Laboratories, Inc.  
 dba **ASSET Laboratories**



<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>QC Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.08.WM <b>Project</b> 2014-GMP-198B-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 5/13/2014 <b>COC Number:</b> GMP-198b		<b>Container:</b> 250 ml Poly <b>Preservatives:</b> (NH4)2SO4/NH4OH, 4°C <b>Filtered:</b> Field <b>Holding Time:</b> 28	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	500 ml Poly HNO3, 4°C Field 180	2x1 Liter 4°C NA 7	2x1 Liter 4°C NA 7	2x1 Liter 4°C NA 7	125 ml Poly H2SO4, pH<2, 4°C NA 28	1 Liter Poly H2SO4, pH<2, 4°C NA 28	Number of Containers	COMMENTS	
			C16 (E218.6) FF	Arsenic (6020A) FF Metals (60108FF) FF Ca, K, Mg, Na, Fe (Hold)	Metals (6020A) FF Chromium	Metals (6020A) FF Mo, Mn, Se	Anions (E300.0) Chloride, Sulfate - (Hold)	TDS (SM2540C)	Alkalinity (SM2320B)	Nitrate/Nitrite (SM4500NO3)	Ammonia (SM4500NH3) (Hold)				
MW-385-198	5-14-14	1010	Water	X	X	X	X	X	X	X	X	X	No 12552-1	6	
MW-384-198	1	1318	1	X	X	X	X	X	X	X	X	X	-2	6	
TOTAL NUMBER OF CONTAINERS													12		

<b>Approved by</b> <b>Sampled by</b> <b>Relinquished by</b> <b>Received by</b> <b>Relinquished by</b> <b>Received by</b>	<b>Signatures</b>   	<b>Date/Time</b> 5-14-14 1350 5/14/14 1350 5/14/14 5/14/14 1600	<b>Shipping Details</b> <b>Method of Shipment:</b> FedEx <b>On Ice:</b> (yes) / no 2-44 <b>Airbill No:</b> 1242 <b>Lab Name:</b> ADVANCED TECHNOLOGY LABORATORY <b>Lab Phone:</b> (702) 307-2659	<b>ATTN:</b> <b>Sample Custody</b> and Marlon	<b>Special Instructions:</b> <b>Report Copy to</b> Shawn Duffy (530) 229-3303
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## ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 5/14/2014 Workorder: N012552  
 Rep sample Temp (Deg C): 2.4 IR Gun ID: 2  
 Temp Blank: ☐ Yes ☒ No  
 Carrier name: ATL  
 Last 4 digits of Tracking No.: NA Packing Material Used: None  
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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 *MBC* 5/15/2014

Reviewed By: *gog* 05/20/14

## 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:

$$\text{TDS, mg/L} = \frac{(A-B) \times 1000000}{C}$$

Where:

A = weight in g of dish + residue after drying

B = weight of dish in g

C = volume of sample used in mL

For **N012552-001C**, TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(60.4193 - 60.3240) \times 1000000}{100}$$

953 mg/L

Reporting result in two significant figures,

$$\text{TDS} = 950 \text{ mg/L}$$

  
5/16/2014

TOTAL DISSOLVED SOLIDS, TDS

$$\text{TDS, mg/L} = (A-B) \times 1000000 / C$$

WHERE:

A = weight in grams of dish + residue after drying

B = weight of dish in grams

C = volume of sample used in mL

Date Started: 5/15/2014								TDS/CONDUCTIVITY
Date Finished: 5/26/2014	vol	initial	final	calc	prep fact	TDS, mg/L	CONDUCTIVITY	RATIO
MB-45691	100	64.0007	64.0009	2	1	2.00		
LCS-45691	100	62.1297	62.2256	959	1	959.00		
N012552-001C	100	60.324	60.4193	953	1	953.00	1576	0.60
N012552-001C-DUP	100	60.3503	60.4462	959	1	959.00	1576	0.61
N012552-002C	5	63.7862	63.8555	693	20	13860.00	19820	0.70

*mer*  
5/16/2014

## 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  $\text{Cr}^{+6}$  calculated concentration  
 $\text{DF} = \text{dilution factor}$

For **N012552-002A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 3.4472 * 5 \\ &= 17.236\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 17$$

*Nancy*

5/27/2014

Sample ID: **N012552-001C @ pH 8.04**

A. Standardization of Sulfuric Acid (titrant):

$$\text{Normality of acid} = (A)(B)/(53.00)(C)$$

Where:

A, grams weighed for Na<sub>2</sub>CO<sub>3</sub> solution (Na<sub>2</sub>CO<sub>3</sub> Standardization Solution)

B, mL Na<sub>2</sub>CO<sub>3</sub> solution taken for titration, and

C, ml of sulfuric acid used to inflection point

Spike Standards

**Na<sub>2</sub>CO<sub>3</sub> Standardization Solution**, ACS Grade (1.00 ml = 2500ug as CaCO<sub>3</sub>):  
Dissolve 2.650 grams of Na<sub>2</sub>CO<sub>3</sub> in distilled water and dilute to 1 liter.

**LCS/MS/MSD Stock** NaHCO<sub>3</sub>, ACS Grade (1.00 ml = 5000 ug as CaCO<sub>3</sub>):  
Dissolve 0.8398 grams of NaHCO<sub>3</sub> in distilled water and dilute to 1 liter.

Therefore,

$$\begin{aligned}\text{Normality of Acid} &= (2.65\text{g/L}) (5\text{mL}) / (53.00) (11.30\text{mL}) \\ &= \mathbf{0.02212\text{ N}}\end{aligned}$$

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

$$\text{Total Alkalinity (as CaCO}_3\text{), mg/L} = M_{\text{vol.}} * N \text{ H}_2\text{SO}_4 * \text{DF} * 1000$$

Where:

M<sub>vol.</sub>, volume titrant used to reach pH 4.5, ml

N, Normality of H<sub>2</sub>SO<sub>4</sub>

DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

$$\begin{aligned}\text{Total Alkalinity (as CaCO}_3\text{), mg/L} &= (8.60) (0.02212\text{ N}) (1) * 1000 \\ &= \mathbf{190.2\text{mg/L}}\end{aligned}$$

Reporting results in two significant figures,

$$= \mathbf{190.00\text{ mg/L as CaCO}_3}$$

  
5/16/2014

### C. SPECIATED ALKALINITY:

#### Phenolphthalein Alkalinity

$$\begin{aligned} \text{P alkalinity, mg/L as CaCO}_3 &= P_{\text{vol.}} * N \text{ H}_2\text{SO}_4 * \text{DF} * 1000 \\ &= (0) (0.02212 \text{ N}) (1) * 1000 \\ &= \mathbf{0} \end{aligned}$$

#### Total Alkalinity

$$\begin{aligned} \text{T alkalinity, mg/L as CaCO}_3 &= M_{\text{vol.}} * N \text{ H}_2\text{SO}_4 * \text{DF} * 1000 \\ &= (8.60 \text{ mL}) (0.02212) (1) * 1000 \\ &= \mathbf{190.2 \text{ mg/L as CaCO}_3} \end{aligned}$$

Where:

- $P_{\text{vol.}}$  - volume titrant used to reach pH 8.3, ml
- $M_{\text{vol.}}$  - volume titrant used to reach pH 4.5, ml
- $N$  - Normality of  $\text{H}_2\text{SO}_4$
- $\text{DF}$  - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH,  $\text{CO}_3$ ,  $\text{HCO}_3$  alkalinities as  $\text{CaCO}_3$  will be calculated as follows:

Result of Titration	OH Alkalinity as $\text{CaCO}_3$	$\text{CO}_3$ Alkalinity as $\text{CaCO}_3$	$\text{HCO}_3$ Alkalinity as $\text{CaCO}_3$
$P = 0$	0	0	T
$P < \frac{1}{2} T$	0	2P	$T - 2P$
$P = \frac{1}{2} T$	0	2P	0
$P > \frac{1}{2} T$	$2P - T$	$2(T - P)$	0
$P = T$	T	0	0

Therefore,

$$\text{OH Alkalinity as CaCO}_3 = \mathbf{0}$$

$$\text{CO}_3 \text{ Alkalinity as CaCO}_3 = \mathbf{0}$$

$$\text{HCO}_3 \text{ Alkalinity as CaCO}_3 = \mathbf{190.00 \text{ mg/L}}$$

Reporting results in two significant figures,

$$\text{OH Alkalinity as CaCO}_3 = \mathbf{0}$$

$$\text{CO}_3 \text{ Alkalinity as CaCO}_3 = \mathbf{0}$$

$$\text{HCO}_3 \text{ Alkalinity as CaCO}_3 = \mathbf{190. \text{ mg/L}}$$

## Sample Calculation

**METHOD:** SM4500N03

**TEST NAME:** Nitrate by Cadmium Reduction

**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, Nitrate calculated concentration

DF = dilution factor

For **N012552-001D**, concentration in µg/L is calculated as follows:

$$\begin{aligned}\text{Nitrate, mg /L} &= 0.5706 * 1 \\ &= 0.5706 \text{ mg /L}\end{aligned}$$

Reporting results in two significant figures,

$$\text{Nitrate, mg /L} = 0.57 \text{ mg /L}$$

*Nancy*

5/29/2014



## Sample Calculation

**METHOD:** EPA 6020

**TEST NAME:** Heavy Metals by ICP-MS

**MATRIX:** Aqueous

**FORMULA:**

Calculate the Manganese concentration, in ug/L, in the original sample as follows:

$$\text{Manganese, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N012552-002B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Manganese, ug/L} &= 157.285954065691 * 1 * (25/25) \\ &= 157.285954065691\end{aligned}$$

Reporting result in two significant figures,

$$\text{Manganese, ug/L} = 160$$



5/27/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012552  
Test Method: EPA 6020  
Analysis Date: 5/16/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45694

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se & Cr. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012552-001B-DT 5X	Arsenic	µg/L	11.39194113	PASS	11.47517973	0.73%	10
N012552-001B-DT 25X	Manganese	µg/L	232.0858824	PASS	215.047108	7.92%	10
N012552-001B-DT 5X	Molybdenum	µg/L	42.04314414	PASS	40.02419904	5.04%	10
N012552-001B-DT 5X	Selenium	µg/L	0	NA	0.186681825	100.00%	10
N012552-001B-DT 5X	Chromium	µg/L	3.242231122	NA	2.099779292	54.41%	10

Note: NA - Not applicable

**CLIENT:** CH2M HILL  
**Work Order:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93509</b>			
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>			SeqNo: <b>1785147</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	31.232	0.20	20.00	11.48	98.8	80	120				
Molybdenum	62.877	1.0	20.00	40.02	114	80	120				
Selenium	21.215	1.0	20.00	0.1867	105	80	120				

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93509</b>			
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>			SeqNo: <b>1785153</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	721.828	2.5	500.0	215.0	101	80	120				

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits  
 Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012552  
**Project:** PG&E Topock, 423575.MP.08.WM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785284</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.232	2.0	20.00	2.100	95.7	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

May 29, 2014

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-00922

Workorder No.: N012553

RE: PG&E Topock, 423575.MP.02.GM.02

Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 14, 2014 by ASSET Laboratories . 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, 423575.MP.02.GM.02  
**Lab Order:** N012553

**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 218.6**

Dilution was necessary for samples N012553-007 and N012553-008 due to matrix interference. Samples were analyzed at lower dilutions however matrix spikes were not recovered indicating possible matrix interference. Samples were reported at dilution that meet matrix spike recovery limit.

**Analytical Comments for EPA 6020\_Dissolved:**

Dilution was necessary on samples N012553-004, N012553-007 and N012553-008 due to failed Internal Standard when samples were analyzed at no dilution.

**ASSET Laboratories**

Date: 28-May-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012553  
**Contract No:** 2014-GMP-198-

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012553-001A	MW-20-130-198	Water	5/12/2014 12:26:00 PM	5/14/2014	5/29/2014
N012553-001B	MW-20-130-198	Water	5/12/2014 12:26:00 PM	5/14/2014	5/29/2014
N012553-001C	MW-20-130-198	Water	5/12/2014 12:26:00 PM	5/14/2014	5/29/2014
N012553-002A	MW-31-060-198	Water	5/12/2014 9:30:00 AM	5/14/2014	5/29/2014
N012553-002B	MW-31-060-198	Water	5/12/2014 9:30:00 AM	5/14/2014	5/29/2014
N012553-003A	MW-50-200-198	Water	5/12/2014 8:34:00 AM	5/14/2014	5/29/2014
N012553-003B	MW-50-200-198	Water	5/12/2014 8:34:00 AM	5/14/2014	5/29/2014
N012553-004A	MW-51-198	Water	5/12/2014 11:12:00 AM	5/14/2014	5/29/2014
N012553-004B	MW-51-198	Water	5/12/2014 11:12:00 AM	5/14/2014	5/29/2014
N012553-004C	MW-51-198	Water	5/12/2014 11:12:00 AM	5/14/2014	5/29/2014
N012553-005A	MW-68-180-198	Water	5/12/2014 7:00:00 AM	5/14/2014	5/29/2014
N012553-005B	MW-68-180-198	Water	5/12/2014 7:00:00 AM	5/14/2014	5/29/2014
N012553-005C	MW-68-180-198	Water	5/12/2014 7:00:00 AM	5/14/2014	5/29/2014
N012553-006A	MW-226-198	Water	5/13/2014 6:20:00 AM	5/14/2014	5/29/2014
N012553-007A	MW-66BR-270-198	Water	5/13/2014 9:40:00 AM	5/14/2014	5/29/2014
N012553-007B	MW-66BR-270-198	Water	5/13/2014 9:40:00 AM	5/14/2014	5/29/2014
N012553-007C	MW-66BR-270-198	Water	5/13/2014 9:40:00 AM	5/14/2014	5/29/2014
N012553-008A	MW-68BR-280-198	Water	5/13/2014 8:40:00 AM	5/14/2014	5/29/2014
N012553-008B	MW-68BR-280-198	Water	5/13/2014 8:40:00 AM	5/14/2014	5/29/2014
N012553-008C	MW-68BR-280-198	Water	5/13/2014 8:40:00 AM	5/14/2014	5/29/2014
N012553-009A	TW-01-198	Water	5/13/2014 11:56:00 AM	5/14/2014	5/29/2014
N012553-009B	TW-01-198	Water	5/13/2014 11:56:00 AM	5/14/2014	5/29/2014
N012553-009C	TW-01-198	Water	5/13/2014 11:56:00 AM	5/14/2014	5/29/2014
N012553-010A	MW-10-198	Water	5/14/2014 7:18:00 AM	5/14/2014	5/29/2014
N012553-010B	MW-10-198	Water	5/14/2014 7:18:00 AM	5/14/2014	5/29/2014
N012553-010C	MW-10-198	Water	5/14/2014 7:18:00 AM	5/14/2014	5/29/2014
N012553-011A	MW-120-198	Water	5/14/2014 7:00:00 AM	5/14/2014	5/29/2014
N012553-011B	MW-120-198	Water	5/14/2014 7:00:00 AM	5/14/2014	5/29/2014
N012553-011C	MW-120-198	Water	5/14/2014 7:00:00 AM	5/14/2014	5/29/2014

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.GM.02  
**Lab Order:** N012553  
**Contract No:** 2014-GMP-198-

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## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012553-012A	MW-227-198	Water	5/14/2014 6:30:00 AM	5/14/2014	5/29/2014
N012553-013A	MW-228-198	Water	5/14/2014 1:33:00 PM	5/14/2014	5/29/2014



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-130-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 12:26:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	9900 0.10 0.10	umhos/cm	1 5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-51-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 11:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	9900 0.10 0.10	umhos/cm	1 5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68-180-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	3000	0.10	0.10
		umhos/cm	1
			5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66BR-270-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 9:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	15000	0.10	0.10	umhos/cm	1	5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68BR-280-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 8:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>			
Specific Conductance	19000	0.10	0.10	umhos/cm	1	5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	TW-01-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 11:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	6000	0.10	0.10
		umhos/cm	1
			5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-10-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	2400 0.10 0.10	umhos/cm	1 5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-120-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**
**EPA 120.1**

RunID: <b>WETCHEM_140515B</b>	QC Batch: <b>R93473</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	2400	0.10	0.10
		umhos/cm	1
			5/15/2014

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 120.1\_WPGE**

Sample ID: <b>N012553-011C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:	RunNo: <b>93473</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93473</b>	TestNo: <b>EPA 120.1</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784043</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	2430.000	0.10						2410	0.826	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-130-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 12:26:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	9100 28	200	5/16/2014
		µg/L	20

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140520A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	9000 3.0	100	5/20/2014 12:39 PM
		µg/L	100

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-31-060-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 9:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140515E</b>	QC Batch: <b>R93493</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	270 1.4	10 µg/L	1 5/15/2014

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	270 0.15	5.0 µg/L	5 5/16/2014 05:07 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-50-200-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 8:34:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	7400 14	100	5/16/2014
		µg/L	10

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	7200 1.5	50	5/16/2014 05:12 PM
		µg/L	50

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-51-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 11:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	4800 14	100	5/16/2014
		µg/L	10

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	4700 1.5	50	5/16/2014 05:18 PM
		µg/L	50

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68-180-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	10000	32	400		µg/L	2000	5/15/2014 02:59 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>		PrepDate: <b>5/16/2014</b>		Analyst: <b>CEI</b>		
Chromium	11000	3.0	100		µg/L	100	5/16/2014 05:23 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-226-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 6:20:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/15/2014 11:19 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66BR-270-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 9:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.080	1.0	µg/L 5 5/15/2014 02:19 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 5/16/2014 02:49 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68BR-280-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 8:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.080	1.0	µg/L 5 5/15/2014 02:39 PM

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	ND 0.030	1.0	µg/L 1 5/16/2014 02:54 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	TW-01-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 11:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140516B</b>	QC Batch: <b>R93492</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	2800 6.9	50	5/16/2014
		µg/L	

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	2700 0.76	25	5/16/2014 05:40 PM
		µg/L	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-10-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140515E</b>	QC Batch: <b>R93493</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	260 1.4	10 µg/L	1 5/15/2014

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	250 0.15	5.0 µg/L	5 5/16/2014 05:45 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-120-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM**
**SM 3500-CR B**

RunID: <b>WETCHEM_140515E</b>	QC Batch: <b>R93493</b>	PrepDate:	Analyst: <b>PS</b>
Chromium, Hexavalent	260 1.4	10 µg/L	1 5/15/2014

**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Chromium	260 0.15	5.0 µg/L	5 5/16/2014 06:02 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-227-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 6:30:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/15/2014 12:39 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-228-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 1:33:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**HEXAVALENT CHROMIUM BY IC**
**EPA 218.6**

RunID: <b>IC6_140515A</b>	QC Batch: <b>R93491</b>	PrepDate:	Analyst: <b>RB</b>
Hexavalent Chromium	ND 0.016	0.20	µg/L 1 5/15/2014 12:59 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>MB-R93491</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784461</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.038	0.20									

Sample ID: <b>LCS-R93491</b>	SampType: <b>LCS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.969	0.20	5.000	0	99.4	90	110				

Sample ID: <b>N012552-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784464</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.461	0.20	1.000	1.463	99.8	90	110				

Sample ID: <b>N012553-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784466</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.136	0.20	1.000	0.1138	102	90	110				

Sample ID: <b>N012553-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784470</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.968	0.20	1.000	0	96.8	90	110				

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012553-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784472</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				
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Sample ID: <b>N012552-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784474</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	42.214	1.0	25.00	17.24	99.9	90	110				
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Sample ID: <b>N012552-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784475</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.466	0.20						1.463	0.178	20	
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Sample ID: <b>N012552-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93491</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784476</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	2.430	0.20	1.000	1.463	96.6	90	110	2.461	1.28	20	
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Sample ID: <b>N012553-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.799	1.0	5.000	0.6205	104	90	110				
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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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6\_WPGE

Sample ID: <b>N012553-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784482</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	5.447	1.0	5.000	0	109	90	110				
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Sample ID: <b>N012553-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6_WPGE</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93491</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93491</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784484</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	19714.400	400	10000	9965	97.5	90	110				
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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

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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 3500\_CrBPGE

Sample ID: <b>LCS-R93492</b>	SampType: <b>LCS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784495</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent	102.351	10	100.0	0	102	85	115				
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Sample ID: <b>MB-R93492</b>	SampType: <b>MBLK</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784496</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent	ND	10									
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Sample ID: <b>N012512-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93492</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1784503</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent	3333.755	50	1250	2174	92.8	85	115				
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Sample ID: <b>N012512-009A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93492</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93492</b>	TestNo: <b>SM 3500-Cr B</b>		Analysis Date: <b>5/16/2014</b>				SeqNo: <b>1784504</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent	3377.265	50	1250	2174	96.3	85	115	3334	1.30	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

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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 3500\_CrBPGE

Sample ID: <b>LCS-R93493</b>	SampType: <b>LCS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93493</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R93493</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784514</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	96.829	10	100.0	0	96.8	85	115				

Sample ID: <b>MB-R93493</b>	SampType: <b>MBLK</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93493</b>			
Client ID: <b>PBW</b>	Batch ID: <b>R93493</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784515</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	10									

Sample ID: <b>N012553-011A-MS</b>	SampType: <b>MS</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93493</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93493</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784519</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	510.913	10	250.0	261.7	99.7	85	115				

Sample ID: <b>N012553-011A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>3500_CrBPG</b>	Units: <b>µg/L</b>	Prep Date:				RunNo: <b>93493</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93493</b>	TestNo: <b>SM 3500-Cr B</b>			Analysis Date: <b>5/15/2014</b>				SeqNo: <b>1784520</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	514.225	10	250.0	261.7	101	85	115	510.9	0.646	20	

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits  
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H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>MB-45694</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785267</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45694</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785268</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.659	1.0	10.00	0	96.6	85	115				

Sample ID: <b>N012552-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785285</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.118	1.0	10.00	2.100	90.2	75	125				

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785286</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.131	1.0	10.00	2.100	90.3	75	125	11.12	0.121	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

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:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-10-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140515A</b>	QC Batch: <b>R93482</b>	PrepDate:	Analyst: <b>RB</b>
Fluoride	4.5 0.055 0.50	mg/L	5 5/15/2014 10:41 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-120-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY**
**EPA 300.0**

RunID: <b>IC2_140515A</b>	QC Batch: <b>R93482</b>	PrepDate:	Analyst: <b>RB</b>
Fluoride	4.5 0.055 0.50	mg/L	5 5/15/2014 10:54 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 300\_W\_FPGE**

Sample ID: <b>MB-R93482_F</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93482</b>
Client ID: <b>PBW</b>	Batch ID: <b>R93482</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784283</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	ND	0.10			

Sample ID: <b>LCS-R93482_F</b>	SampType: <b>LCS</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93482</b>
Client ID: <b>LCSW</b>	Batch ID: <b>R93482</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784284</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	2.404	0.10	2.500	0	96.2 90 110

Sample ID: <b>N012553-010C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93482</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93482</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784287</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	4.540	0.50			4.455 1.89 20

Sample ID: <b>N012553-010C-MS</b>	SampType: <b>MS</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93482</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93482</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784288</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	16.490	0.50	12.50	4.455	96.3 80 120

Sample ID: <b>N012553-010C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>300_W_FPGE</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93482</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93482</b>	TestNo: <b>EPA 300.0</b>		Analysis Date: <b>5/15/2014</b>	SeqNo: <b>1784289</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	16.370	0.50	12.50	4.455	95.3 80 120 16.49 0.730 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

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:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-20-130-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 12:26:00 PM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	5.0 0.027	0.10	µg/L 1 5/16/2014 02:03 PM
Manganese	ND 0.026	0.50	µg/L 1 5/16/2014 02:03 PM
Molybdenum	41 0.15	0.50	µg/L 1 5/16/2014 02:03 PM
Selenium	27 0.069	0.50	µg/L 1 5/16/2014 02:03 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-51-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 11:12:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	3.9 0.027	0.10	µg/L 1 5/16/2014 02:20 PM
Manganese	ND 0.026	0.50	µg/L 1 5/16/2014 02:20 PM
Molybdenum	44 0.15	0.50	µg/L 1 5/16/2014 02:20 PM
Selenium	16 0.34	2.5	µg/L 5 5/22/2014 01:37 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68-180-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/12/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	2.9 0.027	0.10	µg/L 1 5/16/2014 02:43 PM
Manganese	ND 0.026	0.50	µg/L 1 5/16/2014 02:43 PM
Molybdenum	39 0.15	0.50	µg/L 1 5/16/2014 02:43 PM
Selenium	13 0.069	0.50	µg/L 1 5/16/2014 02:43 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-66BR-270-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 9:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	ND 0.13	0.50	µg/L 5 5/16/2014 05:29 PM
Manganese	ND 0.026	0.50	µg/L 1 5/16/2014 02:49 PM
Molybdenum	13 0.76	2.5	µg/L 5 5/16/2014 05:29 PM
Selenium	ND 1.7	12	µg/L 25 5/20/2014 12:43 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-68BR-280-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 8:40:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Arsenic	1.3 0.13	0.50	µg/L 5 5/16/2014 05:34 PM
Manganese	39 0.026	0.50	µg/L 1 5/16/2014 02:54 PM
Molybdenum	73 0.76	2.5	µg/L 5 5/16/2014 05:34 PM
Selenium	ND 0.34	2.5	µg/L 5 5/16/2014 05:34 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	TW-01-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/13/2014 11:56:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Molybdenum	15 0.15	0.50	µg/L 1 5/16/2014 03:00 PM
Selenium	17 0.069	0.50	µg/L 1 5/16/2014 03:00 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-10-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:18:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Molybdenum	28 0.15	0.50	µg/L 1 5/16/2014 03:06 PM
Selenium	5.9 0.069	0.50	µg/L 1 5/16/2014 03:06 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 28-May-14

<b>CLIENT:</b>	CH2M HILL	<b>Client Sample ID:</b>	MW-120-198
<b>Lab Order:</b>	N012553	<b>Collection Date:</b>	5/14/2014 7:00:00 AM
<b>Project:</b>	PG&E Topock, 423575.MP.02.GM.02	<b>Matrix:</b>	WATER
<b>Lab ID:</b>	N012553-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**DISSOLVED METALS BY ICP-MS**
**EPA 3010A**
**EPA 6020**

RunID: <b>ICP7_140516A</b>	QC Batch: <b>45694</b>	PrepDate: <b>5/16/2014</b>	Analyst: <b>CEI</b>
Molybdenum	28 0.15	0.50	µg/L 1 5/16/2014 03:11 PM
Selenium	6.4 0.069	0.50	µg/L 1 5/16/2014 03:11 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	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:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: MB-45694	SampType: MBLK	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/16/2014	RunNo: 93509						
Client ID: PBW	Batch ID: 45694	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/16/2014	SeqNo: 1785130						
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									

Sample ID: LCS-45694	SampType: LCS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/16/2014	RunNo: 93509						
Client ID: LCSW	Batch ID: 45694	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/16/2014	SeqNo: 1785131						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.840	0.10	10.00	0	98.4	85	115				
Manganese	99.171	0.50	100.0	0	99.2	85	115				
Molybdenum	9.819	0.50	10.00	0	98.2	85	115				
Selenium	9.624	0.50	10.00	0	96.2	85	115				

Sample ID: N012552-001B-MS	SampType: MS	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/16/2014	RunNo: 93509						
Client ID: ZZZZZZ	Batch ID: 45694	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/16/2014	SeqNo: 1785148						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.651	0.10	10.00	11.48	91.8	75	125				
Molybdenum	51.358	0.50	10.00	40.02	113	75	125				
Selenium	9.910	0.50	10.00	0.1867	97.2	75	125				

Sample ID: N012552-001B-MSD	SampType: MSD	TestCode: 6020_DIS	Units: µg/L	Prep Date: 5/16/2014	RunNo: 93509						
Client ID: ZZZZZZ	Batch ID: 45694	TestNo: EPA 6020	EPA 3010A	Analysis Date: 5/16/2014	SeqNo: 1785149						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.064	0.10	10.00	11.48	95.9	75	125	20.65	1.98	20	
Molybdenum	51.844	0.50	10.00	40.02	118	75	125	51.36	0.943	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785149</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.974	0.50	10.00	0.1867	97.9	75	125	9.910	0.643	20	

Sample ID: <b>N012552-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785154</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	306.660	2.5	100.0	215.0	91.6	75	125				

Sample ID: <b>N012552-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/16/2014</b>	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785157</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	310.506	2.5	100.0	215.0	95.5	75	125	306.7	1.25	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  
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H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Advanced Technology Laboratories, Inc.  
 dba **ASSET Laboratories**

Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy Project Number 423575.MP.02.GM.02 Task Order Project 2014-GMP-198-Q2 Turnaround Time 10 Days Shipping Date: 4/3/2014 COC Number: ATL-198-Q2				Container:	250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	250 ml Poly	250 ml Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C			
Filtered:				Field	Field	Field	Field	Field	Field	NA	NA			
Holding Time:				28	28	180	180	180	180	28	28			
				Cr6 (E218.6) Field Filtered	Cr6 (SM3500B) Field Filtered	Arsenic (6020A) Field Filtered	Metals (6020A) Field Filtered Chromium	Metals (6020A) Field Filtered Mo,Se	Metals (6020A) Field Filtered Mo,Se,Mn	Anions (E300.0) Fluoride	Specific Conductance (E120.1)			
DATE	TIME	Matrix												
MW-20-130-198	5/12/2014	12:26	Water		X	X	X		X		X	NO12553-1	3	
MW-31-060-198	5/12/2014	9:30	Water		X		X					-2	2	
MW-50-200-198	5/12/2014	8:34	Water		X		X					-3	2	
MW-51-198	5/12/2014	11:12	Water		X	X	X		X		X	-4	3	
MW-68-180-198	5/12/2014	7:00	Water	X		X	X		X		X	-5	3	
MW-226-198	5/13/2014	6:20	Water	X								-6	1	
MW-66BR-270-198	5/13/2014	9:40	Water	X		X	X		X		X	-7	3	
MW-68BR-280-198	5/13/2014	8:40	Water	X		X	X		X		X	-8	3	
TW-01-198	5/13/2014	11:56	Water		X		X	X			X	-9	3	
MW-10-198	5/14/2014	7:18	Water		X		X	X		X	X	-10	3	
MW-120-198	5/14/2014	7:00	Water		X		X	X		X	X	-11	3	
MW-227-198	5/14/2014	6:30	Water	X								-12	1	
MW-228-198	5/14/2014	13:33	Water	X								-13	1	
TOTAL NUMBER OF CONTAINERS													31	

Signatures	Date/Time	Shipping Details	ATTN:	Special Instructions:
Approved by	5-14-14	Method of Shipment: FedEx		April 9 to May 15, 2014
Sampled by	1350	On Ice: yes 1 no 2-4°C / 2-7°C	Sample Custody	
Relinquished by		Airbill No: 1421	and	Report Copy to
Received by	5/14/14 1351	Lab Name: ADVANCED TECHNOLOGY LABORATO	Marlon	Shawn Duffy
Relinquished by	5/14/14 1600	Lab Phone: (702) 307-2659		(530) 229-3303
Received by	5/14/14 1600			

## ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 5/14/2014 Workorder: N012553  
 Rep sample Temp (Deg C): 2.4, 2.7 IR Gun ID: 2  
 Temp Blank: ☐ Yes ☒ No  
 Carrier name: ATL  
 Last 4 digits of Tracking No.: NA Packing Material Used: None  
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |                             |   |
|---|---|-----------------------------|---|
| 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?<br>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 *mbc* 5/15/2014

Reviewed By: *gog* 05/20/14

## 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  $\text{Cr}^{+6}$  calculated concentration  
 $\text{DF}$  = dilution factor

For **N012553-005A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 4.9825 * 2000 \\ &= 9965\end{aligned}$$

Reporting result in two significant figures,

$$\text{Cr}^{+6}, \mu\text{g/L} = 10000$$

*Nancy*

5/27/2014

## Sample Calculation

**METHOD:** EPA 300.0  
**TEST NAME:** INORGANIC ANIONS BY IC  
**MATRIX:** Water

FORMULA:

Calculate the Fluoride concentration, in mg/L, in the original sample as follows:

$$\text{Fluoride, mg/L} = A * DF$$

where :

A = mg/L, IC calculated concentration  
DF = dilution factor

For **N012553-011C** concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Fluoride, mg/L} &= 0.901 * 5 \\ &= 4.505\end{aligned}$$

Reporting result in two significant figures,

$$\text{Fluoride, mg/L} = 4.5$$

*Nancy*

5/28/2014

## Sample Calculation

**METHOD:** EPA 3500-Cr B

**TEST NAME:** HEXAVALENT CHROMIUM BY Colorimetric Method

**MATRIX:** Water

FORMULA:

Calculate the Hexavalent Chromium concentration, in  $\mu\text{g/L}$ , in the original sample as follows:

$$\text{Hexavalent Chromium, } \mu\text{g/L} = A * DF$$

where:

A =  $\mu\text{g/L}$ , UV-VIS Hexavalent Chromium calculated concentration

DF = dilution factor

For **N012553-002A**, concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\text{Hexavalent Chromium, } \mu\text{g/L} = 272.621 * 1$$

$$= 272.621 \mu\text{g/L}$$

Reporting results in two significant figures,

$$\text{Hexavalent Chromium, } \mu\text{g/L} = \mathbf{270} \mu\text{g/L}$$



5/28/2014

## Sample Calculation

**METHOD:** EPA 6020

**TEST NAME:** Heavy Metals by ICP-MS

**MATRIX:** Aqueous

### FORMULA:

Calculate the Molybdenum concentration, in ug/L, in the original sample as follows:

$$\text{Molybdenum, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N012553-004B**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Molybdenum, ug/L} &= 44.4377573111758 * 1 * (25/25) \\ &= 44.4377573111758\end{aligned}$$

Reporting result in two significant figures,

$$\text{Molybdenum, ug/L} = 44$$

*Nancy*

5/27/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012553  
Test Method: EPA 6020  
Analysis Date: 5/16/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45694

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Se & Cr. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012552-001B-DT 5X	Arsenic	µg/L	11.39194113	PASS	11.47517973	0.73%	10
N012552-001B-DT 25X	Manganese	µg/L	232.0858824	PASS	215.047108	7.92%	10
N012552-001B-DT 5X	Molybdenum	µg/L	42.04314414	PASS	40.02419904	5.04%	10
N012552-001B-DT 5X	Selenium	µg/L	0	NA	0.186681825	100.00%	10
N012552-001B-DT 5X	Chromium	µg/L	3.242231122	NA	2.099779292	54.41%	10

Note: NA - Not applicable



**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785147</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	31.232	0.20	20.00	11.48	98.8	80	120				
Molybdenum	62.877	1.0	20.00	40.02	114	80	120				
Selenium	21.215	1.0	20.00	0.1867	105	80	120				

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	721.828	2.5	500.0	215.0	101	80	120				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012553  
**Project:** PG&E Topock, 423575.MP.02.GM.02

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012552-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93509</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45694</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/16/2014</b>	SeqNo: <b>1785284</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.232	2.0	20.00	2.100	95.7	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

June 09, 2014

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-00922

Workorder No.: N012607

RE: PG&E Topock, 423575.MP.02.RM


Attention: Shawn P. Duffy

Enclosed are the results for sample(s) received on May 22, 2014 by ASSET Laboratories. 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

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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607

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**CASE NARRATIVE**

**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Samples were analyzed within method holding time except for pH. pH testing is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

**ASSET Laboratories**

Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607  
**Contract No:** 2014-RMP-196

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012607-001A	C-BNS-D-196	Water	5/21/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-001B	C-BNS-D-196	Water	5/21/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-001C	C-BNS-D-196	Water	5/21/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-001D	C-BNS-D-196	Water	5/21/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-001E	C-BNS-D-196	Water	5/21/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-002A	C-I-3-D-196	Water	5/21/2014 8:56:00 AM	5/22/2014	6/9/2014
N012607-002B	C-I-3-D-196	Water	5/21/2014 8:56:00 AM	5/22/2014	6/9/2014
N012607-002C	C-I-3-D-196	Water	5/21/2014 8:56:00 AM	5/22/2014	6/9/2014
N012607-002D	C-I-3-D-196	Water	5/21/2014 8:56:00 AM	5/22/2014	6/9/2014
N012607-002E	C-I-3-D-196	Water	5/21/2014 8:56:00 AM	5/22/2014	6/9/2014
N012607-003A	C-I-3-S-196	Water	5/21/2014 9:06:00 AM	5/22/2014	6/9/2014
N012607-003B	C-I-3-S-196	Water	5/21/2014 9:06:00 AM	5/22/2014	6/9/2014
N012607-003C	C-I-3-S-196	Water	5/21/2014 9:06:00 AM	5/22/2014	6/9/2014
N012607-003D	C-I-3-S-196	Water	5/21/2014 9:06:00 AM	5/22/2014	6/9/2014
N012607-003E	C-I-3-S-196	Water	5/21/2014 9:06:00 AM	5/22/2014	6/9/2014
N012607-004A	C-MAR-D-196	Water	5/21/2014 11:46:00 AM	5/22/2014	6/9/2014
N012607-004B	C-MAR-D-196	Water	5/21/2014 11:46:00 AM	5/22/2014	6/9/2014
N012607-004C	C-MAR-D-196	Water	5/21/2014 11:46:00 AM	5/22/2014	6/9/2014
N012607-004D	C-MAR-D-196	Water	5/21/2014 11:46:00 AM	5/22/2014	6/9/2014
N012607-004E	C-MAR-D-196	Water	5/21/2014 11:46:00 AM	5/22/2014	6/9/2014
N012607-005A	C-MAR-S-196	Water	5/21/2014 11:54:00 AM	5/22/2014	6/9/2014
N012607-005B	C-MAR-S-196	Water	5/21/2014 11:54:00 AM	5/22/2014	6/9/2014
N012607-005C	C-MAR-S-196	Water	5/21/2014 11:54:00 AM	5/22/2014	6/9/2014
N012607-005D	C-MAR-S-196	Water	5/21/2014 11:54:00 AM	5/22/2014	6/9/2014
N012607-005E	C-MAR-S-196	Water	5/21/2014 11:54:00 AM	5/22/2014	6/9/2014
N012607-006A	C-MW-80-196	Water	5/21/2014 8:00:00 AM	5/22/2014	6/9/2014
N012607-007A	C-MW-81-196	Water	5/21/2014 8:40:00 AM	5/22/2014	6/9/2014
N012607-008A	C-R22A-D-196	Water	5/21/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-008B	C-R22A-D-196	Water	5/21/2014 10:00:00 AM	5/22/2014	6/9/2014

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607  
**Contract No:** 2014-RMP-196

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012607-008C	C-R22A-D-196	Water	5/21/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-008D	C-R22A-D-196	Water	5/21/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-008E	C-R22A-D-196	Water	5/21/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-009A	C-R22A-S-196	Water	5/21/2014 10:12:00 AM	5/22/2014	6/9/2014
N012607-009B	C-R22A-S-196	Water	5/21/2014 10:12:00 AM	5/22/2014	6/9/2014
N012607-009C	C-R22A-S-196	Water	5/21/2014 10:12:00 AM	5/22/2014	6/9/2014
N012607-009D	C-R22A-S-196	Water	5/21/2014 10:12:00 AM	5/22/2014	6/9/2014
N012607-009E	C-R22A-S-196	Water	5/21/2014 10:12:00 AM	5/22/2014	6/9/2014
N012607-010A	C-R27-D-196	Water	5/21/2014 11:06:00 AM	5/22/2014	6/9/2014
N012607-010B	C-R27-D-196	Water	5/21/2014 11:06:00 AM	5/22/2014	6/9/2014
N012607-010C	C-R27-D-196	Water	5/21/2014 11:06:00 AM	5/22/2014	6/9/2014
N012607-010D	C-R27-D-196	Water	5/21/2014 11:06:00 AM	5/22/2014	6/9/2014
N012607-010E	C-R27-D-196	Water	5/21/2014 11:06:00 AM	5/22/2014	6/9/2014
N012607-011A	C-R27-S-196	Water	5/21/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-011B	C-R27-S-196	Water	5/21/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-011C	C-R27-S-196	Water	5/21/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-011D	C-R27-S-196	Water	5/21/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-011E	C-R27-S-196	Water	5/21/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-012A	C-TAZ-D-196	Water	5/21/2014 8:10:00 AM	5/22/2014	6/9/2014
N012607-012B	C-TAZ-D-196	Water	5/21/2014 8:10:00 AM	5/22/2014	6/9/2014
N012607-012C	C-TAZ-D-196	Water	5/21/2014 8:10:00 AM	5/22/2014	6/9/2014
N012607-012D	C-TAZ-D-196	Water	5/21/2014 8:10:00 AM	5/22/2014	6/9/2014
N012607-012E	C-TAZ-D-196	Water	5/21/2014 8:10:00 AM	5/22/2014	6/9/2014
N012607-013A	C-TAZ-S-196	Water	5/21/2014 8:26:00 AM	5/22/2014	6/9/2014
N012607-013B	C-TAZ-S-196	Water	5/21/2014 8:26:00 AM	5/22/2014	6/9/2014
N012607-013C	C-TAZ-S-196	Water	5/21/2014 8:26:00 AM	5/22/2014	6/9/2014
N012607-013D	C-TAZ-S-196	Water	5/21/2014 8:26:00 AM	5/22/2014	6/9/2014
N012607-013E	C-TAZ-S-196	Water	5/21/2014 8:26:00 AM	5/22/2014	6/9/2014
N012607-014A	R63-196	Water	5/21/2014 9:32:00 AM	5/22/2014	6/9/2014
N012607-014B	R63-196	Water	5/21/2014 9:32:00 AM	5/22/2014	6/9/2014

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607  
**Contract No:** 2014-RMP-196

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012607-014C	R63-196	Water	5/21/2014 9:32:00 AM	5/22/2014	6/9/2014
N012607-014D	R63-196	Water	5/21/2014 9:32:00 AM	5/22/2014	6/9/2014
N012607-014E	R63-196	Water	5/21/2014 9:32:00 AM	5/22/2014	6/9/2014
N012607-015A	RMP-AB1-196	Water	5/21/2014 2:00:00 PM	5/22/2014	6/9/2014
N012607-016A	C-CON-D-196	Water	5/22/2014 9:44:00 AM	5/22/2014	6/9/2014
N012607-016B	C-CON-D-196	Water	5/22/2014 9:44:00 AM	5/22/2014	6/9/2014
N012607-016C	C-CON-D-196	Water	5/22/2014 9:44:00 AM	5/22/2014	6/9/2014
N012607-016D	C-CON-D-196	Water	5/22/2014 9:44:00 AM	5/22/2014	6/9/2014
N012607-016E	C-CON-D-196	Water	5/22/2014 9:44:00 AM	5/22/2014	6/9/2014
N012607-017A	C-CON-S-196	Water	5/22/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-017B	C-CON-S-196	Water	5/22/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-017C	C-CON-S-196	Water	5/22/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-017D	C-CON-S-196	Water	5/22/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-017E	C-CON-S-196	Water	5/22/2014 10:00:00 AM	5/22/2014	6/9/2014
N012607-018A	C-MW-82-196	Water	5/22/2014 8:16:00 AM	5/22/2014	6/9/2014
N012607-019A	C-MW-83-196	Water	5/22/2014 8:42:00 AM	5/22/2014	6/9/2014
N012607-020A	C-NR1-D-196	Water	5/22/2014 10:26:00 AM	5/22/2014	6/9/2014
N012607-020B	C-NR1-D-196	Water	5/22/2014 10:26:00 AM	5/22/2014	6/9/2014
N012607-020C	C-NR1-D-196	Water	5/22/2014 10:26:00 AM	5/22/2014	6/9/2014
N012607-020D	C-NR1-D-196	Water	5/22/2014 10:26:00 AM	5/22/2014	6/9/2014
N012607-020E	C-NR1-D-196	Water	5/22/2014 10:26:00 AM	5/22/2014	6/9/2014
N012607-021A	C-NR1-S-196	Water	5/22/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-021B	C-NR1-S-196	Water	5/22/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-021C	C-NR1-S-196	Water	5/22/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-021D	C-NR1-S-196	Water	5/22/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-021E	C-NR1-S-196	Water	5/22/2014 10:40:00 AM	5/22/2014	6/9/2014
N012607-022A	C-NR3-D-196	Water	5/22/2014 11:04:00 AM	5/22/2014	6/9/2014
N012607-022B	C-NR3-D-196	Water	5/22/2014 11:04:00 AM	5/22/2014	6/9/2014
N012607-022C	C-NR3-D-196	Water	5/22/2014 11:04:00 AM	5/22/2014	6/9/2014
N012607-022D	C-NR3-D-196	Water	5/22/2014 11:04:00 AM	5/22/2014	6/9/2014

**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607  
**Contract No:** 2014-RMP-196

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012607-022E	C-NR3-D-196	Water	5/22/2014 11:04:00 AM	5/22/2014	6/9/2014
N012607-023A	C-NR3-S-196	Water	5/22/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-023B	C-NR3-S-196	Water	5/22/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-023C	C-NR3-S-196	Water	5/22/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-023D	C-NR3-S-196	Water	5/22/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-023E	C-NR3-S-196	Water	5/22/2014 11:20:00 AM	5/22/2014	6/9/2014
N012607-024A	C-NR4-D-196	Water	5/22/2014 11:50:00 AM	5/22/2014	6/9/2014
N012607-024B	C-NR4-D-196	Water	5/22/2014 11:50:00 AM	5/22/2014	6/9/2014
N012607-024C	C-NR4-D-196	Water	5/22/2014 11:50:00 AM	5/22/2014	6/9/2014
N012607-024D	C-NR4-D-196	Water	5/22/2014 11:50:00 AM	5/22/2014	6/9/2014
N012607-024E	C-NR4-D-196	Water	5/22/2014 11:50:00 AM	5/22/2014	6/9/2014
N012607-025A	C-NR4-S-196	Water	5/22/2014 12:02:00 PM	5/22/2014	6/9/2014
N012607-025B	C-NR4-S-196	Water	5/22/2014 12:02:00 PM	5/22/2014	6/9/2014
N012607-025C	C-NR4-S-196	Water	5/22/2014 12:02:00 PM	5/22/2014	6/9/2014
N012607-025D	C-NR4-S-196	Water	5/22/2014 12:02:00 PM	5/22/2014	6/9/2014
N012607-025E	C-NR4-S-196	Water	5/22/2014 12:02:00 PM	5/22/2014	6/9/2014
N012607-026A	R-19-196	Water	5/22/2014 8:50:00 AM	5/22/2014	6/9/2014
N012607-026B	R-19-196	Water	5/22/2014 8:50:00 AM	5/22/2014	6/9/2014
N012607-026C	R-19-196	Water	5/22/2014 8:50:00 AM	5/22/2014	6/9/2014
N012607-026D	R-19-196	Water	5/22/2014 8:50:00 AM	5/22/2014	6/9/2014
N012607-026E	R-19-196	Water	5/22/2014 8:50:00 AM	5/22/2014	6/9/2014
N012607-027A	R-28-196	Water	5/22/2014 8:24:00 AM	5/22/2014	6/9/2014
N012607-027B	R-28-196	Water	5/22/2014 8:24:00 AM	5/22/2014	6/9/2014
N012607-027C	R-28-196	Water	5/22/2014 8:24:00 AM	5/22/2014	6/9/2014
N012607-027D	R-28-196	Water	5/22/2014 8:24:00 AM	5/22/2014	6/9/2014
N012607-027E	R-28-196	Water	5/22/2014 8:24:00 AM	5/22/2014	6/9/2014
N012607-028A	RMP-AB2-196	Water	5/22/2014 12:30:00 PM	5/22/2014	6/9/2014
N012607-029A	RRB-196	Water	5/22/2014 9:12:00 AM	5/22/2014	6/9/2014
N012607-029B	RRB-196	Water	5/22/2014 9:12:00 AM	5/22/2014	6/9/2014
N012607-029C	RRB-196	Water	5/22/2014 9:12:00 AM	5/22/2014	6/9/2014



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**CLIENT:** CH2M HILL  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab Order:** N012607  
**Contract No:** 2014-RMP-196

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## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N012607-029D	RRB-196	Water	5/22/2014 9:12:00 AM	5/22/2014	6/9/2014
N012607-029E	RRB-196	Water	5/22/2014 9:12:00 AM	5/22/2014	6/9/2014
N012607-030A	SW1-196	Water	5/22/2014 6:58:00 AM	5/22/2014	6/9/2014
N012607-030B	SW1-196	Water	5/22/2014 6:58:00 AM	5/22/2014	6/9/2014
N012607-030C	SW1-196	Water	5/22/2014 6:58:00 AM	5/22/2014	6/9/2014
N012607-031A	SW2-196	Water	5/22/2014 6:40:00 AM	5/22/2014	6/9/2014
N012607-031B	SW2-196	Water	5/22/2014 6:40:00 AM	5/22/2014	6/9/2014
N012607-031C	SW2-196	Water	5/22/2014 6:40:00 AM	5/22/2014	6/9/2014

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	860	0.10	0.10		umhos/cm	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** C-I-3-D-196**Lab Order:** N012607**Collection Date:** 5/21/2014 8:56:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	860	0.10	0.10		umhos/cm	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** C-I-3-S-196**Lab Order:** N012607**Collection Date:** 5/21/2014 9:06:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	580	0.10	0.10		umhos/cm	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	920	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-MAR-S-196

Lab Order: N012607

Collection Date: 5/21/2014 11:54:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-005

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
EPA 120.1							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	920	0.10	0.10		umhos/cm	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	870	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	870	0.10	0.10		umhos/cm	1	5/23/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-R27-D-196

Lab Order: N012607

Collection Date: 5/21/2014 11:06:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-010

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: WETCHEM\_140523B

QC Batch: R93558

PrepDate:

Analyst: LCC

Specific Conductance

870 0.10

0.10

umhos/cm

1

5/23/2014

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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	870	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	880	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	890	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: R63-196

Lab Order: N012607

Collection Date: 5/21/2014 9:32:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: WETCHEM\_140523B

QC Batch: R93558

PrepDate:

Analyst: LCC

Specific Conductance

880 0.10

0.10

umhos/cm

1

5/23/2014

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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	890	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	880	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	880	0.10	0.10	umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>			PrepDate:		Analyst: <b>LCC</b>
Specific Conductance	890	0.10	0.10	umhos/cm	1	5/23/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**

**EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	890 0.10 0.10	umhos/cm	1 5/23/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE**

**EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	880 0.10 0.10	umhos/cm	1 5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	880 0.10 0.10	umhos/cm	1 5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>	PrepDate:	Analyst: <b>LCC</b>
Specific Conductance	890 0.10 0.10	umhos/cm	1 5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** R-19-196**Lab Order:** N012607**Collection Date:** 5/22/2014 8:50:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-026

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	880	0.10	0.10		umhos/cm	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** R-28-196**Lab Order:** N012607**Collection Date:** 5/22/2014 8:24:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-027

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
<b>EPA 120.1</b>							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	890	0.10	0.10		umhos/cm	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: RRB-196

Lab Order: N012607

Collection Date: 5/22/2014 9:12:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-029

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**

RunID: WETCHEM\_140523B

QC Batch: R93558

PrepDate:

Analyst: LCC

Specific Conductance

900 0.10

0.10

umhos/cm

1

5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** SW1-196**Lab Order:** N012607**Collection Date:** 5/22/2014 6:58:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-030

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**SPECIFIC CONDUCTANCE****EPA 120.1**RunID: **WETCHEM\_140523B**QC Batch: **R93558**

PrepDate:

Analyst: **LCC**

Specific Conductance

900 0.10

0.10

umhos/cm

1

5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: SW2-196

Lab Order: N012607

Collection Date: 5/22/2014 6:40:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-031

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>SPECIFIC CONDUCTANCE</b>							
EPA 120.1							
RunID: <b>WETCHEM_140523B</b>	QC Batch: <b>R93558</b>		PrepDate:		Analyst: <b>LCC</b>		
Specific Conductance	900	0.10	0.10		umhos/cm	1	5/23/2014

**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: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1\_WPGE

Sample ID: <b>N012607-012D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93558</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93558</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786924</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	882.000	0.10						884.0	0.227	10	

Sample ID: <b>N012607-025D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93558</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93558</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786936</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	887.000	0.10						889.0	0.225	10	

Sample ID: <b>N012607-031C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>120.1_WPGE</b>	Units: <b>umhos/cm</b>	Prep Date:				RunNo: <b>93558</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93558</b>	TestNo: <b>EPA 120.1</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786942</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	898.000	0.10						896.0	0.223	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.2	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** C-I-3-D-196

**Lab Order:** N012607

**Collection Date:** 5/21/2014 8:56:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** C-I-3-S-196

**Lab Order:** N012607

**Collection Date:** 5/21/2014 9:06:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

CLIENT: CH2M HILL  
 Lab Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM  
 Lab ID: N012607-004

Client Sample ID: C-MAR-D-196  
 Collection Date: 5/21/2014 11:46:00 AM  
 Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	7.9	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

Qualifiers: B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	7.8	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-R22A-D-196

Lab Order: N012607

Collection Date: 5/21/2014 10:00:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-008

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-R27-D-196

Lab Order: N012607

Collection Date: 5/21/2014 11:06:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-010

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-TAZ-D-196

Lab Order: N012607

Collection Date: 5/21/2014 8:10:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-012

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** C-TAZ-S-196

**Lab Order:** N012607

**Collection Date:** 5/21/2014 8:26:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-013

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-014

**Client Sample ID:** R63-196  
**Collection Date:** 5/21/2014 9:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** C-CON-S-196**Lab Order:** N012607**Collection Date:** 5/22/2014 10:00:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

## ANALYTICAL RESULTS

**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** C-NR1-S-196

**Lab Order:** N012607

Collection Date: 5/22/2014 10:40:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-021

Analyses		Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PH								
SM4500-H+B								
RunID:	WETCHEM_140523A	QC Batch:	R93557		PrepDate:			Analyst: LCC
pH		8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis		25	0.10	0.10	H	pH Units	1	5/23/2014

Qualifiers:	B	Analyte detected in the associated Method Blank
	H	Holding times for preparation or analysis exceeded
	S	Spike/Surrogate outside of limits due to matrix interference
	DO	Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** C-NR3-S-196**Lab Order:** N012607**Collection Date:** 5/22/2014 11:20:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-023

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** R-19-196**Lab Order:** N012607**Collection Date:** 5/22/2014 8:50:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-026

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** R-28-196

**Lab Order:** N012607

**Collection Date:** 5/22/2014 8:24:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-027

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.3	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL**Client Sample ID:** RRB-196**Lab Order:** N012607**Collection Date:** 5/22/2014 9:12:00 AM**Project:** PG&E Topock, 423575.MP.02.RM**Matrix:** WATER**Lab ID:** N012607-029

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>			PrepDate:		Analyst: <b>LCC</b>	
pH	8.2	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** SW1-196

**Lab Order:** N012607

**Collection Date:** 5/22/2014 6:58:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-030

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.0	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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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**ASSET Laboratories**
**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** SW2-196

**Lab Order:** N012607

**Collection Date:** 5/22/2014 6:40:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-031

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>PH</b>							
<b>SM4500-H+B</b>							
RunID: <b>WETCHEM_140523A</b>	QC Batch: <b>R93557</b>		PrepDate:		Analyst: <b>LCC</b>		
pH	8.2	0.10	0.10	H	pH Units	1	5/23/2014
Temp. at time of pH Analysis	25	0.10	0.10	H	pH Units	1	5/23/2014

**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: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 150.1\_4500H+B\_W

Sample ID: <b>N012607-012D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>150.1_4500H</b>	Units: <b>pH Units</b>	Prep Date:				RunNo: <b>93557</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93557</b>	TestNo: <b>SM4500-H+B</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786895</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.320	0.10						8.320	0	10	H
Temp. at time of pH Analysis	25.000	0.10						25.00	0	10	H

Sample ID: <b>N012607-025D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>150.1_4500H</b>	Units: <b>pH Units</b>	Prep Date:				RunNo: <b>93557</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93557</b>	TestNo: <b>SM4500-H+B</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786906</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.280	0.10						8.290	0.121	10	H
Temp. at time of pH Analysis	25.000	0.10						25.00	0	10	H

Sample ID: <b>N012607-031C-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>150.1_4500H</b>	Units: <b>pH Units</b>	Prep Date:				RunNo: <b>93557</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93557</b>	TestNo: <b>SM4500-H+B</b>			Analysis Date: <b>5/23/2014</b>				SeqNo: <b>1786912</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.220	0.10						8.200	0.244	10	H
Temp. at time of pH Analysis	25.000	0.10						25.00	0	10	H

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-002

**Client Sample ID:** C-I-3-D-196  
**Collection Date:** 5/21/2014 8:56:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>TOTAL NON-FILTERABLE RESIDUE</b>							
<b>SM2540D</b>							
RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>	
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM	

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-003

**Client Sample ID:** C-I-3-S-196  
**Collection Date:** 5/21/2014 9:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	70	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	62	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-010

**Client Sample ID:** C-R27-D-196  
**Collection Date:** 5/21/2014 11:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>TOTAL NON-FILTERABLE RESIDUE</b>							
<b>SM2540D</b>							
RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>	
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM	

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527A</b>	QC Batch: <b>45755</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:32 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>TOTAL NON-FILTERABLE RESIDUE</b>							
<b>SM2540D</b>							
RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>		
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	5/27/2014 08:33 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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-014

**Client Sample ID:** R63-196  
**Collection Date:** 5/21/2014 9:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>TOTAL NON-FILTERABLE RESIDUE</b>							
<b>SM2540D</b>							
RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>		
Suspended Solids (Residue, Non-Filterable)	ND	10	10		mg/L	1	5/27/2014 08:33 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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-026

**Client Sample ID:** R-19-196  
**Collection Date:** 5/22/2014 8:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-027

**Client Sample ID:** R-28-196  
**Collection Date:** 5/22/2014 8:24:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: <b>WETCHEM_140527B</b>	QC Batch: <b>45756</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>LCC</b>
Suspended Solids (Residue, Non-Filterable)	ND	10	10	mg/L	1	5/27/2014 08:33 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: RRB-196

Lab Order: N012607

Collection Date: 5/22/2014 9:12:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-029

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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**TOTAL NON-FILTERABLE RESIDUE****SM2540D**

RunID: WETCHEM\_140527B

QC Batch: 45756

PrepDate: 5/27/2014

Analyst: LCC

Suspended Solids (Residue, Non-Filterable)

18 10

10

mg/L

1

5/27/2014 08:33 AM

Qualifiers: B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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CLIENT: CH2M HILL  
 Work Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2\_2540D\_W

Sample ID: <b>MB-45755</b>	SampType: <b>MBLK</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>				RunNo: <b>93584</b>	
Client ID: <b>PBW</b>	Batch ID: <b>45755</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1787868</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10									

Sample ID: <b>LCS-45755</b>	SampType: <b>LCS</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>				RunNo: <b>93584</b>	
Client ID: <b>LCSW</b>	Batch ID: <b>45755</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1787869</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	880.000	10	1000	0	88.0	80	120				

Sample ID: <b>N012607-001D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>				RunNo: <b>93584</b>	
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45755</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>				SeqNo: <b>1787871</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5	

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 160.2\_2540D\_W

Sample ID: <b>MB-45756</b>	SampType: <b>MBLK</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>			RunNo: <b>93585</b>			
Client ID: <b>PBW</b>	Batch ID: <b>45756</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1787881</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Suspended Solids (Residue, Non-Filter	ND	10										

Sample ID: <b>LCS-45756</b>	SampType: <b>LCS</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>			RunNo: <b>93585</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>45756</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1787882</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Suspended Solids (Residue, Non-Filter	879.000	10	1000	0	87.9	80	120					

Sample ID: <b>N012607-013D-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>160.2_2540D_</b> Units: <b>mg/L</b>				Prep Date: <b>5/27/2014</b>			RunNo: <b>93585</b>			
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45756</b>	TestNo: <b>SM2540D</b>				Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1787884</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Suspended Solids (Residue, Non-Filter	ND	10						0	0	5		

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:19 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 01:20 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-002

**Client Sample ID:** C-I-3-D-196  
**Collection Date:** 5/21/2014 8:56:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:29 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 01:47 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-003

**Client Sample ID:** C-I-3-S-196  
**Collection Date:** 5/21/2014 9:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:39 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 01:53 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:49 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 01:58 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:59 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:15 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-006

**Client Sample ID:** C-MW-80-196  
**Collection Date:** 5/21/2014 8:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 10:57 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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-007

**Client Sample ID:** C-MW-81-196  
**Collection Date:** 5/21/2014 8:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:09 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:09 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:20 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:07 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:27 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-010

**Client Sample ID:** C-R27-D-196  
**Collection Date:** 5/21/2014 11:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:17 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:32 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:27 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:38 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:36 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:43 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:46 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:49 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-014

**Client Sample ID:** R63-196  
**Collection Date:** 5/21/2014 9:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:56 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 02:54 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-015

**Client Sample ID:** RMP-AB1-196  
**Collection Date:** 5/21/2014 2:00:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 02:06 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 02:16 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 02:26 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:06 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**
**Print Date:** 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-018

**Client Sample ID:** C-MW-82-196  
**Collection Date:** 5/22/2014 8:16:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 02:36 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-019

**Client Sample ID:** C-MW-83-196  
**Collection Date:** 5/22/2014 8:42:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC6_140523A</b>	QC Batch: <b>R93576</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 03:07 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC6_140523A	QC Batch: R93576	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 03:18 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:22 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:21 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:28 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC7_140523A	QC Batch: R93577	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:32 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 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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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:42 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:39 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 11:51 AM
<b>DISSOLVED METALS BY ICP-MS</b>							
				<b>EPA 3010A</b>			
				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC7_140523A	QC Batch: R93577	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:01 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45738	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 03:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-026

**Client Sample ID:** R-19-196  
**Collection Date:** 5/22/2014 8:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:10 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45739</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 04:06 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: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-027

**Client Sample ID:** R-28-196  
**Collection Date:** 5/22/2014 8:24:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
				<b>EPA 218.6</b>			
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>		PrepDate:		Analyst: <b>RB</b>		
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:20 PM
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45739</b>		PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>		
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 04:45 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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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-028

**Client Sample ID:** RMP-AB2-196  
**Collection Date:** 5/22/2014 12:30:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM BY IC</b>							
<b>EPA 218.6</b>							
RunID: <b>IC7_140523A</b>	QC Batch: <b>R93577</b>	PrepDate: Analyst: <b>RB</b>					
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:29 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-029

**Client Sample ID:** RRB-196  
**Collection Date:** 5/22/2014 9:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC7_140523A	QC Batch: R93577	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 12:58 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45739	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 04:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-030

**Client Sample ID:** SW1-196  
**Collection Date:** 5/22/2014 6:58:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC7_140523A	QC Batch: R93577	PrepDate:				Analyst: RB	
Hexavalent Chromium	ND	0.016	0.20		µg/L	1	5/23/2014 01:07 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45739	PrepDate: 5/27/2014				Analyst: CEI	
Chromium	ND	0.030	1.0		µg/L	1	5/27/2014 04:56 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-031

**Client Sample ID:** SW2-196  
**Collection Date:** 5/22/2014 6:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
				EPA 218.6			
RunID: IC7_140523A	QC Batch: R93577			PrepDate:	Analyst: RB		
Hexavalent Chromium	ND	0.016	0.20	µg/L	1	5/23/2014 01:17 PM	
DISSOLVED METALS BY ICP-MS							
EPA 3010A				EPA 6020			
RunID: ICP7_140527B	QC Batch: 45739			PrepDate:	5/27/2014	Analyst: CEI	
Chromium	ND	0.030	1.0	µg/L	1	5/27/2014 05:01 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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CLIENT: CH2M HILL  
 Work Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>MB-R93576</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93576</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.025	0.20	5.000	0	101	90	110				

Sample ID: <b>N012607-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787292</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.052	0.20						0.06390	0	20	

Sample ID: <b>N012607-001A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787293</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.095	0.20	1.000	0.06390	103	90	110				

Sample ID: <b>N012607-001A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787294</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0.06390	99.9	90	110	1.095	2.95	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

H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**CLIENT:** CH2M HILL  
**Work Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>N012607-002A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787295</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0.05830	99.5	90	110				

Sample ID: <b>N012607-003A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787296</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.054	0.20	1.000	0.06240	99.2	90	110				

Sample ID: <b>N012607-004A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787297</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0.05140	98.9	90	110				

Sample ID: <b>N012607-005A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787298</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0.05610	101	90	110				

Sample ID: <b>N012607-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787299</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>N012607-007A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787302</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID: <b>N012607-008A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787303</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0.06250	99.9	90	110				

Sample ID: <b>N012607-009A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787304</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.071	0.20	1.000	0.06860	100	90	110				

Sample ID: <b>N012607-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787305</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.07140	99.0	90	110				

Sample ID: <b>N012607-011A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787306</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0.07460	98.3	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
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CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>N012607-012A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787307</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0.06680	101	90	110				

Sample ID: <b>N012607-013A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787308</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.070	0.20	1.000	0.05840	101	90	110				

Sample ID: <b>N012607-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787309</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.081	0.20	1.000	0.06720	101	90	110				

Sample ID: <b>N012607-015A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787310</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.991	0.20	1.000	0	99.1	90	110				

Sample ID: <b>N012607-016A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787311</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0.07370	98.8	90	110				

### Qualifiers:

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DO Surrogate Diluted Out

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CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>N012607-017A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787314</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.092	0.20	1.000	0.06390	103	90	110				

Sample ID: <b>N012607-018A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787315</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.076	0.20	1.000	0	108	90	110				

Sample ID: <b>N012607-019A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787316</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.044	0.20	1.000	0	104	90	110				

Sample ID: <b>N012607-020A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93576</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93576</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787317</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.073	0.20	1.000	0.07680	99.6	90	110				

### Qualifiers:

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DO Surrogate Diluted Out

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**CLIENT:** CH2M HILL  
**Work Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 218.6R\_WPGE

Sample ID: <b>MB-R93577</b>	SampType: <b>MBLK</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:					RunNo: <b>93577</b>		
Client ID: <b>PBW</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>					SeqNo: <b>1787326</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: <b>LCS-R93577</b>	SampType: <b>LCS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:					RunNo: <b>93577</b>		
Client ID: <b>LCSW</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>					SeqNo: <b>1787327</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.032	0.20	5.000	0	101	90	110				

Sample ID: <b>N012607-021A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:					RunNo: <b>93577</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>					SeqNo: <b>1787342</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.046	0.20						0.05070	0	20	

Sample ID: <b>N012607-021A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:					RunNo: <b>93577</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>					SeqNo: <b>1787343</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0.05070	98.6	90	110				

Sample ID: <b>N012607-021A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:					RunNo: <b>93577</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>					SeqNo: <b>1787344</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0.05070	98.9	90	110	1.036	0.347	20	

### Qualifiers:

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CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>N012607-022A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0.04720	97.9	90	110				

Sample ID: <b>N012607-023A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787346</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.027	0.20	1.000	0.04670	98.0	90	110				

Sample ID: <b>N012607-024A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787347</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0.04450	93.9	90	110				

Sample ID: <b>N012607-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.041	0.20	1.000	0.04110	99.9	90	110				

Sample ID: <b>N012607-026A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>		Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787351</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.046	0.20	1.000	0.04530	100	90	110				

### Qualifiers:

B Analyte detected in the associated Method Blank  
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 Work Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6R\_WPGE

Sample ID: <b>N012607-027A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787352</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0.04690	98.5	90	110				

Sample ID: <b>N012607-028A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787353</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Sample ID: <b>N012607-029A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787354</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0.04140	98.7	90	110				

Sample ID: <b>N012607-030A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787355</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0.03330	99.7	90	110				

Sample ID: <b>N012607-031A-MS</b>	SampType: <b>MS</b>	TestCode: <b>218.6R_WPG</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93577</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93577</b>	TestNo: <b>EPA 218.6</b>	Analysis Date: <b>5/23/2014</b>	SeqNo: <b>1787356</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20	1.000	0.03960	91.7	90	110				

### Qualifiers:

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CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS\_CrPGE

Sample ID: <b>MB-45738</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45738</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788098</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.921	1.0	10.00	0	99.2	85	115				

Sample ID: <b>N012607-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788102</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.643	1.0	10.00	0.2764	93.7	75	125				

Sample ID: <b>N012607-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788103</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.518	1.0	10.00	0.2764	92.4	75	125	9.643	1.30	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
3151 W. Post Rd, Las Vegas, NV 89118  
P: 702.307.2659 F: 702.307.2691  
www.assetlaboratories.com

CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS\_CrPGE

Sample ID: <b>MB-45739</b>	SampType: <b>MBLK</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788127</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: <b>LCS-45739</b>	SampType: <b>LCS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788128</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.902	1.0	10.00	0	99.0	85	115				

Sample ID: <b>N012607-026C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.464	1.0	10.00	0	94.6	75	125				

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.587	1.0	10.00	0	95.9	75	125	9.464	1.28	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values  
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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.31	0.022	0.050		mg/L	1	5/28/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-002

**Client Sample ID:** C-I-3-D-196  
**Collection Date:** 5/21/2014 8:56:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.30	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: C-I-3-S-196

Lab Order: N012607

Collection Date: 5/21/2014 9:06:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.28	0.022	0.050		mg/L	1	5/28/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**Advanced Technology Laboratories, Inc.**

3151 W. Post Rd, Las Vegas, NV 89118

**dba ASSET Laboratories**

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.21	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.20	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.22	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.29	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-010

**Client Sample ID:** C-R27-D-196  
**Collection Date:** 5/21/2014 11:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.47	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.23	0.022	0.050		mg/L	1	5/28/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.24	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.25	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-014

**Client Sample ID:** R63-196  
**Collection Date:** 5/21/2014 9:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.27	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.18	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.32	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.24	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.27	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528B</b>	QC Batch: <b>R93619</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.22	0.022	0.050		mg/L	1	5/28/2014

**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



**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.31	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.26	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.19	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-026

**Client Sample ID:** R-19-196  
**Collection Date:** 5/22/2014 8:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.22	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-027

**Client Sample ID:** R-28-196  
**Collection Date:** 5/22/2014 8:24:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.27	0.022	0.050		mg/L	1	5/28/2014

**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

**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

CLIENT: CH2M HILL

Client Sample ID: RRB-196

Lab Order: N012607

Collection Date: 5/22/2014 9:12:00 AM

Project: PG&amp;E Topock, 423575.MP.02.RM

Matrix: WATER

Lab ID: N012607-029

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>NITRATE/NITRITE-N BY CADMIUM REDUCTION</b>							
<b>SM4500-NO3F</b>							
RunID: <b>WETCHEM_140528C</b>	QC Batch: <b>R93621</b>		PrepDate:		Analyst: <b>PS</b>		
Nitrate/Nitrite as N	0.49	0.022	0.050		mg/L	1	5/28/2014

**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: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F\_W

Sample ID: <b>MB-R93619</b>	SampType: <b>MBLK</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:					RunNo: <b>93619</b>		
Client ID: <b>PBW</b>	Batch ID: <b>R93619</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/28/2014</b>					SeqNo: <b>1789035</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID: <b>LCS-R93619</b>	SampType: <b>LCS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:					RunNo: <b>93619</b>		
Client ID: <b>LCSW</b>	Batch ID: <b>R93619</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/28/2014</b>					SeqNo: <b>1789036</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.036	0.050	1.000	0	104	85	115				

Sample ID: <b>N012607-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:					RunNo: <b>93619</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93619</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/28/2014</b>					SeqNo: <b>1789038</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.317	0.050	1.000	0.3117	100	85	115				

Sample ID: <b>N012607-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:					RunNo: <b>93619</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93619</b>	TestNo: <b>SM4500-NO3</b>			Analysis Date: <b>5/28/2014</b>					SeqNo: <b>1789039</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.447	0.050	1.000	0.3117	114	85	115	1.317	9.42	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

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: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F\_W

Sample ID: <b>MB-R93621</b>	SampType: <b>MBLK</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93621</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R93621</b>	TestNo: <b>SM4500-NO3</b>	Analysis Date: <b>5/28/2014</b>	SeqNo: <b>1789086</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID: <b>LCS-R93621</b>	SampType: <b>LCS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93621</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R93621</b>	TestNo: <b>SM4500-NO3</b>	Analysis Date: <b>5/28/2014</b>	SeqNo: <b>1789087</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.959	0.050	1.000	0	95.9	85	115				

Sample ID: <b>N012607-023EMS</b>	SampType: <b>MS</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93621</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93621</b>	TestNo: <b>SM4500-NO3</b>	Analysis Date: <b>5/28/2014</b>	SeqNo: <b>1789089</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.187	0.050	1.000	0.3068	88.0	85	115				

Sample ID: <b>N012607-023EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>4500N03F_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93621</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R93621</b>	TestNo: <b>SM4500-NO3</b>	Analysis Date: <b>5/28/2014</b>	SeqNo: <b>1789090</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.211	0.050	1.000	0.3068	90.4	85	115	1.186	2.02	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.031	0.0013	0.020		mg/L	1	6/6/2014 09:25 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 06:23 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-002

**Client Sample ID:** C-I-3-D-196  
**Collection Date:** 5/21/2014 8:56:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.045	0.0013	0.020		mg/L	1	6/6/2014 09:47 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 06:45 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-003

**Client Sample ID:** C-I-3-S-196  
**Collection Date:** 5/21/2014 9:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 10:00 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 06:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	2.9	0.0013	0.020		mg/L	1	6/6/2014 10:05 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 06:54 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.49	0.0013	0.020		mg/L	1	6/6/2014 10:09 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:08 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.026	0.0013	0.020		mg/L	1	6/6/2014 10:14 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:12 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate: <b>5/23/2014</b>		Analyst: <b>SF</b>	
Iron	0.037	0.0013	0.020		mg/L	1	6/6/2014 10:18 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate: <b>5/23/2014</b>		Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:17 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-010

**Client Sample ID:** C-R27-D-196  
**Collection Date:** 5/21/2014 11:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.053	0.0013	0.020		mg/L	1	6/6/2014 10:22 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.023	0.0013	0.020		mg/L	1	6/5/2014 07:21 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.027	0.0013	0.020		mg/L	1	6/6/2014 10:27 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.021	0.0013	0.020		mg/L	1	6/5/2014 07:25 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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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.025	0.0013	0.020		mg/L	1	6/6/2014 10:31 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:30 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.66	0.0013	0.020		mg/L	1	6/6/2014 10:35 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:34 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: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-014

**Client Sample ID:** R63-196  
**Collection Date:** 5/21/2014 9:32:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate: <b>5/23/2014</b>		Analyst: <b>SF</b>	
Iron	0.068	0.0013	0.020		mg/L	1	6/6/2014 10:40 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate: <b>5/23/2014</b>		Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:38 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-016

**Client Sample ID:** C-CON-D-196  
**Collection Date:** 5/22/2014 9:44:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.052	0.0013	0.020		mg/L	1	6/6/2014 10:53 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 07:43 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 10:58 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.023	0.0013	0.020		mg/L	1	6/5/2014 07:47 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-020

**Client Sample ID:** C-NR1-D-196  
**Collection Date:** 5/22/2014 10:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.030	0.0013	0.020		mg/L	1	6/6/2014 11:02 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.025	0.0013	0.020		mg/L	1	6/5/2014 08:01 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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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 11:07 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 08:05 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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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.041	0.0013	0.020		mg/L	1	6/6/2014 11:11 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.030	0.0013	0.020		mg/L	1	6/5/2014 08:09 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 11:15 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 08:14 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 11:20 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.024	0.0013	0.020		mg/L	1	6/5/2014 08:18 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45743</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 11:24 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140605A</b>	QC Batch: <b>45746</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/5/2014 08:22 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-026

**Client Sample ID:** R-19-196  
**Collection Date:** 5/22/2014 8:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: ICP2_140606A	QC Batch: 45747			PrepDate:	5/23/2014	Analyst: SF	
Iron	0.023	0.0013	0.020		mg/L	1	6/6/2014 08:54 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: ICP2_140606A	QC Batch: 45747			PrepDate:	5/23/2014	Analyst: SF	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 08:23 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-027

**Client Sample ID:** R-28-196  
**Collection Date:** 5/22/2014 8:24:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45747</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.027	0.0013	0.020		mg/L	1	6/6/2014 09:07 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45747</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 08:45 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-029

**Client Sample ID:** RRB-196  
**Collection Date:** 5/22/2014 9:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45747</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	0.40	0.0013	0.020		mg/L	1	6/6/2014 09:12 AM
<b>DISSOLVED METALS BY ICP</b>							
	<b>EPA 3010A</b>			<b>EPA 6010B</b>			
RunID: <b>ICP2_140606A</b>	QC Batch: <b>45747</b>			PrepDate:	<b>5/23/2014</b>	Analyst: <b>SF</b>	
Iron	ND	0.0013	0.020		mg/L	1	6/6/2014 08:49 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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CLIENT: CH2M HILL  
 Work Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010W\_HINK

Sample ID: <b>MB-45743</b>	SampType: <b>MBLK</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>PBW</b>	Batch ID: <b>45743</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791146</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.006	0.020			

Sample ID: <b>LCS-45743</b>	SampType: <b>LCS</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45743</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791147</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.109	0.020	0.1000	0	109 85 115

Sample ID: <b>N012607-001B-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45743</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791151</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.138	0.020	0.1000	0.03121	106 75 125

Sample ID: <b>N012607-001B-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45743</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791152</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.141	0.020	0.1000	0.03121	110 75 125 0.1376 2.35 20

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010W\_HINK

Sample ID: <b>MB-45747</b>	SampType: <b>MBLK</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>PBW</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791132</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.005	0.020			

Sample ID: <b>LCS-45747</b>	SampType: <b>LCS</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791133</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.115	0.020	0.1000	0	115 85 115

Sample ID: <b>N012607-026C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791137</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.115	0.020	0.1000	0.006988	108 75 125

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791138</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Iron	0.101	0.020	0.1000	0.006988	94.3 75 125 0.1153 12.9 20

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

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: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010WD\_HINK

Sample ID: <b>MB-45746</b>	SampType: <b>MBLK</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93695</b>
Client ID: <b>PBW</b>	Batch ID: <b>45746</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>1790873</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.009 0.020

Sample ID: <b>LCS-45746</b>	SampType: <b>LCS</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93695</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45746</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>1790874</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.113 0.020 0.1000 0 113 85 115

Sample ID: <b>N012607-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93695</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45746</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>1790878</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.110 0.020 0.1000 0.01846 91.6 75 125

Sample ID: <b>N012607-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93695</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45746</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>1790879</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.110 0.020 0.1000 0.01846 91.6 75 125 0.1101 0.0205 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

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: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010WD\_HINK

Sample ID: <b>MB-45747</b>	SampType: <b>MBLK</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>PBW</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791014</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.005 0.020

Sample ID: <b>LCS-45747</b>	SampType: <b>LCS</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>LCSW</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791015</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.115 0.020 0.1000 0 115 85 115

Sample ID: <b>N012607-026C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791019</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.115 0.020 0.1000 0.006988 108 75 125

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date: <b>5/23/2014</b>	RunNo: <b>93700</b>
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45747</b>	TestNo: <b>EPA 6010B EPA 3010A</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791020</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Iron 0.101 0.020 0.1000 0.006988 94.3 75 125 0.1153 12.9 20

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-001

**Client Sample ID:** C-BNS-D-196  
**Collection Date:** 5/21/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>	
Arsenic	2.5	0.027	0.10		µg/L	1	5/27/2014 01:20 PM
Barium	130	0.15	5.0		µg/L	5	5/27/2014 01:25 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 01:20 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 01:20 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 01:20 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-002

**Client Sample ID:** C-I-3-D-196  
**Collection Date:** 5/21/2014 8:56:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.5	0.027	0.10		µg/L	1	5/27/2014 01:47 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 01:47 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 01:47 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 01:47 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 01:47 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-003

**Client Sample ID:** C-I-3-S-196  
**Collection Date:** 5/21/2014 9:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 01:53 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 01:53 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 01:53 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 01:53 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 01:53 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-004

**Client Sample ID:** C-MAR-D-196  
**Collection Date:** 5/21/2014 11:46:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.1	0.027	0.10		µg/L	1	5/27/2014 01:58 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 01:58 PM
Manganese	33	0.026	0.50		µg/L	1	5/27/2014 01:58 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 01:58 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 01:58 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-005

**Client Sample ID:** C-MAR-S-196  
**Collection Date:** 5/21/2014 11:54:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.1	0.027	0.10		µg/L	1	5/27/2014 02:15 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 02:15 PM
Manganese	35	0.026	0.50		µg/L	1	5/27/2014 02:15 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 02:15 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 02:15 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-008

**Client Sample ID:** C-R22A-D-196  
**Collection Date:** 5/21/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 02:20 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 02:20 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:20 PM
Molybdenum	4.3	0.15	0.50		µg/L	1	5/27/2014 02:20 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 02:20 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-009

**Client Sample ID:** C-R22A-S-196  
**Collection Date:** 5/21/2014 10:12:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 02:27 PM
Barium	110	0.030	1.0		µg/L	1	5/27/2014 02:27 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:27 PM
Molybdenum	4.3	0.15	0.50		µg/L	1	5/27/2014 02:27 PM
Selenium	1.3	0.069	0.50		µg/L	1	5/27/2014 02:27 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-010

**Client Sample ID:** C-R27-D-196  
**Collection Date:** 5/21/2014 11:06:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>	
Arsenic	2.3	0.027	0.10		µg/L	1	5/27/2014 02:32 PM
Barium	110	0.030	1.0		µg/L	1	5/27/2014 02:32 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:32 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 02:32 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 02:32 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-011

**Client Sample ID:** C-R27-S-196  
**Collection Date:** 5/21/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.5	0.027	0.10		µg/L	1	5/27/2014 02:38 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 02:38 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:38 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 02:38 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 02:38 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

## ASSET Laboratories

## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-012

**Client Sample ID:** C-TAZ-D-196  
**Collection Date:** 5/21/2014 8:10:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.3	0.027	0.10		µg/L	1	5/27/2014 02:43 PM
Barium	110	0.030	1.0		µg/L	1	5/27/2014 02:43 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:43 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 02:43 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 02:43 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference  
DO Surrogate Diluted Out

E Value above quantitation range  
ND Not Detected at the Reporting Limit  
Results are wet unless otherwise specified

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-013

**Client Sample ID:** C-TAZ-S-196  
**Collection Date:** 5/21/2014 8:26:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 02:49 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 02:49 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:49 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 02:49 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 02:49 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** R63-196

**Lab Order:** N012607

**Collection Date:** 5/21/2014 9:32:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-014

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 02:54 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 02:54 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 02:54 PM
Molybdenum	4.3	0.15	0.50		µg/L	1	5/27/2014 02:54 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 02:54 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

CLIENT: CH2M HILL  
 Lab Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM  
 Lab ID: N012607-016

Client Sample ID: C-CON-D-196  
 Collection Date: 5/22/2014 9:44:00 AM  
 Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: ICP7_140527B	QC Batch: 45738			PrepDate:	5/27/2014	Analyst: CEI	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:00 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:00 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:00 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 03:00 PM
Selenium	1.6	0.069	0.50		µg/L	1	5/27/2014 03:00 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



**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-017

**Client Sample ID:** C-CON-S-196  
**Collection Date:** 5/22/2014 10:00:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:06 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:06 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:06 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 03:06 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 03:06 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** C-NR1-D-196

**Lab Order:** N012607

**Collection Date:** 5/22/2014 10:26:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-020

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:22 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:22 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:22 PM
Molybdenum	4.6	0.15	0.50		µg/L	1	5/27/2014 03:22 PM
Selenium	1.6	0.069	0.50		µg/L	1	5/29/2014 10:07 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-021

**Client Sample ID:** C-NR1-S-196  
**Collection Date:** 5/22/2014 10:40:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.5	0.027	0.10		µg/L	1	5/27/2014 03:28 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:28 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:28 PM
Molybdenum	4.6	0.15	0.50		µg/L	1	5/27/2014 03:28 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 03:28 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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## ANALYTICAL RESULTS

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-022

**Client Sample ID:** C-NR3-D-196  
**Collection Date:** 5/22/2014 11:04:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:33 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:33 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:33 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 03:33 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-023

**Client Sample ID:** C-NR3-S-196  
**Collection Date:** 5/22/2014 11:20:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:39 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:39 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:39 PM
Molybdenum	4.5	0.15	0.50		µg/L	1	5/27/2014 03:39 PM
Selenium	1.7	0.069	0.50		µg/L	1	5/27/2014 03:39 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-024

**Client Sample ID:** C-NR4-D-196  
**Collection Date:** 5/22/2014 11:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.5	0.027	0.10		µg/L	1	5/27/2014 03:44 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:44 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:44 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 03:44 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 03:44 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-025

**Client Sample ID:** C-NR4-S-196  
**Collection Date:** 5/22/2014 12:02:00 PM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45738</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 03:50 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 03:50 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 03:50 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 03:50 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 03:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

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**ASSET Laboratories****ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-026

**Client Sample ID:** R-19-196  
**Collection Date:** 5/22/2014 8:50:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
<b>EPA 3010A</b>				<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45739</b>			PrepDate: <b>5/27/2014</b>		Analyst: <b>CEI</b>	
Arsenic	2.3	0.027	0.10		µg/L	1	5/27/2014 04:06 PM
Barium	120	0.15	5.0		µg/L	5	5/27/2014 04:12 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 04:06 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 04:06 PM
Selenium	1.4	0.069	0.50		µg/L	1	5/27/2014 04:06 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



**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL  
**Lab Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM  
**Lab ID:** N012607-027

**Client Sample ID:** R-28-196  
**Collection Date:** 5/22/2014 8:24:00 AM  
**Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45739</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.4	0.027	0.10		µg/L	1	5/27/2014 04:45 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 04:45 PM
Manganese	ND	0.026	0.50		µg/L	1	5/27/2014 04:45 PM
Molybdenum	4.7	0.15	0.50		µg/L	1	5/27/2014 04:45 PM
Selenium	1.5	0.069	0.50		µg/L	1	5/27/2014 04:45 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

**ASSET Laboratories**
**ANALYTICAL RESULTS**

Print Date: 09-Jun-14

**CLIENT:** CH2M HILL

**Client Sample ID:** RRB-196

**Lab Order:** N012607

**Collection Date:** 5/22/2014 9:12:00 AM

**Project:** PG&E Topock, 423575.MP.02.RM

**Matrix:** WATER

**Lab ID:** N012607-029

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
<b>DISSOLVED METALS BY ICP-MS</b>							
	<b>EPA 3010A</b>			<b>EPA 6020</b>			
RunID: <b>ICP7_140527B</b>	QC Batch: <b>45739</b>			PrepDate:	<b>5/27/2014</b>	Analyst: <b>CEI</b>	
Arsenic	2.2	0.027	0.10		µg/L	1	5/27/2014 04:50 PM
Barium	120	0.030	1.0		µg/L	1	5/27/2014 04:50 PM
Manganese	7.3	0.026	0.50		µg/L	1	5/27/2014 04:50 PM
Molybdenum	4.4	0.15	0.50		µg/L	1	5/27/2014 04:50 PM
Selenium	1.3	0.069	0.50		µg/L	1	5/27/2014 04:50 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 S Spike/Surrogate outside of limits due to matrix interference  
 DO Surrogate Diluted Out

E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 Results are wet unless otherwise specified

**Advanced Technology Laboratories, Inc.**
**dba ASSET Laboratories**

3151 W. Post Rd, Las Vegas, NV 89118

P: 702.307.2659 F: 702.307.2691

[www.assetlaboratories.com](http://www.assetlaboratories.com)

CLIENT: CH2M HILL  
 Work Order: N012607  
 Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>MB-45738</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788173</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: <b>LCS-45738</b>	SampType: <b>LCS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788174</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.305	0.10	10.00	0	103	85	115				
Barium	107.957	1.0	100.0	0	108	85	115				
Manganese	99.621	0.50	100.0	0	99.6	85	115				
Molybdenum	10.330	0.50	10.00	0	103	85	115				
Selenium	10.141	0.50	10.00	0	101	85	115				

Sample ID: <b>N012607-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788178</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.720	0.10	10.00	2.472	102	75	125				
Manganese	93.463	0.50	100.0	0	93.5	75	125				
Molybdenum	15.595	0.50	10.00	4.492	111	75	125				
Selenium	11.704	0.50	10.00	1.508	102	75	125				

## Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_DIS

Sample ID: <b>N012607-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788179</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.409	0.10	10.00	2.472	99.4	75	125	12.72	2.48	20	
Manganese	92.566	0.50	100.0	0	92.6	75	125	93.46	0.965	20	
Molybdenum	15.589	0.50	10.00	4.492	111	75	125	15.59	0.0379	20	
Selenium	11.727	0.50	10.00	1.508	102	75	125	11.70	0.192	20	

Sample ID: <b>N012607-001C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788218</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	242.300	5.0	100.0	129.4	113	75	125				

Sample ID: <b>N012607-001C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788221</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	242.453	5.0	100.0	129.4	113	75	125	242.3	0.0630	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

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:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>MB-45739</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>PBW</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788203</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.10
Barium	ND	1.0
Manganese	0.091	0.50
Molybdenum	ND	0.50
Selenium	ND	0.50

Sample ID: <b>LCS-45739</b>		SampType: <b>LCS</b>		TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>		Prep Date: <b>5/27/2014</b>			RunNo: <b>93595</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>45739</b>		TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>		Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1788204</b>		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	10.047	0.10	10.00	0	100	85	115
Barium	108.230	1.0	100.0	0	108	85	115
Manganese	101.468	0.50	100.0	0	101	85	115
Molybdenum	10.345	0.50	10.00	0	103	85	115
Selenium	10.242	0.50	10.00	0	102	85	115

Sample ID: <b>N012607-026C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788210</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	12.641	0.10	10.00	2.260	104	75	125
Manganese	93.386	0.50	100.0	0	93.4	75	125
Molybdenum	15.923	0.50	10.00	4.408	115	75	125
Selenium	12.152	0.50	10.00	1.444	107	75	125

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788211</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

### Qualifiers:

B Analyte detected in the associated Method Blank  
 ND Not Detected at the Reporting Limit  
 DO Surrogate Diluted Out

E Value above quantitation range  
 R RPD outside accepted recovery limits

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:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788211</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.626	0.10	10.00	2.260	104	75	125	12.64	0.123	20	
Manganese	93.629	0.50	100.0	0	93.6	75	125	93.39	0.259	20	
Molybdenum	16.079	0.50	10.00	4.408	117	75	125	15.92	0.970	20	
Selenium	11.326	0.50	10.00	1.444	98.8	75	125	12.15	7.04	20	

Sample ID: <b>N012607-026C-MS</b>	SampType: <b>MS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788224</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	244.501	5.0	100.0	124.6	120	75	125				

Sample ID: <b>N012607-026C-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date: <b>5/27/2014</b>	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788225</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	243.770	5.0	100.0	124.6	119	75	125	244.5	0.299	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

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

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Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy				Container:	3X250 ml Poly (NH4)2S O4/NH4O H, 4°C	250 Poly (NH4)2S O4/NH4O H, 4°C	500 ml Poly HNO3 4°C	500 ml Poly HNO3 4°C	500 ml Poly HNO3 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	125 ml Poly H2SO4 pH < 2 4°C	* Where provided with multiple bottles for Cr6 + <del>total</del> diss metals please analyze 1 + hold 2	Number of Containers	COMMENTS
Project Number 423575.MP.02.RM Task Order Project 2014-RMP-196 Turnaround Time 10 Days Shipping Date: 5/13/2014 COC Number: RMP-196				Preservatives:	Field	NA	NA	Field	Field	NA	NA	NA	23			
DATE TIME Matrix				Holding Time:	28	28	180	180	180	7	7	7	23			
					Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6 - river)	Metals (6010B) Total Fe	Metals (SW6010B/SW6020A)dis Field Filtered As,Mn,Fe,Se,Mo,Ba	Metals (6020A) Field Filtered Chromium	Specific Conductance (E120.1)	PH (SM4500HB)	TSS (SM2540)	Nitrate/Nitrite (SM4500/NO3) Nitrate			
C-BNS-D-196	5/21/2014	10:40	Water	X		X	X	X	X	X	X	X	X	NO12607-1	8	9
C-I-3-D-196	5/21/2014	8:56	Water	X		X	X	X	X	X	X	X	X	-2	8	9
C-I-3-S-196	5/21/2014	9:06	Water	X		X	X	X	X	X	X	X	X	-3	8	9
C-MAR-D-196	5/21/2014	11:46	Water	X		X	X	X	X	X	X	X	X	-4	8	9
C-MAR-S-196	5/21/2014	11:54	Water	X		X	X	X	X	X	X	X	X	-5	8	9
C-MW-80-196	5/21/2014	8:00	Water		X									-6	1	
C-MW-81-196	5/21/2014	8:40	Water		X									-7	1	
C-R22A-D-196	5/21/2014	10:00	Water	X		X	X	X	X	X	X	X	X	-8	8	9
C-R22A-S-196	5/21/2014	10:12	Water	X		X	X	X	X	X	X	X	X	-9	8	9
C-R27-D-196	5/21/2014	11:06	Water	X		X	X	X	X	X	X	X	X	-10	8	9
C-R27-S-196	5/21/2014	11:20	Water	X		X	X	X	X	X	X	X	X	-11	8	9
C-TAZ-D-196	5/21/2014	8:10	Water	X		X	X	X	X	X	X	X	X	-12	8	9
C-TAZ-S-196	5/21/2014	8:26	Water	X		X	X	X	X	X	X	X	X	-13	8	9
R63-196	5/21/2014	9:32	Water	X		X	X	X	X	X	X	X	X	-14	8	9

Signatures		Date/Time	Shipping Details		ATTN:	Special Instructions:
Approved by		5-22-14	Method of Shipment:	FedEx		
Sampled by		1430	On Ice:	yes / no 2-12/5-7°C / 5-5°C		
Relinquished by		5/22/14 1430	Airbill No:		and	Report Copy to
Received by		5/22/14 1650	Lab Name:	ADVANCED TECHNOLOGY LABORATO		
Relinquished by		5/22/14 1650	Lab Phone:	(702) 307-2659		
Received by		5/22/14 1650				

Project Name PG&E Topock Location Topock Project Manager Jay Piper Sample Manager Shawn Duffy Project Number 423575.MP.02.RM Task Order Project 2014-RMP-196 Turnaround Time 10 Days Shipping Date: 5/13/2014 COC Number: RMP-196				Container:	3X250 ml Poly	250 Poly	500 ml Poly	500 ml Poly	500 ml Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	125 ml Poly	* Where provided w/ multiple bottles for Cr6 + diss metals please analyze 1 + hold 2	Number of Containers	COMMENTS
DATE	TIME	Matrix	Preservatives:	(NH4)2S O4/NH4O H, 4°C	(NH4)2S O4/NH4O H, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	H2SO4 pH < 2 4°C				
			Filtered:	Field	NA	NA	Field	Field	NA	NA	NA	NA				
			Holding Time:	28	28	180	180	180	7	7	7	28				
				Cr6 (E218.6 - river) Field Filtered	Field QC Cr6 (E218.6 - river)	Metals (6010B) Total Fe	Metals (SW6010B/SW6020A)dis Field Filtered As,Mn,Fe,Se,Mo,Ba	Metals (6020A) Field Filtered Chromium	Specific Conductance (E120.1)	PH (SM4500HB)	TSS (SM2540)	Nitrate/Nitrite (SM4500NO3) Nitrate				
RMP-AB1-196	5/21/2014	14:00	Water		X									1		
C-CON-D-196	5/22/2014	9:44	Water	X		X	X	X	X	X	X	X		1		
C-CON-S-196	5/22/2014	10:00	Water	X		X	X	X	X	X	X	X		1		
C-MW-82-196	5/22/2014	8:16	Water		X									1		
C-MW-83-196	5/22/2014	8:42	Water		X									1		
C-NR1-D-196	5/22/2014	10:26	Water	X		X	X	X	X	X	X	X		1		
C-NR1-S-196	5/22/2014	10:40	Water	X		X	X	X	X	X	X	X		1		
C-NR3-D-196	5/22/2014	11:04	Water	X		X	X	X	X	X	X	X		1		
C-NR3-S-196	5/22/2014	11:20	Water	X		X	X	X	X	X	X	X		1		
C-NR4-D-196	5/22/2014	11:50	Water	X		X	X	X	X	X	X	X		1		
C-NR4-S-196	5/22/2014	12:02	Water	X		X	X	X	X	X	X	X		1		
R-19-196	5/22/2014	8:50	Water	X		X	X	X	X	X	X	X		1		
R-28-196	5/22/2014	8:24	Water	X		X	X	X	X	X	X	X		1		
RMP-AB2-196	5/22/2014	12:30	Water		X									1		

Signatures		Date/Time	Shipping Details		ATTN:  Sample Custody and Marlon	Special Instructions:
Approved by		5-22-14	Method of Shipment:	FedEx		May 21-22, 2014
Sampled by		1430	On Ice:	yes / no 8-94/2-00/8-6-0		
Relinquished by			Airbill No:	1242		
Received by		5/22/14 1430	Lab Name:	ADVANCED TECHNOLOGY LABORATO		Report Copy to
Relinquished by		5/22/14 1650	Lab Phone:	(702) 307-2659		Shawn Duffy (530) 229-3303
Received by		5/22/14 1650				





## ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 5/22/2014

Workorder: N012607

Rep sample Temp (Deg C): 2.9/3.2/3.3/3.9/3.6/3.4

IR Gun ID: 2

Temp Blank: ☐ Yes ☒ No

Carrier name: ATL

Last 4 digits of Tracking No.: NA

Packing Material Used: None

Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

### Sample Receipt Checklist

- |   |   |  |   |
|---|---|--|---|
| 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 type="checkbox"/>            | No <input checked="" 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?<br>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: Sample for pH analysis is past holding time upon receipt.

Checklist Completed By AC  5/23/2014

Reviewed By:  05/27/14

## **SAMPLE CALCULATION**

**METHOD:** SM 2540D

**TEST NAME:** Total Non-Filterable Residue

**MATRIX:** Water

### **FORMULA:**

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B) * 1000000}{C}$$

Where:

A = weight in g of dish + residue after drying

B = weight of dish in g

C = volume of sample used in mL

For **N012607-001D**, TSS concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{TSS, mg/L} &= \frac{(1.4428 - 1.4428) * 1000000}{100} \\ &= 0\end{aligned}$$

Reporting result in two significant figures,

$$\text{TSS} = 0 \text{ mg/L}$$

  
5/29/2014

## **SAMPLE CALCULATION**

**METHOD:** SM 2540D

**TEST NAME:** Total Non-Filterable Residue

**MATRIX:** Water

### **FORMULA:**

Calculate TSS concentration in mg/L, in the original sample as follows:

$$\text{TSS, mg/L} = \frac{(A-B) * 1000000}{C}$$

Where:

A = weight in g of dish + residue after drying

B = weight of dish in g

C = volume of sample used in mL

For **N012607-013D**, TSS concentration in mg/L is calculated as follows:

$$\begin{aligned} \text{TSS, mg/L} &= \frac{(1.4465 - 1.4465) * 1000000}{100} \\ &= 0 \end{aligned}$$

Reporting result in two significant figures,

$$\text{TSS} = 0 \text{ mg/L}$$

  
5/29/2014

TOTAL SUSPENDED SOLIDS, TSS

$$\text{TSS, mg/L} = (A-B) \times 1000000 / C$$

WHERE:

A = weight in grams of dish + residue after drying

B = weight of dish in grams

C = volume of sample used in mL

Date: 5/27/2014	vol of sample	Wi	Wf	TSS, mg/L
MB-45755	100	1.4284	1.4284	0
LCS-45755	100	1.4249	1.5129	880
N012607-001D	100	1.4428	1.4428	0
N012607-001D-DUP	100	1.4463	1.4463	0
N012607-002D	100	1.4327	1.4327	0
N012607-003D	100	1.4338	1.4338	0
N012607-004D	100	1.4318	1.4388	70
N012607-005D	100	1.4399	1.4461	62
N012607-008D	100	1.4154	1.4155	1
N012607-009D	100	1.447	1.447	0
N012607-010D	100	1.4202	1.4202	0
N012607-011D	100	1.4442	1.4443	1
N012607-012D	100	1.4491	1.4491	0

  
5/29/2014

TOTAL SUSPENDED SOLIDS, TSS

$$\text{TSS, mg/L} = (A-B) \times 1000000 / C$$

WHERE:

A = weight in grams of dish + residue after drying

B = weight of dish in grams

C = volume of sample used in mL

Date: 5/27/2014	vol of sample	Wi	Wf	TSS, mg/L
MB-45756	100	1.431	1.431	0
LCS-45756	100	1.4292	1.5171	879
N012607-013D	100	1.4465	1.4465	0
N012607-013D-DUP	100	1.4183	1.4183	0
N012607-014D	100	1.4049	1.4049	0
N012607-016D	100	1.4299	1.4299	0
N012607-017D	100	1.4296	1.4296	0
N012607-020D	100	1.4186	1.4186	0
N012607-021D	100	1.4351	1.4351	0
N012607-022D	100	1.4237	1.4237	0
N012607-023D	100	1.4207	1.4208	1
N012607-024D	100	1.4474	1.4474	0
N012607-025D	100	1.4431	1.4431	0
N012607-026D	100	1.4283	1.4283	0
N012607-027D	100	1.4485	1.4485	0
N012607-029D	100	1.4311	1.4329	18

  
5/29/2014

### 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:

$$\text{Cr}^{+6}, \mu\text{g/L} = A * DF$$

where:

A =  $\mu\text{g/L}$ , IC  $\text{Cr}^{+6}$  calculated concentration  
DF = dilution factor

For **N012607-020A** concentration in  $\mu\text{g/L}$  is calculated as follows:

$$\begin{aligned}\text{Cr}^{+6}, \mu\text{g/L} &= 0.0768 * 1 \\ &= 0.0768\end{aligned}$$

Since PQL is  $0.20 \mu\text{g/L}$ ,

$$\text{Cr}^{+6}, \mu\text{g/L} = \text{ND}$$

*Nancy*

6/4/2014

REB / IC-06 5/27/2014 6:54 PM

## SAMPLE CALCULATION

**METHOD:** SM4500N03

**TEST NAME:** Nitrate by Cadmium Reduction

**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, Nitrate calculated concentration  
DF= dilution factor

For **N012607-002E**, concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Nitrate, mg/L} &= 0.2989 * 1 \\ &= 0.2989 \text{ mg/L}\end{aligned}$$

Reporting result in two significant figures,

$$\text{Nitrate} = 0.30 \text{ mg/L}$$



6/5/2014



## Sample Calculation

**METHOD:** EPA 6010

**TEST NAME:** Heavy Metals by ICP

**MATRIX:** Water

**FORMULA:**

Calculate the Iron concentration, in mg/L, in the original sample as follows:

$$\text{Iron, mg/L} = A * DF * PF$$

where:

A = mg/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Amt. of Sample mL

For Sample **N012607-029B**, the concentration in mg/L is calculated as follows:

$$\begin{aligned} \text{Iron, mg/L} &= \frac{0.40467}{\cancel{0.4139097744}} * 1 * (25/25) \\ &= \cancel{0.4139097744} \quad 0.40467 \end{aligned}$$

Reporting results in two significant figures,

 06/09/14

$$\text{Iron, mg/L} = \cancel{0.41} \quad 0.40$$

 06/09/14

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012607  
Test Method: EPA 6010  
Analysis Date: 6/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45747

Instrument ID: ICP-02  
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable for Fe. The calculated value is <25X the RL. PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N012607-026C-DT 5X	Iron	mg/L	0.011380652	NA	0.006987991	62.86%	10

Note: NA - Not Applicable

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012607  
Test Method: EPA 6010  
Analysis Date: 6/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45743

Instrument ID: ICP-02  
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable for Fe. The calculated value is <25X the RL. PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N012607-001B-DT 5X	Iron	mg/L	0.035939752	NA	0.031214946	15.14%	10

Note: NA - Not Applicable

 06/09/14

CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010W\_HINK

Sample ID: <b>N012607-001B-PS</b>	SampType: <b>PS</b>	TestCode: <b>6010W_HINK</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93700</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45743</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>1791150</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5.057	0.040	5.000	0.03121	101	80	120				

 06/09/14

## Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
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:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6010W\_HINK

Sample ID: N012607-026C-PS	SampType: PS	TestCode: 6010W_HINK	Units: mg/L	Prep Date:	RunNo: 93700						
Client ID: ZZZZZZ	Batch ID: 45747	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 6/6/2014	SeqNo: 1791136						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.943	0.040	5.000	0.006988	98.7	80	120				

### Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

## Sample Calculation

**METHOD:** EPA 6010

**TEST NAME:** Heavy Metals by ICP

**MATRIX:** Water

**FORMULA:**

Calculate the Iron concentration, in mg/L, in the original sample as follows:

$$\text{Iron, mg/L} = A * DF * PF$$

where:

A = mg/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Amt. of Sample mL

For Sample **N012607-010C**, the concentration in mg/L is calculated as follows:

$$\begin{aligned}\text{Iron, mg/L} &= 0.02312721298 * 1 * (25/25) \\ &= 0.02312721298\end{aligned}$$

Reporting results in two significant figures,

$$\text{Iron, mg/L} = 0.023$$



06/09/14

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012607  
Test Method: EPA 6010  
Analysis Date: 6/5/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45746

Instrument ID: ICP-02  
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable for Fe. The calculated value is <25X the RL. PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N012607-001C-DT 5X	Iron	mg/L	0.02088108968	NA	0.0184646134	13.09%	10

Note: NA - Not Applicable

 06/09/14

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012607  
Test Method: EPA 6010  
Analysis Date: 6/6/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45747

Instrument ID: ICP-02  
Instrument Description: Perkin Elmer Optima DV Series

Comments:

Analyzed By: Mary Claire Ignacio

Dilution test is not applicable for Fe. The calculated value is <25X the RL. PS @2X passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPrefval	%DIFF	%DIFFlimit
N012607-026C-DT 5X	Iron	mg/L	0.011380652	NA	0.006987991	62.86%	10

Note: NA - Not Applicable



CLIENT: CH2M HILL  
Work Order: N012607  
Project: PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6010WD\_HINK

Sample ID: <b>N012607-001C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6010WD_HIN</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>93695</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45746</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3010A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>1790877</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.857	0.040	5.000	0.01846	96.8	80	120				

## Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6010WD\_HINK

Sample ID: N012607-026C-PS	SampType: PS	TestCode: 6010WD_HIN	Units: mg/L	Prep Date:	RunNo: 93700						
Client ID: ZZZZZZ	Batch ID: 45747	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 6/6/2014	SeqNo: 1791018						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.943	0.040	5.000	0.006988	98.7	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

## Sample Calculation

**METHOD:** EPA 6020

**TEST NAME:** Heavy Metals by ICP-MS

**MATRIX:** Aqueous

**FORMULA:**

Calculate the Barium concentration, in ug/L, in the original sample as follows:

$$\text{Barium, ug/L} = A * DF * PF$$

where:

A = ug/L, calculated concentration

DF = dilution factor

PF = Final Vol. of Digestate in mL / Vol. of Sample used in mL

For Sample **N012607-002C**, the concentration in ug/L is calculated as follows:

$$\begin{aligned}\text{Barium, ug/L} &= 116.812114012683 * 1 * (25/25) \\ &= 116.812114012683\end{aligned}$$

Reporting result in two significant figures,

$$\text{Barium, ug/L} = 120$$

*Monay*

6/4/2014

**ASSET Laboratories****ICP-Metals in Water**

Work Order No.: N012607  
Test Method: EPA 6020  
Analysis Date: 5/27/2014

**Dilution Test Summary**

Matrix: Water  
Batch No.: 45738

Instrument ID: ICP-MS #2  
Instrument Description: Agilent 7700x

Comments: Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to Cr, Mn, Mo & Se. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012607-001C-DT 5X	Chromium	µg/L	0	NA	0.276392179	100.00%	10
N012610-001B-DT 5X	Arsenic	µg/L	2.547024364	PASS	2.471876552	3.04%	10
N012610-001B-DT 25X	Barium	µg/L	133.0746272	PASS	129.3849274	2.85%	10
N012610-001B-DT 5X	Manganese	µg/L	0	NA	0		10
N012610-001B-DT 5X	Molybdenum	µg/L	4.378487329	NA	4.492232407	2.53%	10
N012610-001B-DT 5X	Selenium	µg/L	1.247118107	NA	1.507603397	17.28%	10

Note: NA - Not applicable

**ASSET Laboratories**

**ICP-Metals in Water**

Work Order No.: N012607  
 Test Method: EPA 6020  
 Analysis Date: 5/27/2014

**Dilution Test Summary**

Matrix: Water  
 Batch No.: 45739

Instrument ID: ICP-MS #2  
 Instrument Description: Agilent 7700x

Comments: \_\_\_\_\_ Analyzed By: Mary Claire Ignacio

Dilution test is not applicable to As, Cr, Mn, Mo & Se. The calculated values are <25X RL. PS @ 2x passed criteria.

Sample ID	Analyte	Units	Calc Val	OQual	SAMPRefVal	%DIFF	%DIFFlimit
N012607-026C-DT 5X	Chromium	µg/L	0	NA	0		10
N012607-026C-DT 5X	Arsenic	µg/L	2.416059211	NA	2.259692123	6.92%	10
N012607-026C-DT 25X	Barium	µg/L	129.041133.0746272	PASS	124.6447421	-6.76% - 3.52%	10
N012607-026C-DT 5X	Manganese	µg/L	0	NA	0		10
N012607-026C-DT 5X	Molybdenum	µg/L	4.404800114	NA	4.408343201	0.08%	10
N012607-026C-DT 5X	Selenium	µg/L	1.365664147	NA	1.444116517	5.43%	10

Note: NA - Not applicable

 6/4/2014  
 for

**CLIENT:** CH2M HILL  
**Work Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

**ANALYTICAL QC SUMMARY REPORT****TestCode: 6020\_DIS**

Sample ID: <b>N012607-001C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788177</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.992	0.20	20.00	2.472	103	80	120				
Manganese	186.289	1.0	200.0	0	93.1	80	120				
Molybdenum	26.069	1.0	20.00	4.492	108	80	120				
Selenium	20.974	1.0	20.00	1.508	97.3	80	120				

Sample ID: <b>N012607-001C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788217</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	648.276	5.0	500.0	129.4	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:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020\_DIS

Sample ID: <b>N012607-026C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93595</b>			
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1788209</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.628	0.20	20.00	2.260	102	80	120				
Manganese	191.229	1.0	200.0	0	95.6	80	120				
Molybdenum	26.584	1.0	20.00	4.408	111	80	120				
Selenium	21.248	1.0	20.00	1.444	99.0	80	120				

Sample ID: <b>N012607-026C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020_DIS</b>		Units: <b>µg/L</b>	Prep Date:			RunNo: <b>93595</b>			
Client ID: <b>ZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1788223</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	659.851	5.0	500.0	124.6	107	80	120				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference

**CLIENT:** CH2M HILL  
**Work Order:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012607-001C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b> Units: <b>µg/L</b>				Prep Date:			RunNo: <b>93595</b>		
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45738</b>	TestNo: <b>EPA 6020</b>		<b>EPA 3010A</b>		Analysis Date: <b>5/27/2014</b>			SeqNo: <b>1788101</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.099	2.0	20.00	0.2764	94.1	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:** N012607  
**Project:** PG&E Topock, 423575.MP.02.RM

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 6020DIS\_CrPGE

Sample ID: <b>N012607-026C-PS</b>	SampType: <b>PS</b>	TestCode: <b>6020DIS_CrP</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>93595</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>45739</b>	TestNo: <b>EPA 6020</b>	<b>EPA 3010A</b>	Analysis Date: <b>5/27/2014</b>	SeqNo: <b>1788133</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.304	2.0	20.00	0	96.5	80	120				

### Qualifiers:

B Analyte detected in the associated Method Blank  
ND Not Detected at the Reporting Limit  
DO Surrogate Diluted Out

E Value above quantitation range  
R RPD outside accepted recovery limits  
Calculations are based on raw values

H Holding times for preparation or analysis exceeded  
S Spike/Surrogate outside of limits due to matrix interference



**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:  
**PGE Topock**

ASL Report #: N1708  
Project ID: 423575.MP.02.GM.01  
**Attn: Jay Piper**

cc:  
Data Center/RDD  
Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

Laboratory Project Manager  
Kathy McKinley  
(541) 758-0235 ext.23144  
June 17, 2014

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

### **Sample Receipt Comments**

We certify that the test results meet all NELAP requirements except those listed below:

- Samples were received at a temperature of 8.8°C.
- CH2M HILL Applied Sciences Laboratory is not accredited by NELAP for the following tests: EPA 120.1.

### **Sample Cross-Reference**

<b>ASL Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date Received</b>
N170801	MW-54-085-198	04/09/14 09:04	04/21/14
N170802	MW-54-140-198	04/09/14 09:47	04/21/14
N170803	MW-54-195-198	04/09/14 08:27	04/21/14
N170804	MW-90-195-198	04/09/14 06:30	04/21/14
N170805	MW-240-198	04/10/14 06:20	04/21/14
N170806	MW-56D-198	04/10/14 12:35	04/21/14
N170807	MW-56M-198	04/10/14 13:28	04/21/14
N170808	MW-56S-198	04/10/14 14:08	04/21/14

## CASE NARRATIVE METALS ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1708

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.01

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

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**Method(s):**

SW6010B: FLDFLT

SW6020: FLDFLT

E200.7: FLDFLT

**Analytical Exception(s):**

SW6020: Client samples were diluted due to high sodium concentrations.

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-54-085-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170801

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-54-140-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170802

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-54-195-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170803

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-54-195-198MS

SDG No.: N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170803MS

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_



1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-54-195-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N170803MSD

Date Received: 04/21/14

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-90-195-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170804

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-56D-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170806

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW-56M-198

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: N170807

Percent Moisture: 100

Date Received: 04/21/14

Preparation: Dissolved

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

## 1A

MW-56S-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170808

Date Received: 04/21/14

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

WB1-0423

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: WB1-0423

Percent Moisture: 100

Date Received:     /     /

Preparation: Total

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

1A  
INORGANICS ANALYSIS DATA SHEET

Field Sample ID:

WB1-0428

SDG No. : N1708

Lab Name: CH2M HILL ASL

Matrix: WATER

Lab Sample ID: WB1-0428

Percent Moisture: 100

Date Received:     /     /

Preparation: Total

Concentration Units: ug/L

[illegible]

Comments: \_\_\_\_\_  
\_\_\_\_\_

Lab Name: CH2M HILL ASL

Concentration Units: ug/L

MSD Sample ID:

MW-54-195-198MSD

[illegible]

Comments:

## Dissolved Metals

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.



Lab Name: CH2M HILL ASL

Solid LCS ID:

Comments:

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Lab Name: CH2M HILL ASL

Solid LCS ID:

Comments:

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Field Sample ID:

MW-54-195-198DL

Lab Name: CH2M HILL ASL

Concentration Units: ug/L

[illegible]

10% Criteria does not apply if undiluted sample result is <50 times the MDL for ICP.

10% Criteria does not apply if undiluted sample result is <100 times the MDL for ICPMS.



## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1708

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.01

---

With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

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**Method(s):**

E218.6



MW-54-085-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N170801MS

Date Received: 04/21/14

[illegible]

MW-54-140-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170802

[illegible]



MW-54-140-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N170802MS

Date Received: 04/21/14

[illegible]

MW-54-195-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170803

[illegible]

**MW-54-195-198MS**

Lab Name: CH2M HILL ASL

Lab Sample ID: N170803MS

[illegible]

MW-90-195-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170804

[illegible]

MW-90-195-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N170804MS

[illegible]

MW-240-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170805

[illegible]

MW-240-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N170805MS

[illegible]

MW-56D-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170806

[illegible]



Date Received: 04/21/14

[illegible]

MW-56M-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170807

[illegible]

MW-56M-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N170807MS

[illegible]

Date Received: 04/21/14

[illegible]

Date Received: 04/21/14

[illegible]

WB1-0502

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-0502

Date Received:     /     /

[illegible]

WB2-0502

Lab Name: CH2M HILL ASL

Lab Sample ID: WB2-0502

Date Received:     /     /

[illegible]

Concentration Units: ug/L

MW-240-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.



Concentration Units: ug/L

MW-54-085-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

MW-54-140-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

MW-54-195-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

MW-56D-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

MW-56M-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

MW-56S-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

MW-90-195-198MS

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: ug/L

[illegible]

\* Values outside of QC limits

Comments:



Concentration Units: ug/L

[illegible]

Comments:

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1708

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.01

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

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**Method(s):**

E120.1

MW-54-085-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170801

[illegible]

MW-54-140-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170802

Date Received: 04/21/14

[illegible]

MW-54-195-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170803

Date Received: 04/21/14

[illegible]

MW-90-195-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170804

Date Received: 04/21/14

[illegible]

Date Received: 04/21/14

[illegible]

Date Received: 04/21/14

[illegible]



MW-56S-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N170808

Date Received: 04/21/14

[illegible]

WB1-0422

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-0422

Date Received:     /     /

[illegible]

Concentration Units: UMHOS/CM

[illegible]

Comments:


## CH2MHILL

## CHAIN OF CUSTODY RECORD

4/16/2014 10:54:40 AM

Page 1 OF 1

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 42 3575.MP.02.GM.0 <b>Task Order</b> <b>Project</b> 2014-GMP-198-AZ <b>Turnaround Time</b> 12 Days <b>Shipping Date:</b> 4/3/2014 <b>COC Number:</b> 198-AZ				<b>Container:</b> 2x250 ml Poly (NH4)2S O4/NH4O H. 4°C <b>Preservatives:</b> 250 ml Poly (NH4)2S O4/NH4O H. 4°C <b>Filtered:</b> Field <b>Holding Time:</b> 28	<b>Container:</b> 250 ml Poly (NH4)2S O4/NH4O H. 4°C <b>Preservatives:</b> 250 ml Poly (NH4)2S O4/NH4O H. 4°C <b>Filtered:</b> Field <b>Holding Time:</b> 28	<b>Container:</b> 2x500 ml Poly HNO3. 4°C <b>Preservatives:</b> 2x500 ml Poly HNO3. 4°C <b>Filtered:</b> Field <b>Holding Time:</b> 180	<b>Container:</b> 2x500 ml Poly HNO3. 4°C <b>Preservatives:</b> 2x500 ml Poly HNO3. 4°C <b>Filtered:</b> Field <b>Holding Time:</b> 180	<b>Container:</b> 1 Liter Poly 4°C <b>Preservatives:</b> 1 Liter Poly 4°C <b>Filtered:</b> NA <b>Holding Time:</b> 28			
				C/6 (E218.6R) Field Filtered	C/6 (E218.6R) Field Filtered	Metals (SW6010B/SW6020Ads) Field Filtered As.Mn	Metals (6020A) Field Filtered Chromium	Specific Conductance (E120.1)			
<b>DATE</b>	<b>TIME</b>	<b>Matrix</b>								<b>Number of Containers</b>	<b>COMMENTS</b>
MW-54-085-198	4/9/2014	9:04	Water	X		X	X	X		5	1
MW-54-140-198	4/9/2014	9:47	Water	X		X	X	X		5	2
MW-54-195-198	4/9/2014	8:27	Water	X		X	X	X		5	3
MW-90-195-198	4/9/2014	6:30	Water	X		X	X	X		5	4
MW-240-198	4/10/2014	6:20	Water		X					1	5
MW-56D-198	4/10/2014	12:35	Water	X			X	X		45	6
MW-56M-198	4/10/2014	13:28	Water	X			X	X		45	Bel
MW-56S-198	4/10/2014	14:08	Water	X			X	X		45	8
TOTAL NUMBER OF CONTAINERS										35	36

<b>Approved by</b> <b>Sampled by</b> <b>Relinquished by</b> <b>Received by</b> <b>Relinquished by</b> <b>Received by</b>		<b>Signatures</b>  <b>Date/Time</b> 4-16-14 2000 Mike Quinn Mike Quinn 4/21/14 12:00	<b>Shipping Details</b> <b>Method of Shipment:</b> FedEx <b>On Ice:</b> yes / no <b>Airbill No:</b> <b>Lab Name:</b> CH2M HILL Applied Sciences Lab <b>Lab Phone:</b> (541) 752-4271	<b>ATTN:</b> <b>Sample Custody</b> and Kathy McKinley	<b>Special Instructions:</b> April 9 to May 15, 2014 <b>Report Copy to</b> Shawn Duffy (530) 229-3303
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SDG ID: N1708

Date Received: 4/21/2014

Client/Project: PG&E Topock

Received By: Mikio Quinn

Were custody seals intact and on the outside of the cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Shipping Record:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> On File	<input type="checkbox"/> COC	
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Packing Material:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Box
Temp OK? (<6C) Therm ID: TH173 Exp. 6/11	8.8°C	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was the CoC correctly filled out (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did sample labels agree with COC? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did the CoC list a correct bottle count and the preservative types (Y=OK, N=Corrected on CoC)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Any sample with < 1/2 holding time remaining? If so contact LPM	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Dissolved/Soluble metals filtered in the field?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials

**Sample Exception Report** (The following exceptions were noted)

Samples received outside of temperature at 8.8°C.
Conductivity samples were received past ASL's standard 24 hr holding time. Per client these samples have a 28 day holding time and we are to proceed with analysis.
Client was notified on: Client contact:
Resolution to Exception:



**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:  
**PGE Topock**

**ASL Report #: N1716**  
**Project ID: 423575.MP.02.GM.03**  
**Attn: Jay Piper**

cc:  
Data Center/RDD  
Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

Laboratory Project Manager  
Kathy McKinley  
(541) 758-0235 ext.23144  
May 06, 2014

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

ASL Report #: N1716

### **Sample Receipt Comments**

We certify that the test results meet all NELAP requirements.

### **Sample Cross-Reference**

<b>ASL Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date Received</b>
N171601	MW-63-065-198	04/09/14 14:12	04/22/14
N171602	MW-37D-198	04/10/14 10:03	04/22/14
N171603	MW-121-198	04/14/14 07:00	04/22/14
N171604	MW-27-020-198	04/14/14 10:13	04/22/14
N171605	MW-27-060-198	04/14/14 11:00	04/22/14
N171606	MW-30-030-198	04/14/14 13:36	04/22/14
N171607	MW-122-198	04/15/14 07:00	04/22/14
N171608	MW-28-025-198	04/15/14 08:59	04/22/14
N171609	MW-28-090-198	04/15/14 09:34	04/22/14
N171610	MW-46-175-198	04/15/14 13:36	04/22/14
N171611	MW-125-198	04/16/14 07:00	04/22/14
N171612	MW-29-198	04/16/14 14:20	04/22/14
N171613	MW-44-115-198	04/16/14 07:38	04/22/14
N171614	MW-44-125-198	04/16/14 11:59	04/22/14

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1716

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.03

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

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**Method(s):**

E353.2

**Matrix Spike/Matrix Spike Duplicate(s):**

E353.2: MS recovery of Nitrate/Nitrite-N(124%) in MW-63-065-198MS did not meet acceptance criteria of 90-110%.

MSD recovery of Nitrate/Nitrite-N(117%) in MW-63-065-198MSD did not meet acceptance criteria of 90-110%.



MW-63-065-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171601

Date Received: 04/22/14

[illegible]

MW-63-065-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N171601MS

Date Received: 04/22/14

[illegible]

MW-63-065-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N171601MSD

Date Received: 04/22/14

[illegible]

MW-37D-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171602

[illegible]

Date Received: 04/22/14

MW-27-020-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171604

Date Received: 04/22/14

[illegible]

MW-27-060-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171605

Date Received: 04/22/14

[illegible]

MW-30-030-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171606

[illegible]



MW-122-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171607

[illegible]

MW-28-025-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171608

Date Received: 04/22/14

[illegible]

MW-28-090-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171609

[illegible]

Date Received: 04/22/14

[illegible]

Date Received: 04/22/14

Date Received: 04/22/14

[illegible]

MW-125-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N171611MSD

Date Received: 04/22/14

[illegible]

MW-29-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171612

[illegible]





MW-44-125-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N171614

[illegible]

WB1-043014

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-043014

[illegible]

WB3-043014

Lab Name: CH2M HILL ASL

Lab Sample ID: WB3-043014

Date Received:     /     /

[illegible]

Concentration Units: MG/L

MW-125-198MSD

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: MG/L

MW-63-065-198MSD

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: MG/L

Concentration Units: MG/L

[illegible]

Comments:



N1716

CH2MHILL

CHAIN OF CUSTODY RECORD

4/17/2014 1:36:31 PM

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.0 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/17/2014 <b>COC Number:</b> 2				Container: 125 ml Poly Preservatives: H2SO4, pH<2, 4°C Filtered: NA Holding Time: 28 Nitrate/Nitrite (SM4500NO3) Nitrate	Number of Containers	COMMENTS	
DATE	TIME	Matrix					
MW-63-065-198	4/9/2014	14:12	Water	X	AC NO12290-1	1	
MW-37D-198	4/10/2014	10:03	Water	X	-2	1	
MW-121-198	4/14/2014	7:00	Water	X	-3	1	
MW-27-020-198	4/14/2014	10:13	Water	X	-4	1	
MW-27-060-198	4/14/2014	11:00	Water	X	-5	1	
MW-30-030-198	4/14/2014	13:36	Water	X	-6	1	
MW-122-198	4/15/2014	7:00	Water	X	-7	1	
MW-28-025-198	4/15/2014	8:59	Water	X	-8	1	
MW-28-090-198	4/15/2014	9:34	Water	X	-9	1	
MW-46-175-198	4/15/2014	13:36	Water	X	-10	1	
MW-125-198	4/16/2014	7:00	Water	X	-11	1	
MW-29-198	4/16/2014	14:20	Water	X	-12	1	
MW-44-115-198	4/16/2014	7:38	Water	X	-13	1	
MW-44-125-198	4/16/2014	11:59	Water	X	-14	1	

14

<b>Signatures</b> Approved by: Sampled by: Relinquished by: Received by: Relinquished by: Received by: Relinquished by: Amanda	<b>Date/Time</b> 4-17-14 1635 17 APRIL 1635 17 APRIL 1840 4/21/14 1500	<b>Shipping Details</b> Method of Shipment: <u>Courier</u> On Ice: <u>yes</u> / no 3.5°C 122 Airbill No: Lab Name: CH2M HILL Applied Sciences Lab Lab Phone: (415) 770-4271 Received by: <u>Charmaine Cole</u>	<b>Special Instructions:</b> April 9 to May 15 2014 ATTN: Sample Custody: and Kathy McKinley Shawn Duffy 505.335.0351 Fed Ex # 7986 0846 1292 Report Copy to 4/23/14 1130
---	---	---	---



SDG ID: N1716

Date Received: 4/22/2014

Client/Project: Topock

Received By: Carmen Cole

Were custody seals intact and on the outside of the cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Shipping Record:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> On File	<input type="checkbox"/> COC
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Packing Material:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice
Temp OK? (<6C) Therm ID: TH173 Exp. 6/14	1.8 °C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was the CoC correctly filled out (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did sample labels agree with COC? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did the CoC list a correct bottle count and the preservative types (Y=OK, N=Corrected on CoC)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Any sample with < 1/2 holding time remaining? If so contact LPM	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Dissolved/Soluble metals filtered in the field?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials

**Sample Exception Report** (The following exceptions were noted)

Method SM4500 was requested on the COC. ASL will report method E353.2
Client was notified on: Client contact:
Resolution to Exception:



**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:

**PGE Topock - 2014-GMP-198-Q2**

**ASL Report #: N1751**

**Project ID: 423575.MP.02.GM.02**

**Attn: Jay Piper**

cc:

Data Center/RDD

Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

**Laboratory Project Manager**

**Kathy McKinley**

*(541) 758-0235 ext.23144*

*May 07, 2014*

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

ASL Report #: N1751

### **Sample Receipt Comments**

We certify that the test results meet all NELAP requirements.

### **Sample Cross-Reference**

ASL Sample ID	Client Sample ID	Date/Time Collected	Date Received
N175101	MW-33-040-198	04/17/14 14:34	04/29/14
N175102	MW-33-150-198	04/17/14 13:48	04/29/14
N175103	MW-36-100-198	04/17/14 11:24	04/29/14
N175104	MW-123-198	04/21/14 07:00	04/29/14
N175105	MW-33-090-198	04/21/14 08:18	04/29/14
N175106	MW-33-210-198	04/21/14 09:32	04/29/14
N175107	MW-72BR-200-198	04/21/14 14:52	04/29/14
N175108	MW-21-198	04/22/14 11:10	04/29/14
N175109	MW-57-185-198	04/22/14 11:06	04/29/14

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1751

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.02

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E353.2

**Matrix Spike/Matrix Spike Duplicate(s):**

E353.2: MS recovery of Nitrate/Nitrite-N(121%) in MW-123-198MS did not meet acceptance criteria of 90-110%.

MSD recovery of Nitrate/Nitrite-N(118%) in MW-123-198MSD did not meet acceptance criteria of 90-110%.



MW-33-150-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175102

Date Received: 04/29/14

[illegible]

MW-36-100-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175103

[illegible]



MW-123-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175104

[illegible]

MW-123-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N175104MS

Date Received: 04/29/14

[illegible]

Date Received: 04/29/14

MW-33-090-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175105

[illegible]

MW-33-210-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175106

Date Received: 04/29/14

[illegible]

Date Received: 04/29/14

[illegible]



MW-57-185-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N175109

[illegible]



WB1-043014

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-043014

[illegible]





Concentration Units: MG/L

MW-123-198MSD

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: MG/L

[illegible]

Comments:

Concentration Units: MG/L

Concentration Units: MG/L

[illegible]

Comments:

N1751

CH2MHILL






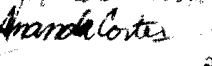
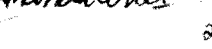
CHAIN OF CUSTODY RECORD

4/24/2014 10:50:51 AM

Page 1 OF 1

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.02 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/24/2014 <b>COC Number:</b> 4				<b>Container:</b> 125 ml Poly <b>Preservatives:</b> H2SO4, pH<2, 4°C <b>Filtered:</b> NA <b>Holding Time:</b> 28	Nitrate/Nitrite (SM4500NO3) Nitrate	Number of Containers	COMMENTS
<b>DATE</b> <b>TIME</b> <b>Matrix</b>							
MW-33-040-198	4/17/2014	14:34	Water	X	1	1	
MW-33-150-198	4/17/2014	13:48	Water	X	1	2	
MW-36-100-198	4/17/2014	11:24	Water	X	1	3	
MW-123-198	4/21/2014	7:00	Water	X	1	4	
MW-33-090-198	4/21/2014	8:18	Water	X	1	5	
MW-33-210-198	4/21/2014	9:32	Water	X	1	6	
MW-72BR-200-198	4/21/2014	14:52	Water	X	1	7	
MW-21-198	4/22/2014	11:10	Water	X	1	8	
MW-57-185-198	4/22/2014	11:06	Water	X	1	9	
TOTAL NUMBER OF CONTAINERS					9		

Page 1 of 3

**Signatures**  
 Approved by:   
 Sampled by:   
 Relinquished by:   
 Received by:   
 Relinquished by:   
 Received by:   
 Rel By: 

**Date/Time**  
 4-24-14 1230  
 4/24/14 1425  
 26 APR 14 1450

**Shipping Details**  
 Method of Shipment: courier  
 On Ice: yes / no  
 Airbill No: 10#  
 Lab Name: CH2M HILL Applied Sciences Lab  
 Lab Phone:

Received, Comments, Date 4/24/14 1050  
**Special Instructions:**  
 April 25, May 15, 2014

Sample Custody  
 Report Copy to  
 Shawn Duffy

FEDEX 7986 7481, 5711





SDG ID: N1751

Date Received: 4/29/2014

Client/Project: Topock

Received By: Carmen Cole

Were custody seals intact and on the outside of the cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Shipping Record:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> On File	<input type="checkbox"/> COC	
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Packing Material:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Box
Temp OK? (<6C) Therm ID: TH173 Exp. 6/14	4.6 °C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was the CoC correctly filled out (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did sample labels agree with COC? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did the CoC list a correct bottle count and the preservative types (Y=OK, N=Corrected on CoC)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Any sample with < 1/2 holding time remaining? If so contact LPM	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Dissolved/Soluble metals filtered in the field?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials

**Sample Exception Report** (The following exceptions were noted)

Method SM4500 was requested on COC ASL will report by E353.2

Client was notified on:

Client contact:

Resolution to Exception:



**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:

**PGE Topock - 2014-GMP-198-Q2**

**ASL Report #: N1794**

**Project ID: 423575.MP.02.GM.03**

**Attn: Jay Piper**

cc:

Data Center/RDD

Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

**Laboratory Project Manager**

**Kathy McKinley**

*(541) 758-0235 ext.23144*

*May 12, 2014*

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

ASL Report #: N1794

### **Sample Receipt Comments**

We certify that the test results meet all NELAP requirements.

### **Sample Cross-Reference**

<b>ASL Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date Received</b>
N179401	MW-124-198	04/24/14 07:30	05/02/14
N179402	MW-35-060-198	04/24/14 10:33	05/02/14
N179403	MW-40D-198	04/24/14 12:44	05/02/14
N179404	MW-65-160-198	04/24/14 08:55	05/02/14
N179405	MW-71-035-198	04/24/14 14:00	05/02/14
N179406	MW-72-080-198	04/24/14 07:56	05/02/14
N179407	MW-70-105-198	04/28/14 11:02	05/02/14
N179408	MW-60BR-245-198	04/29/14 10:54	05/02/14
N179409	MW-61-110-198	04/29/14 11:40	05/02/14
N179410	MW-65-225-198	04/29/14 14:13	05/02/14
N179411	MW-73-080-198	04/29/14 06:35	05/02/14

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1794

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.03

---

With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E353.2

**Matrix Spike/Matrix Spike Duplicate(s):**

E353.2: MS recovery of Nitrate/Nitrite-N(113%) in MW-124-198MS did not meet acceptance criteria of 90-110%.

MSD recovery of Nitrate/Nitrite-N(119%) in MW-124-198MSD did not meet acceptance criteria of 90-110%.

Date Received: 05/02/14

MW-124-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N179401MS

[illegible]

MW-124-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N179401MSD

Date Received: 05/02/14

[illegible]

MW-35-060-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179402

[illegible]





MW-65-160-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179404

Date Received: 05/02/14

MW-71-035-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179405

[illegible]

MW-72-080-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179406

Date Received: 05/02/14

MW-60BR-245-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179408

MW-61-110-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179409

[illegible]

MW-65-225-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179410



MW-73-080-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N179411

Date Received: 05/02/14

[illegible]

WB1-050814

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-050814

[illegible]

WB1-051214

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-051214

[illegible]

WB2-050814

Lab Name: CH2M HILL ASL

Lab Sample ID: WB2-050814

[illegible]

WB4-050814

Lab Name: CH2M HILL ASL

Lab Sample ID: WB4-050814

Date Received:     /     /

[illegible]

Concentration Units: MG/L

MW-124-198MSD

[illegible]

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: MG/L

Concentration Units: MG/L

Comments:



Concentration Units: MG/L

Comments:

Concentration Units: MG/L

Comments:

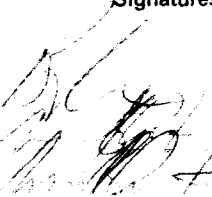
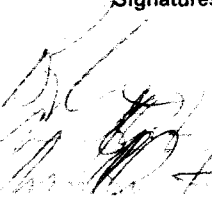
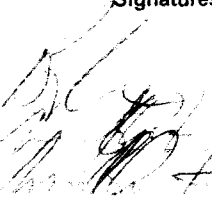
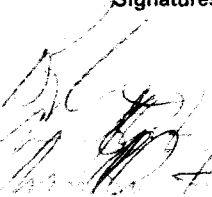
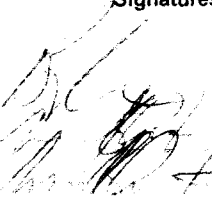
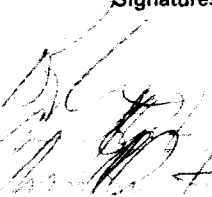
N1794

CH2MHILL

CHAIN OF CUSTODY RECORD

4/30/2014 12:22:31 PM

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.0 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/30/2014 <b>COC Number:</b> 6				<b>Container:</b> 125 ml Poly <b>Preservatives:</b> H2SO4, pH<2, 4°C <b>Filtered:</b> NA <b>Holding Time:</b> 28	Nitrate/Nitrite (SM4500NO3) Nitrate	Number of Containers	COMMENTS
<b>DATE</b> <b>TIME</b> <b>Matrix</b>							
MW-124-198	4/24/2014	7:30	Water	X		1	1
MW-35-060-198	4/24/2014	10:33	Water	X		1	2
MW-40D-198	4/24/2014	12:44	Water	X		1	3
MW-65-160-198	4/24/2014	8:55	Water	X		1	4
MW-71-035-198	4/24/2014	14:00	Water	X		1	5
MW-72-080-198	4/24/2014	7:56	Water	X		1	6
MW-70-105-198	4/28/2014	11:02	Water	X		1	7
MW-60BR-245-198	4/29/2014	10:54	Water	X		1	8
MW-61-110-198	4/29/2014	11:40	Water	X		1	9
MW-65-225-198	4/29/2014	14:13	Water	X		1	10
MW-73-080-198	4/29/2014	6:35	Water	X		1	11
<b>TOTAL NUMBER OF CONTAINERS</b>						<b>11</b>	

<b>Signatures</b> Approved by:  Sampled by:  Relinquished by:  Received by:  Relinquished by:  Received by: 	<b>Date/Time</b> 4-30-14 1439	<b>Shipping Details</b> Method of Shipment: <u>air</u> On Ice: <u>yes</u> / no Airbill No: <u>423575</u> Lab Name: CH2M HILL Applied Sciences Lab Lab Phone: (916) 251-1211	<b>Special Instructions:</b> ATTN: <u>April 9 to May 15, 2014</u> Sample Frequency: <u>1x/week</u> and <u>1x/month</u> Nathan McKinney Shawn Duffy Lab, 423575
--	-------------------------------------	--	--

Collected 5/1/14 11:00



SDG ID: N1794

Date Received: 5/2/2014

Client/Project: Topock

Received By: Carmen Cole

Were custody seals intact and on the outside of the cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Shipping Record:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> On File	<input type="checkbox"/> COC
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Packing Material:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice
Temp OK? (<6C) Therm ID: TH173 Exp. 6/14	2.3 °C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was the CoC correctly filled out (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did sample labels agree with COC? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did the CoC list a correct bottle count and the preservative types (Y=OK, N=Corrected on CoC)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Any sample with < 1/2 holding time remaining? If so contact LPM	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Dissolved/Soluble metals filtered in the field?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials

**Sample Exception Report** (The following exceptions were noted)

Client requested method SM4500 ASL will report by method E353.2.

Client was notified on:

Client contact:

Resolution to Exception:



**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:  
**PGE Topock**

**ASL Report #: N1853**

**Project ID: 423575.MP.02.GM.02**

**Attn: Jay Piper**

cc:

Data Center/RDD

Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

**Laboratory Project Manager**

**Kathy McKinley**

*(541) 758-0235 ext.23144*

*May 19, 2014*

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

ASL Report #: N1853

### Sample Receipt Comments

We certify that the test results meet all NELAP requirements.

### Sample Cross-Reference

ASL Sample ID	Client Sample ID	Date/Time Collected	Date Received
N185301	MW-12-198	05/01/14 12:14	05/09/14
N185302	MW-127-198	05/01/14 07:00	05/09/14
N185303	MW-60-125-198	05/01/14 13:31	05/09/14
N185304	MW-66-165-198	05/01/14 10:32	05/09/14
N185305	MW-69-195-198	05/01/14 08:52	05/09/14
N185306	MW-74-240-198	05/01/14 08:10	05/09/14
N185307	MW-26-198	05/05/14 11:24	05/09/14
N185308	MW-67-185-198	05/05/14 13:48	05/09/14
N185309	MW-67-260-198	05/05/14 13:06	05/09/14
N185310	MW-70BR-225-198	05/05/14 09:04	05/09/14
N185311	MW-128-198	05/06/14 08:30	05/09/14
N185312	MW-67-225-198	05/06/14 08:32	05/09/14
N185313	MW-68-240-198	05/06/14 07:38	05/09/14
N185314	MW-20-070-198	05/07/14 10:17	05/09/14
N185315	MW-20-100-198	05/07/14 11:46	05/09/14
N185316	MW-59-100-198	05/07/14 08:23	05/09/14
N185317	MW-62-110-198	05/07/14 13:50	05/09/14
N185318	MW-62-190-198	05/07/14 14:05	05/09/14
N185319	MW-66-230-198	05/07/14 07:14	05/09/14

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1853

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.02

---

With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E353.2

**Matrix Spike/Matrix Spike Duplicate(s):**

E353.2: MS recovery of Nitrate/Nitrite-N(116%) in MW-67-260-198MS did not meet acceptance criteria of 90-110%.

MSD recovery of Nitrate/Nitrite-N(121%) in MW-67-260-198MSD did not meet acceptance criteria of 90-110%.

MW-12-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185301

Date Received: 05/09/14



MW-127-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185302

MW-60-125-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185303

Date Received: 05/09/14

MW-66-165-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185304

MW-69-195-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185305

MW-74-240-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185306

MW-26-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185307

Date Received: 05/09/14

Date Received: 05/09/14

MW-67-260-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185309

Date Received: 05/09/14



**MW-67-260-198MS**

Lab Name: CH2M HILL ASL

Lab Sample ID: N185309MS

[illegible]

MW-67-260-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N185309MSD

Date Received: 05/09/14

[illegible]

Date Received: 05/09/14

[illegible]

MW-128-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185311

[illegible]

MW-67-225-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185312

Date Received: 05/09/14

[illegible]

MW-68-240-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185313

[illegible]

MW-20-070-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185314

Date Received: 05/09/14

[illegible]

MW-20-100-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185315

[illegible]



Date Received: 05/09/14

MW-62-110-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185317

Date Received: 05/09/14

MW-62-190-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185318

MW-66-230-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N185319

WB1-051414

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-051414

WB2-051314

Lab Name: CH2M HILL ASL

Lab Sample ID: WB2-051314

WB3-051414

Lab Name: CH2M HILL ASL

Lab Sample ID: WB3-051414

WB4-051314

Lab Name: CH2M HILL ASL

Lab Sample ID: WB4-051314



Concentration Units: MG/L

MW-67-260-198MSD

Result values >MDL in the native sample are used in the MS/MSD recovery calculation.

Concentration Units: MG/L

Concentration Units: MG/L

Comments:

Concentration Units: MG/L

Comments:

Concentration Units: MG/L

Comments:

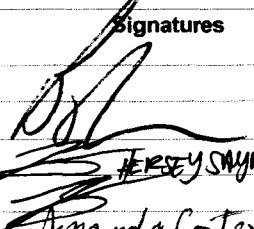
## CH2MHILL

## CHAIN OF CUSTODY RECORD

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Page 1 OF 2

<b>Project Name</b> PG&E Topock				<b>Container:</b> 125 ml Poly	Nitrate/Nitrite (SM4500NO3) Nitrate		Number of Containers	COMMENTS
<b>Location</b> Topock				<b>Preservatives:</b> H2SO4				
<b>Project Manager</b> Jay Piper				pH<2				
<b>Sample Manager</b> Shawn Duffy				4°C				
<b>Filtered:</b>				NA				
<b>Holding Time:</b>				28				
<b>Project Number</b> 423575.MP 02 GM 02								
<b>Task Order</b>								
<b>Project</b> 2014-GMP-198-Q2								
<b>Turnaround Time</b> 10 Days								
<b>Shipping Date:</b> 5/8/2014								
<b>COC Number:</b> 8								
<b>DATE</b>	<b>TIME</b>	<b>Matrix</b>						
MW-12-198	5/1/2014	12:14	Water	X			1	1
MW-127-198	5/1/2014	7:00	Water	X			1	2
MW-60-125-198	5/1/2014	13:31	Water	X			1	3
MW-66-165-198	5/1/2014	10:32	Water	X			1	4
MW-69-195-198	5/1/2014	8:52	Water	X			1	5
MW-74-240-198	5/1/2014	8:10	Water	X			1	6
MW-26-198	5/5/2014	11:24	Water	X			1	7
MW-67-185-198	5/5/2014	13:48	Water	X			1	8
MW-67-260-198	5/5/2014	13:06	Water	X			1	9
MW-70BR-225-198	5/5/2014	9:04	Water	X			1	10
MW-128-198	5/6/2014	8:30	Water	X			1	11
MW-67-225-198	5/6/2014	8:32	Water	X			1	12
MW-68-240-198	5/6/2014	7:38	Water	X			1	13
MW-20-070-198	5/7/2014	10:17	Water	X			1	14

<b>Approved by</b> <b>Sampled by</b> <b>Relinquished by</b> <b>Received by</b> <b>Relinquished by</b>	<b>Signatures</b>  <b>Date/Time</b> 5-8-14 1215 08 MAY 14 1215 08 MAY 14 1448 5/8/14 1448 5/8/14 1500	<b>Shipping Details</b> <b>Method of Shipment:</b> courier <b>On Ice:</b> <input checked="" type="checkbox"/> yes <input type="checkbox"/> no 4.7°C ice <b>Airbill No:</b> <b>Lab Name:</b> CH2M HILL Applied Sciences Lab <b>Lab Phone:</b> (541) 752-4271 <b>Received by</b>	<b>ATTN:</b> <b>Sample Custody</b> and Kathy McKinley <b>Special Instructions:</b> April 9 to May 15, 2014 FedEx # 7988 0339 7170 Report Copy to Shawn Duffy (530) 229-3303 Clarathemann Clarathemann 5/9/14 1130
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## CH2MHILL

## CHAIN OF CUSTODY RECORD

5/8/2014 12:12:43 PM

Page 2 OF 2

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.02 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 5/8/2014 <b>COC Number:</b> 8				<b>Container:</b> 125 ml Poly <b>Preservatives:</b> H2SO4, pH<2, 4°C <b>Filtered:</b> NA <b>Holding Time:</b> 28	Nitrate/Nitrite (SM4500NO3) Nitrate	Number of Containers	COMMENTS
<b>DATE</b> <b>TIME</b> <b>Matrix</b>							
MW-20-100-198	5/7/2014	11:46	Water	X		1	15
MW-59-100-198	5/7/2014	8:23	Water	X		1	16
MW-62-110-198	5/7/2014	13:50	Water	X		1	17
MW-62-190-198	5/7/2014	14:05	Water	X		1	18
MW-66-230-198	5/7/2014	7:14	Water	X		1	19
<b>TOTAL NUMBER OF CONTAINERS</b>						<b>19</b>	

<b>Approved by</b> <b>Sampled by</b> <b>Relinquished by</b> <b>Received by</b> <b>Relinquished by</b> <b>Received by</b> <b>Relinquished by</b> <b>Received by</b>	<b>Signatures</b>   	<b>Date/Time</b> 5-8-14 1215 08 MAY 14 1215 08 MAY 14 1448 5/8/14 1448 5/8/14 1500	<b>Shipping Details</b> <b>Method of Shipment:</b> courier <b>On Ice:</b> <del>yes</del> no 4.7°C ice <b>Airbill No:</b> IR#2 <b>Lab Name:</b> CH2M HILL Applied Sciences Lab <b>Lab Phone:</b> (541) 752-4271	<b>ATTN:</b> <b>Sample Custody and</b> Kathy McKinley	<b>Special Instructions:</b> April 9 to May 15, 2014 FedEx #: 7988 0339 7170 Report Copy to Shawn Duffy (530) 229-3303
Relinquished by: Amanda Cortes 5/8/14 1500			Received by:	Clarathonian Clara Thomach 5/9/14 1130	







**CH2MHILL**

Applied Sciences Laboratory

## **ANALYTICAL REPORT**

For:

**PGE Topock - 014-GMP-198-02**

**ASL Report #: N1894**

**Project ID: 423575.MP.02.GM.02**

**Attn: Jay Piper**

cc:

Data Center/RDD

Shawn Duffy/RDD

Authorized and Released By:

*Kathy McKinley*

**Laboratory Project Manager**

**Kathy McKinley**

*(541) 758-0235 ext.23144*

*May 27, 2014*

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Arizona (0771)  
Louisiana (05031)

ASL Report #: N1894

### **Sample Receipt Comments**

We certify that the test results meet all NELAP requirements.

### **Sample Cross-Reference**

<b>ASL Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date Received</b>
N189401	MW-20-130-198	05/12/14 12:26	05/16/14
N189402	MW-51-198	05/12/14 11:12	05/16/14
N189403	MW-68-180-198	05/12/14 07:00	05/16/14
N189404	MW-66BR-270-198	05/13/14 09:40	05/16/14
N189405	MW-68BR-280-198	05/13/14 08:40	05/16/14
N189406	TW-01-198	05/13/14 11:56	05/16/14
N189407	MW-10-198	05/14/14 07:18	05/16/14
N189408	MW-120-198	05/14/14 07:00	05/16/14

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M HILL ASL

**ASL SDG#:** N1894

**Project:** PGE Topock

**Project #:** 423575.MP.02.GM.02

---

With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E353.2

**Matrix Spike/Matrix Spike Duplicate(s):**

E353.2: MS recovery of Nitrate/Nitrite-N(172%) in MW-120-198MS did not meet acceptance criteria because the concentration of analyte in the sample was significantly higher than the added spike concentration.

MSD recovery of Nitrate/Nitrite-N(166%) in MW-120-198MSD did not meet acceptance criteria because the concentration of analyte in the sample was significantly higher than the added spike concentration.

MW-20-130-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189401

MW-51-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189402

Date Received: 05/16/14

MW-68-180-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189403

MW-66BR-270-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189404

MW-68BR-280-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189405



TW-01-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189406

MW-10-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189407

MW-120-198

Lab Name: CH2M HILL ASL

Lab Sample ID: N189408

MW-120-198MS

Lab Name: CH2M HILL ASL

Lab Sample ID: N189408MS

MW-120-198MSD

Lab Name: CH2M HILL ASL

Lab Sample ID: N189408MSD

Date Received: 05/16/14

WB1-052114

Lab Name: CH2M HILL ASL

Lab Sample ID: WB1-052114

MW-120-198MSD

Concentration Units: MG/L



11894  
4.3

CH2MHILL

CHAIN OF CUSTODY RECORD

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Page 1 OF 1

<b>Project Name</b> PG&E Topock <b>Location</b> Topock <b>Project Manager</b> Jay Piper <b>Sample Manager</b> Shawn Duffy <b>Project Number</b> 423575.MP.02.GM.02 <b>Task Order</b> <b>Project</b> 2014-GMP-198-Q2 <b>Turnaround Time</b> 10 Days <b>Shipping Date:</b> 4/3/2014 <b>COC Number:</b> CHMC-198-Q2				<b>Container:</b> 125 ml Poly <b>Preservatives:</b> H2SO4, pH<2, 4°C <b>Filtered:</b> NA <b>Holding Time:</b> 28 Nitrate/Nitrite (SM4500NO3) Nitrate	Number of Containers          	COMMENTS
<b>DATE</b>	<b>TIME</b>	<b>Matrix</b>				
MW-20-130-198	5/12/2014	12:26	Water	X		
MW-51-198	5/12/2014	11:12	Water	X		
MW-68-180-198	5/12/2014	7:00	Water	X		
MW-66BR-270-198	5/13/2014	9:40	Water	X		
MW-68BR-280-198	5/13/2014	8:40	Water	X		
TW-01-198	5/13/2014	11:56	Water	X		
MW-10-198	5/14/2014	7:18	Water	X		
MW-120-198	5/14/2014	7:00	Water	X		
TOTAL NUMBER OF CONTAINERS					8	

Page 1 of 2

Approved by \_\_\_\_\_  
 Sampled by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_  
 REL BY \_\_\_\_\_  
 Received by \_\_\_\_\_

**Signatures**

**Date/Time**  
 5-14-14  
 1352  
 5/14/14 13:52  
 5/14/14 13:52  
 5/14/14 13:52  
 5/14/14 13:52

**Shipping Details**  
**Method of Shipment:** FedEx  
**On Ice:** yes / no  
**Airbill No:** 7988 0517 4171  
**Lab Name:** CH2M HILL Applied  
**Lab Phone:** \_\_\_\_\_

Special Instructions:

April 2 to May 15, 2014

Report Copy to

Shawn Duffy



SDG ID: N1894

Date Received: 5/16/2014

Client/Project: Topock

Received By: Carmen Cole

Were custody seals intact and on the outside of the cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Shipping Record:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> On File	<input type="checkbox"/> COC	
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Packing Material:	<input type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Box
Temp OK? (<6C) Therm ID: TH173 Exp. 6/14	4.3 °C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was the CoC correctly filled out (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did sample labels agree with COC? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Did the CoC list a correct bottle count and the preservative types (Y=OK, N=Corrected on CoC)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Any sample with < 1/2 holding time remaining? If so contact LPM	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Dissolved/Soluble metals filtered in the field?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials

**Sample Exception Report** (The following exceptions were noted)

Client requested method SM4500 ASL will report by method E353.2.
Client was notified on: Client contact:
Resolution to Exception:

## Appendix C

### Other Groundwater Monitoring Results

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TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-10	SA	12-Dec-13	4.5
MW-12	SA	25-Sep-13	40.0
		10-Dec-13	38.0
		25-Feb-14	42.0
		01-May-14	38.0
MW-13	SA	13-Nov-13	1.9
MW-16	SA	06-Nov-13	9.1
		22-Apr-14	10.0
MW-17	SA	11-Nov-13	1.3
		23-Apr-14	1.4
MW-20-130	DA	17-Dec-13	4.9
		17-Dec-13 FD	4.9
		12-May-14	5.0
MW-22	SA	14-Nov-13	14.0
		30-Apr-14	12.0
MW-23-060	BR	17-Sep-13	4.0
		11-Nov-13	3.0
		13-Feb-14	3.6
		22-Apr-14	2.6
MW-23-080	BR	17-Sep-13	2.4
		11-Nov-13	3.0
		13-Feb-14	3.6
		22-Apr-14	2.7
MW-25	SA	09-Dec-13	1.2
MW-26	SA	04-Dec-13	1.8
		05-May-14	1.7
MW-27-20	SA	04-Nov-13	1.3
		14-Apr-14	0.84
MW-27-60	MA	02-Oct-13	6.4
		04-Nov-13	6.3
		10-Feb-14	6.5
		14-Apr-14	6.9
		14-Apr-14 FD	7.2
MW-27-85	DA	02-Oct-13	1.4
		04-Nov-13	1.3
		10-Feb-14	1.4

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
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 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-27-85	DA	14-Apr-14	0.18
MW-28-25	SA	05-Nov-13	1.0
		15-Apr-14	1.8
MW-28-90	DA	11-Sep-13	1.7
		05-Nov-13	1.5
		12-Feb-14	1.7
		15-Apr-14	1.8
		15-Apr-14 FD	1.8
MW-29	SA	05-Nov-13	6.4
		05-Nov-13 FD	6.1
		16-Apr-14	5.7
MW-30-30	SA	04-Nov-13	0.84
MW-30-50	MA	04-Nov-13	2.7
MW-31-60	SA	03-Dec-13	1.2
MW-31-135	DA	07-Nov-13	3.4
MW-32-20	SA	16-Dec-13	3.6
MW-32-35	SA	06-Nov-13	23.0
		16-Apr-14	27.0
MW-33-40	SA	16-Sep-13	11.0
		03-Dec-13	12.0
		12-Feb-14	13.0
		17-Apr-14	14.0
MW-33-90	MA	16-Sep-13	1.4
		03-Dec-13	1.3
		12-Feb-14	1.3
		21-Apr-14	1.3
		21-Apr-14 FD	1.3
MW-33-150	DA	16-Sep-13	1.8
		03-Dec-13	1.7
		12-Feb-14	1.6
		12-Feb-14 FD	1.7
		17-Apr-14	1.1
MW-33-210	DA	12-Sep-13	1.2
		03-Dec-13	1.1
		03-Dec-13 FD	1.2
		12-Feb-14	1.1

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
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Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-33-210	DA	21-Apr-14	0.94
MW-34-55	MA	20-Nov-13	2.6
MW-34-80	DA	02-Oct-13	1.3
		20-Nov-13	1.3
		20-Nov-13 FD	1.3
		10-Feb-14	1.3
		17-Apr-14	1.4
MW-34-100	DA	02-Oct-13	1.2
		02-Oct-13 FD	1.3
		20-Nov-13	1.5
		20-Nov-13 FD	1.4
		16-Dec-13	2.2
		22-Jan-14	1.8
		10-Feb-14	1.6
		17-Apr-14	1.3
MW-35-60	SA	10-Sep-13	0.93
		12-Nov-13	0.91
		17-Feb-14	1.1
		17-Feb-14 FD	1.0
		24-Apr-14	1.0
		24-Apr-14 FD	1.0
MW-35-135	DA	12-Nov-13	0.85
MW-36-20	SA	11-Nov-13	1.5 J
		11-Nov-13 FD	1.2 J
MW-36-40	SA	11-Nov-13	4.7
MW-36-50	MA	11-Nov-13	3.6
MW-36-70	MA	11-Nov-13	3.5
MW-36-90	DA	11-Nov-13	20.0
		17-Apr-14	19.0
MW-36-100	DA	16-Dec-13	7.1
		17-Apr-14	8.5
MW-37S	MA	06-Nov-13	1.6
MW-38D	DA	17-Sep-13	6.5
		13-Nov-13	6.6
		14-May-14	6.5
MW-38S	SA	24-Sep-13	13.0

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-38S	SA	03-Dec-13	13.0
		14-May-14	11.0
MW-39-40	SA	12-Nov-13	17.0
MW-39-50	MA	12-Nov-13	3.5
MW-39-60	MA	12-Nov-13	5.2
MW-39-100	DA	04-Dec-13	2.2
		04-Dec-13 FD	2.0
MW-40D	DA	02-Dec-13	4.3
		24-Apr-14	3.9
MW-40S	SA	11-Nov-13	1.5
MW-41D	DA	04-Nov-13	2.1
MW-41M	DA	04-Nov-13	1.8
MW-41S	SA	04-Nov-13	1.7
MW-42-30	SA	05-Nov-13	3.1
MW-42-55	MA	11-Sep-13	11.0
		05-Nov-13	11.0
		11-Feb-14	13.0
		14-Apr-14	11.0
MW-42-65	MA	11-Sep-13	2.6
		05-Nov-13	2.2
		11-Feb-14	2.2
		14-Apr-14	3.0
MW-43-25	SA	06-Nov-13	19.0
		15-Apr-14	16.0
MW-43-75	DA	06-Nov-13	12.0
MW-43-90	DA	06-Nov-13	3.1
		15-Apr-14	3.1
MW-44-70	MA	02-Dec-13	4.1
		16-Apr-14	4.2
MW-44-115	DA	12-Sep-13	6.0
		02-Dec-13	5.4
		11-Feb-14	5.5
		16-Apr-14	5.8
MW-44-125	DA	12-Sep-13	3.6
		12-Sep-13 FD	3.1

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
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 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-44-125	DA	02-Dec-13	3.1
		02-Dec-13 FD	3.3
		11-Feb-14	3.4
		11-Feb-14 FD	3.5
		16-Apr-14	2.7
		16-Apr-14 FD	3.2
MW-45-095a	DA	02-Dec-13	3.2
MW-47-55	SA	12-Nov-13	1.2
MW-49-135	DA	06-Nov-13	1.9
MW-51	MA	11-Dec-13	3.8
		12-May-14	3.9
MW-52D	DA	13-Nov-13	3.8
		30-Apr-14	3.3
MW-52M	DA	13-Nov-13	1.9
		13-Nov-13 FD	1.9
		30-Apr-14	1.4
MW-52S	MA	13-Nov-13	0.23
		30-Apr-14	0.21
MW-53D	DA	13-Nov-13	3.1
		30-Apr-14	3.4
MW-53M	DA	13-Nov-13	0.95
		30-Apr-14	0.84
MW-54-85	DA	21-Nov-13	3.4
		09-Apr-14	3.5
MW-54-140	DA	21-Nov-13	2.1
		09-Apr-14	2.6
		09-Apr-14 FD	1.4
MW-54-195	DA	21-Nov-13	ND (0.2)
		09-Apr-14	0.23
MW-57-070	BR	12-Dec-13	1.5
MW-57-185	BR	10-Sep-13	15.0
		07-Nov-13	14.0
		07-Nov-13 FD	14.0
		13-Feb-14	13.0
		22-Apr-14	13.0
MW-58BR	BR	19-Sep-13	1.0



TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-58BR	BR	17-Dec-13	0.97
		25-Feb-14	1.2
		06-May-14	1.0
MW-59-100	SA	25-Sep-13	2.5
		10-Dec-13	2.1
		25-Feb-14	2.3
		07-May-14	2.1
MW-60-125	BR	24-Sep-13	1.4
		24-Sep-13 FD	1.4
		04-Dec-13	1.4
		25-Feb-14	1.4
		01-May-14	1.5
MW-60BR-245	BR	17-Sep-13	6.4
		04-Dec-13	5.9
		19-Feb-14	6.4
		29-Apr-14	6.8
MW-61-110	BR	23-Sep-13	3.3
		05-Dec-13	3.4
		05-Dec-13 FD	3.6
		19-Feb-14	3.5
		29-Apr-14	3.1
MW-62-065	BR	11-Dec-13	1.2
MW-62-110	BR	18-Sep-13	8.2
		13-Nov-13	6.6
		19-Feb-14	5.6
		07-May-14	6.0
MW-62-190	BR	18-Sep-13	5.0
		13-Nov-13	4.6
		19-Feb-14	4.9
		07-May-14	3.6
MW-63-065	BR	09-Sep-13	1.5
		04-Dec-13	1.5
		12-Feb-14	1.5
		09-Apr-14	1.5
MW-64BR	BR	17-Sep-13	3.5
		16-Dec-13	2.9
		26-Feb-14	3.1

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-64BR	BR	06-May-14	2.9
MW-65-160	SA	19-Sep-13	0.85
		02-Dec-13	0.73
		19-Feb-14	0.89
		24-Apr-14	0.72
MW-65-225	DA	23-Sep-13	2.4
		23-Sep-13 FD	2.4
		02-Dec-13	2.3
		19-Feb-14	2.4
		29-Apr-14	2.2
MW-66-165	SA	23-Sep-13	1.2
		03-Dec-13	1.1
		19-Feb-14	1.2
		01-May-14	1.2
		01-May-14 FD	1.3
MW-66-230	DA	25-Sep-13	8.1
		12-Dec-13	7.7
		26-Feb-14	9.5
		07-May-14	8.5
MW-66BR-270	BR	18-Jun-13	0.24
		23-Sep-13	ND (0.5)
		17-Dec-13	ND (0.5)
		26-Feb-14	ND (0.5)
		13-May-14	ND (0.5)
MW-67-185	SA	25-Sep-13	1.7
		04-Dec-13	1.5
		24-Feb-14	1.4
		05-May-14	1.5
MW-67-225	MA	25-Sep-13	3.3
		09-Dec-13	2.9
		24-Feb-14	3.2
		06-May-14	3.1
MW-67-260	DA	25-Sep-13	12.0
		25-Sep-13 FD	12.0
		09-Dec-13	11.0
		24-Feb-14	13.0
		05-May-14	11.0

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Well ID	Aquifer Zone	Sample Date	Dissolved Arsenic (µg/L)
MW-68-180	SA	26-Sep-13	2.7
		12-Dec-13	2.5
		12-Dec-13 FD	2.4
		27-Feb-14	2.6
		12-May-14	2.9
MW-68-240	DA	24-Sep-13	2.0
		04-Dec-13	2.0
		25-Feb-14	1.9
		06-May-14	1.9
		06-May-14 FD	1.8
MW-68BR-280	BR	18-Sep-13	2.0
		18-Dec-13	1.4
		27-Feb-14	1.5
		13-May-14	1.3
MW-69-195	BR	24-Sep-13	2.4
		03-Dec-13	2.2
		19-Feb-14	2.4
		01-May-14	2.3
MW-70-105	BR	23-Sep-13	5.2
		04-Dec-13	5.1
		17-Feb-14	5.0
		28-Apr-14	4.6
MW-70BR-225	BR	24-Sep-13	1.9
		10-Dec-13	1.8
		25-Feb-14	1.9
		05-May-14	1.9
MW-71-035	SA	10-Sep-13	1.3
		11-Dec-13	1.3
		18-Feb-14	1.5
		24-Apr-14	1.3
MW-72-080	BR	19-Sep-13	11.0
		19-Sep-13 FD	12.0
		04-Dec-13	10.0
		18-Feb-14	12.0
		24-Apr-14	10.0
MW-72BR-200	BR	19-Sep-13	16.0
		05-Nov-13	14.0

TABLE C-1

Arsenic Results in Monitoring Wells, June 2013 through June 2014  
*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Well ID	Aquifer Zone	Sample Date		Dissolved Arsenic (µg/L)
MW-72BR-200	BR	05-Nov-13	FD	13.0
		17-Feb-14		15.0
		17-Feb-14	FD	15.0
		21-Apr-14		14.0
MW-73-080	BR	11-Sep-13		1.4
		05-Dec-13		1.3
		18-Feb-14		1.5
		29-Apr-14		1.4
MW-74-240	BR	18-Sep-13		13.0
		05-Dec-13		14.0
		26-Feb-14		13.0
		01-May-14		12.0
OW-3D	DA	05-Nov-13		2.3

**Notes:**

FD = field duplicate.

J = concentration or reporting limit estimated by laboratory or data validation.

ND = not detected at listed reporting limit.

µg/L = micrograms per liter.

The California primary drinking water standard maximum contaminant level (MCL) for arsenic is 10 µg/L.

The Background Study Upper Tolerance Limit for arsenic at the site is 24.3 µg/L.

Wells are assigned to separate Aquifer zones for results reporting:

SA = shallow interval of Alluvial Aquifer.

MA = mid-depth interval of Alluvial Aquifer.

DA = deep interval of Alluvial Aquifer.

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

TABLE C-2  
Background Metals, Second Quarter 2014  
Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
Groundwater and Surface Water Monitoring Report,  
PG&E Topock Compressor Station, Needles, California

		Metals in µg/L																			General Metals in mg/L			
California MCL:		6	10	200	1,000	4	5	NE	50	1,000 <sup>a</sup>	15	50 <sup>a</sup>	2	NE	100	50	100 <sup>a</sup>	2	NE	5,000 <sup>a</sup>	NE	NE	0.3 <sup>a</sup>	NE
Well ID	Sample Date	Antimony	Arsenic	Aluminum	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Boron	Calcium	Iron	Magnesium
MW-16	04/22/2014	ND (0.5)	10.0	ND (50)	29.0	ND (0.5)	ND (0.5)	ND (0.5)	9.7	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	13.0	2.0	1.8	ND (0.5)	ND (0.5)	32.0	14.0	0.25	24.0	ND (0.02)	4.3
MW-17	04/23/2014	ND (0.5)	1.4	ND (50)	25.0	ND (0.5)	ND (0.5)	ND (0.5)	12.0	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	16.0	ND (1.0)	8.6	ND (0.5)	ND (0.5)	5.4	21.0	0.19	61.0	ND (0.02)	9.0

Notes:  
<sup>a</sup> = Secondary USEPA MCL.  
MCL = maximum contaminant level  
mg/L = milligrams per liter.  
ND = not detected at listed reporting limit.  
NE =not established.  
µg/L = micrograms per liter.  
USEPA = United States Environmental Protection Agency.

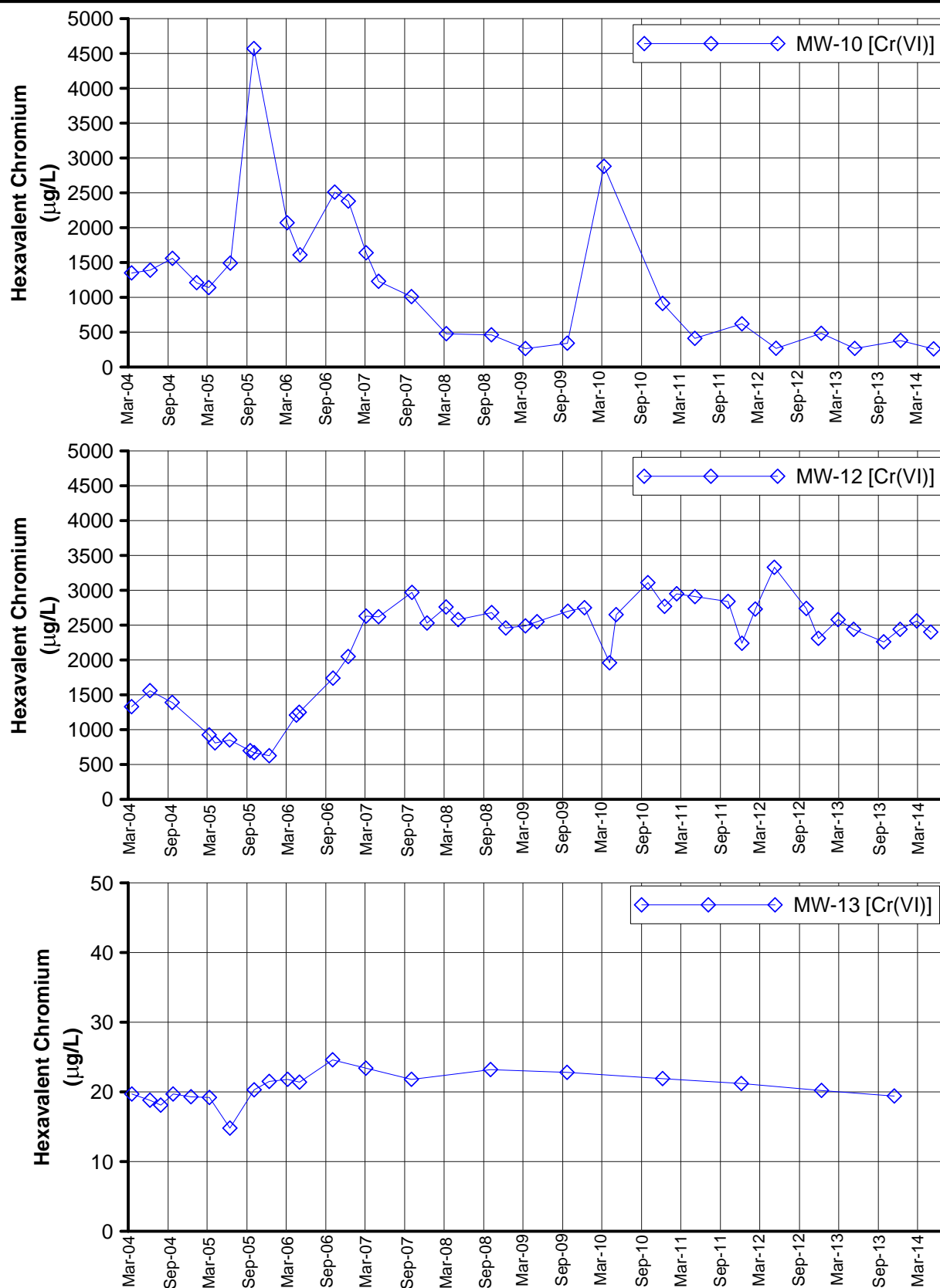
The MCL listed are the California primary drinking water standards, except where noted.

All results are dissolved metals from field-filtered samples.

Metals analyzed by USEPA Methods SW6010B or SW6020A or SW7470A.

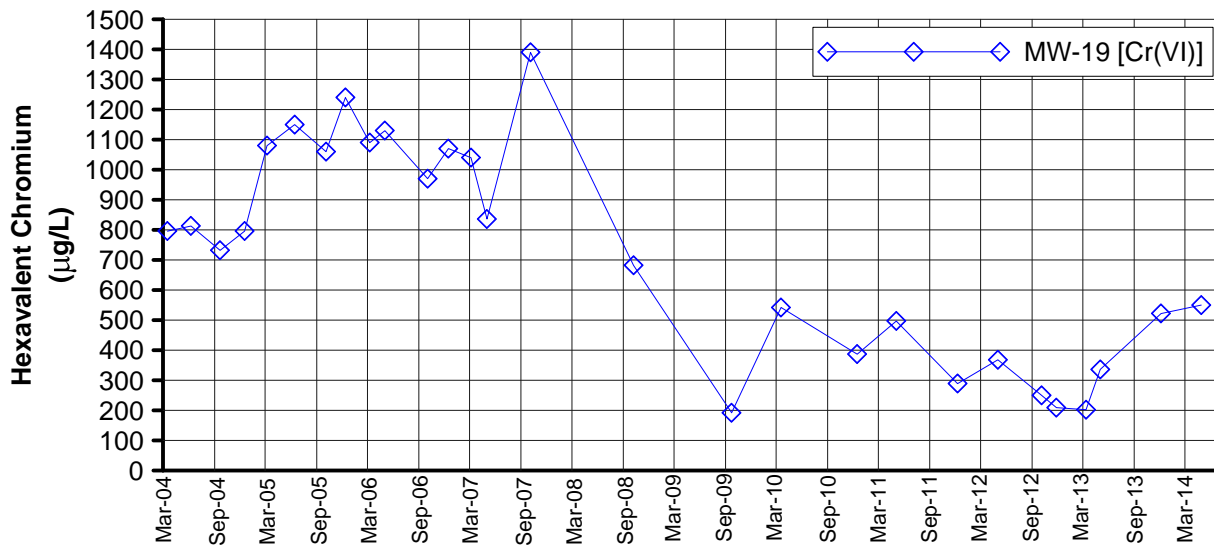
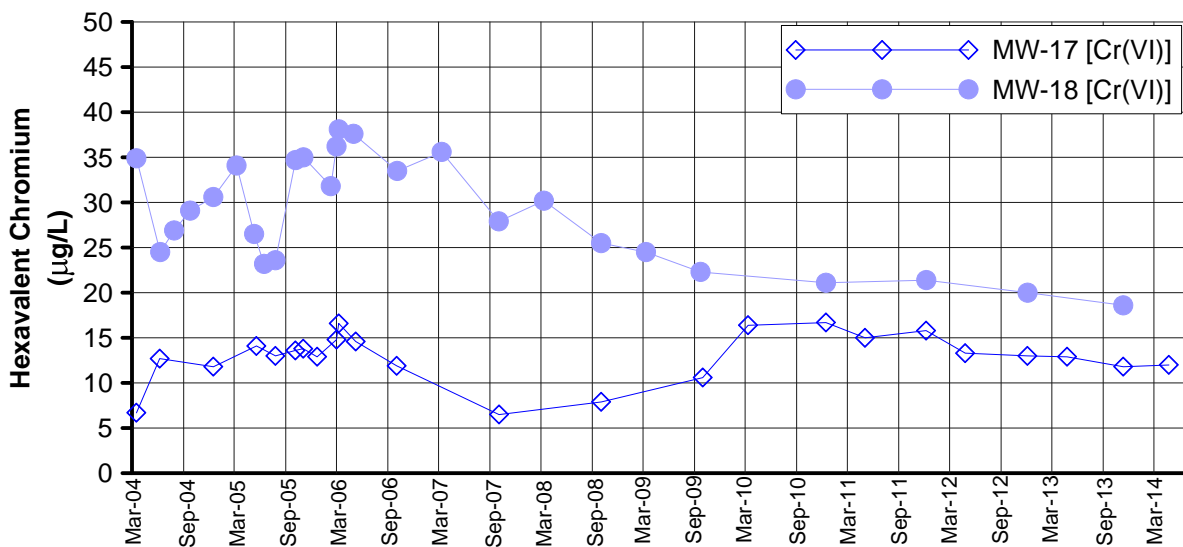
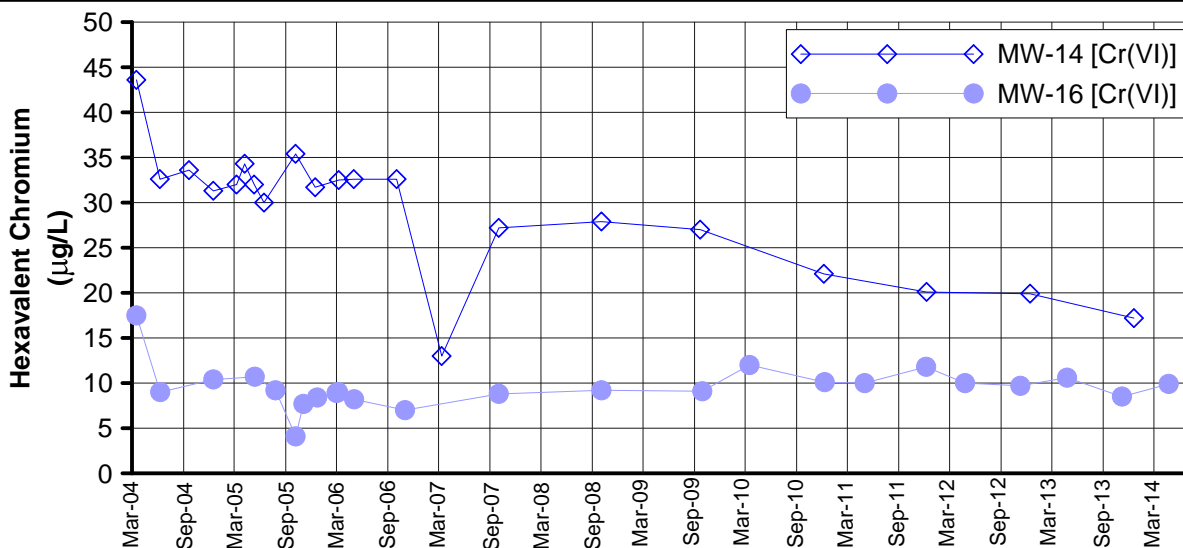
**Appendix D**  
**Groundwater Monitoring Data for GMP and**  
**Interim Measures Monitoring Wells**

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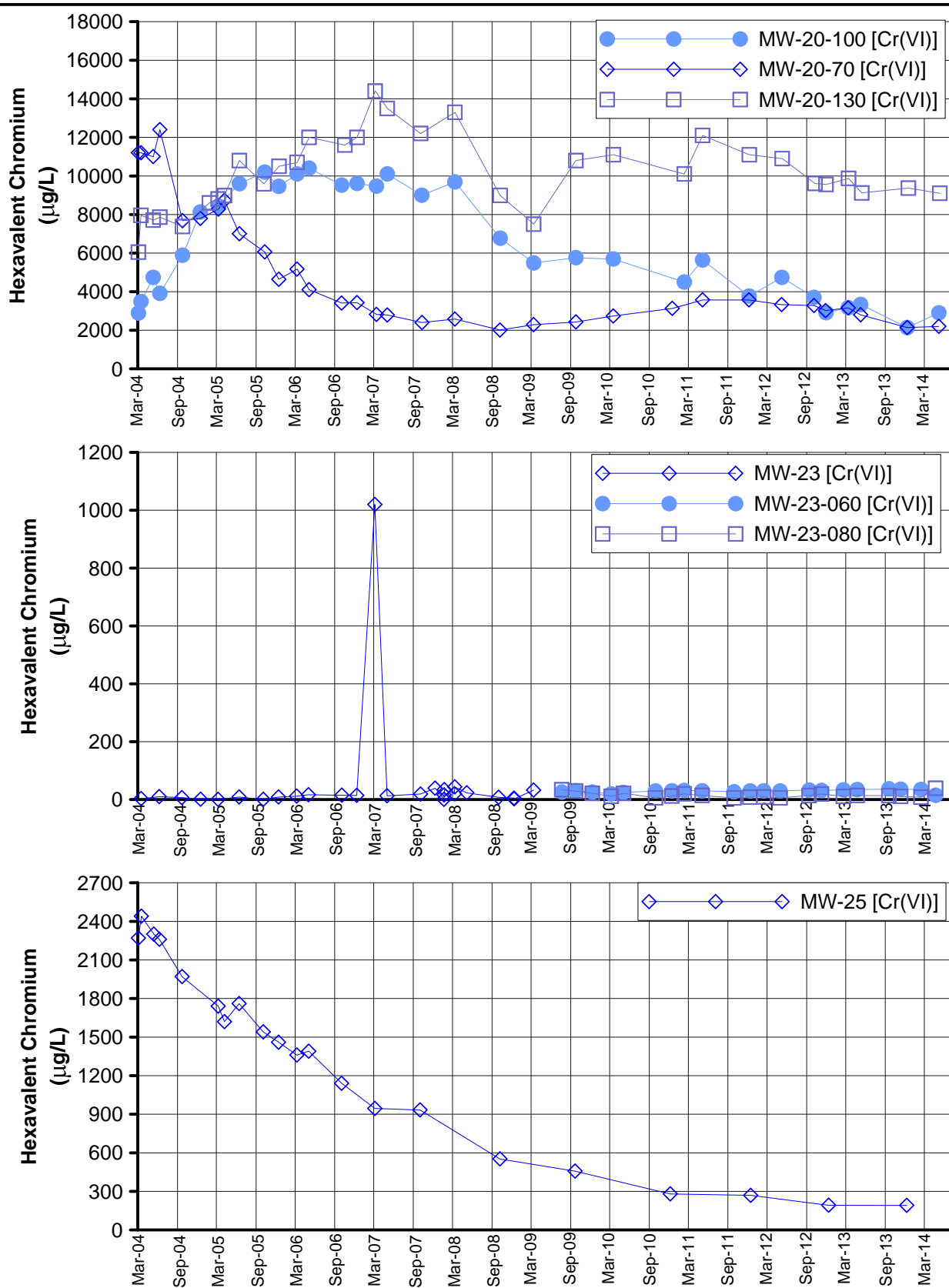
**FIGURE D-1  
HEXAVALENT CHROMIUM  
IN MW-10, MW-12, AND MW-13**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
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NEEDLES, CALIFORNIA

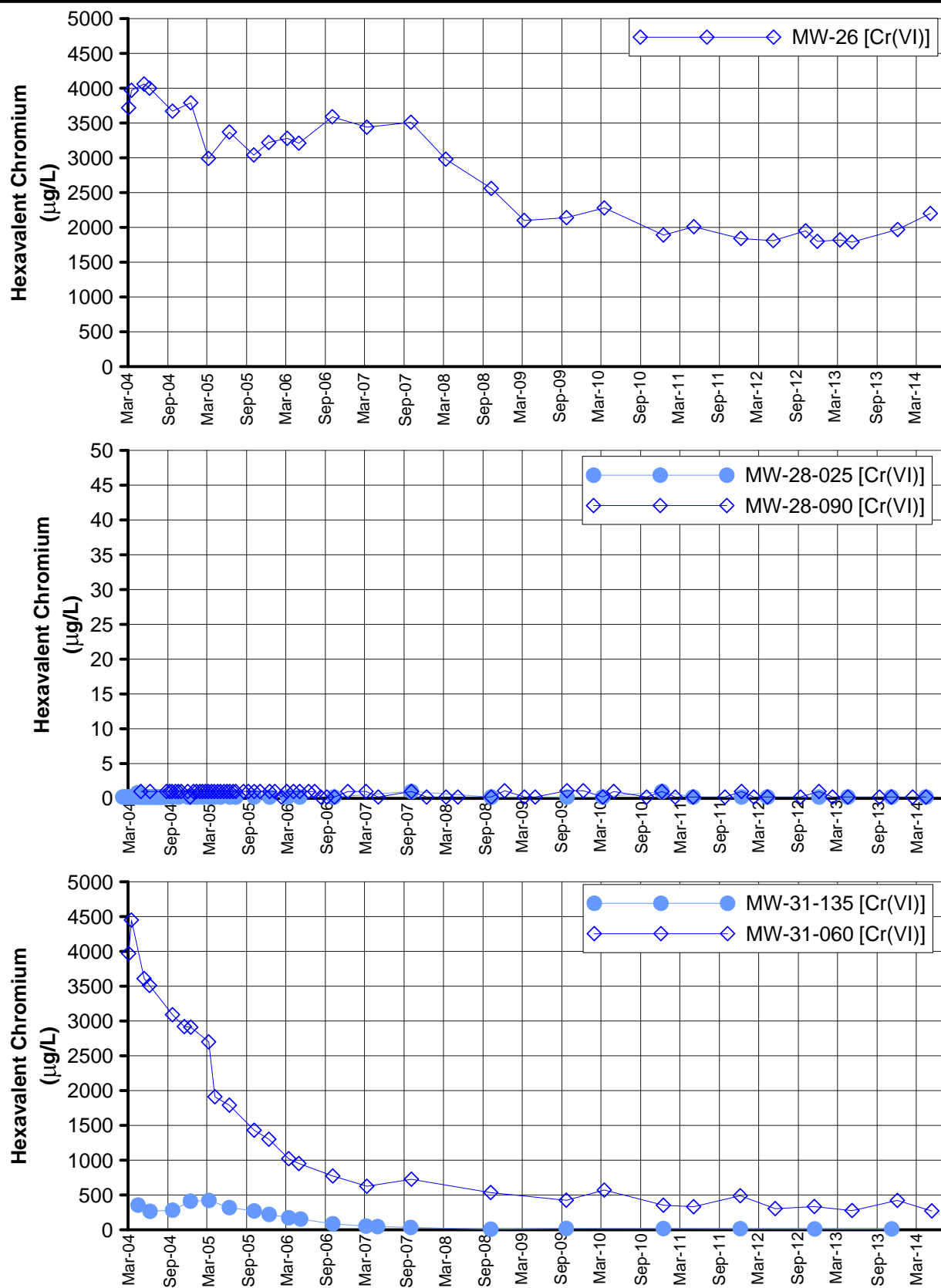


**FIGURE D-2**  
**HEXAVALENT CHROMIUM**  
**IN MW-14, MW-16, MW-17, MW-18, AND MW-19**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA





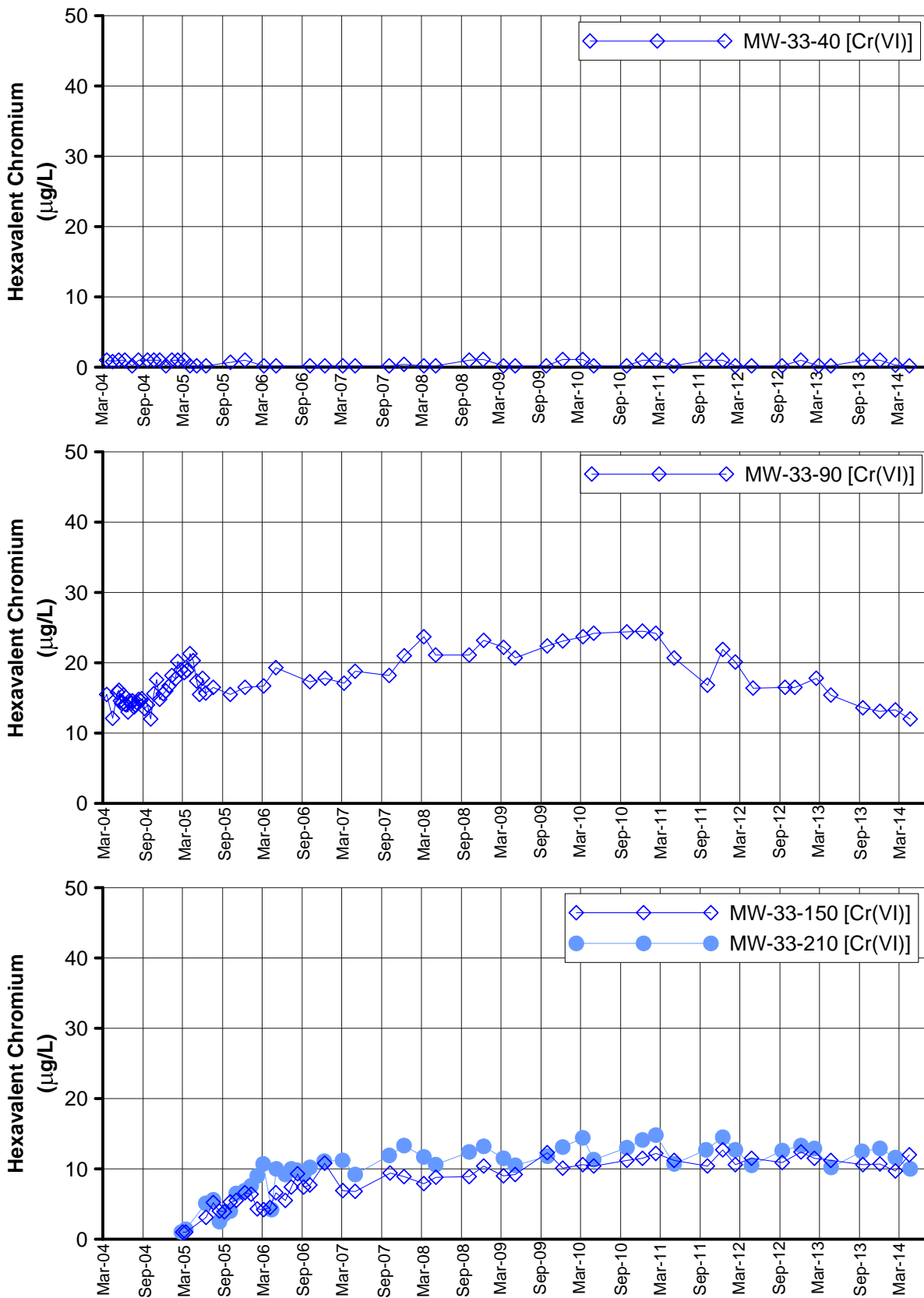
**FIGURE D-3  
HEXAVALENT CHROMIUM  
IN MW-20, MW-23, AND MW-25 CLUSTERS**  
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA



**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 D-4**  
**HEXAVALENT CHROMIUM**  
**IN MW-26, MW-28, AND MW-31 CLUSTERS**  
 SECOND QUARTER 2014 INTERIM MEASURESPERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA



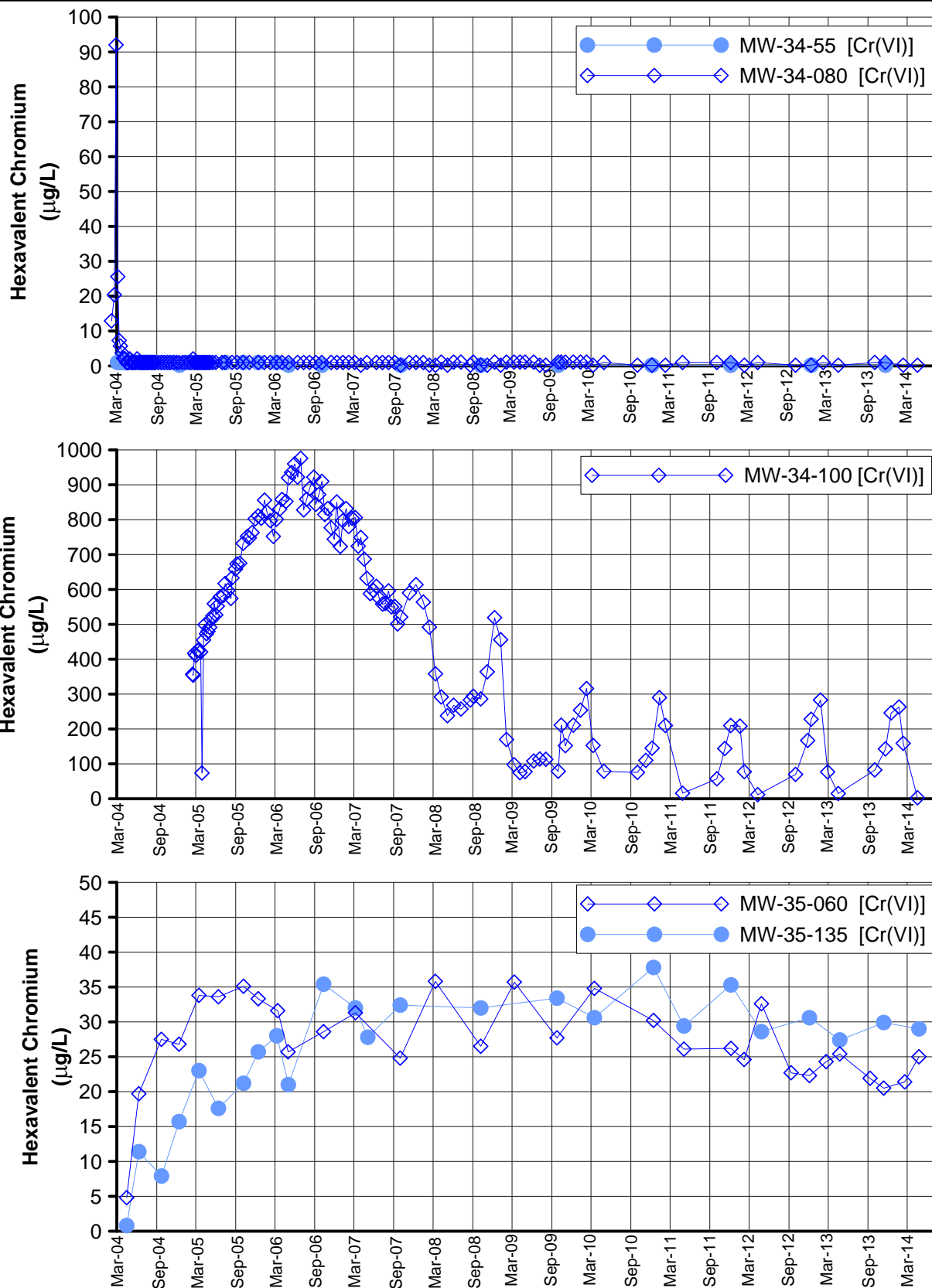
**Notes:**

- 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-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 D-5  
HEXAVALENT CHROMIUM  
IN MW-33 CLUSTER**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
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NEEDLES, CALIFORNIA

**CH2MHILL**

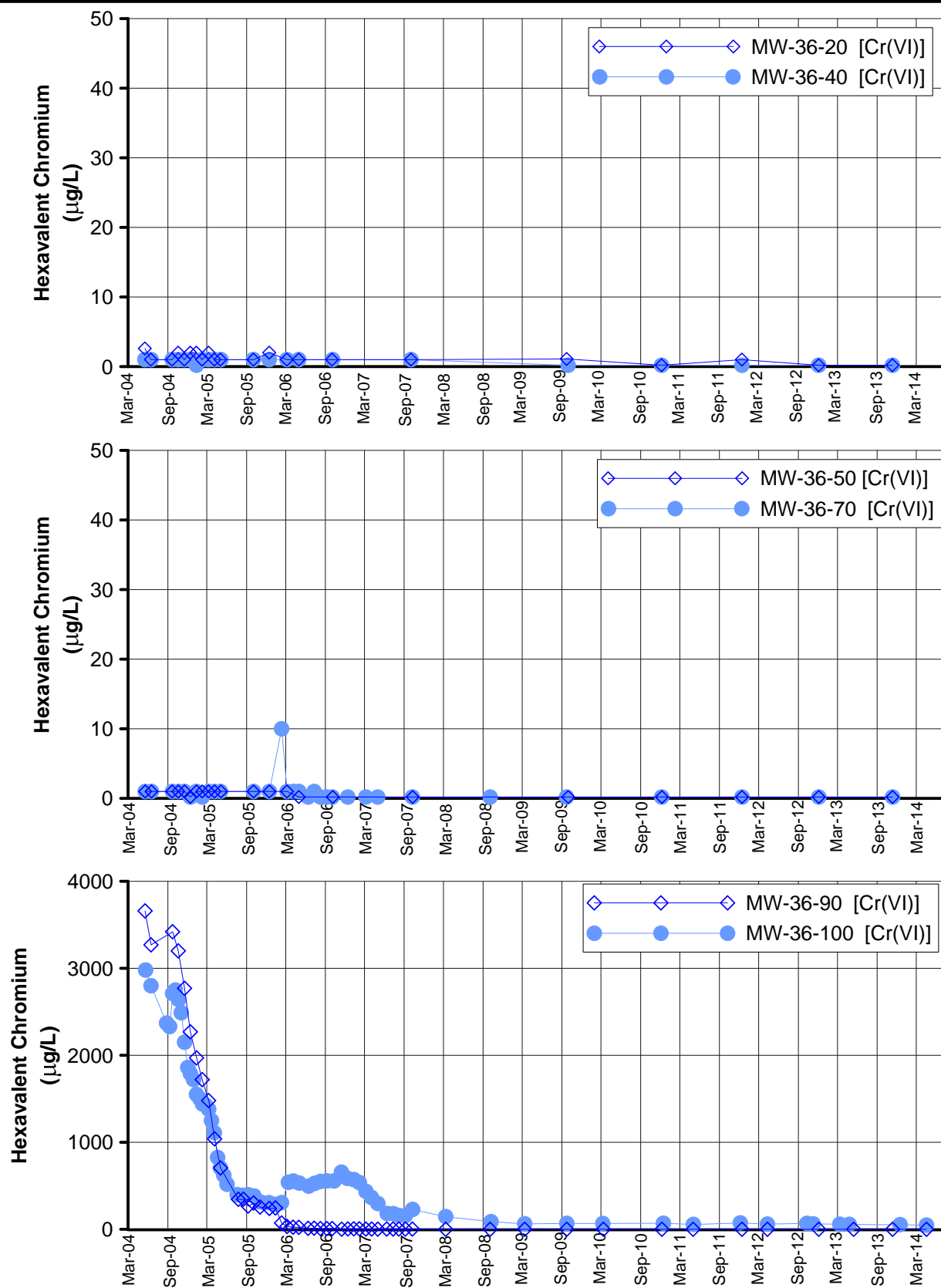


**Notes:**

- 1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
- 2) The trigger level for MW-34-80 is 20 µg/L.
- 3) The trigger level for MW-34-100 is 750 µg/L.

**FIGURE D-6  
HEXAVALENT CHROMIUM  
IN MW-34 AND MW-35 CLUSTERS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA



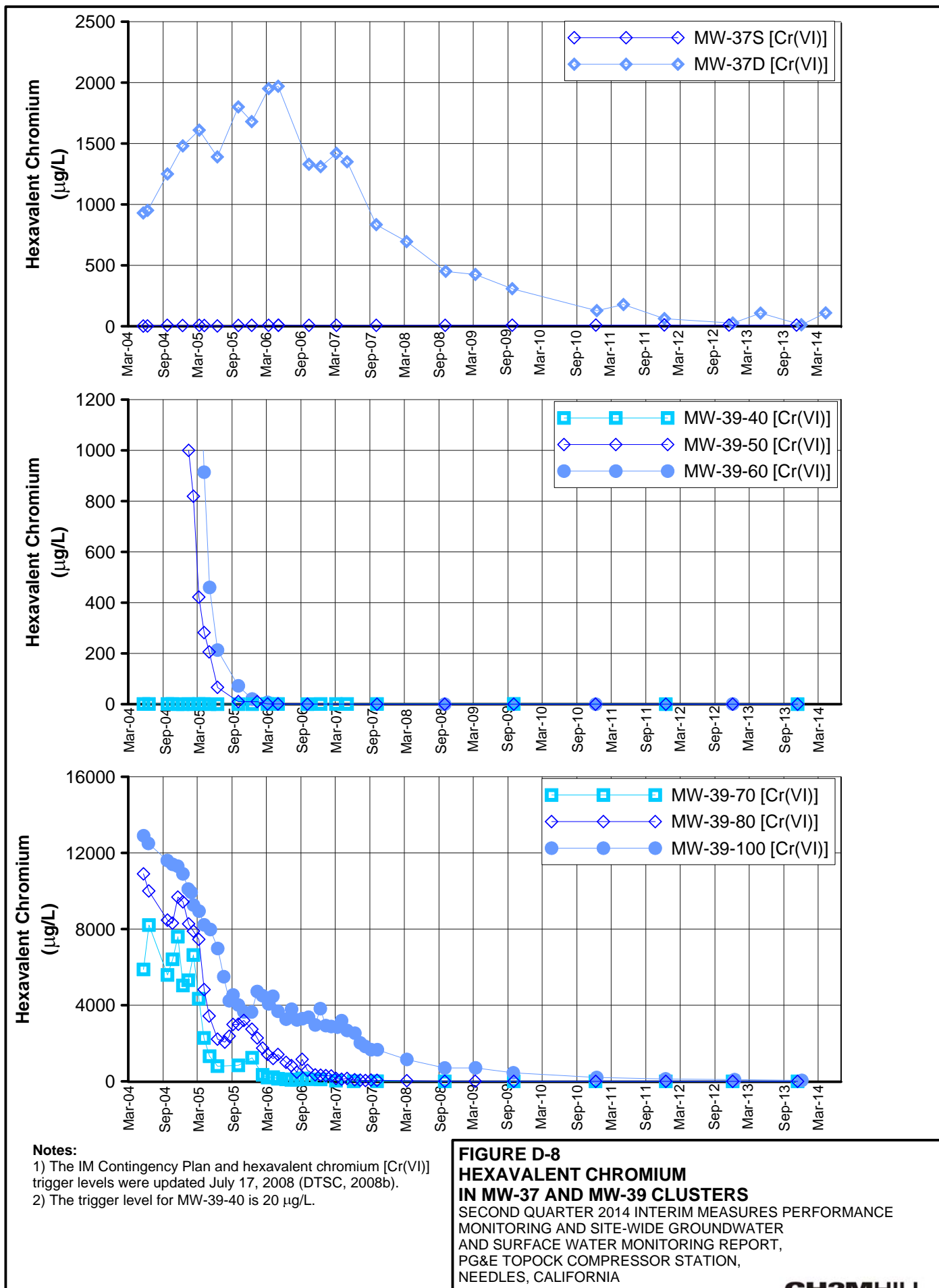
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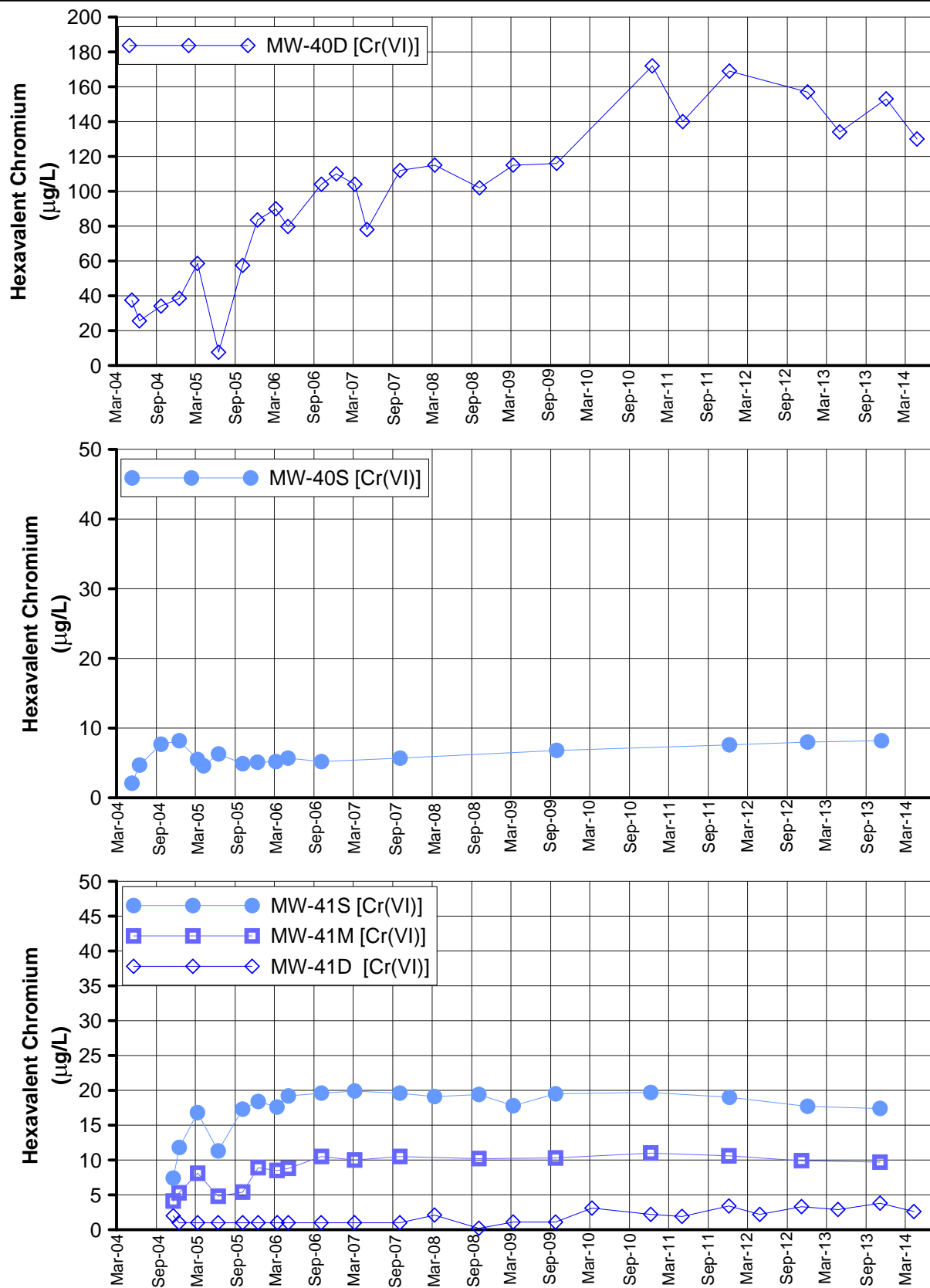
- 1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
- 2) The trigger level for MW-36-70 is 20 µg/L.

**FIGURE D-7  
HEXAVALENT CHROMIUM  
IN MW-36 CLUSTER**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA

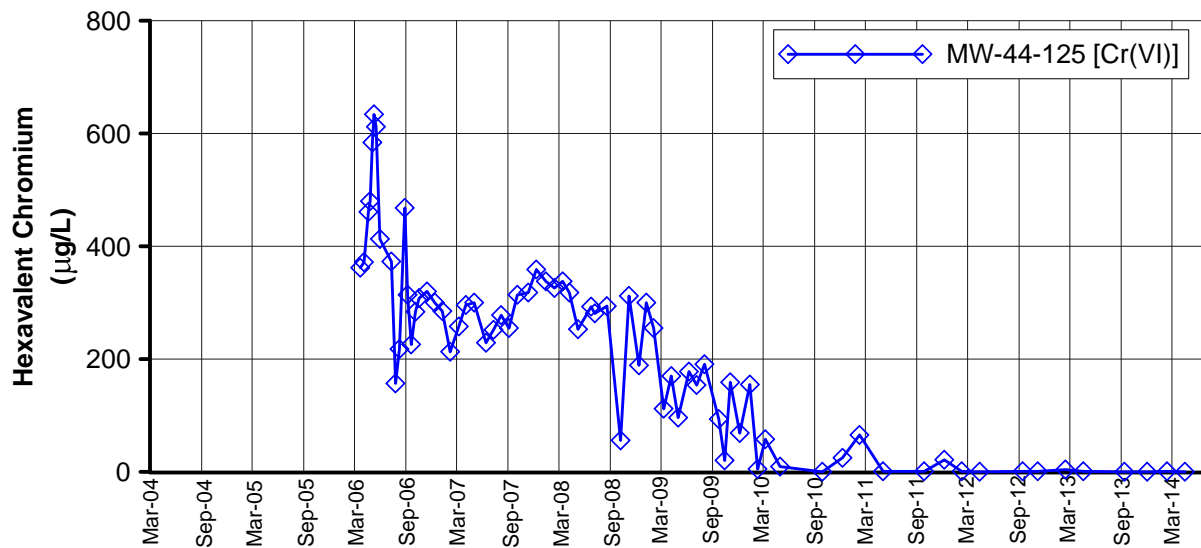
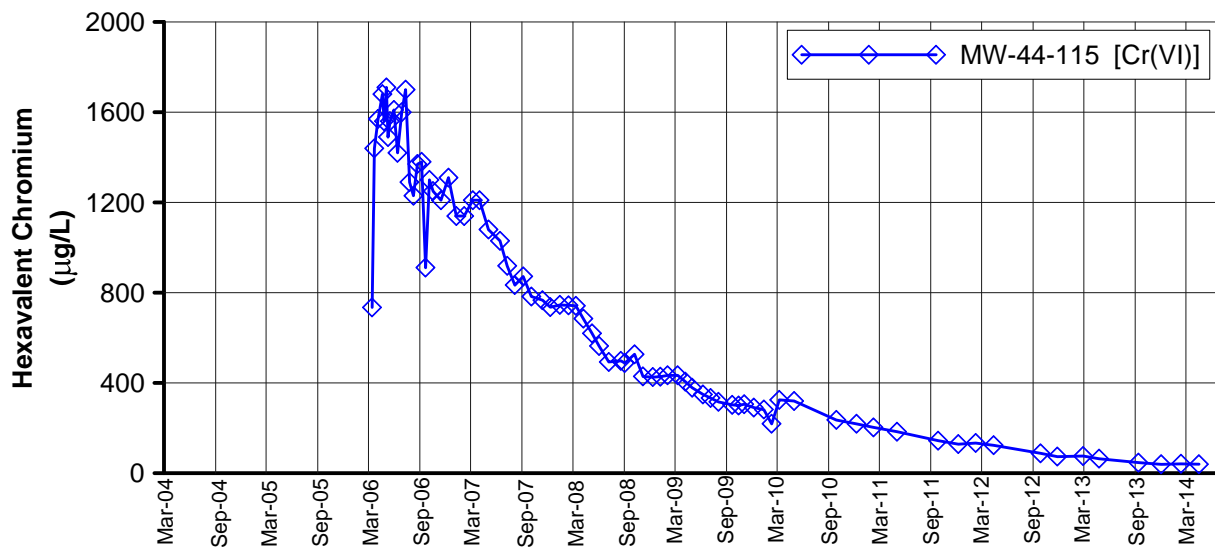
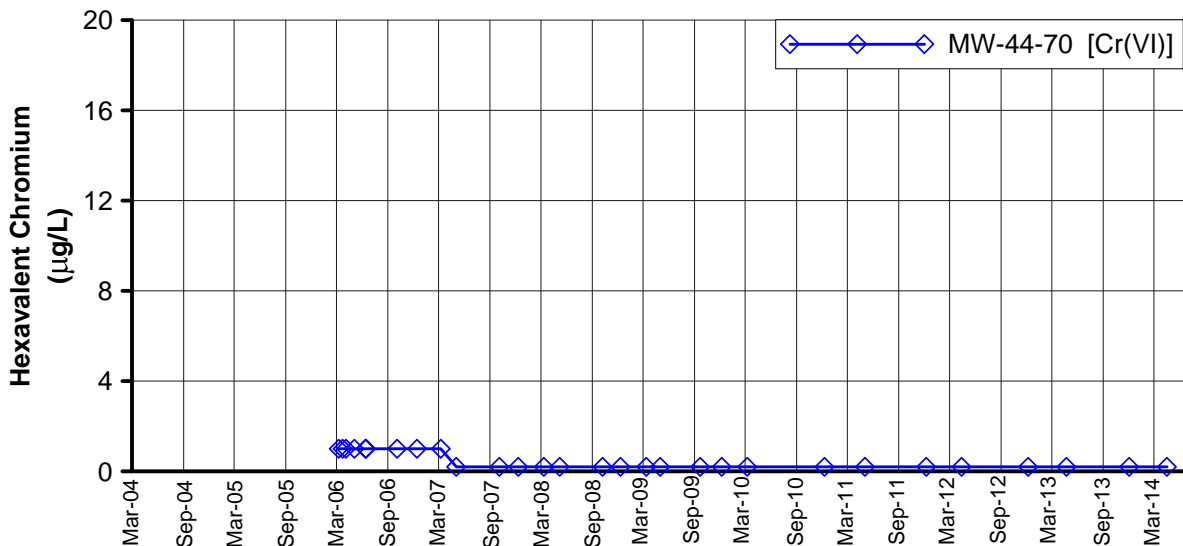
**CH2MHILL**





**FIGURE D-9  
HEXAVALENT CHROMIUM  
IN MW-40 AND MW-41 CLUSTERS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA



**Notes:**

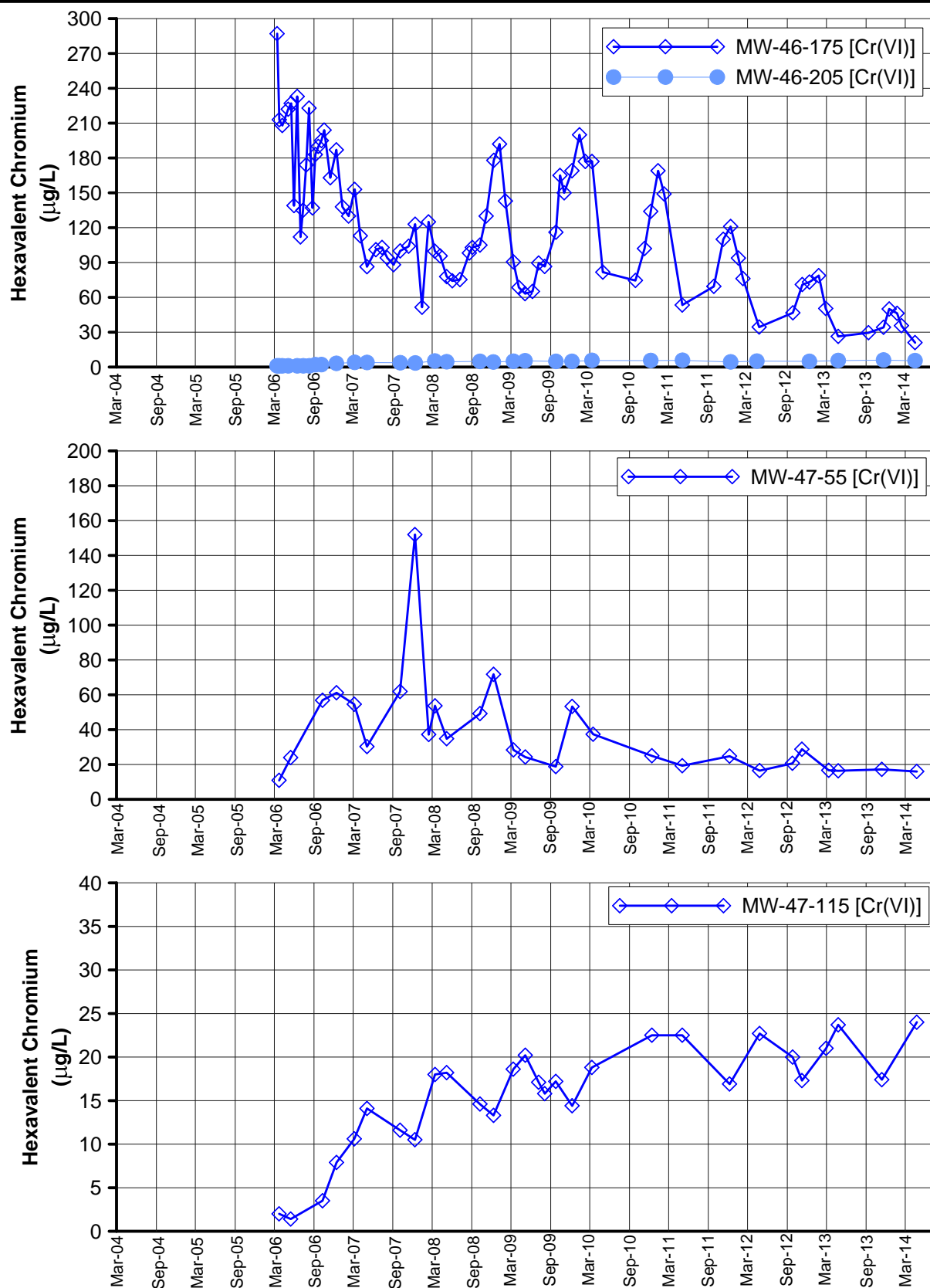
- 1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
- 2) The trigger level for MW-44-70 is 20 µg/L.
- 3) The trigger level for MW-44-115 is 1,200 µg/L.
- 4) The trigger level for MW-44-125 is 475 µg/L.

**FIGURE D-10  
HEXAVALENT CHROMIUM  
IN MW-44 CLUSTER**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA

**CH2MHILL**





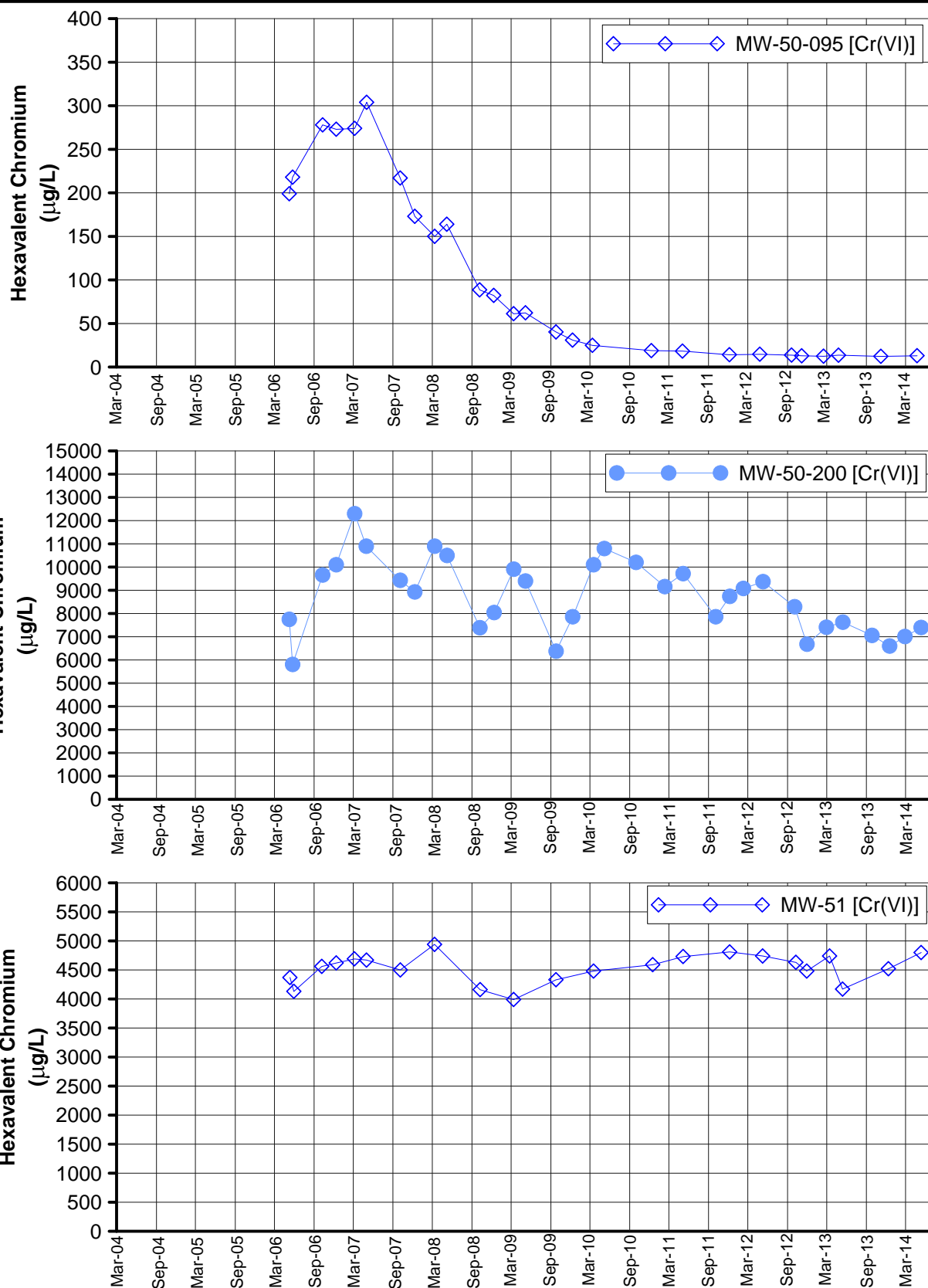
**Notes:**

- 1) The IM Contingency Plan and hexavalent chromium [Cr(VI)] trigger levels were updated July 17, 2008 (DTSC, 2008b).
- 2) The trigger level for MW-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 D-11  
HEXAVALENT CHROMIUM  
IN MW-46 AND MW-47 CLUSTERS**

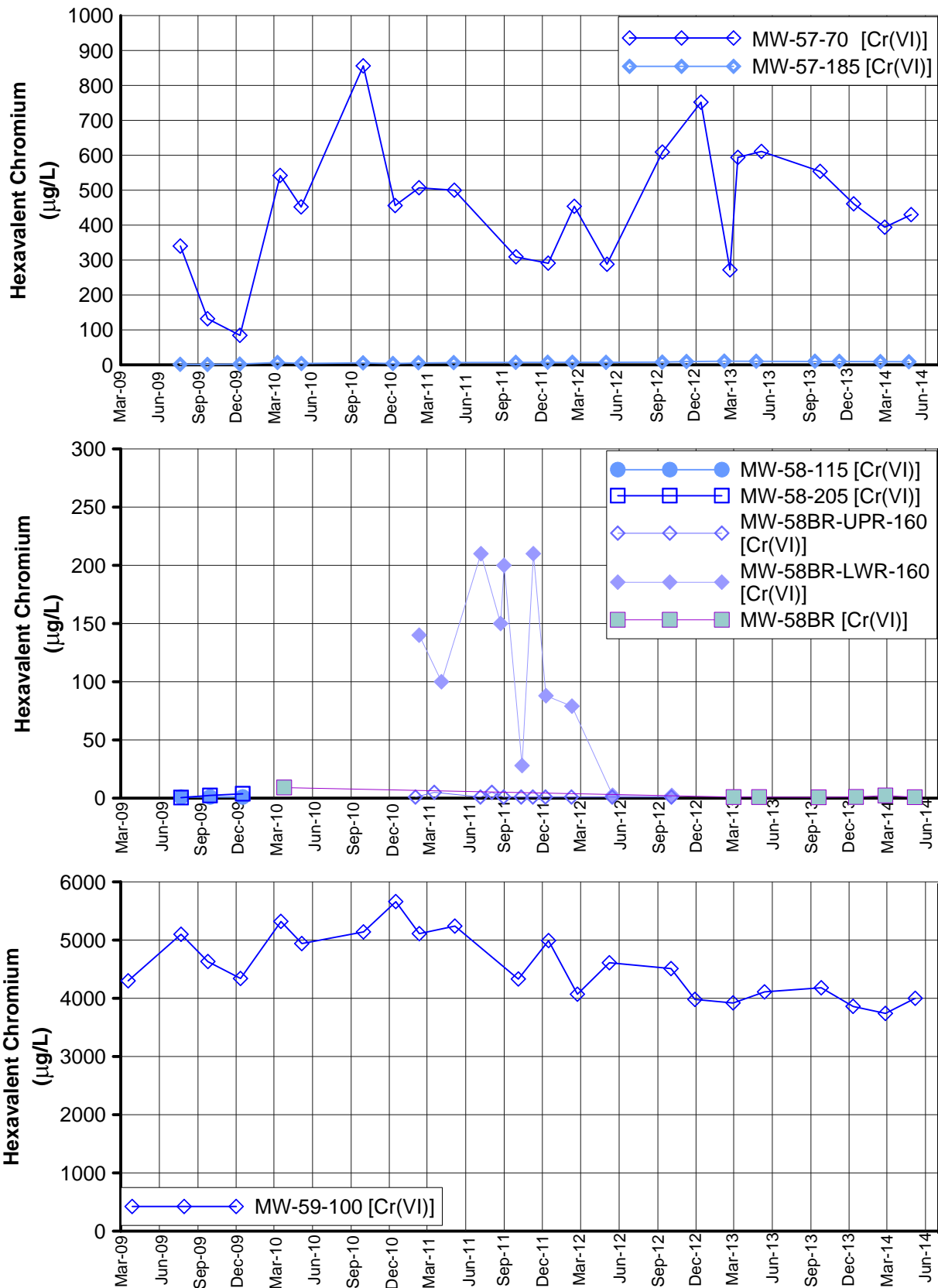
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA

**CH2MHILL**

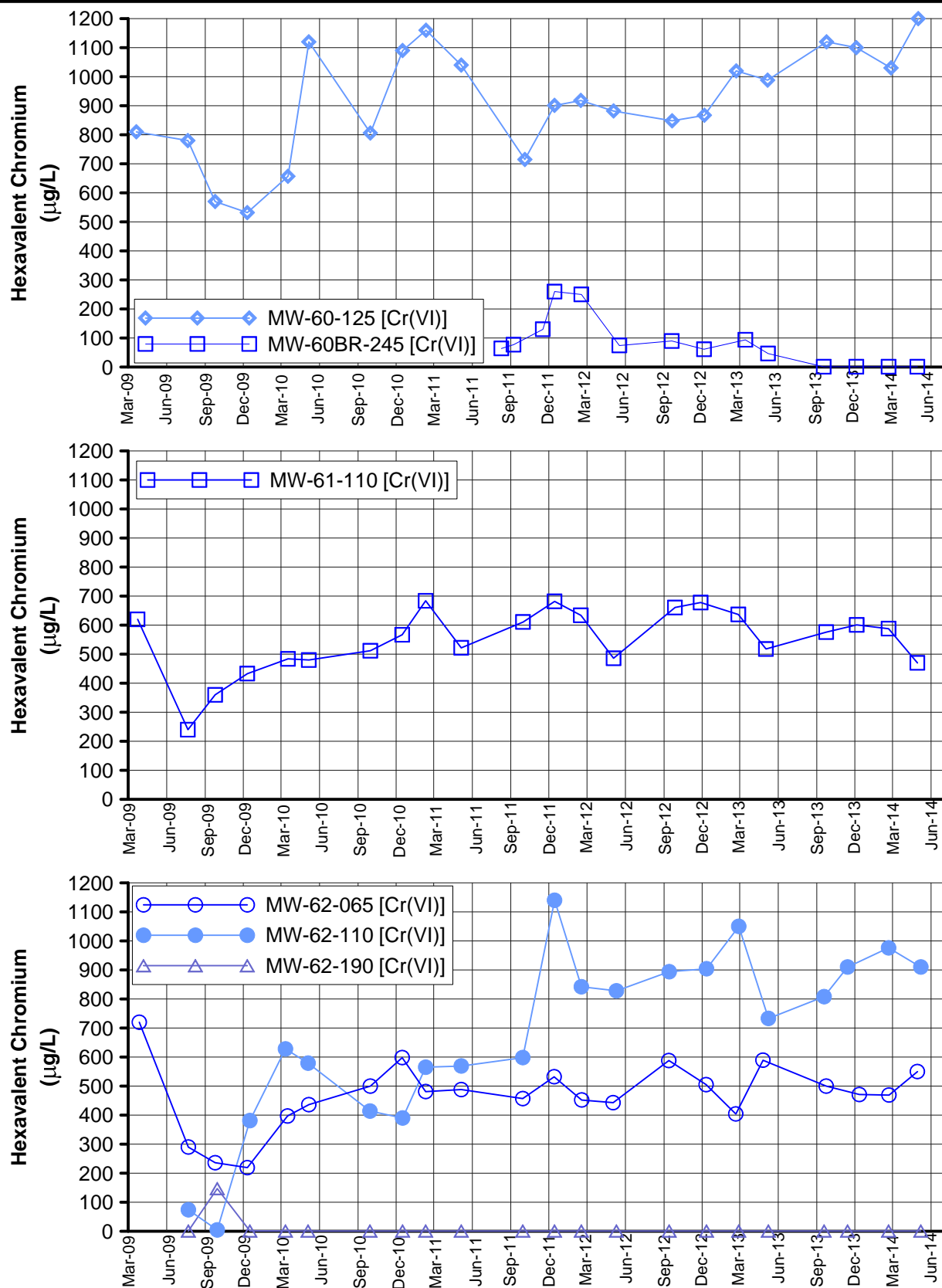


**FIGURE D-12  
HEXAVALENT CHROMIUM  
IN MW-50 AND MW-51 CLUSTERS**

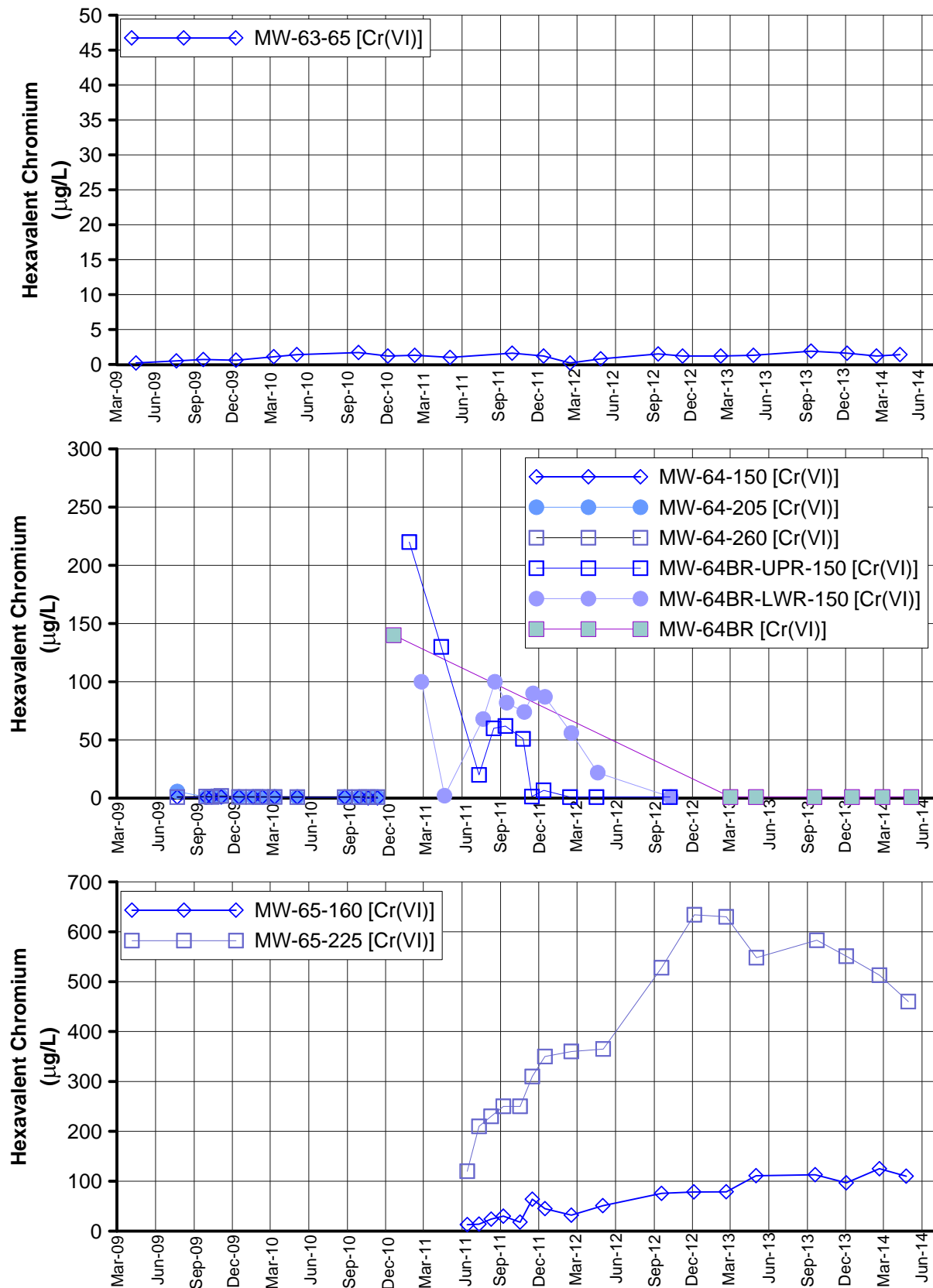
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA



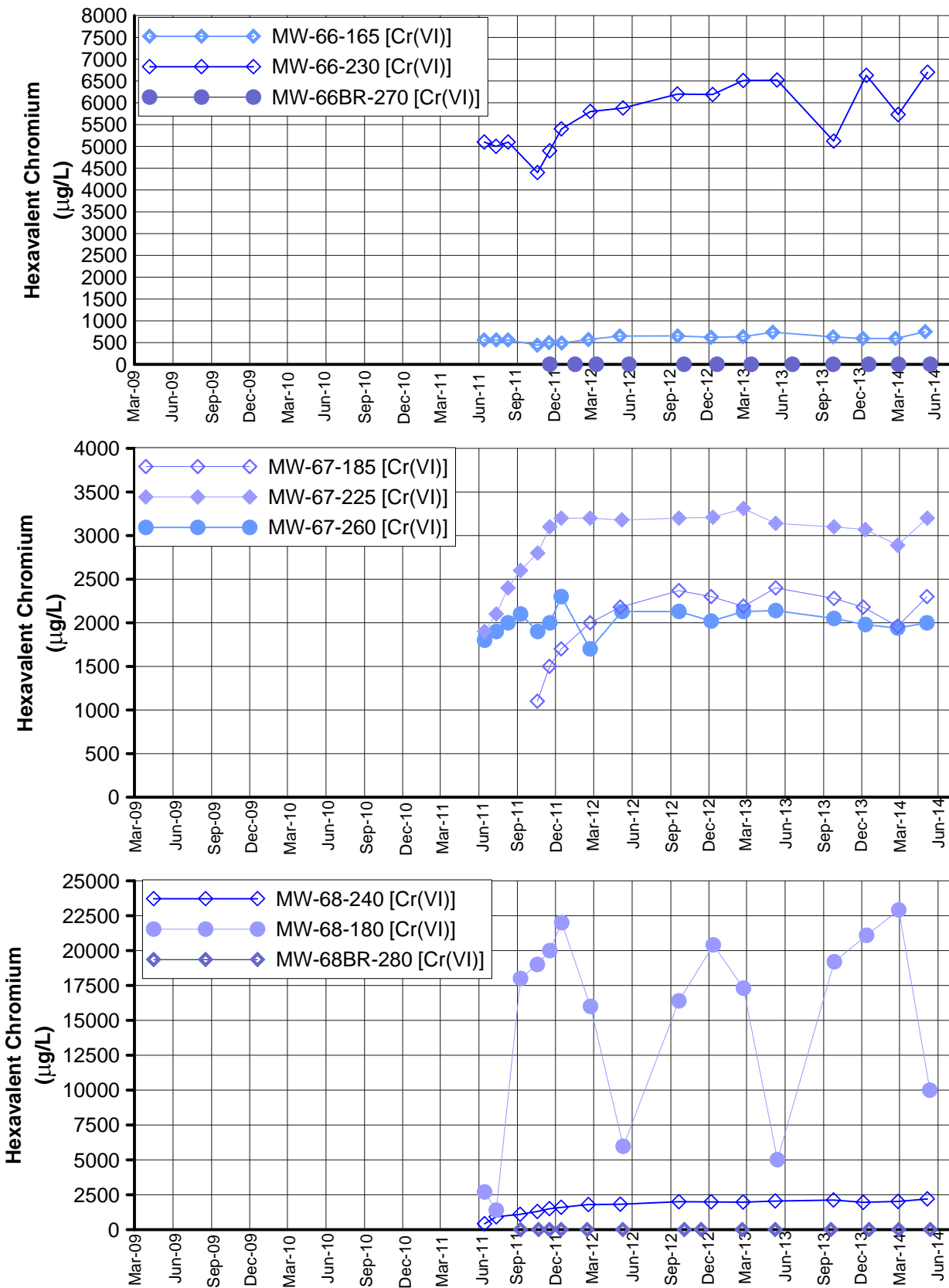
**FIGURE D-13**  
**HEXAVALENT CHROMIUM**  
**IN MW-57 CLUSTER, MW-58 CLUSTER AND MW-59-100**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA



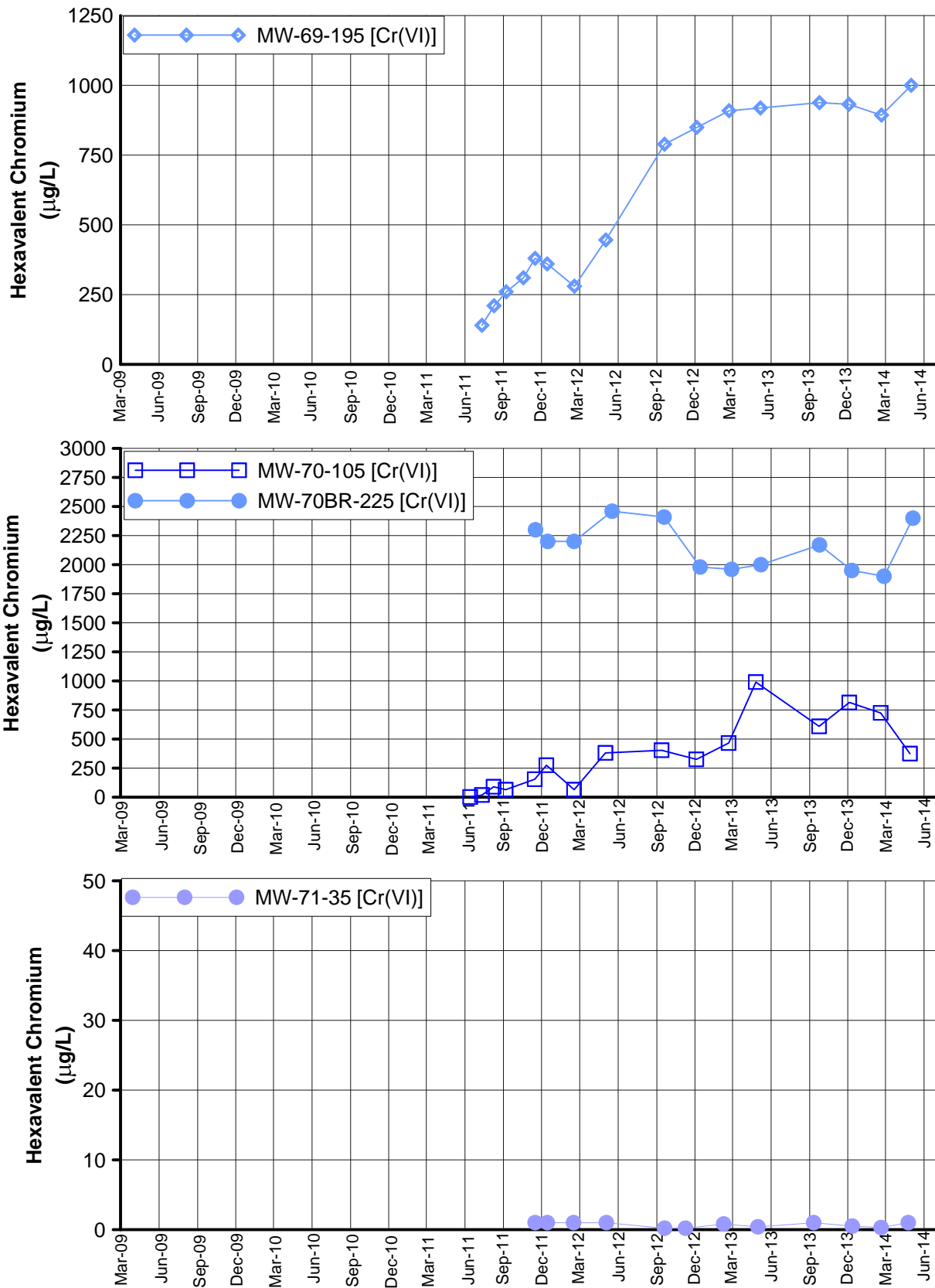
**FIGURE D-14**  
**HEXAVALENT CHROMIUM IN THE MW-60 CLUSTER,**  
**MW-61-110 AND THE MW-62 CLUSTER**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA



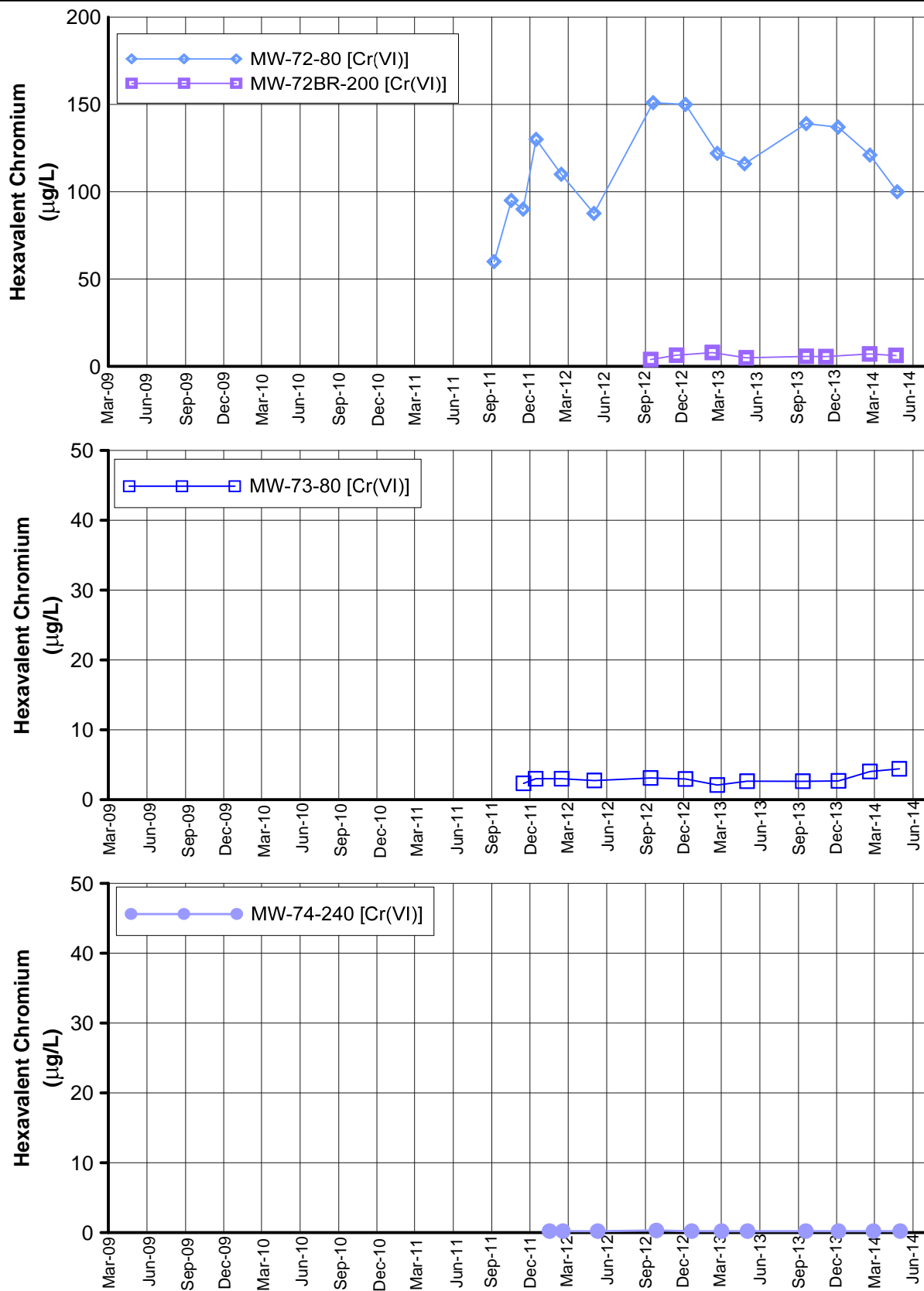
**FIGURE D-15**  
**HEXAVALENT CHROMIUM**  
**IN MW-63-65, MW-64 CLUSTER AND MW-65 CLUSTER**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA



**FIGURE D-16  
HEXAVALENT CHROMIUM  
IN MW-66, MW-67, AND MW-68 CLUSTERS**  
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA

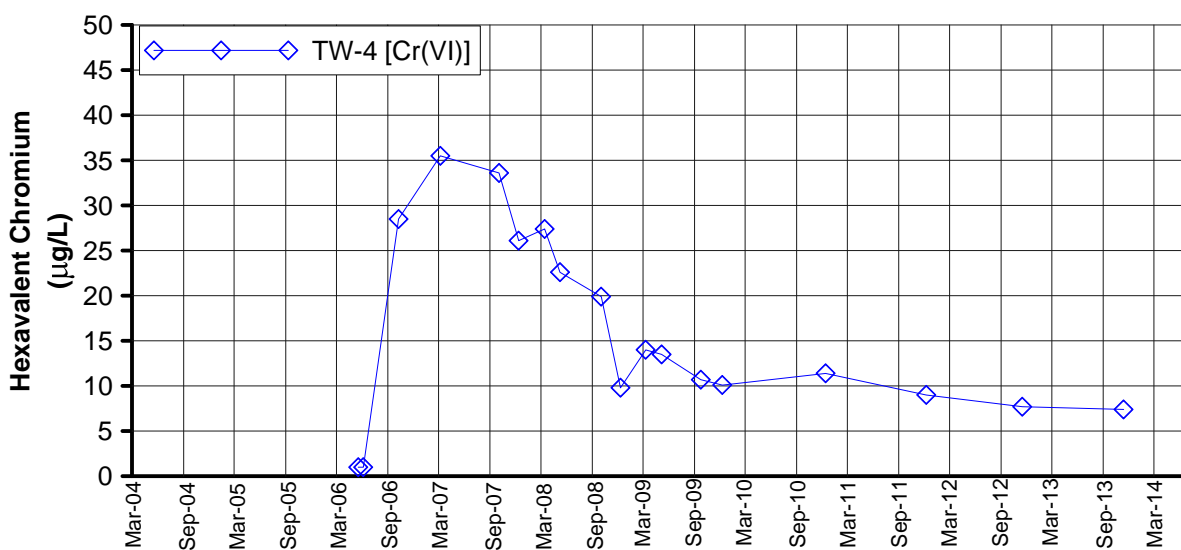


**FIGURE D-17  
HEXAVALENT CHROMIUM  
IN MW-69-195, THE MW-70 CLUSTER, AND MW-71-35**  
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
MONITORING AND SITE-WIDE GROUNDWATER  
AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION,  
NEEDLES, CALIFORNIA



**FIGURE D-18**  
**HEXAVALENT CHROMIUM**  
**IN MW-72 CLUSTER, MW-73-80, AND MW-74-240**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE  
 MONITORING AND SITE-WIDE GROUNDWATER  
 AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION,  
 NEEDLES, CALIFORNIA





**FIGURE D-19  
HEXAVALENT CHROMIUM  
IN TW-4**

SECOND QUARTER 2014 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 E**  
**Interim Measures Extraction System**  
**Operations Log, Second Quarter 2014**

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# Interim Measures Extraction System Operations Log, Second Quarter 2014, PG&E Topock Performance Monitoring Program

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During Second Quarter 2014 (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 well TW-2D ran for limited durations on April 4 and 5, 2014, and June 24, 25, 26, and 27, 2014. Extraction well TW-2S did not operate during Second Quarter 2014. The operational runtime for the Interim Measure groundwater extraction system (combined or individual pumping) was approximately 92.7 percent during Second Quarter 2014.

The Interim Measure Number 3 (IM-3) facility treated approximately 16,301,483 gallons of extracted groundwater during Second Quarter 2014. The IM-3 facility also treated approximately 5,210 gallons of water generated from the groundwater monitoring program and 29,700 gallons of water from IM-3 well backwashing. 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 7.3 percent of downtime during Second Quarter 2014) are summarized below. The times shown are in Pacific Standard Time to be consistent with other data collected (for example, water level data) at the site.

## E.1 April 2014

- **April 1-4, 2014 (planned):** The extraction well system was offline from 12:00 a.m. on April 1 to 7:22 a.m. on April 4 and from 1:46 p.m. to 7:18 p.m. on April 4 for semiannual scheduled maintenance. Extraction system downtime was 3 days, 12 hours, and 54 minutes.
- **April 6, 2014 (unplanned):** The extraction well system was offline from 5:58 a.m. to 6:14 a.m., from 8:24 a.m. to 8:36 a.m., and from 1:40 p.m. to 1:46 p.m. due to loss of power from City of Needles power. Extraction system downtime was 34 minutes.
- **April 10, 2014 (unplanned):** The extraction well system was offline from 10:28 p.m. to 10:30 p.m. and from 10:34 p.m. to 10:36 p.m. due to loss of power from City of Needles power. Extraction system downtime was 4 minutes.
- **April 16, 2014 (unplanned):** The extraction well system was offline from 4:04 p.m. to 6:36 p.m. to repair a leaking valve in the TW-03D vault at the MW-20 bench. Extraction system downtime was 2 hours, 32 minutes.
- **April 29, 2014 (unplanned):** The extraction well system was offline from 2:06 p.m. to 2:14 p.m. and from 3:36 p.m. to 3:48 p.m. due to loss of power from City of Needles power. Extraction system downtime was 20 minutes.

## E.2 May 2014

- **May 1, 2014 (planned):** The extraction well system was offline from 12:56 p.m. to 12:58 p.m., from 1:12 p.m. to 1:16 p.m., from 1:20 p.m. to 1:22 p.m., from 1:28 p.m. to 1:30 p.m., from 1:38 p.m. to 1:44 p.m., and from 1:46 p.m. to 1:48 p.m. due to testing of critical alarms and leak detection system. Extraction system downtime was 18 minutes.
- **May 4, 2014 (unplanned):** The extraction well system was offline from 2:52 p.m. to 3:54 p.m. due to a low ferrous level. Extraction system downtime was 1 hour, 2 minutes.

- **May 7, 2014 (unplanned):** The extraction well system was offline from 10:42 p.m. to 11:22 p.m. to clean the T-100 microfilter strainer and flow meter FSL-201 and replace the concentrate CLA valve. Extraction system downtime was 40 minutes.
- **May 14, 2014 (unplanned):** The extraction well system was offline from 10:16 p.m. to 10:54 p.m. to replace the gear box on the clarifier flocculator. Extraction system downtime was 38 minutes.
- **May 17, 2014 (unplanned):** The extraction well system was offline from 9:32 p.m. to 9:54 p.m. due to a low ferrous level. Extraction system downtime was 22 minutes.
- **May 20, 2014 (unplanned):** The extraction well system was offline from 9:38 a.m. to 10:20 a.m., from 10:54 a.m. to 12:40 p.m., from 1:04 p.m. to 1:36 p.m., from 7:22 p.m. to 7:58 p.m., and from 10:04 p.m. to 10:34 p.m. due to a malfunctioning air valve water valves in the microfilter system. Extraction system downtime was 4 hours, 6 minutes.
- **May 21, 2014 (unplanned):** The extraction well system was offline from 10:52 a.m. to 12:20 p.m. due to a high level in the Raw Water Tank (T-100). Extraction system downtime was 1 hour, 28 minutes.
- **May 28, 2014 (unplanned):** The extraction well system was offline from 4:44 a.m. to 12:20 p.m. and from 12:30 p.m. to 12:48 p.m. due to failure of the pretreated water booster pump (P-500). The pump was replaced and the reverse osmosis (RO) membranes were switched during this time. Extraction system downtime was 7 hours, 54 minutes.

## E.3 June 2014

- **June 5, 2014 (planned):** The extraction well system was offline from 11:38 a.m. to 2:02 p.m. due to testing of critical alarms and leak detection system and replacement of the ferrous drawdown tube. Extraction system downtime was 2 hours, 24 minutes.
- **June 7, 2014 (unplanned):** The extraction well system was offline from 6:58 a.m. to 10:12 a.m. due to a motor failure in the primary RO system. Extraction system downtime was 3 hours, 14 minutes.
- **June 11, 2014 (unplanned):** The extraction well system was offline from 1:18 p.m. to 3:08 p.m. due to a flow blockage in a manually operated valve between the oxidation tanks and the clarifier. Extraction system downtime was 1 hour, 50 minutes.
- **June 18, 2014 (unplanned):** The extraction well system was offline from 1:54 a.m. to 2:26 a.m. due to high levels in the Chromium Reduction Reactor (T-300) and the Iron Oxidation Reactors 1 and 2 (T-301A and T-301B). Extraction system downtime was 32 minutes.
- **June 18, 2014 (unplanned):** The extraction well system was offline from 1:04 p.m. to 4:12 p.m. due to a flow blockage in a manually controlled valve between the Iron Oxidation Reactors (T-301A, B, and C) and the Clarifier (CL 400). Extraction system downtime was 3 hours, 8 minutes.
- **June 23-24, 2014 (planned):** The extraction well system was offline from 12:34 p.m. on June 23, 2014, to 8:34 a.m. on June 24, 2014, for AquaGuard application in extraction well TW-3D. Extraction system downtime was 20 hours.
- **June 24-25, 2014 (unplanned):** The extraction well system was offline on June 24, 2014, from 8:48 a.m. to 8:54 a.m., from 9:10 a.m. to 9:14 a.m., from 9:30 a.m. to 9:38 a.m., and from 9:48 a.m. to 10:54 a.m.; on June 24, 2014, from 8:04 p.m. to June 25, 2014 at 1:36 p.m.; and on June 25, 2014, from 3:36 p.m. to 8:30 p.m. due to the TW-3D pump overheating. Extraction system downtime was 23 hours, 50 minutes.
- **June 26, 2014 (unplanned):** The extraction well system was offline from 7:24 p.m. to 7:38 p.m. due to a high level in the Raw Water Tank (T-100). Extraction system downtime was 14 minutes.

- **June 27, 2014 (unplanned):** The extraction well system was offline from 3:22 p.m. to 3:34 p.m. and from 4:28 p.m. to 4:32 p.m. to switch the plant onto and off of generator power due to a loss of power from the City of Needles. Extraction system downtime was 16 minutes.

**Appendix F**  
**Hydraulic Data for Interim Measures**  
**Reporting Period**

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TABLE F-1

Average Monthly and Quarterly Groundwater Elevations, Second Quarter 2014  
 Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California

Well ID	Aquifer Zone	April 2014	May 2014	June 2014	Quarter Average	Days in Quarter Average
I-3	River Station	457.08	456.69	456.65	456.81	91
MW-20-070	Shallow Zone	455.41	455.17	455.27	455.28	90
MW-20-100	Middle Zone	454.97	454.69	454.86	454.84	91
MW-20-130	Deep Zone	INC	454.22	454.50	INC	54
MW-22	Shallow Zone	456.09	455.85	455.87	455.93	91
MW-25	Shallow Zone	456.36	456.51	456.57	456.48	91
MW-26	Shallow Zone	455.99	456.14	456.21	456.11	91
MW-27-020	Shallow Zone	456.97	456.54	456.48	456.66	90
MW-27-060	Middle Zone	456.86	456.46	456.42	456.58	90
MW-27-085	Deep Zone	456.87	456.40	456.38	456.55	91
MW-28-025	Shallow Zone	456.95	456.55	456.51	456.67	91
MW-28-090	Deep Zone	456.91	456.56	456.54	456.67	91
MW-30-050	Middle Zone	456.47	456.09	456.10	456.22	90
MW-31-060	Shallow Zone	456.29	456.08	456.03	456.15	78
MW-31-135	Deep Zone	455.68	455.43	455.43	455.51	91
MW-32-035	Shallow Zone	456.60	456.19	456.15	456.31	90
MW-33-040	Shallow Zone	456.76	456.46	456.31	456.51	91
MW-33-090	Middle Zone	456.75	456.57	456.45	456.59	91
MW-33-150	Deep Zone	456.81	456.53	456.45	456.60	91
MW-34-055	Middle Zone	456.96	456.55	456.53	456.68	90
MW-34-080	Deep Zone	456.89	456.47	456.47	456.61	90
MW-34-100	Deep Zone	456.70	456.22	456.18	456.37	91
MW-35-060	Shallow Zone	457.35	457.07	457.01	457.18	71
MW-35-135	Deep Zone	457.27	457.16	457.11	457.18	91
MW-36-020	Shallow Zone	456.59	456.18	456.15	456.31	90
MW-36-040	Shallow Zone	456.64	456.24	456.22	456.36	90
MW-36-050	Middle Zone	456.60	456.21	456.20	456.33	90
MW-36-070	Middle Zone	INC	456.18	456.21	INC	55
MW-36-090	Deep Zone	455.72	455.25	455.33	455.43	90
MW-36-100	Deep Zone	455.95	455.51	455.66	455.70	90
MW-39-040	Shallow Zone	456.45	456.07	456.09	456.20	90
MW-39-050	Middle Zone	456.23	455.86	455.89	455.99	90
MW-39-060	Middle Zone	456.05	455.67	455.72	455.81	90
MW-39-070	Middle Zone	455.50	455.16	455.28	455.31	90
MW-39-080	Deep Zone	INC	455.32	455.43	INC	55
MW-39-100	Deep Zone	456.01	455.77	455.93	455.90	90
MW-42-030	Shallow Zone	456.35	455.96	455.94	456.08	90
MW-42-065	Middle Zone	456.42	456.03	456.02	456.15	90
MW-43-025	Shallow Zone	456.94	456.55	456.50	456.66	91
MW-43-090	Deep Zone	457.23	456.82	456.78	456.94	91
MW-44-070	Middle Zone	456.77	456.37	456.39	456.51	90
MW-44-115	Deep Zone	456.20	455.87	455.92	456.00	90
MW-44-125	Deep Zone	456.69	456.36	456.42	456.49	90
MW-45-095a	Deep Zone	456.00	454.91	455.04	455.31	91
MW-46-175	Deep Zone	456.59	456.36	456.40	456.45	91
MW-47-055	Shallow Zone	456.93	456.71	456.66	456.76	91
MW-47-115	Deep Zone	456.82	456.69	456.68	456.73	91
MW-49-135	Deep Zone	457.15	456.91	456.87	456.98	91

TABLE F-1

Average Monthly and Quarterly Groundwater Elevations, Second Quarter 2014  
*Second Quarter 2014 Interim Measures Performance Monitoring and Site-wide  
 Groundwater and Surface Water Monitoring Report,  
 PG&E Topock Compressor Station, Needles, California*

Well ID	Aquifer Zone	April 2014	May 2014	June 2014	Quarter Average	Days in Quarter Average
MW-50-095	Middle Zone	456.36	456.25	456.26	456.29	91
MW-51	Middle Zone	455.97	456.10	456.19	456.09	91
MW-54-085	Deep Zone	457.31	456.91	456.88	457.08	69
MW-54-140	Deep Zone	457.37	457.03	456.93	457.11	91
MW-54-195	Deep Zone	457.52	457.21	457.03	457.30	71
MW-55-045	Middle Zone	457.36	457.10	456.92	457.12	91
MW-55-120	Deep Zone	457.25	457.02	456.84	457.04	91
PT2D	Deep Zone	455.27	454.89	455.06	455.07	90
PT5D	Deep Zone	455.87	455.46	455.55	455.62	90
PT6D	Deep Zone	455.91	455.53	455.64	455.69	90
RRB	River Station	457.43	457.04	456.93	457.13	91

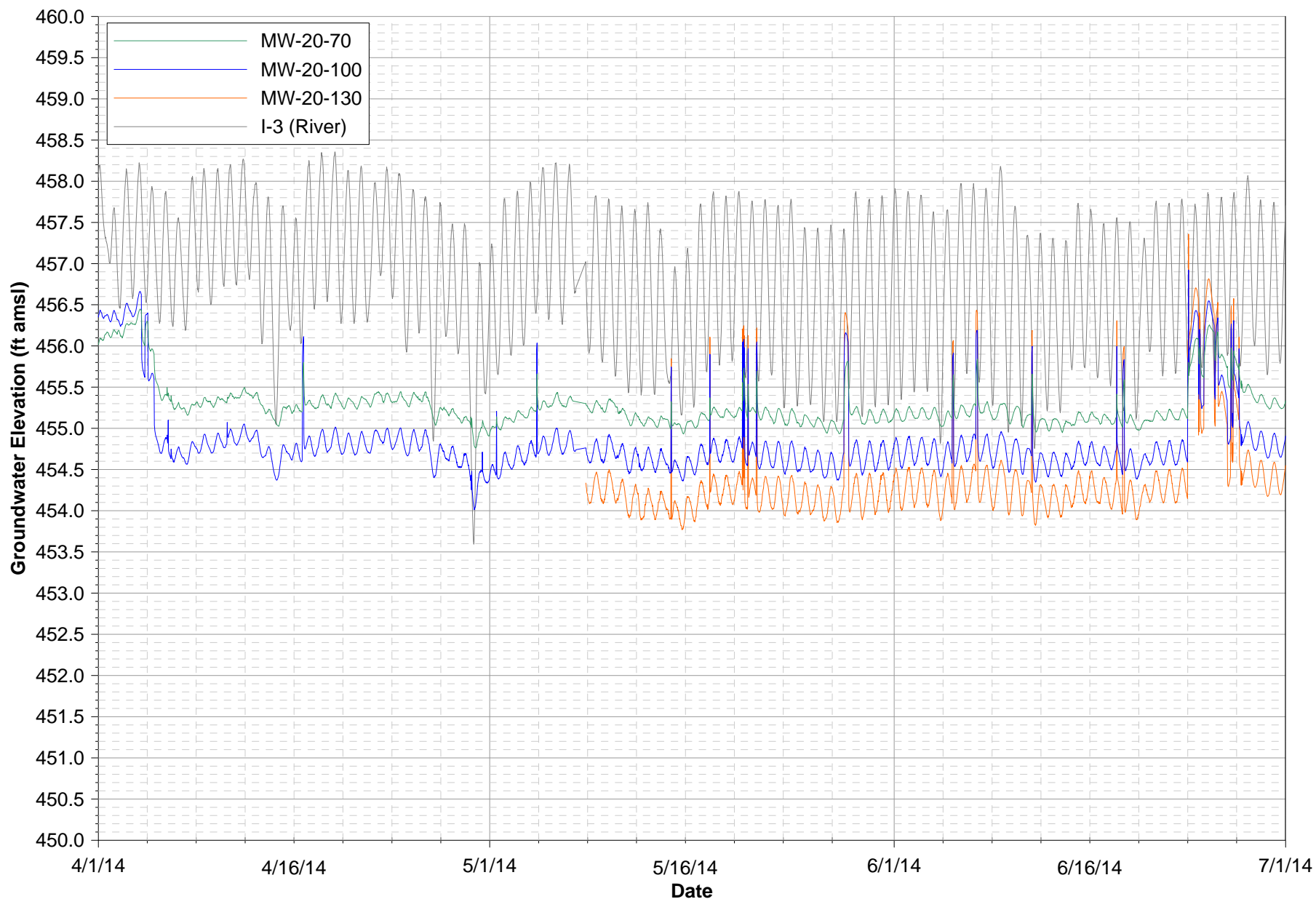
**NOTES:**

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.





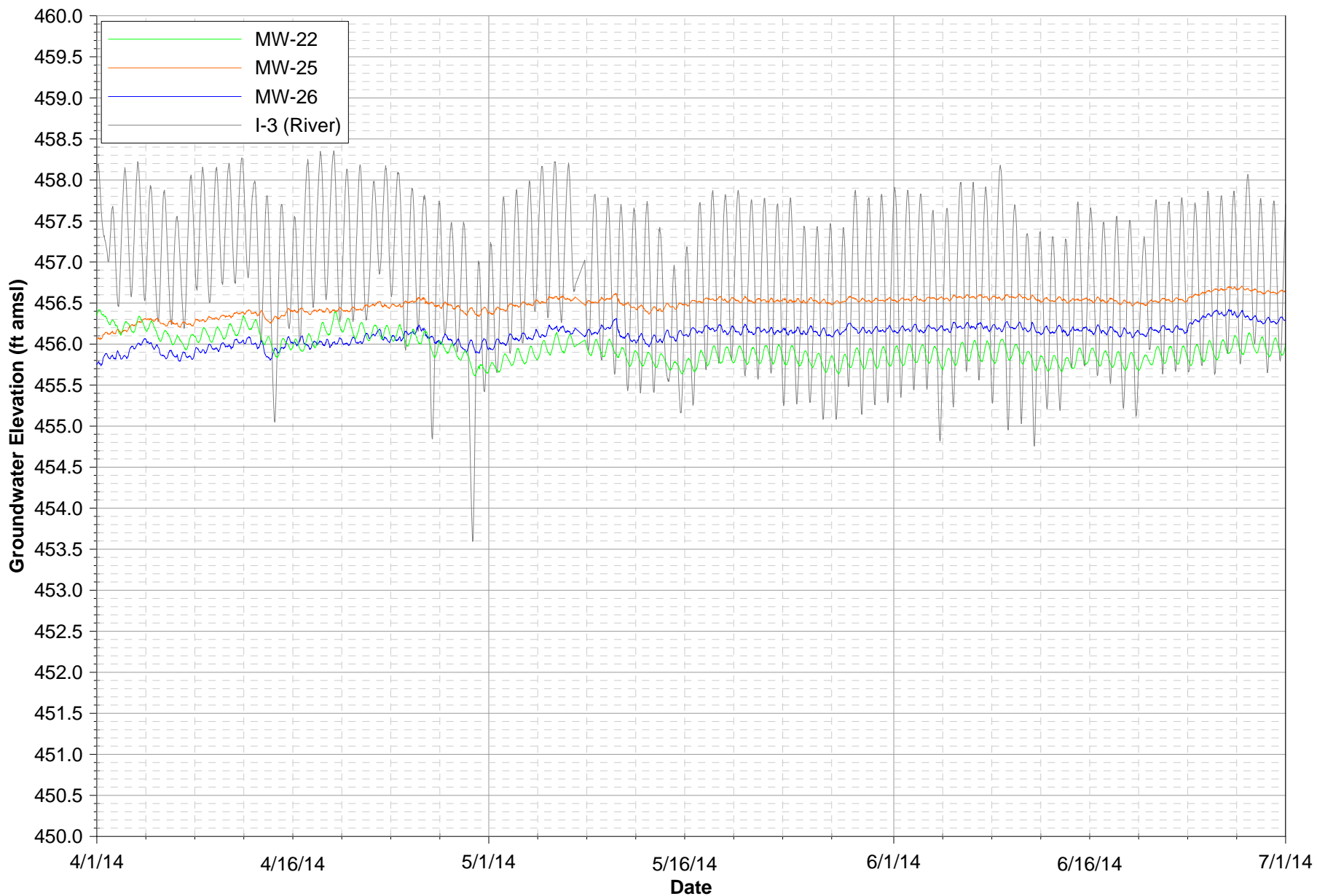
**Notes:**

1. Data subject to review.
2. ft amsl = feet above mean sea level.
3. MW-20-130 data unavailable from April 1, 2014 through May 8, 2014 due to transducer malfunction.

**FIGURE F-1A**

**MW-20 CLUSTER HYDROGRAPHS**

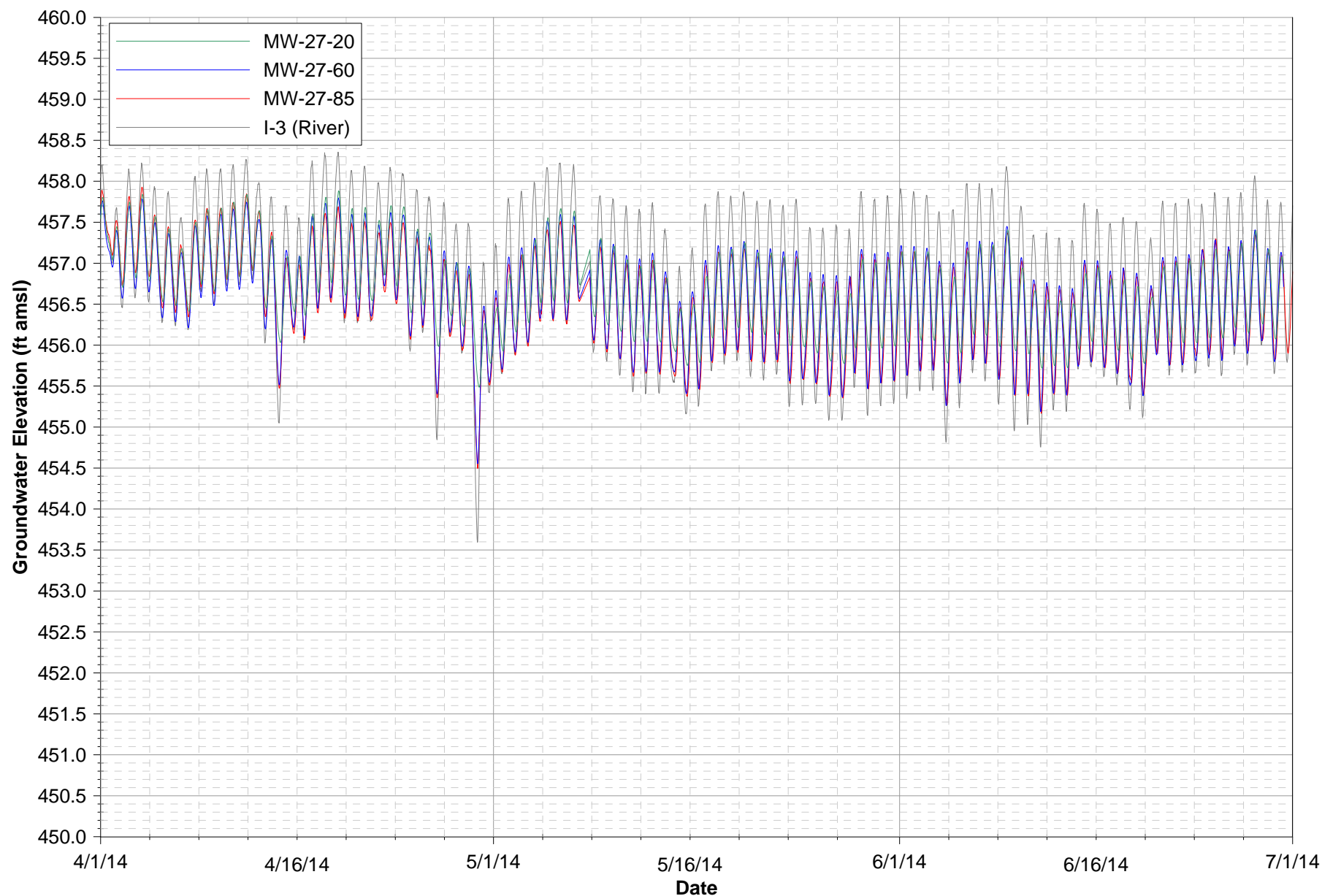
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

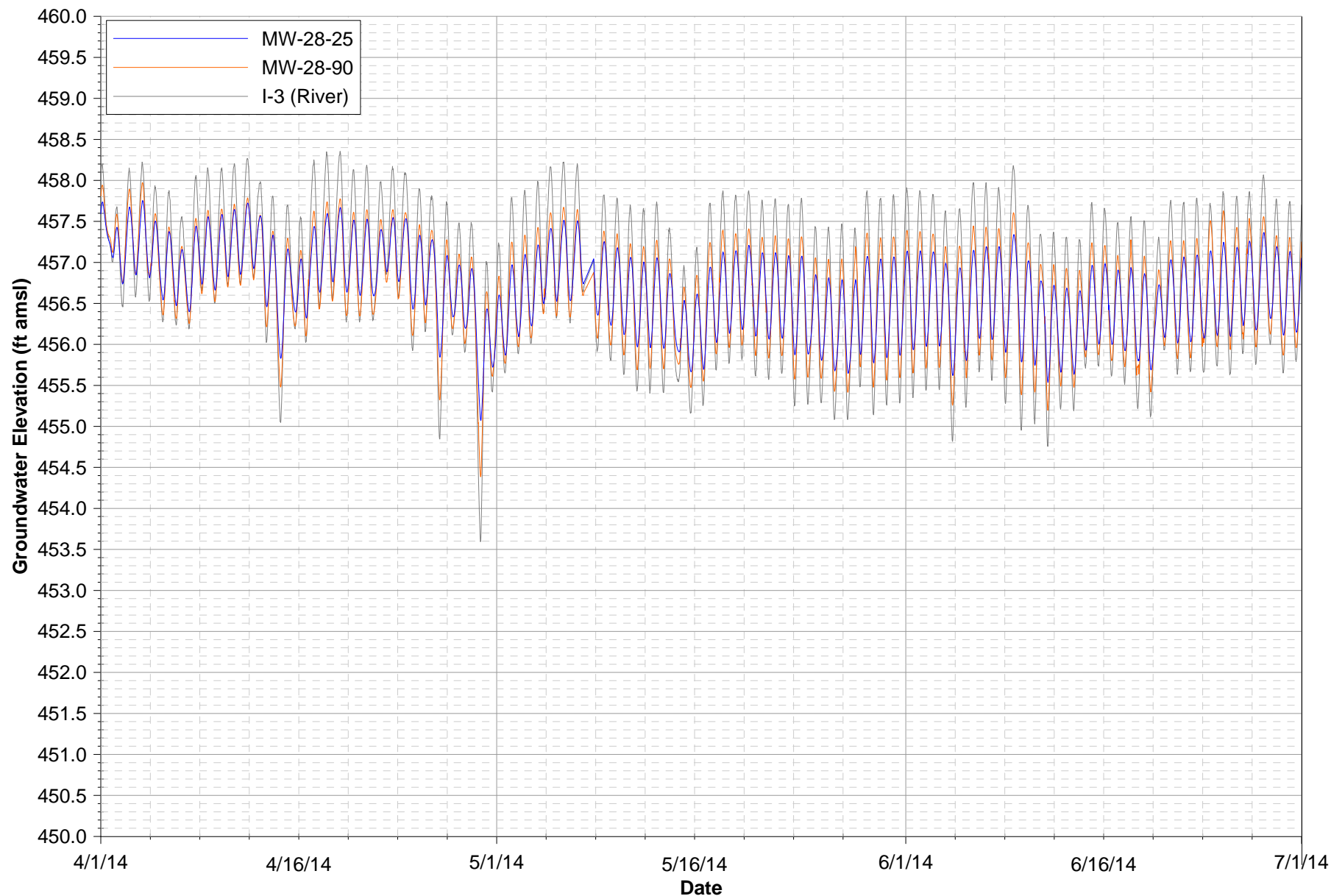
# **FIGURE F-1B** **MW-22, MW-25, AND MW-26 HYDROGRAPHS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



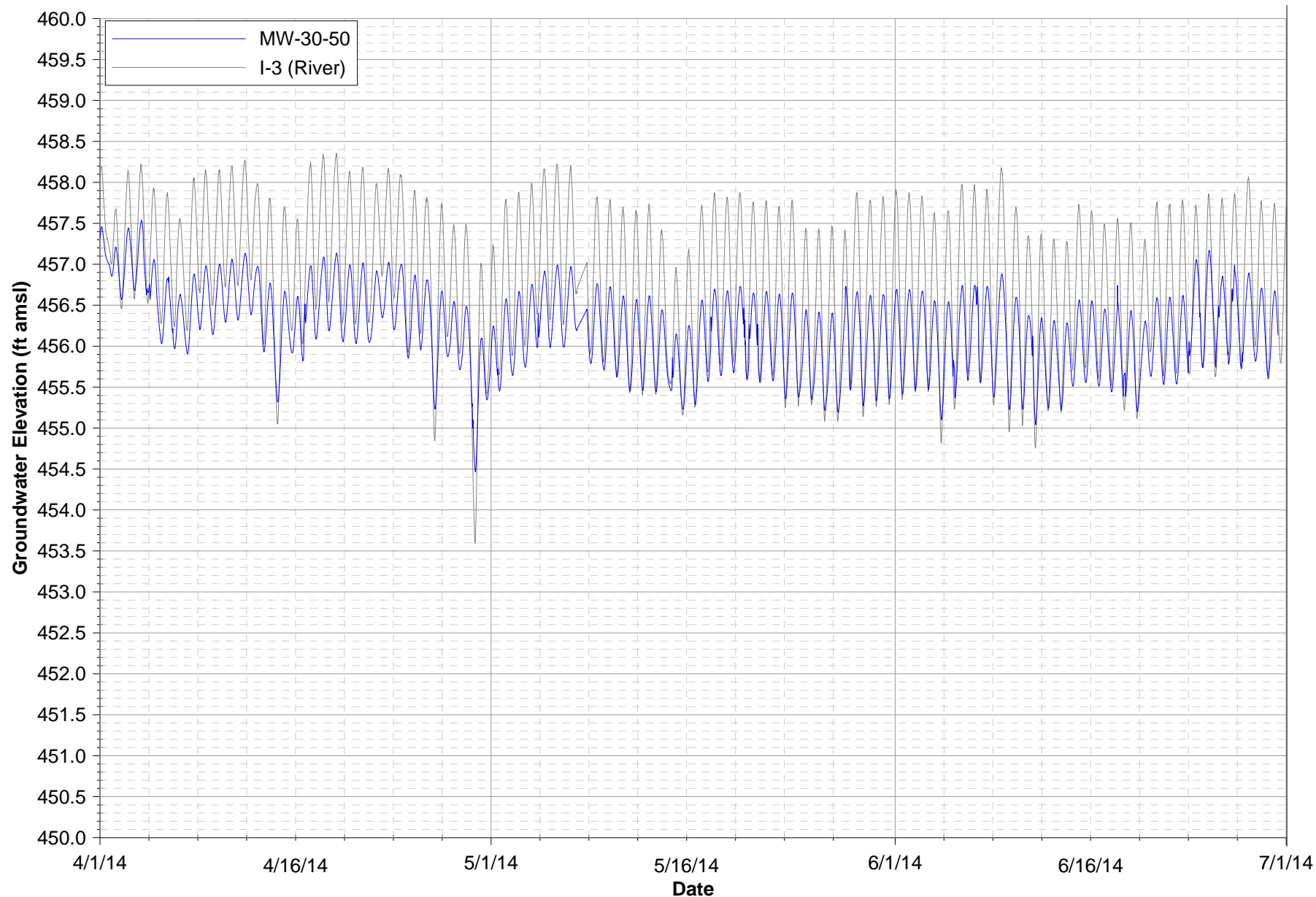
Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

**FIGURE F-1C**  
**MW-27 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

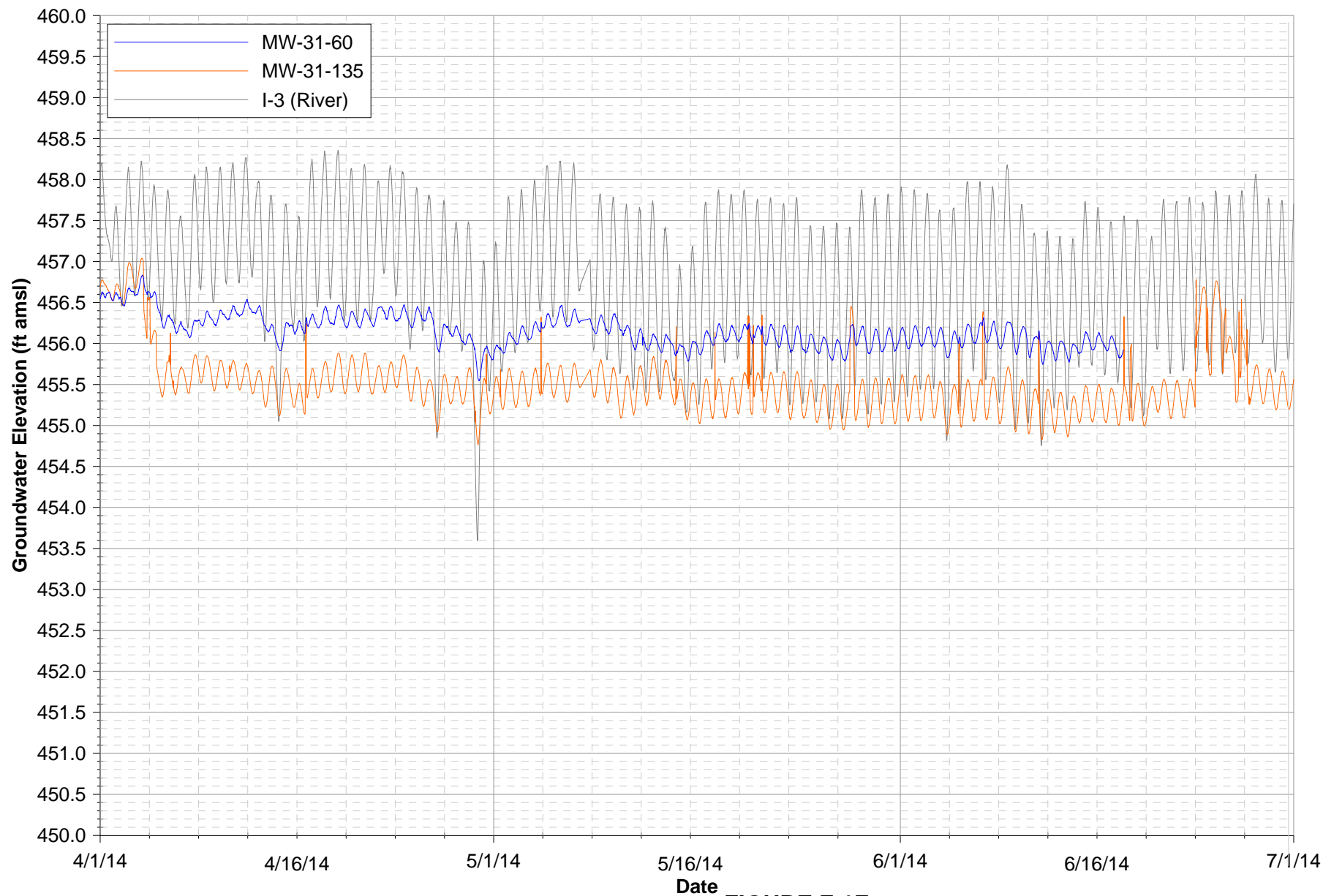
**FIGURE F-1D**  
**MW-28 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

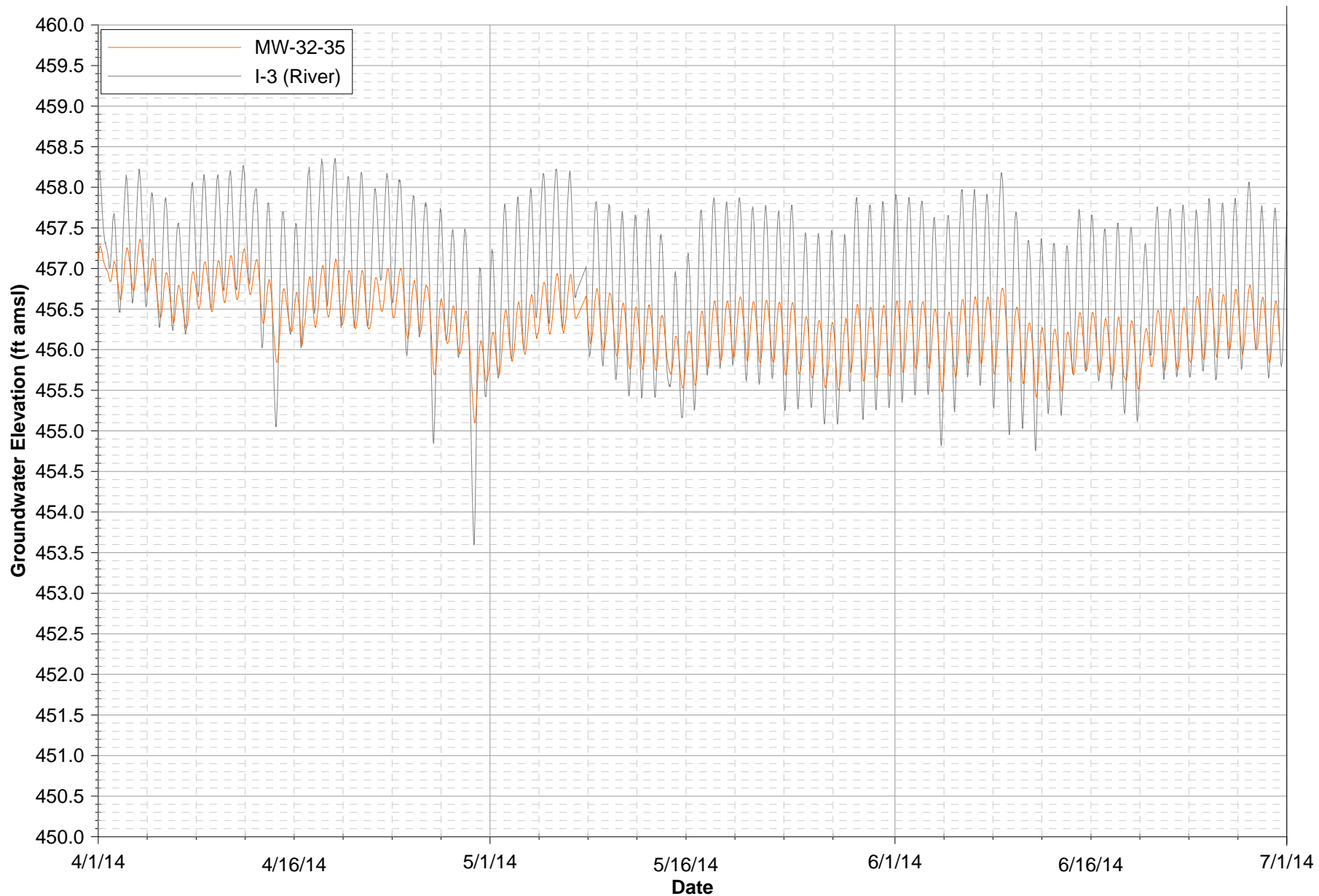
# **FIGURE F-1E** **MW-30-50 HYDROGRAPH**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.  
 3. MW-31-60 data unavailable from June 18, 2014 through July 1, 2014 due to transducer malfunction.

**FIGURE F-1F**  
**MW-31 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

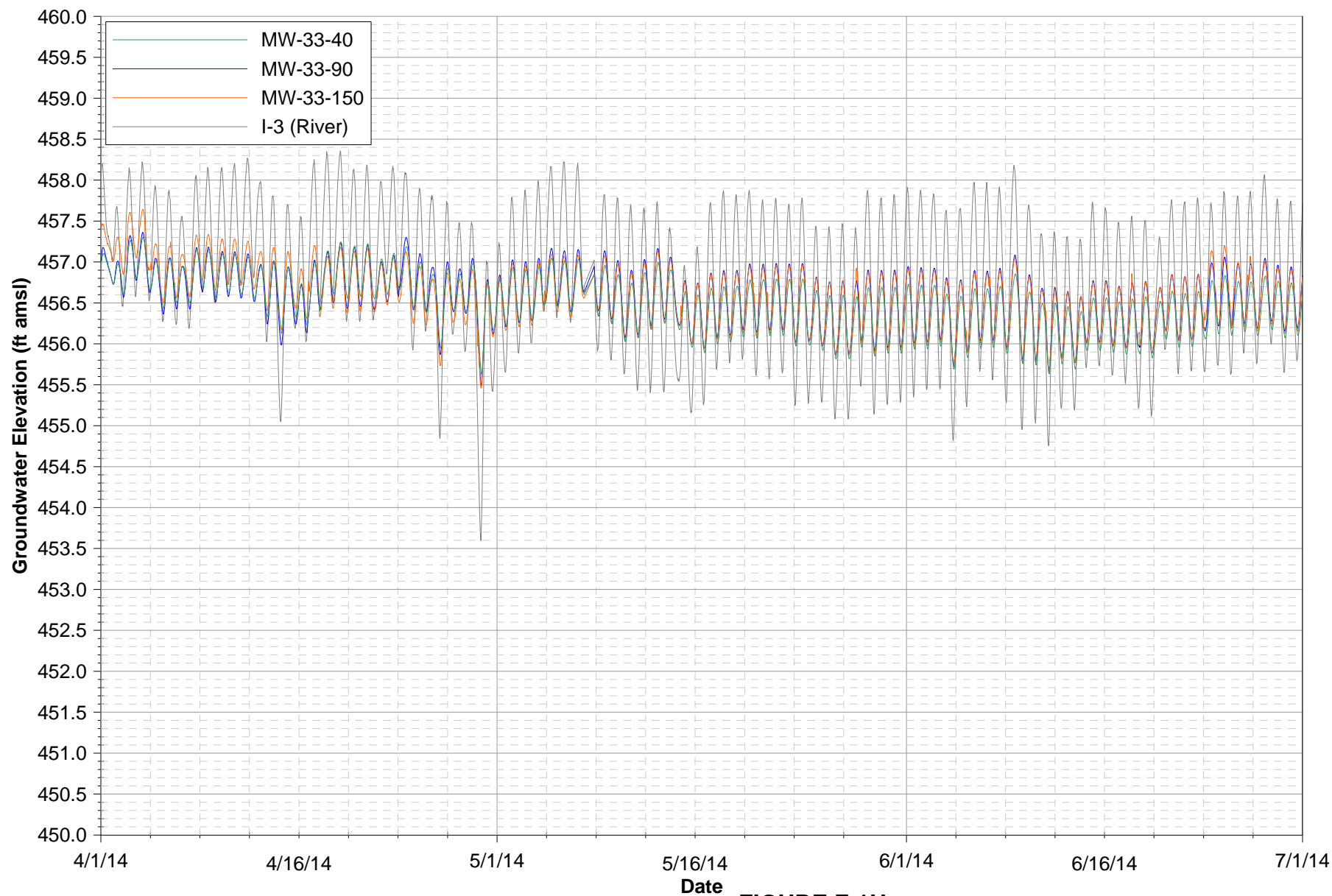


Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

# **FIGURE F-1G** **MW-32 HYDROGRAPH**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

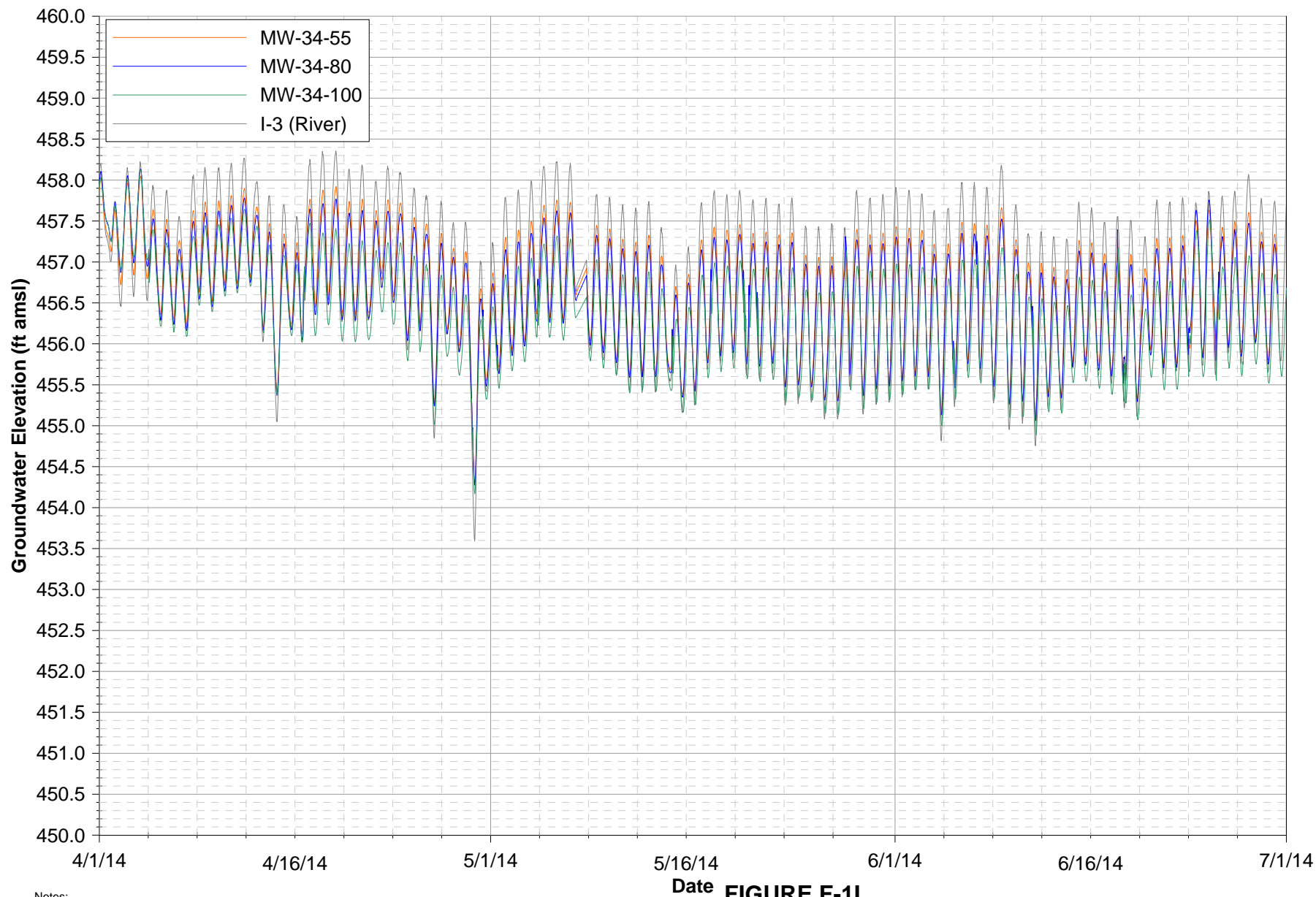




Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

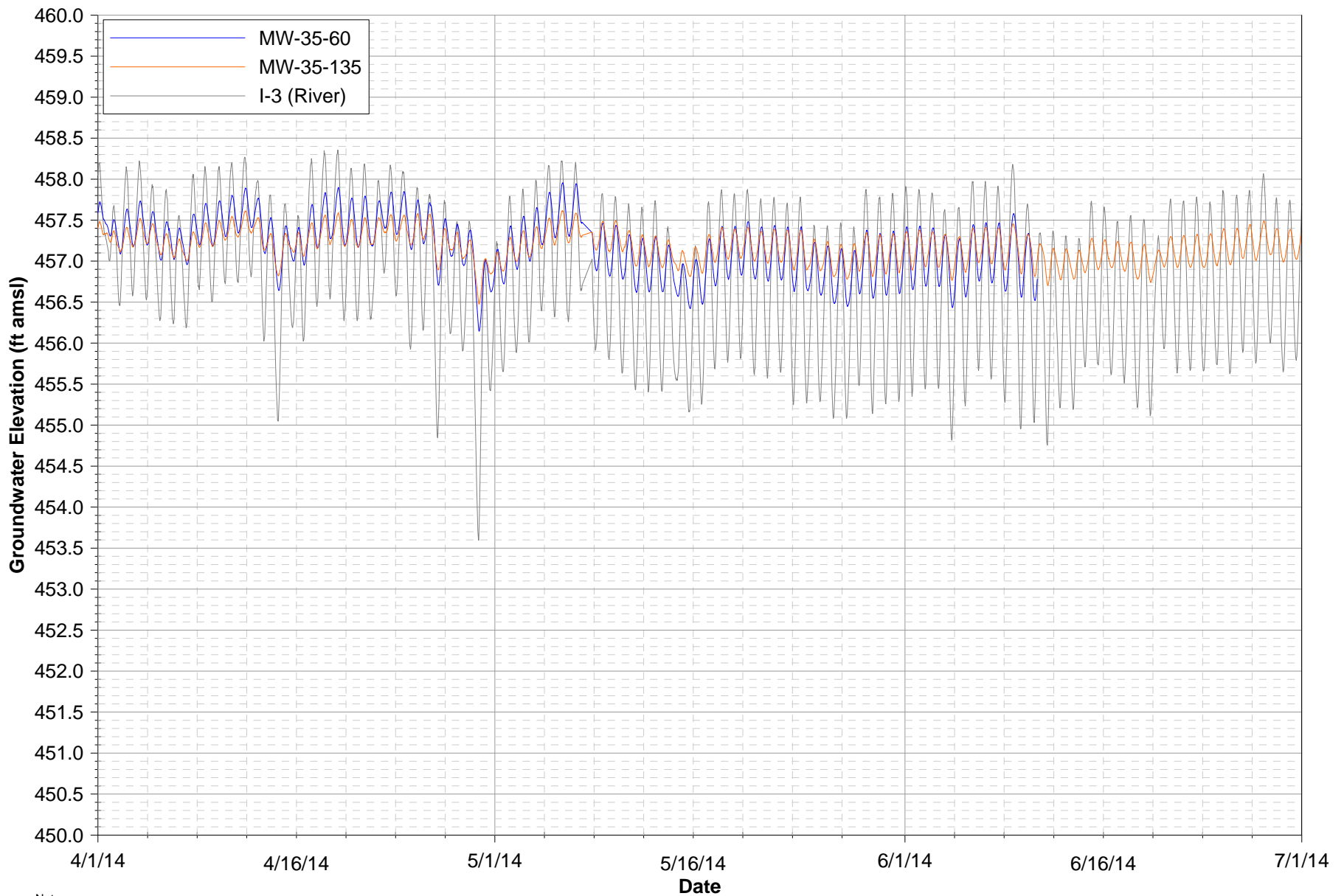
**FIGURE F-1H**  
**MW-33 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA





Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

**FIGURE F-11**  
**MW-34 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



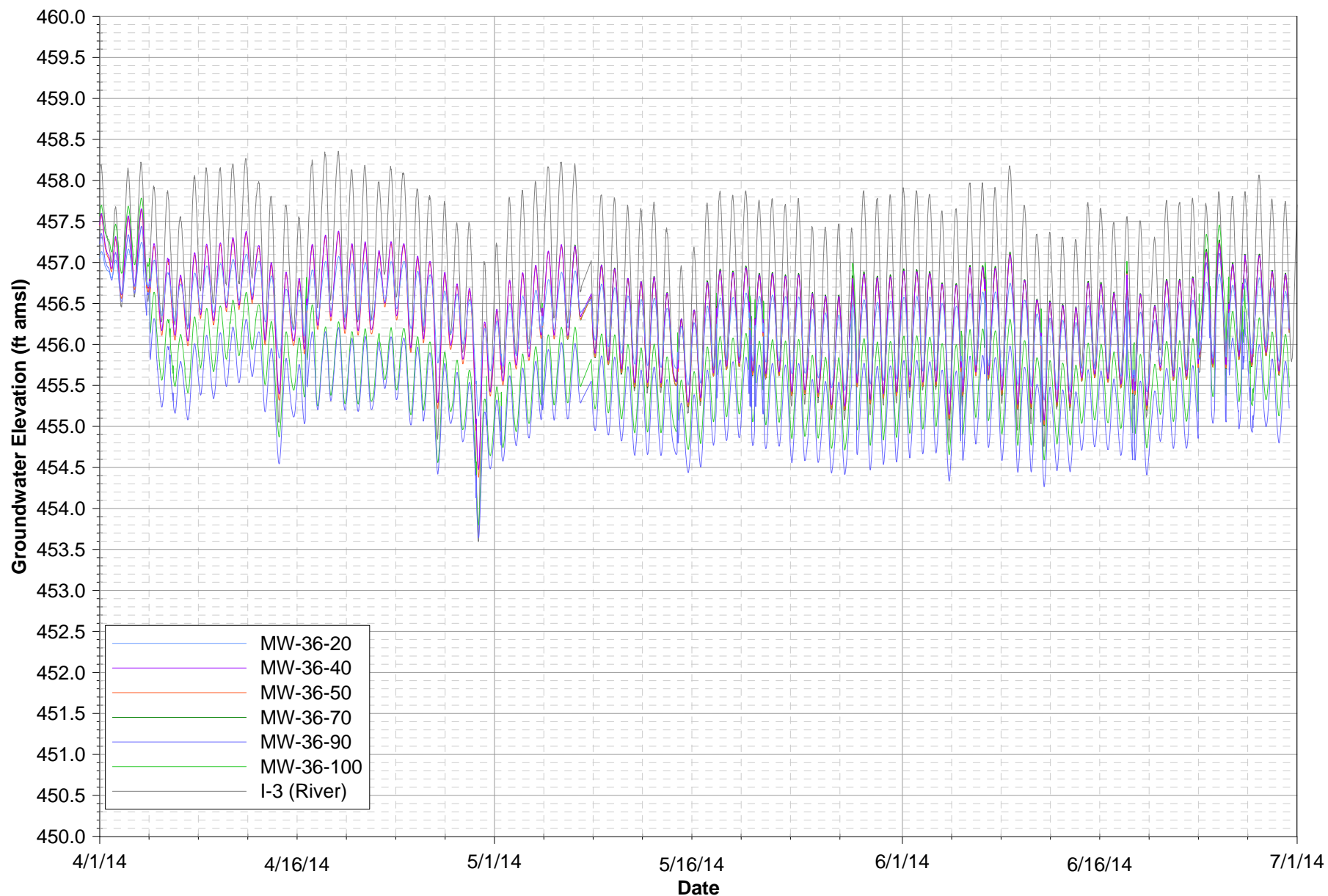
**Notes:**

1. Data subject to review.
2. ft amsl = feet above mean sea level.
3. MW-35-60 data unavailable from July 11, 2014 through July 1, 2014 due to transducer malfunction.

**FIGURE F-1J**

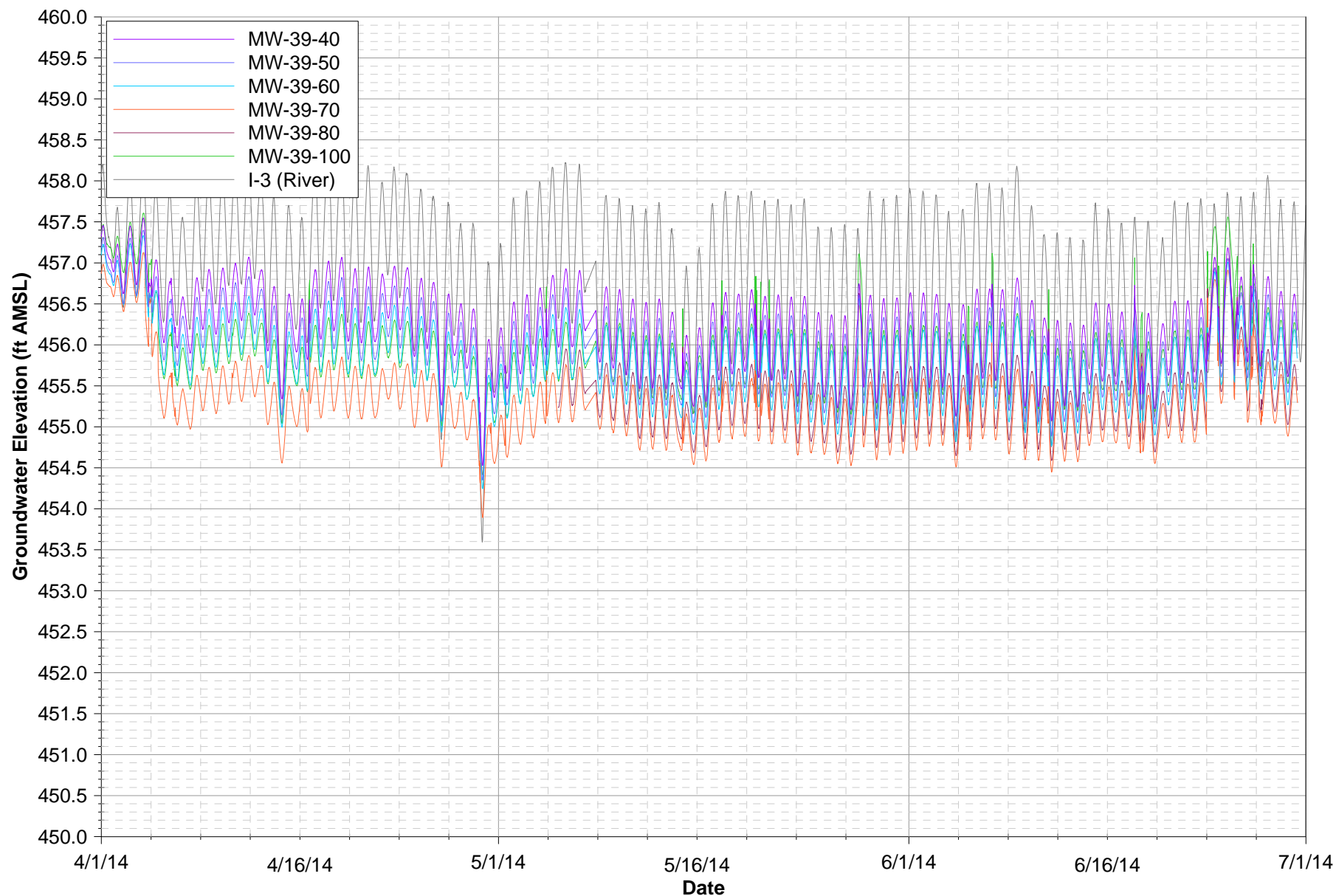
**MW-35 CLUSTER HYDROGRAPHS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

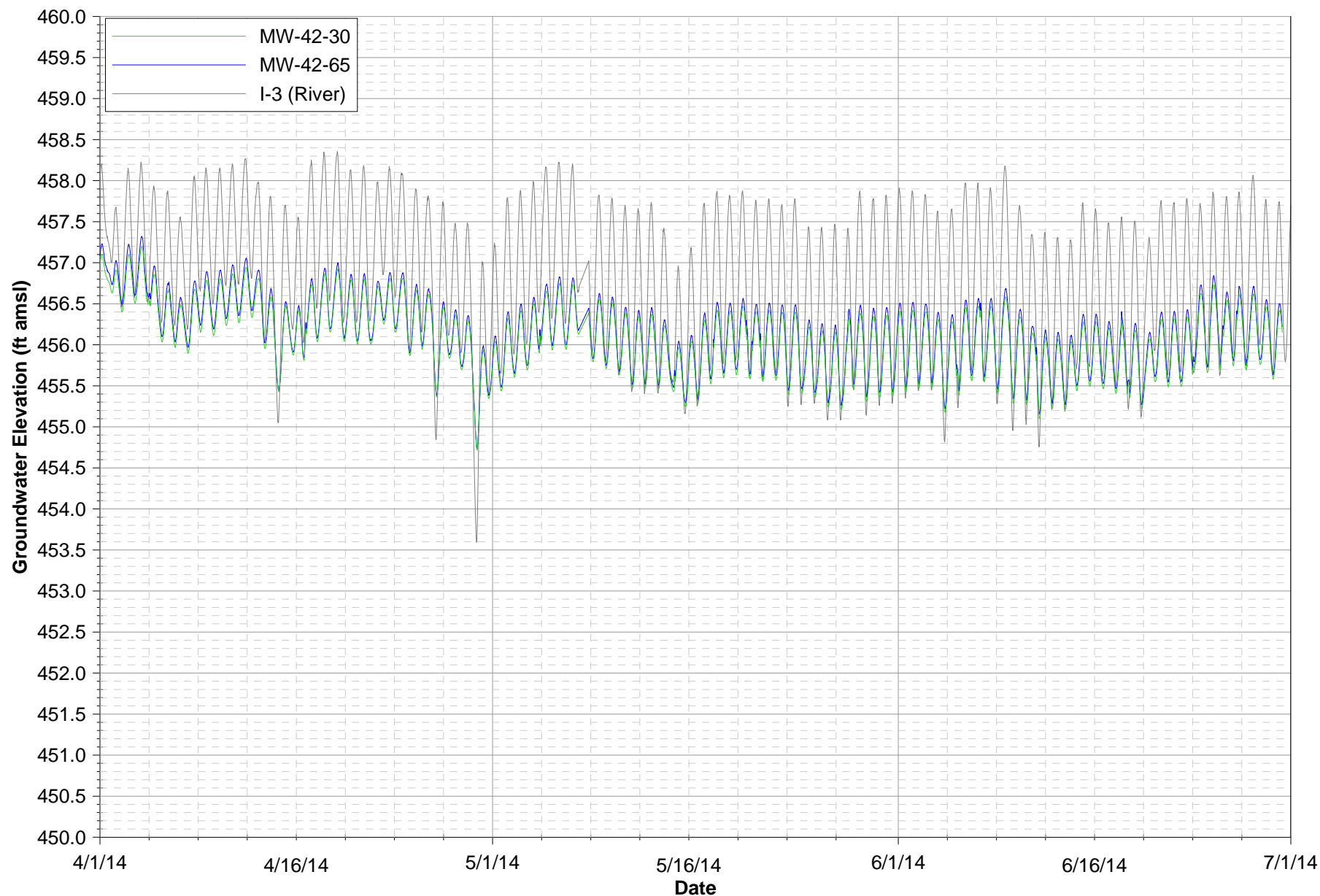
**FIGURE F-1K**  
**MW-36 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

# **FIGURE F-1L** **MW-39 CLUSTER HYDROGRAPHS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

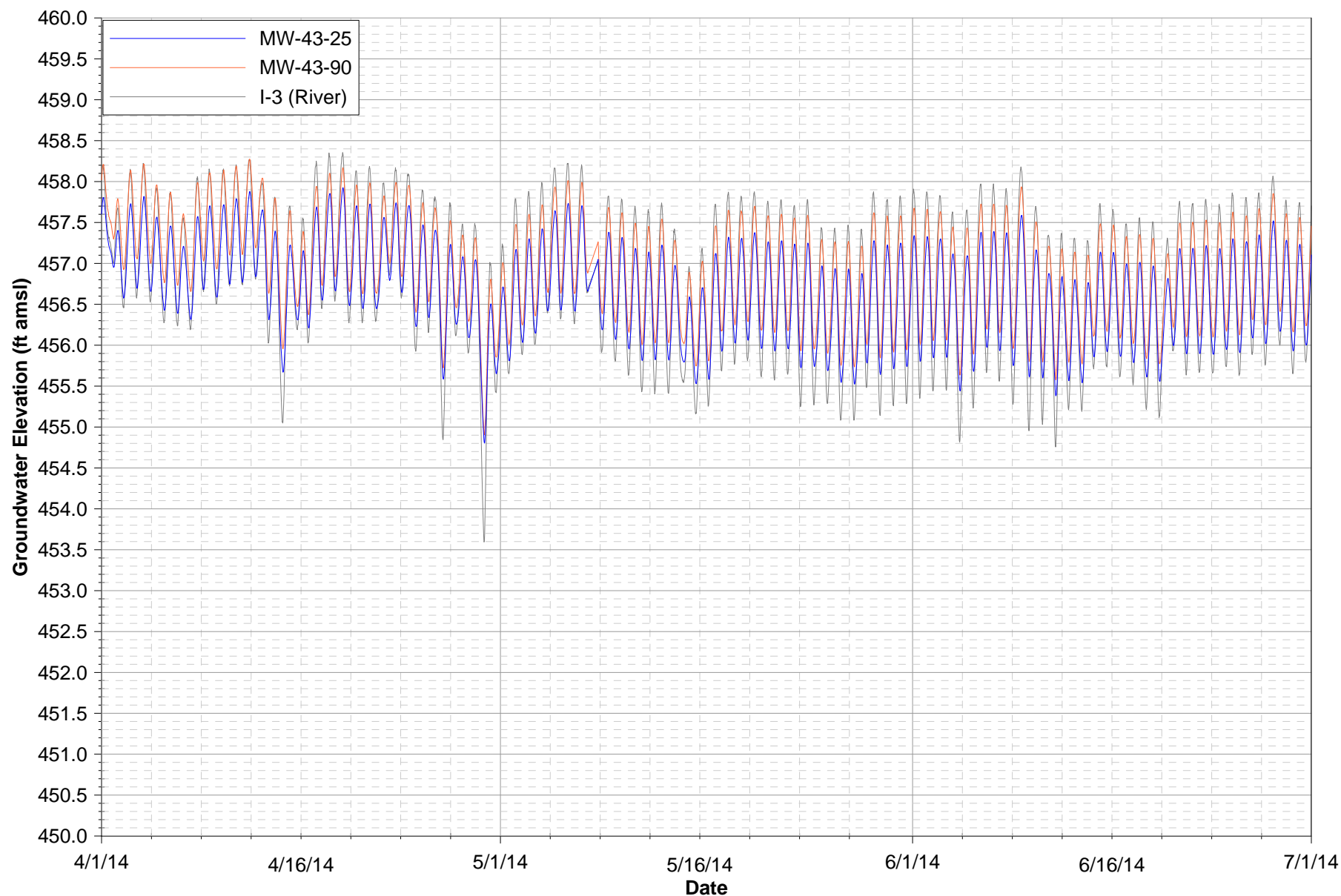


Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

## FIGURE F-1M

### MW-42 CLUSTER HYDROGRAPHS

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



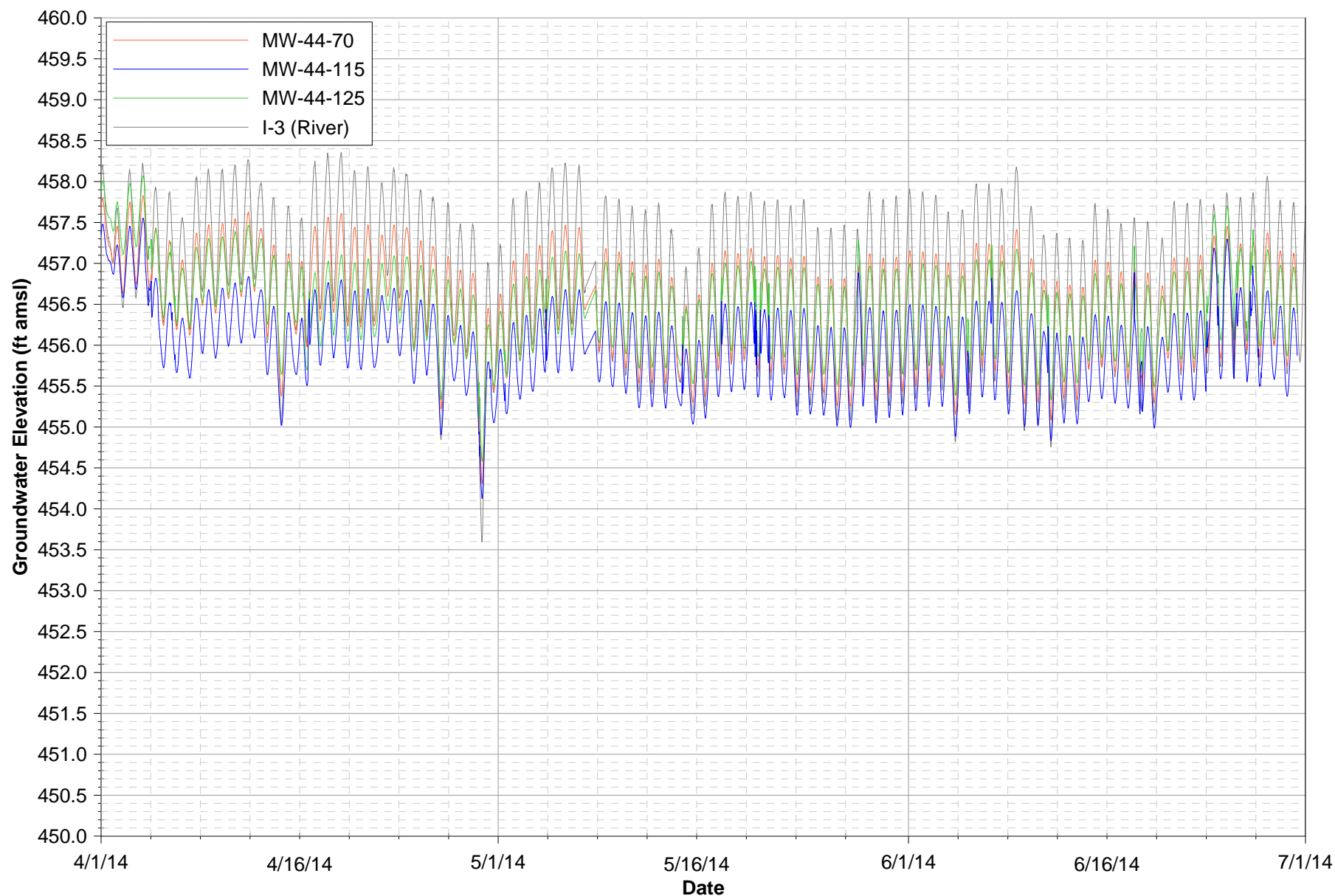
**Notes:**

1. Data subject to review.
2. ft amsl = feet above mean sea level.

**FIGURE F-1N  
MW-43 CLUSTER HYDROGRAPHS**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA





Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

**FIGURE F-10**  
**MW-44 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

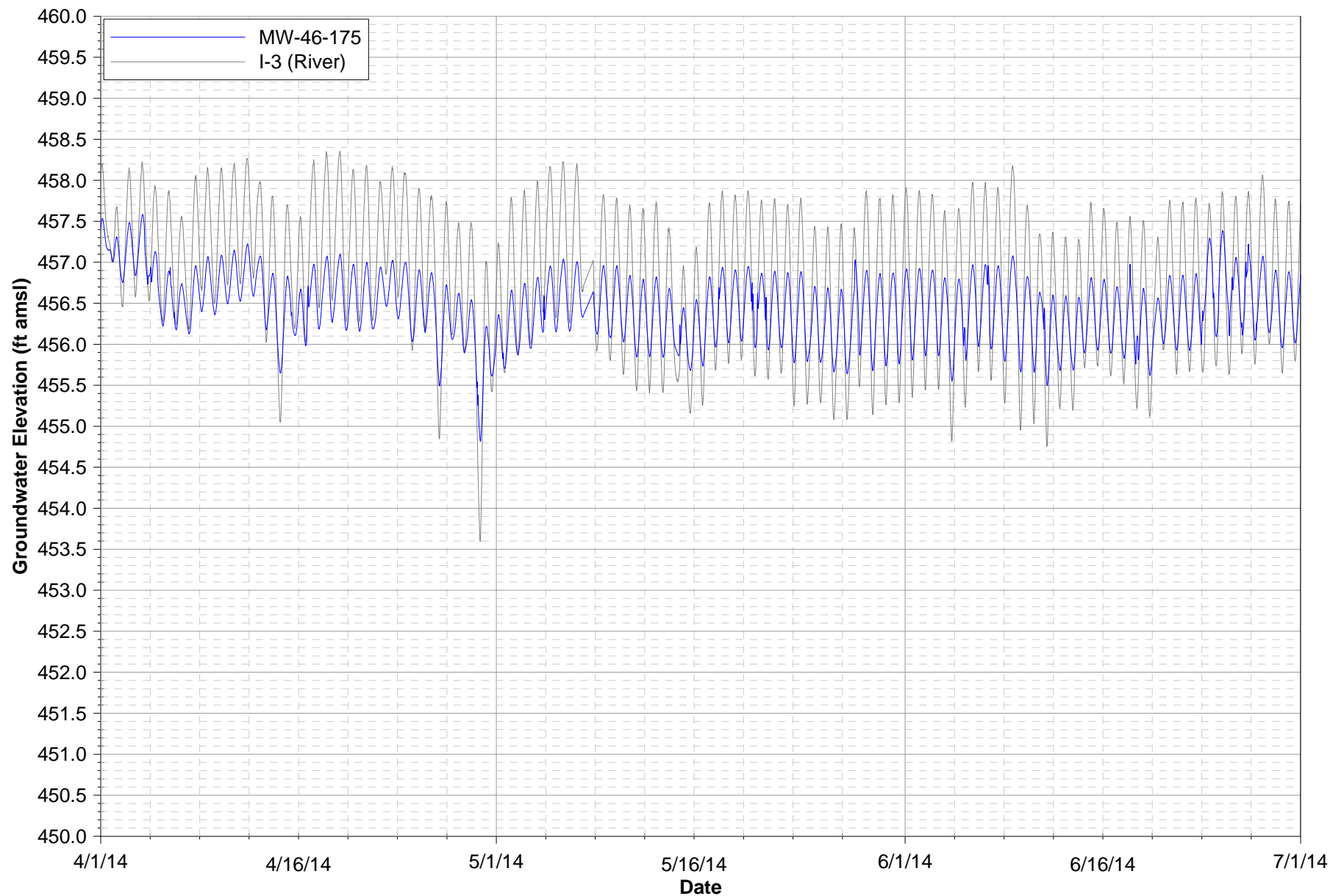


Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

# **FIGURE F-1P** **MW-45-95a HYDROGRAPH**

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

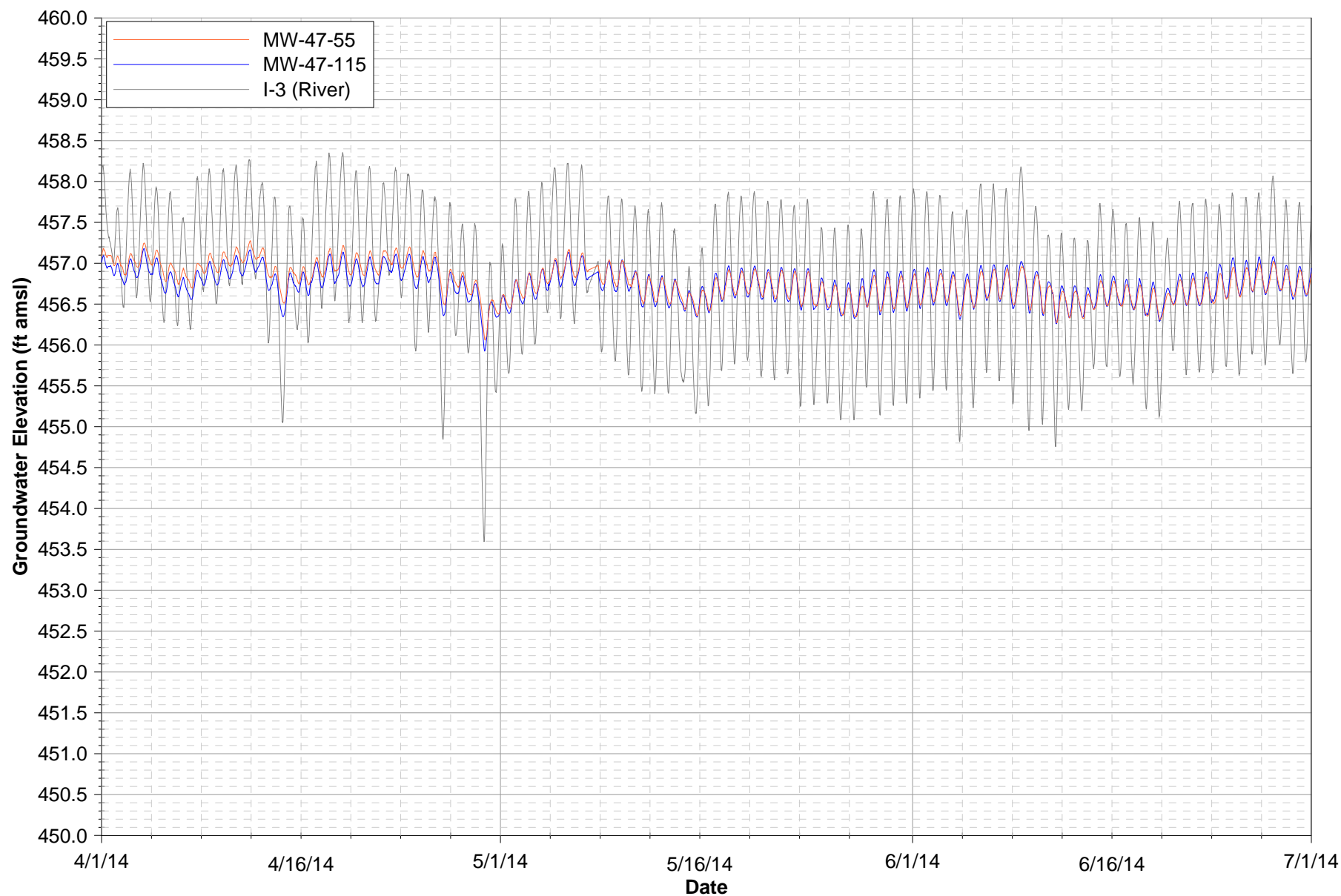




Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

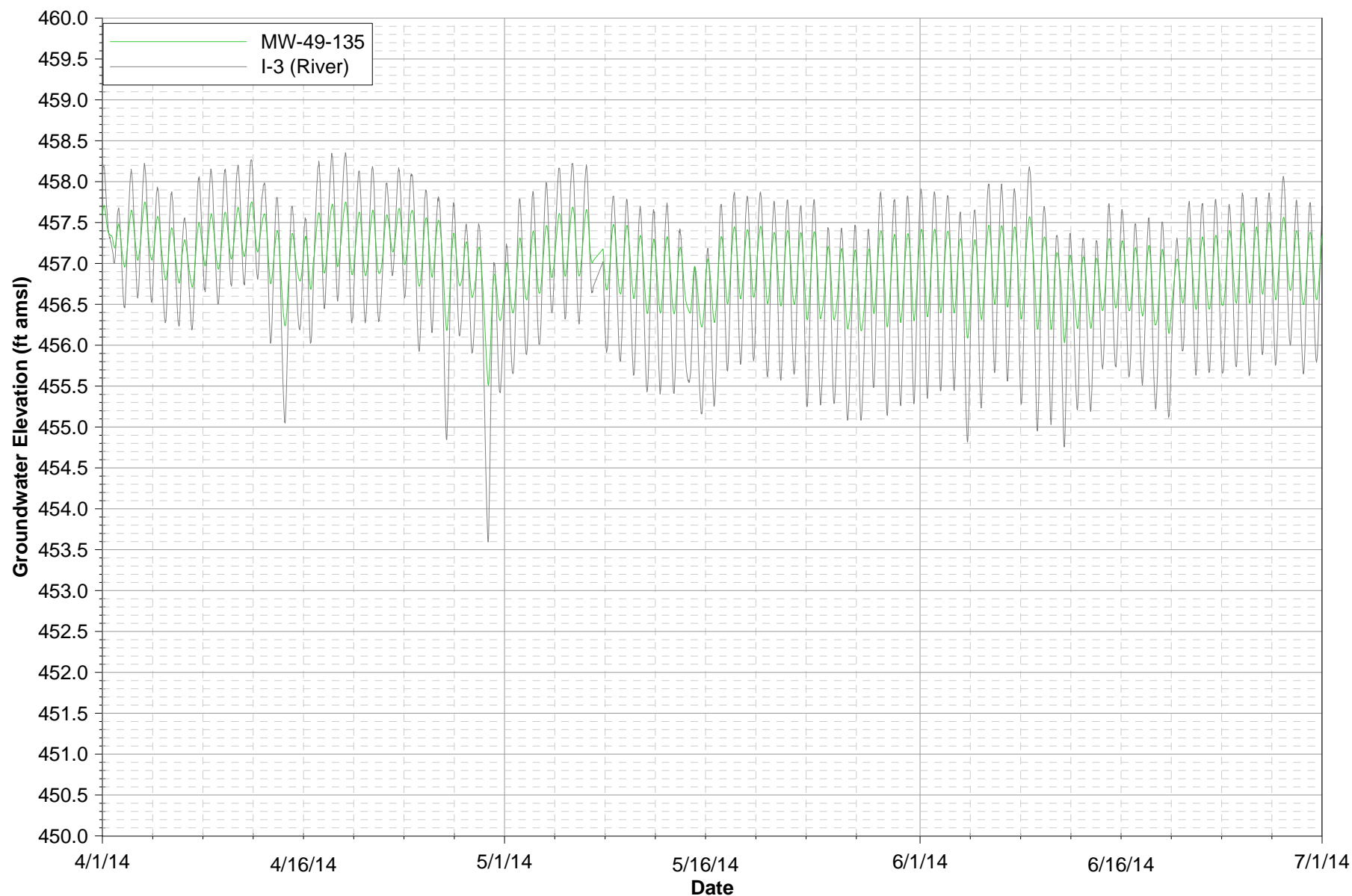
### FIGURE F-1Q MW-46 HYDROGRAPH

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

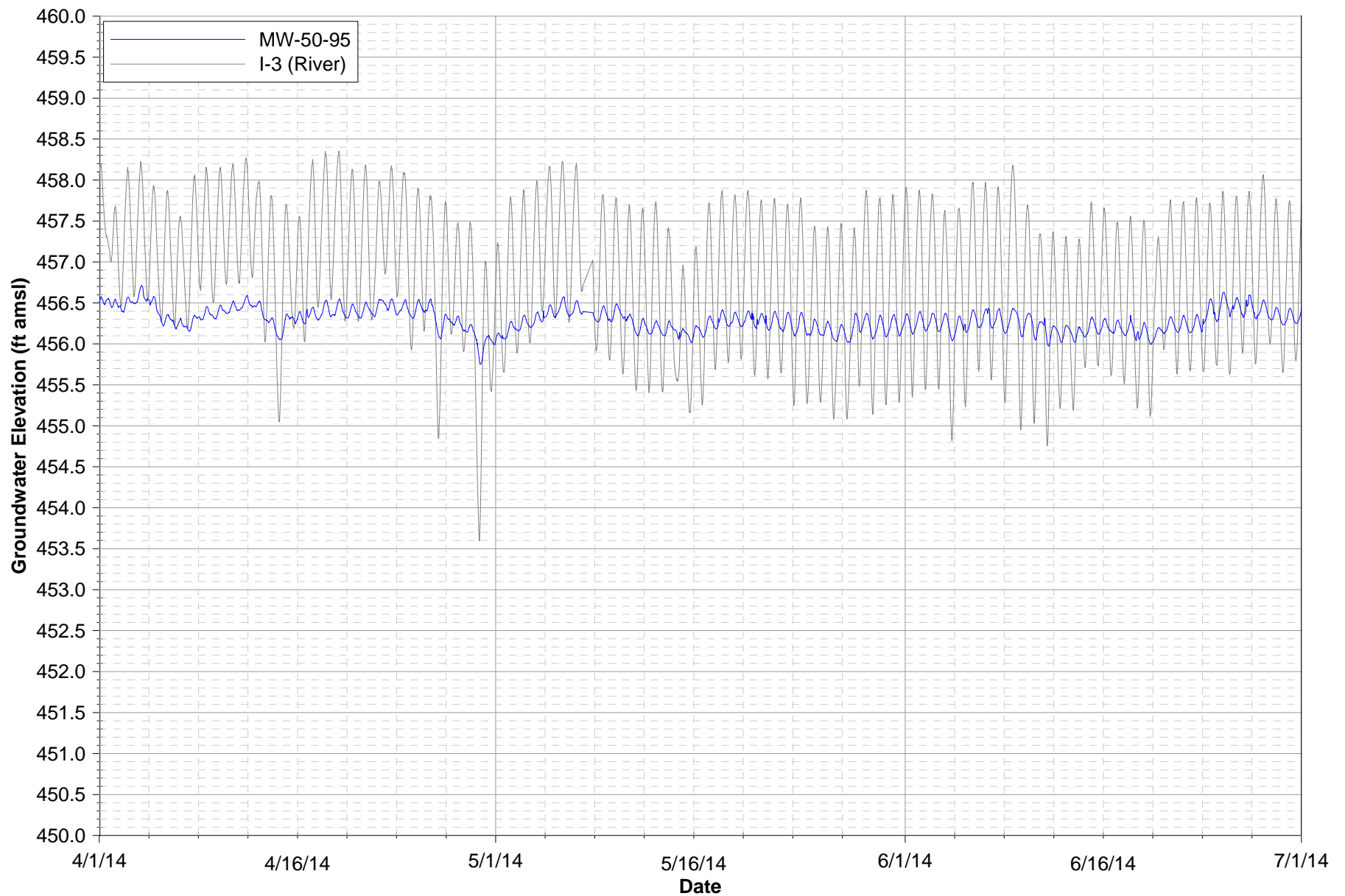
**FIGURE F-1R**  
**MW-47 CLUSTER HYDROGRAPHS**  
 SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

### FIGURE F-1S MW-49 HYDROGRAPH

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

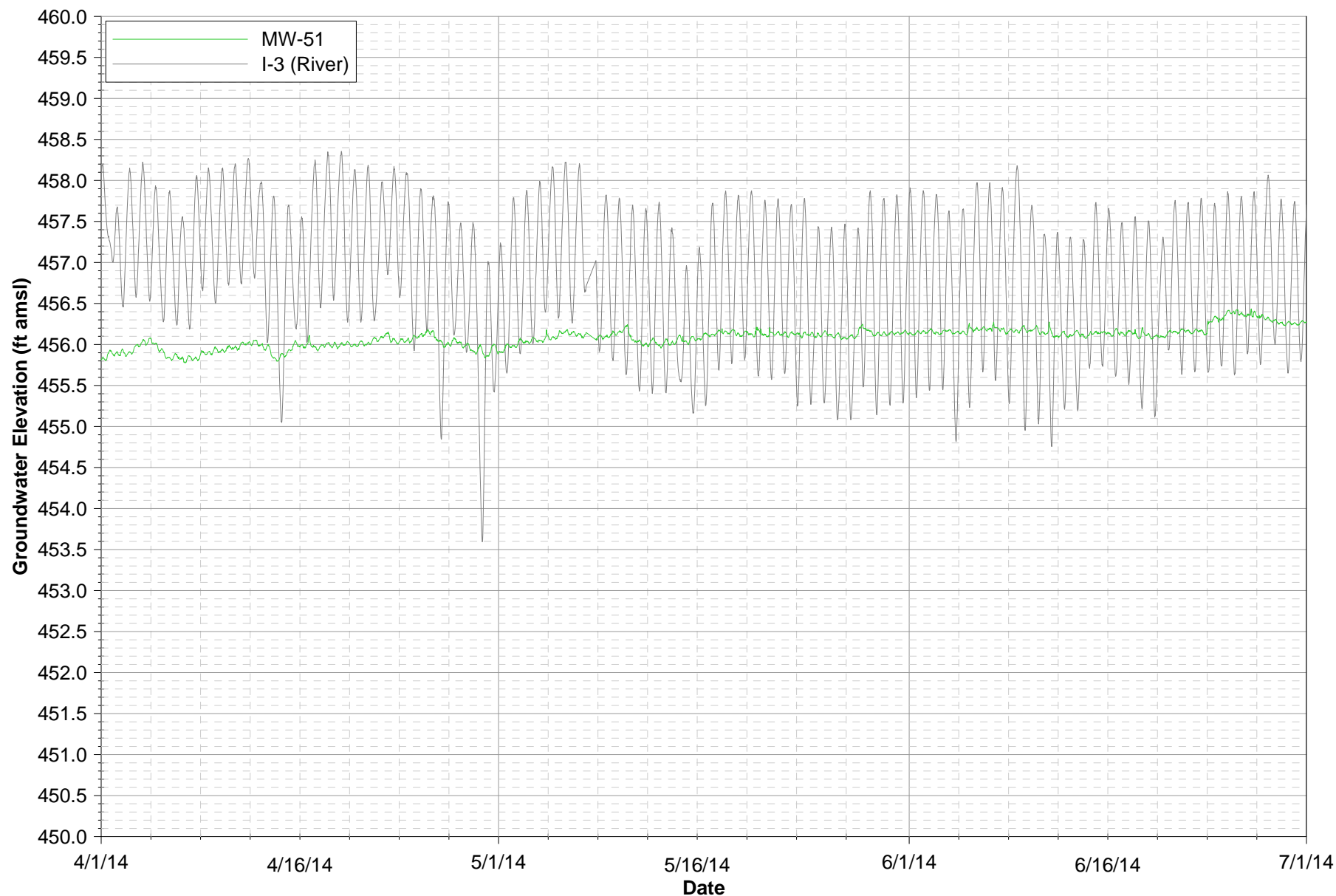


Notes:  
 1. Data subject to review.  
 2. ft amsl = feet above mean sea level.

## FIGURE F-1T

### MW-50 HYDROGRAPH

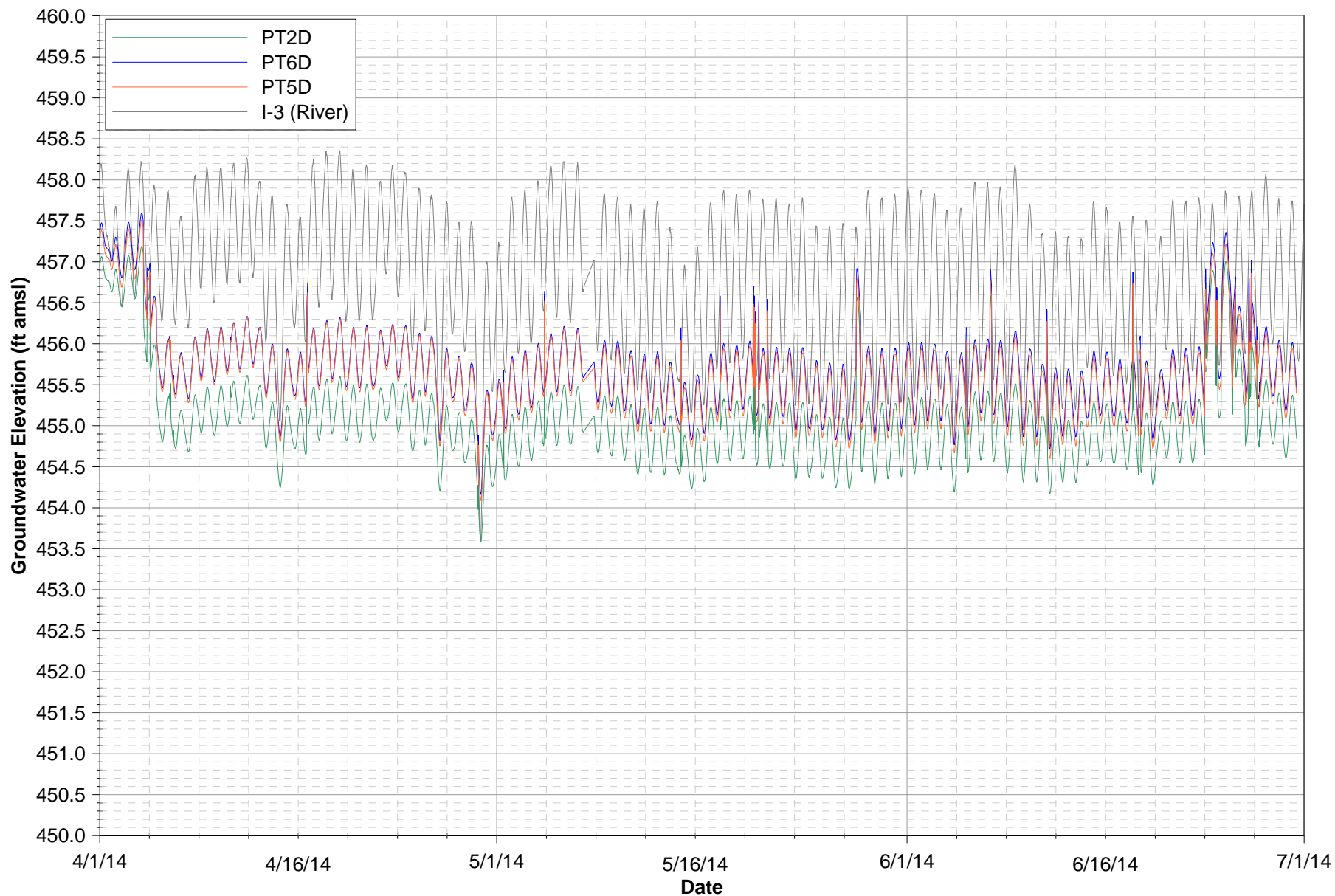
SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
 AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Notes:  
1. Data subject to review.  
2. ft amsl = feet above mean sea level.

## FIGURE F-1U MW-26 AND MW-51 HYDROGRAPHS

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA



Note:  
1. Data subject to review.  
2. ft amsl = feet above mean sea level.

## FIGURE F-1V

### IN SITU PILOT STUDY WELL HYDROGRAPHS

SECOND QUARTER 2014 INTERIM MEASURES PERFORMANCE MONITORING  
AND SITE-WIDE GROUNDWATER AND SURFACE WATER MONITORING REPORT,  
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA