Topock Project Executive Abstract

Document Title: Compliance Monitoring Program, Semiannual Groundwater Monitoring Report, Second Half 2011 (PGE20120113A) Submitting Agency: DOI, RWQCB Final Document? ☒ Yes ☐ No	Date of Document: January 13, 2012 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) – PG&E
Priority Status: ☐ **HIGH** ☐ **MED** ☒ **LOW** Is this time critical? ☐ Yes ☒ No Type of Document: ☐ Draft ☒ Report ☐ Letter ☐ Memo ☐ Other / Explain:	Action Required: ☒ Information Only ☐ Review & Comment Return to: _____ By Date:_____ ☐ Other / Explain:
What does this information pertain to? ☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) ☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) ☐ Corrective Measures Study (CMS)/Feasibility Study (FS) ☐ Corrective Measures Implementation (CMI)/Remedial Action ☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) ☒ Interim Measures ☐ Other / Explain:	Is this a Regulatory Requirement? ☒ Yes ☐ No If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item? Submittal of this report is a compliance requirement under DOI enforcement as ARARs beginning August 2011.	Other Justification/s: ☐ Permit ☐ Other / Explain:

Brief Summary of attached document:

The purpose of the Topock Compliance Monitoring Program (CMP) is twofold: (1) to monitor changes in groundwater hydraulics and/or water quality of the aquifer in the injection well area and (2) to ensure that the quality of the aquifer is not adversely affected by the injected water. The monitoring network consists of multiple observation wells (OW series) and compliance wells (CW series) screened in the shallow, middle, and/or deep zones of the alluvial aquifer. The injection of treated groundwater in the area began in 2005. As of the Second Half 2011, wells that exhibit water quality similar to the injected water include the middle and deep zone observation wells and certain middle and all deep zone compliance wells. The shallow zone observation wells have not yet shown the injected water quality.

This report presents groundwater analytical results and groundwater level data collected from the Second Half 2011 CMP monitoring event conducted in October 2011. During the Second Half 2011 monitoring event, the groundwater sample from the shallow observation well OW-2S had a chromium concentration of 29.6 µg/L. This result exceeded the chromium water quality objective of 28 µg/L. The concentration of chromium is not related to injected water (which consistently has significantly lower Cr(VI) and chromium concentrations) but instead is related to the natural variability of background water quality within the shallower portions of the groundwater aquifer. Because of this reason, DTSC and the Water Board have stated in letters to PG&E that it is not necessary to follow contingency plan requirements for Cr(VI) and chromium with respect to OW-2S and OW-5S. No other samples exceeded the water quality objectives for Cr(VI), chromium, pH, or total dissolved solids from the Second Half 2011 CMP sampling event.

Written by: PG&E

Recommendations:
This report is for your information only.

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

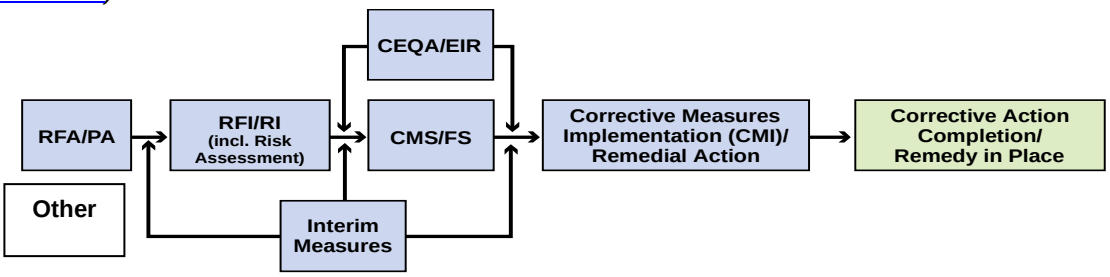
Submittal of this report is a compliance requirement under DOI enforcement as ARARs beginning August 2011.

Other requirements of this information?

None.

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).



Legend
RFA/PA – RCRA Facility Assessment/Preliminary Assessment
RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)
CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study
CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

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January 13, 2012

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Subject: Interim Measures No. 3, Compliance Monitoring Program, Semiannual Groundwater Monitoring Report, Second Half 2011, PG&E Topock Compressor Station, Needles, California (PGE20120113A)

Dear Ms. Innis:

Enclosed is the *Compliance Monitoring Program, Semiannual Groundwater Monitoring Report, Second Half 2011* for the Interim Measures No. 3 at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station. This monitoring report presents the results of the Second Half 2011 Compliance Monitoring Program (CMP) groundwater monitoring event and has been prepared in conformance with the Department of the Interior August 18, 2011 letter stating that the Interim Measures No. 3 Waste Discharge Requirements are applicable or relevant and appropriate requirements.

The current contingency plan specifies the concentrations and values for hexavalent chromium (Cr[VI]), chromium, total dissolved solids (TDS), and pH to be used to determine if contingency plan actions are necessary based on sample results. The water quality objectives concentrations which are used to trigger the contingency plan are: Cr(VI) greater than 32.6 micrograms per liter (µg/L), chromium greater than 28.0 µg/L, TDS greater than 10,800 milligrams per liter, and pH outside of the range of 6.2 to 9.2.

During the Second Half 2011 monitoring event, a chromium sample from the well OW-2S (29.6 µg/L) exceeded the chromium water quality objective. A review of the water quality parameters indicative of treated groundwater injection (Cr[VI], TDS, sulfate, molybdenum, nitrate/nitrite, and fluoride) confirmed that injected water has not yet reached OW-2S and that the concentrations of Cr(VI) and chromium are not related to injected water (which consistently has significantly lower Cr(VI) and chromium concentrations than those measured at well OW-2S), but instead are related to the natural variability within the shallower portions of the aquifer.

In a letter data January 5, 2007, DTSC stated that it was not necessary to follow contingency plan requirements for Cr(VI) and chromium with respect to OW-2S and OW-5S. The Water Board concurred with this decision in a letter dated March 2, 2007. As such, the contingency plan was not triggered due to the chromium concentration detected in OW-2S during the Second Half 2010.

No other samples exceeded the water quality objectives for Cr(VI), chromium, pH, or TDS during the Second Half 2011 sampling event. The next CMP event is scheduled to occur in April 2012.

Please contact me at (805) 546-5243 if you have any questions on the CMP.

Sincerely,

Yvonne Meeks
Topock Remediation Project Manager

Cc: Robert Perdue, Water Board
Jose Cortez, Water Board
Aaron Yue, DTSC
Christopher Guerre, DTSC

Enclosure

Final Report

Compliance Monitoring Program Semiannual Groundwater Monitoring Report, Second Half 2011

Interim Measure No. 3
PG&E Topock Compressor Station, Needles, California

Document ID: PGE20120113A

Prepared for

United States Department of the Interior and California Regional Water Quality Control Board, Colorado River Basin Region

On behalf of

Pacific Gas and Electric Company

January 13, 2012

CH2MHILL

155 Grand Avenue, Suite 800
Oakland, CA 94612

Compliance Monitoring Program
Semiannual Groundwater Monitoring Report, Second Half 2011

PG&E Topock Compressor Station, Needles, California

Prepared for

United States Department of the Interior and California Regional Water Quality Control Board, Colorado River Basin Region

On behalf of

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January 13, 2012

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

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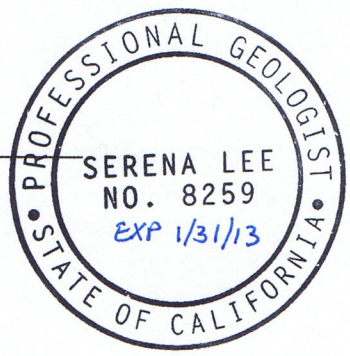

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Acronyms and Abbreviations

µg/L	micrograms per liter
ARAR	applicable or relevant and appropriate requirements
CMP	Compliance Monitoring Program
Cr(VI)	hexavalent chromium
CW	compliance well
DOI	United States Department of the Interior
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
IM	Interim Measure
IM No. 3	Interim Measure No. 3
IW	injection well
mg/L	milligrams per liter
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
OW	observation well
QAPP	quality assurance project plan
TDS	total dissolved solids
Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
WDR	Waste Discharge Requirements
WQO	water quality objective

1.0 Introduction

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction in the Colorado River floodplain and management of extracted groundwater. The groundwater extraction, treatment, and injection systems are collectively referred to as Interim Measure No. 3 (IM No. 3). Currently, the IM No. 3 facilities include a groundwater extraction system, conveyance piping, a groundwater treatment plant, and an injection well field for the discharge of the treated groundwater. Figure 1 shows the location of the IM No. 3 extraction, conveyance, treatment, and injection facilities. (All figures and tables are provided at the end of this report.)

The *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area, Topock Compressor Station, Needles, California* (CH2M HILL, 2005a) (herein referred to as the Compliance Monitoring Plan) was submitted to the California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) and the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) on June 17, 2005. The Compliance Monitoring Plan and its addendum provide the objectives, proposed monitoring program, data evaluation methods, and reporting requirements for the Compliance Monitoring Program (CMP). Several modifications of the sampling and reporting procedures have been approved since 2005 as outlined in Exhibit 1 below.

EXHIBIT 1

Historical Modifications to the Compliance Monitoring Program
PG&E Topock Compliance Monitoring Program

Modification	Approval Date	Reference
Modification of reporting requirements	DTSC: June 9, 2006	DTSC, 2006
Reduction of constituents analyzed during quarterly sampling of CMP observation wells	Water Board: January 23, 2007 DTSC: January 22, 2007	Water Board, 2007a DTSC, 2007 CH2M HILL, 2006
Change from laboratory pH to field collected pH for reporting	Water Board: October 16, 2007 DTSC: January 22, 2008	Water Board, 2007b DTSC, 2008a
Modification of hexavalent chromium analytical methods to extend hold time to 28 days	Water Board: November 13, 2007 DTSC: January 22, 2008	Water Board, 2007c DTSC, 2008a
Modification of sampling and reporting frequency and the field pH trigger range for the CMP contingency plan	Water Board: August 28, 2008 DTSC: December 12, 2008 (pH), September 3, 2009	Water Board, 2008 DTSC, 2008b, 2009

From July 2005 through September 2011, PG&E was operating the IM-3 groundwater treatment system as authorized by the California Regional Water Quality Control Board,

Colorado River Basin Order No. R7-2004-0103 (issued October 13, 2004), Order No. R7-2006-0060 (issued September 20, 2006), and the revised Monitoring and Reporting Program (MRP) under Order No. R7-2006-0060 (issued August 28, 2008).

PG&E is currently performing the CMP as authorized by the United States Department of the Interior (DOI) waste discharge applicable or relevant and appropriate requirements (ARARs). The Waste Discharge Requirements (WDR Order No. R7-2006-0060) expired on September 20, 2011 and was replaced by DOI enforcement of the ARARs, as documented in correspondence among the Water Board, DOI, and PG&E during the summer of 2011. Specifically, the letter agreement issued July 26, 2011 from the Water Board to DOI (Water Board, 2011) requested:

- DOI concurrence that the WDRs are ARARs under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 response action ongoing at the site.
- DOI confirmation that it will enforce these WDRs pursuant to the Administrative Consent Agreement entered into by DOI and PG&E in 2005 in lieu of the Water Board's adoption of a new Board Order to replace the expiring Board Order that set forth the WDRs.
- DOI concurrence with the roles and responsibilities between DOI and the Water Board for monitoring and enforcement.

In their letter dated August 18, 2011, the DOI provided concurrence and confirmation as requested. PG&E confirmed these changes with a letter to the DOI and the Water Board dated September 7, 2011 (PG&E, 2011). These changes add the DOI as the receiving regulatory agency for the CMP reports, with the Water Board continuing to receive report copies. Work described in this report was performed in accordance with the ARARs established in the July 26, 2011 letter.

The ARARs specify effluent limitations, prohibitions, specifications, and provisions for subsurface injection. The MRP contained within the ARARs specifies the requirements for the CMP to monitor the aquifer in the injection well area to ensure that the injection of treated groundwater is not causing an adverse effect on the aquifer water quality.

The injection system consists of two injection wells (IWs): IW-2 and IW-3. Operation of the treatment system was conditionally approved on July 15, 2005 (DTSC, 2005), and injection into IW-2 began on July 31, 2005. Table 1 provides a summary of the history of injection for IM No. 3.

Figure 2 shows the locations of the injection wells and the groundwater monitoring wells (observation wells [OWs] and compliance wells [CWs]) in the CMP. Table 2 provides a summary of information on well construction and sampling methods for all wells in the CMP.

As of October 2011, samples are collected from OWs and CWs, shown on Figure 2, according to the following schedule:

- Three OWs (OW-1S, OW-2S, and OW-5S) located near the IM No. 3 injection well field are sampled semiannually (during the second and fourth quarters) for a limited suite of constituents.

- Six OWs (OW-1M, OW-1D, OW-2M, OW-2D, OW-5M, and OW-5D) are:
  - Sampled annually for a limited suite of constituents during the fourth quarter.
  - Sampled for a full suite of constituents one cluster at a time on a triennial (once every 3 years) schedule. Within each 3-year period, all OW middle and deep wells will be sampled for a full suite of constituents. The triennial sampling will occur during the annual event (fourth quarter).
- Eight CWs are sampled semiannually for a limited suite of constituents and annually (during the fourth quarter) for a full suite of constituents.

For semiannual events, laboratory analyses include total dissolved solids (TDS), turbidity, specific conductance, a reduced suite of metals, and several inorganic cations and anions. Annual and triennial sampling events for CWs and select OWs include dissolved chromium, Cr(VI), metals, specific conductance, TDS, turbidity, and major inorganic cations and anions. Groundwater elevation data and field water quality data—including specific conductance, temperature, pH, oxidation-reduction potential, dissolved oxygen, turbidity and salinity—are also measured during each monitoring event (CH2M HILL, 2005a).

This report presents the results of the Second Half 2011 CMP groundwater monitoring event.

2.0 Second Half 2011 Activities

This section provides a summary of the monitoring and sampling activities completed during the Second Half 2011. The Second Half 2011 event was an annual event conducted from October 4 through October 6, 2011 and consisted of:

- Nine observation and eight compliance monitoring wells were sampled for water quality analyses.
- Groundwater elevations and field water quality data were collected prior to sampling.
- Two duplicate samples were collected at wells CW-4M and OW-2D to assess field sampling and analytical quality control.

Continuous groundwater elevation data were collected using pressure transducers/data loggers at five of the 17 CMP wells and were downloaded monthly during the reporting period.

The sampling methods, procedures, field documentation of the CMP sampling, water level measurements, and field water quality monitoring were performed in accordance with the *Sampling, Analysis, and Field Procedures Manual, Revision 1, PG&E Topock Compressor Station, Needles, California* (CH2M HILL, 2005b) and addendums.

CMP groundwater samples were analyzed by Truesdail Laboratories, Inc. in Tustin, California and EMAX Laboratories, Inc. in Torrance, California, both California-certified analytical laboratories. Analytical methods, sample volumes and containers, sample preservation, and quality control sample requirements were in accordance with the *Sampling, Analysis, and Field Procedures Manual, Revision 1, PG&E Topock Compressor Station, Needles, California* (CH2M HILL, 2005b) and addendums. Data validation and management were conducted in accordance with the *Quality Assurance Project Plan* [QAPP] *Addendum to the PG&E Program Quality Assurance Project Plan for the Topock Groundwater Monitoring and Investigation Projects* (CH2M HILL, 2008).

3.0 Second Half 2011 Results

This section is a summary of the results of the CMP groundwater sampling conducted during the Second Half 2011. Figure 2 presents the locations of the CMP groundwater wells.

The data presented include results for Cr(VI), chromium, specific conductance, metals, TDS, turbidity, and major inorganic cations and anions. Laboratory data quality review, water level measurements, and water quality field parameter data are also presented in this section. The laboratory reports and field data sheets for the Second Half 2011 monitoring event are presented in Appendices A and B, respectively.

3.1 Analytical Results

Nine observation wells and eight compliance wells were sampled during the Second Half 2011 sampling event. Analytical results for Cr(VI), chromium, other metals, and general chemistry parameters are presented in Tables 3, 4, and 5 and are discussed below. Interim action levels/water quality objectives (WQOs) were updated on August 8, 2006, when PG&E submitted a revised contingency plan flowchart for groundwater quality changes associated with the injection system. The contingency plan specifies the concentrations and values for Cr(VI), chromium, TDS, and pH to be used to determine if contingency plan actions were necessary based on sample results. A modification of the CMP contingency plan pH range was approved by the Water Board and DTSC in 2008 (Water Board, 2008; DTSC, 2008b).

3.1.1 Hexavalent Chromium and Chromium

Table 3 presents the Cr(VI) and chromium analytical results for groundwater in the shallow, middle, and deep wells from the Second Half 2011 CMP sampling event. For shallow wells, the maximum detected Cr(VI) concentration was 30.8 micrograms per liter (µg/L) in well OW-2S on October 5, 2011. For the middle wells, the maximum detected Cr(VI) concentration was 10.8 µg/L in well CW-4M on October 6, 2011. For the deep wells, the maximum detected Cr(VI) concentration was 2.1 µg/L in well CW-4D on October 5, 2011.

For shallow wells, the maximum detected chromium concentration was 29.6 µg/L in well OW-2S on October 5, 2011. For the middle wells, the maximum detected chromium concentration was 10.2 µg/L in well CW-4M on October 6, 2011. For the deep wells, the maximum detected chromium concentration was 2.4 µg/L in well CW-4D on October 5, 2011.

During the Second Half 2011 sampling event, a sample from OW-2S exceeded the WQO of 28 µg/L for chromium. The October 5, 2011 sample from well OW-2S had a chromium concentration of 29.6 µg/L. This exceedance is not considered to be the result of injection of treated groundwater since the average effluent concentration of chromium from the IM No. 3 treatment plant is normally non-detect with a reporting limit of 1 µg/L (CH2M HILL, 2011a).

Cr(VI) and chromium concentrations at OW-2S have been consistently above the WQOs since November 2005 and are considered reflective of the natural variance in background water quality. The contingency plan was not triggered due to the chromium concentration detected in OW-2S during the Second Half 2011.

3.1.2 Other Metals and General Chemistry

Table 4 presents the other metals and cation results for the CMP groundwater wells sampled during the Second Half 2011. Metals and cations detected in the Second Half 2011 sampling event included arsenic, barium, boron, calcium, magnesium, molybdenum, potassium, sodium, and vanadium. In general, concentrations of metals and cations detected during the Second Half 2011 sampling event are similar to those detected in previous sampling events.

Table 5 presents other inorganic analyte results from the CMP wells. During the Second Half 2011, the sampling results from all wells were within the WQOs for TDS (10,800 milligrams per liter [mg/L]) and pH (6.2 to 9.2). Sampling results for TDS varied from 952 mg/L in well OW-2S to 5,070 mg/L in well CW-3M. Field pH varied from 7.63 in well CW-1D to 8.07 in well CW-3D.

3.2 Analytical Data Quality Review

The laboratory analytical data generated from the Second Half 2011 CMP monitoring event were independently reviewed by project chemists to assess data quality and identify deviations from analytical requirements. The quality assurance and quality control requirements are outlined in the QAPP (CH2M HILL, 2008). A detailed discussion of data quality for CMP sampling data is presented in the data validation reports, which are kept in the project file and are available upon request.

3.2.1 Matrix Interference

Matrix interference that affected the sensitivity for Cr(VI) when using Method E218.6 was encountered in all but three of the groundwater samples. The Cr(VI) sample results reflect an adjusted reporting limit of 1 µg/L as a result of the serial dilution that was required to overcome the matrix interference and provide an acceptable matrix spike recovery. No qualifier flags were applied.

3.2.2 Matrix Spike Samples

All matrix spike acceptance criteria were met.

3.2.3 Quantitation and Sensitivity

With the exception of the matrix interference issues discussed in Section 3.2.1, all method and analyte combinations met the project reporting limit objectives.

3.2.4 Holding-time Data Qualification

For the current semiannual sampling event, all method holding-time requirements were met, except for samples from wells CW-01M and CW-01D, which were analyzed for

mercury one day outside holding time. The non-detect sample results were qualified and flagged "J."

3.2.5 Field Duplicates

All field duplicate acceptance criteria were met.

3.2.6 Method Blanks

All method blank acceptance criteria were met.

3.2.7 Equipment Blanks

All equipment blank acceptance criteria were met.

3.2.8 Laboratory Duplicates

All laboratory duplicate acceptance criteria for the methods were met.

3.2.9 Calibration

Initial and continuing calibrations were performed as required by the methods. All calibration criteria were met.

3.2.10 Conclusion

For the semiannual (Second Half 2011) sampling event, the completeness objectives were met for all method and analyte combinations. The analyses and data quality met the QAPP and laboratory method quality control criteria except as noted above. Overall, the analytical data are considered acceptable for the purpose of the CMP.

3.3 Influence of Treated Water

3.3.1 Post-injection Versus Pre-injection

Injection of treated water began on July 31, 2005. Originally under WDR No. R7-2006-0060 for the IM No. 3 groundwater treatment system and now the DOI's affirmation of the WDR as an ARAR, PG&E is required to submit quarterly monitoring reports regarding operation of the system. These reports contain the analytical results of treated water effluent sampling and, as such, the reports are useful in determining the baseline water quality of the treated water being injected into the IM No. 3 injection well field. Table 6 provides selected effluent water analytical results from three of the monthly reports: August 29, 2005, July 2, 2007, and October 4, 2011. While there are differences among some parameters in these samples, a number of parameters show relatively consistent concentrations in the effluent over time. Analytes that are relatively consistent over the injection time period include Cr(VI), chromium, fluoride, molybdenum, nitrate/nitrite as nitrogen, sulfate, and TDS. These seven constituents provide a characterization of the effluent that does not appear to vary greatly over time and can serve as a basis for determining if a groundwater monitoring well is being affected by injection. In general terms, treated water has the following characteristics (based on review of December 2005 through October 2011 effluent characteristics):

- Cr(VI): typically non-detect (or below 1.0 µg/L)
- Chromium: typically non-detect (1.0 µg/L)
- Fluoride: approximately 2 mg/L
- Molybdenum: approximately 15 µg/L
- Nitrate/nitrite as nitrogen: approximately 3.0 mg/L
- Sulfate: approximately 500 mg/L
- TDS: approximately 4,000 mg/L

These treated water quality characteristics are meant to serve as a general guideline and not as a statistically representative sampling of the treated water quality over time.

Table 6 also lists the results of baseline sampling for the observation wells and compliance wells. A full set of nine OW groundwater samples was collected on July 27 and 28, 2005, and a full set of eight CW groundwater samples was collected on September 15, 2005. These samples are considered representative of conditions unaffected by injection and serve to characterize the pre-injection water quality. In comparing these sampling results to the treated injection water sampling results, there are some similarities in the constituent concentrations. For example, most of the pre-injection OW or CW deep well samples (OW-1D, OW-2D, OW-5D, CW-3D, and CW-4D) contain no detectable Cr(VI) or chromium, which is similar to the treated injection water. Most of the well samples show concentrations similar to the treated water for two or three constituents but observable differences in concentration from the treated water for the remaining four or five. By considering the entire suite of seven analytes and focusing on those parameters that show differences, it is relatively easy to distinguish between the pre-injection water quality at the monitoring wells and the treated water effluent quality.

Table 7 presents a comparison between the treated water quality and the results from the most recent sampling event (the Second Half 2011 sampling event). These samples were collected after approximately 74 months of injection. While the pre-injection OW and CW sample results were significantly different from the treated water quality, a number of the Second Half 2011 sample results show a marked similarity to the treated water results. The following wells display the general characteristics of treated water: OW-1M, OW-1D, OW-2M, OW-2D, OW-5M, OW-5D, CW-1M, CW-1D, CW-2D, CW-3D, and CW-4D. These wells are at locations and depths where the treated water injection front has largely replaced the local pre-injection groundwater. Wells CW-2M and CW-4M have chemical characteristics approaching that of treated water. To date, all shallow observations wells (wells OW-1S, OW-2S, and OW-5S) and compliance well CW-3M do not show water quality effects due to injection of treated water, indicating that injected water has not yet reached these depths and locations. However, wells OW-1S and OW-5S have increased in TDS since injection began in 2005, suggesting that the injection front is approaching these wells.

3.3.2 Water Quality Hydrographs

Trend data can be used to determine when a rapid change has occurred between sampling events, such as the arrival of the injection front. It can also be used to look at more gradual changes that occur over several sampling events, such as seasonal effects or the interaction of treated water with local groundwater and host aquifer material. Eleven analytes were selected for time-series analysis; these analytes are considered to be most representative of the IM No. 3 injection well field area and have sufficient detections to make time-series

analysis useful. The analytes include chloride, chromium, fluoride, Cr(VI), molybdenum, nitrate/nitrite as nitrogen, pH, sodium, sulfate, TDS, and vanadium. Water quality hydrographs (time-series plots) of these 11 analytes in each OW during Second Half 2011 within the IM No. 3 injection well field are presented in Figures 3A through 3E.

Observation well water quality hydrographs are presented in Figures 3A through 3C. These hydrographs show the same overall patterns: wells that are identified as affected by treated water injection show a shift in water quality for characteristic parameters, while those identified as being unaffected by injection show no net trends. The water quality change brought on by the arrival of the treated water injection front can be either gradual (OW-5M) or step-wise (OW-2M), with most affected wells showing a pattern of change somewhere between the two. Based on the variability in response, it is inferred that the movement of treated water is non-uniform laterally between wells. This variability in lateral movement can be inferred from differences in the water quality hydrographs in both the mid-depth and deep wells. The OW shallow-depth wells (OW-1S, OW-2S, and OW-5S) show little water quality variation over time and generally have no net trends over time. Sodium, chloride, vanadium, and molybdenum are particularly consistent with baseline pre-injection concentrations and show that the local groundwater quality at shallow depths is not being affected by injection of treated water or outside water sources.

Compliance well water quality hydrographs are presented in Figures 3D and 3E. Wells CW-1M, CW-1D, CW-2D, CW-3D, and CW-4D show trends in TDS, sulfate, nitrate/nitrite as nitrogen, chromium, molybdenum, and Cr(VI) similar to the treated water. Wells CW-1M, CW-2M, and CW-4M show decreasing trends in Cr(VI) and chromium. These changes are attributed to the arrival of treated injection water.

3.4 Water Level Measurements

Table 8 presents the manual water level measurements and groundwater elevations for Fourth Quarter 2011 per the DOI ARAR requirements (DOI, 2011). In compliance with Condition No. two of DTSC's 2009 conditional approval letter (DTSC, 2009), confirmation was obtained from the IM No. 3 Plant Manager that the IM No. 3 plant was operating normally on both the day before and the day of CMP sample collection, with no backwash or unplanned shutdowns.

Water level measurements were collected continuously (measurements collected every half hour) with pressure transducers to produce hydrographs for select wells. Figures 4A through 4C present hydrographs that illustrate groundwater elevation trends and vertical hydraulic gradients observed over the Second Half 2011 reporting period at specified observation monitoring wells.

Groundwater elevation maps for shallow, middle, and deep wells are provided as Figures 5A through 5C. A snapshot of water level elevations was used to produce the groundwater elevation contour plots. The date is noted on each figure.

3.4.1 Groundwater Gradient Characteristics

The monitoring wells in the middle and deep zone categories are screened over a wide elevation range (74 feet in the middle zone wells and 59 feet in the deep wells). Because

there are natural vertical gradients as well as vertical gradients induced by injection, the groundwater elevations for wells in each category will reflect a mixture of vertical and horizontal gradients in groundwater elevation. Therefore, the groundwater contours in Figures 5B and 5C should be viewed as approximate.

The injection well field is located in the East Mesa area of the Topock site, as shown on Figure 2. Overall sitewide water level contour maps for shallow wells are prepared annually under a separate report, with flow consistently being shown to move to the east/northeast across the uplands portions of the site (CH2M HILL, 2011b).

The effects of injection in the IM No. 3 injection well field are superimposed on the more regional Topock site flow system and, as expected, a groundwater mound can be seen around the injection wells. This mound is centered on the active injection wells IW-2 and IW-3. The potentiometric surfaces in prior CMP reports mapped the growth of the groundwater mound over time and show that, after 74 months of injection, the mound increased and then stabilized in height at several tenths of a foot in elevation above the surrounding water level elevations. Figures 5B and 5C present groundwater elevation contours for the average groundwater elevation of the mound within the middle and deep wells using December 14, 2011 groundwater elevations. As expected with a mound, the potentiometric surface of the deep wells is slightly broader, while the potentiometric surface of the middle wells is more localized to the vicinity of the injection wells. The mound is elliptical in shape, with the major axis running in a southwest to northeast direction. The lower gradients (broader contours) in the direction of the major axis are an indication that the aquifer permeabilities are greater in this direction, indicating that there may be a preferred direction to flow in this area.

The vertical gradient in the IM No. 3 injection well field area is directed upward at all of the CW and OW well clusters and also upward between each of the depth intervals in those same well clusters. Table 9 presents the vertical gradient data calculated using the December 14, 2011 groundwater elevations. The magnitude of the vertical gradients is similar between clusters and between the depth intervals, indicating that the vertical gradient is generally of the same order of magnitude throughout the injection area. A component of the vertical gradients calculated in the vicinity of the IM No. 3 injection well field is likely related to the injection of treated water in the lower portions of the aquifer. The observed groundwater gradients in the IM No. 3 injection well field are consistent with expected regional groundwater flow within the southern Mohave Valley.

3.5 Field Parameter Data

A field water quality instrument and flow-through cell were used to measure water quality parameters during well purging and groundwater sampling. The measured field parameters included specific conductance, temperature, pH, oxidation-reduction potential, dissolved oxygen, turbidity, salinity, and water level elevations before sampling. Table 10 presents a summary of the field water quality data measured during the Second Half 2011 monitoring event. Field data sheets for the Second Half 2011 event are presented in Appendix B.

3.6 ARAR Monitoring Requirements

Table 11 identifies the laboratory that performed each analysis and lists the following information as required by the ARARs for the Second Half 2011 monitoring event:

- Sample location
- Sample identification number
- Sampler name
- Sample date
- Sample time
- Laboratory performing analysis
- Analysis method
- Parameter
- Analysis date
- Laboratory technician
- Result unit
- Sample result
- Reporting limit
- Method detection limit

4.0 Status of Monitoring Activities

4.1 Semiannual Monitoring

The next semiannual monitoring event will occur in April during the first half of 2012. This CMP monitoring event will include the sampling and analysis scope presented in Attachment A of DOI November 18, 2011 letter (DOI, 2011). The groundwater monitoring report for this CMP monitoring event will be submitted by July 13, 2012.

4.2 Annual Monitoring

The next annual monitoring event will occur in October during the second half of 2012. The groundwater monitoring report for this annual CMP monitoring event will be submitted by January 15, 2013.

5.0 References

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). 2005. Letter to PG&E. "Conditional Approval for the Start Up and Operation of the Interim Measures No. 3 Treatment System and Injection Wells, Pacific Gas & Electric Company, Topock Compressor Station." July 15.

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California Regional Water Quality Control Board, Colorado River Basin Region (Water Board). 2007a. Letter to PG&E. "Conditional Approval of Limited Sampling Frequency for Selected Metals/General, PG&E, Topock Compressor Station, Needles, California." January 23.

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_____. 2005c. *Addendum to the Compliance Monitoring Plan for the IM No. 3 Injection Area, Topock Compressor Station, Needles, California*. December 13.

_____. 2006. *Request for Approval to Implement Limited Sampling Frequency for Selected Metals/General Minerals for PG&E Topock Compressor Station, Needles, California*. December 1.

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_____. 2011b. *Fourth Quarter 2010 and Annual Interim Measures Performance Monitoring and Site-Wide Groundwater and Surface Water Monitoring Report, PG&E Topock Compressor Station, Needles, California*. March 15.

Pacific Gas & Electric Company (PG&E). 2011. Letter to DOI and Water Board "Re: Applicable or Relevant and Appropriate Requirements (ARARs) for the Waste Discharge associated with Interim Measure 3 Facility at PG&E's Topock Compressor Station." September 7.

United States Department of the Interior (DOI). 2011. Letter to PG&E and Water Board. "Enforcement of Applicable or Relevant and Appropriate Requirements for the Interim Measure 3 Facility – PG&E Topock Compressor Station Site." August 18.

6.0 Certification

PG&E submitted a signature delegation letter to the Water Board on September 20, 2006. The letter delegated PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2006-0060.

Certification Statement:

I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature: 

Name: Yvonne J. Meeks

Company: Pacific Gas and Electric Company

Title: Topock Project Manager

Date: January 13, 2012

Tables

TABLE 1
Operational Status of Interim Measures No. 3 Injection Wells From Inception of Injection Through Second Half 2011
PG&E Topock Compliance Monitoring Program

Time Period	Injection Status
July 31, 2005 to Fourth Quarter 2005	Injection occurred at IW-2.
First Quarter 2006	Injection occurred primarily at IW-2 except during periods of operational testing, when injection was divided equally between IW-2 and IW-3.
Second Quarter 2006	Injection occurred at IW-2.
Third Quarter 2006	In August 2006, IW-2 went offline for routine maintenance, and injection commenced at IW-3.
Fourth Quarter 2006	Injection occurred at IW-3, except during routine maintenance.
First Quarter 2007	Injection occurred at IW-3 and transitioned over to IW-2 on March 8.
Second Quarter 2007	Injection occurred at IW-3 from April 3 through June 20. Injection switched to IW-2 on June 20 and continued through July 20, 2007.
Third Quarter 2007	Injection occurred at IW-3 after July 20. Injection occurred at IW-2 on August 30 for an injection test and then returned to IW-3 after August 31.
Fourth Quarter 2007	Injection occurred at IW-3 and then switched to IW-2 on September 25 for routine maintenance. Injection returned to IW-3 after October 9.
First Quarter 2008	Injection occurred at IW-3 only. From February 5 through February 13, well maintenance activities were conducted at IW-2.
Second Quarter 2008	Injection occurred at IW-3 only. IM-3 system offline from April 21 through April 28 due to routine maintenance. Backwashing occurred at IW-3 on April 9, May 7, May 15, May 22, June 3, and June 4, 2008.
Third Quarter 2008	Injection occurred primarily at IW-3. Injection also occurred at IW-2 for short period on July 25 and from August 12 – August 31, 2008. Backwashing events occurred at IW-3 on June 17, June 27, July 9, July 15, July 17, July 18, August 12, August 13, September 2, and September 3, 2008. Backwashing events occurred at IW-2 on September 9 - September 11, 2008.
Fourth Quarter 2008	Injection occurred at IW-3 and then switched to IW-2 on September 23. Injection returned to IW-3 on October 7 and switched back to IW-2 on October 21. Injection primarily occurred at IW-2 until November 11 when it switched to IW-3 until December 3, 2008. Injection continued at IW-2 until December 16, 2008 and occurred concurrently and continued at IW-3 on December 11, 2008.
First Quarter 2009	Injection switched to IW-2 on December 30, 2008. On January 13, 2009 injection transitioned to IW-3. Backwashing events occurred periodically during the periods when each injection well was offline. Routine and scheduled maintenance occurred 12/18/08 and 1/21/09 at which time both wells were offline.
Second Quarter 2009	Injection continued at IW-3 until April 20, 2009. Injection ceased from April 20, 2009 to April 27, 2009 due to routine maintenance after which injection continued at IW-3 until May 26, 2009 when it transitioned to IW-2. Injection continued at IW-2 until June 9, 2009 when it switched to IW-3. Injection returned to IW-2 on June 24, 2009.

TABLE 1
Operational Status of Interim Measures No. 3 Injection Wells From Inception of Injection Through Second Half 2011
PG&E Topock Compliance Monitoring Program

Time Period	Injection Status
Third Quarter 2009	IM3 injection alternates between the two wells approximately every two weeks. Injection continued at IW-2 until July 8, when it transitioned to IW-3. Injection ceased from July 23 to 27, 2009 when it continued at IW-3 until September 9, 2009. Unplanned downtime occurred from September 9-14, 2009. On September 16, 2009 injection continued at IW-2, except during times of routine maintenance or otherwise mentioned.
Fourth Quarter 2009	Injection occurred at IW-2 until November 25, 2009 when it switched to IW-3. Injection continued at IW-3, except during times of routine maintenance.
First Half 2010	Injection occurred mainly at IW-3 until March 3, 2010. Beginning March 3, 2010, IM3 injection alternated between the two wells approximately every two weeks until April 20, 2010 for a planned shutdown. On April 22, 2010, injection resumed at IW-3 and alternated between the two wells approximately every two weeks. Backwashing events occurred periodically during the periods when each injection well was offline.
Second Half 2010	During the second half 2010, injection occurred primarily at IW-2 with the exception of the following periods when it primarily occurred at IW-3: July 22 - August 25, August 30- September 7, September 16 – October 15, November 5-18, and December 17-31, 2010.
First Half 2011	Injection occurred primarily at IW-3 with the exception of the following periods when it primarily occurred at IW-2: January 27 through February 10, February 23 through March 7, March 30 through April 20, May 6 through June 7, and June 22 through 28, 2011. Backwashing was performed periodically during the intervals when each injection well was offline. A planned shutdown occurred April 25 through 29 and June 28 through 30.
Second Half 2011	Injection occurred primarily at IW-3 with the exception of the following periods when it primarily occurred at IW-2: July 14 through August 3, August 10 through 14, September 11 through 22, October 5 through10; and October 28 Through November 30. Backwashing was performed periodically during the intervals when each injection well was offline.

TABLE 2
Well Construction and Sampling Summary for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Well ID	Site Area	Measuring Point Elevation (ft AMSL)	Screen Interval (ft bgs)	Well Casing (inches)	Well Depth (ft btoc)	Depth to Water (ft btoc)	Sampling System	Typical Purge Rate (gpm)	Typical Purge Volume (gallons)	Pump Depth (ft bgs)	Transducer Status	Remarks
IM Compliance Wells												
CW-01M	East Mesa	566.07	140 - 190	(PVC)	190.0	110.1	Temp Redi-Flo AR	2	42	165		
CW-01D	East Mesa	566.46	250 - 300	(PVC)	300.2	110.2	Temp Redi-Flo AR	3	98	180		
CW-02M	East Mesa	549.45	152 - 202	(PVC)	208.3	93.8	Temp Redi-Flo AR	2	56	195		
CW-02D	East Mesa	549.43	285 - 335	(PVC)	355.0	93.2	Temp Redi-Flo AR	3	135	159		
CW-03M	East Mesa	534.10	172 - 222	(PVC)	222.0	78.7	Temp Redi-Flo AR	2	74	180		
CW-03D	East Mesa	534.14	270 - 320	(PVC)	340.0	77.9	Temp Redi-Flo AR	3	135	143		
CW-04M	East Mesa	518.55	119.5 - 169.5	(PVC)	169.8	62.5	Temp Redi-Flo AR	2	56	160		
CW-04D	East Mesa	518.55	233 - 283	(PVC)	303.0	62.4	Temp Redi-Flo AR	3	124	134		
IM Observation Wells												
OW-01S	East Mesa	550.21	83.5 - 113.5	(PVC)	113.5	94.7	Temp Redi-Flo AR	1	11	100	Active	
OW-01M	East Mesa	550.36	165 - 185	(PVC)	185.8	94.1	Temp Redi-Flo AR	3	50	109.6		
OW-01D	East Mesa	550.36	257 - 277	(PVC)	277.3	93.7	Temp Redi-Flo AR	3	102	111.4		
OW-02S	East Mesa	548.88	71 - 101	(PVC)	103.6	93.4	Temp Redi-Flo AR	1	6	100	Active	
OW-02M	East Mesa	548.52	190 - 210	(PVC)	210.3	92.1	Temp Redi-Flo AR	2	60	111.4		
OW-02D	East Mesa	549.01	310 - 330	(PVC)	340.0	92.1	Temp Redi-Flo AR	3	120	110.3		
OW-05S	East Mesa	551.83	70 - 110	(PVC)	110.3	96.2	Temp Redi-Flo AR	1	9	100	Active	
OW-05M	East Mesa	551.81	210 - 250	(PVC)	250.3	95.5	Temp Redi-Flo AR	3	80	112.5	Active	
OW-05D	East Mesa	552.41	300 - 320	(PVC)	350.0	96.1	Temp Redi-Flo AR	3	130	113.2	Active	

Notes:

AMSL	above mean sea level
BGS	below ground surface
BTOC	below top of polyvinyl chloride (PVC) casing
Redi-Flo AR	adjustable-rate electric submersible pump
Temp	temporary
gpm	gallons per minute

Depth to water for each well was collected on December 14, 2011.
All wells were purged and sampled using 3 well-volume method.

TABLE 3
Chromium Results for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

		Method:	E218.6	E200.8
Location ID	**Sample Date**		**Hexavalent Chromium (µg/L)**	**Chromium (µg/L)**
CW-01M	10/4/2011		2.90	2.80
CW-01D	10/4/2011		ND (1.0)	1.20
CW-02M	10/6/2011		3.10	2.90
CW-02D	10/6/2011		1.20	1.10
CW-03M	10/6/2011		9.40	8.70
CW-03D	10/6/2011		ND (1.0)	ND (1.0)
CW-04M	10/6/2011		10.6	10.2
CW-04M	10/6/2011	(FD)	10.8	9.50
CW-04D	10/5/2011		2.10	2.40
OW-01S	10/5/2011		15.7	16.0
OW-01M	10/5/2011		1.50	2.10
OW-01D	10/5/2011		1.00	1.70
OW-02S	10/5/2011		30.8	29.6
OW-02M	10/5/2011		1.60	1.30
OW-02D	10/5/2011		ND (1.0)	ND (1.0)
OW-02D	10/5/2011	(FD)	ND (1.0)	ND (1.0)
OW-05S	10/5/2011		22.3	19.4
OW-05M	10/5/2011		ND (1.0)	ND (1.0)
OW-05D	10/5/2011		ND (1.0)	ND (1.0)

Notes:

FD field duplicate
ND parameter not detected at the listed reporting limit
µg/L micrograms per liter

Hexavalent Chromium and Chromium are field filtered.

TABLE 4
Metals and Cation Results for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location ID	Sample Date	Method:	Dissolved E200.7, E200.8																						
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Boron	Calcium	Iron [a]	Iron [b]	Potassium	Magnesium	Sodium
			µg/L																		mg/L						
CW-01M	10/4/2011		ND (50)	ND (10)	1.80	84.2	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)J	16.9	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.00	152	0.0503	ND (0.02)	16.4	12.6	1500
CW-01D	10/4/2011		ND (50)	ND (10)	1.60	25.8	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)J	18.7	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	0.977	190	ND (0.02)	ND (0.02)	16.3	17.7	1410
CW-02M	10/6/2011		ND (50)	---	2.40	66.6	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	19.7	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.17	130	ND (0.02)	ND (0.02)	15.7	9.99	1470
CW-02D	10/6/2011		ND (50)	---	3.80	11.9	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	10.7	ND (10)	ND (50)	ND (5.0)	ND (1.0)	5.80	ND (10)	1.25	78.9	ND (0.02)	ND (0.02)	14.6	4.29	1560
CW-03M	10/6/2011		ND (50)	---	1.30	49.0	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	19.9	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.13	204	ND (0.02)	ND (0.02)	16.3	16.9	1740
CW-03D	10/6/2011		ND (50)	---	1.40	11.8	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	20.8	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.36	74.2	ND (0.02)	ND (0.02)	14.5	5.42	1570
CW-04M	10/6/2011		ND (50)	---	2.30	91.4	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	0.892	166	ND (0.02)	ND (0.02)	16.2	13.7	1270
CW-04M	10/6/2011	FD	ND (50)	---	2.10	92.4	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	0.898	167	ND (0.02)	ND (0.02)	16.2	13.8	1330
CW-04D	10/5/2011		ND (50)	---	4.10	22.3	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	24.7	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.31	131	ND (0.02)	ND (0.02)	16.2	7.97	1740
OW-01S	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	15.0	---	---	---	---	---	---	---	---	---	---	---	---	487
OW-01M	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	23.5	---	---	---	---	---	---	---	---	---	---	---	---	1370
OW-01D	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	19.2	---	---	---	---	---	---	---	---	---	---	---	---	1390
OW-02S	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	41.8	---	---	---	---	---	---	---	---	---	---	---	---	292
OW-02M	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	20.2	---	---	---	---	---	---	---	---	---	---	---	---	1360
OW-02D	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	23.9	---	---	---	---	---	---	---	---	---	---	---	---	1410
OW-02D	10/5/2011	FD	---	---	---	---	---	---	---	---	---	---	---	22.9	---	---	---	---	---	---	---	---	---	---	---	---	1370
OW-05S	10/5/2011		---	---	---	---	---	---	---	---	---	---	---	23.5	---	---	---	---	---	---	---	---	---	---	---	---	345
OW-05M	10/5/2011		ND (50)	ND (10)	ND (1.0)	43.3	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	19.3	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.04	160	ND (0.02)	ND (0.02)	16.5	19.6	1420
OW-05D	10/5/2011		ND (50)	ND (10)	5.20	25.7	ND (1.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (1.0)	18.6	ND (10)	ND (50)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	1.02	150	ND (0.02)	ND (0.02)	19.2	29.0	1420

NOTES:

FD	field duplicate
ND	parameter not detected at the listed reporting limit
mg/L	milligrams per liter
µg/L	micrograms per liter
---	data not collected or available
J	concentration estimated by laboratory or data validation

[a] Total Iron

[b] Dissolved Iron

TABLE 5
Other Inorganics Results for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

	Method:	E120.1	Field	SM2540C	SM2130B	E300.0	E300.0	E300.0	SM4500NO3E	SM2320B	SM4500NH3D
Location ID	**Sample Date**	**Specific Conductance (µmhos/cm)**	**pH (pH units)**	**Total Dissolved Solids (mg/L)**	**Turbidity (NTU)**	**Chloride (mg/L)**	**Fluoride (mg/L)**	**Sulfate (mg/L)**	**Nitrate/Nitrite as Nitrogen (mg/L)**	**Alkalinity, total as CaCo3 (mg/L)**	**Ammonia as Nitrogen (mg/L)**
CW-01M	10/4/2011	7420	7.65	4160	0.769	2150	1.82	497	3.10	75.0	1.14
CW-01D	10/4/2011	7350	7.63	4220	0.128	2150	2.35	501	3.50	51.0	1.53
CW-02M	10/6/2011	7130	7.91	3980	0.146	2070	2.75	463	3.60	52.0	1.32
CW-02D	10/6/2011	7390	8.05	4150	0.278	2110	3.12	486	3.90	65.0	0.719
CW-03M	10/6/2011	8550	7.74	5070	ND (0.1)	2610	2.52	428	2.80	50.0	0.769
CW-03D	10/6/2011	7350	8.07	4160	0.169	2120	4.64	487	3.60	56.0	1.04
CW-04M	10/6/2011	6700	7.77	3750	ND (0.1)	1970	1.62	394	2.50	50.0	0.649
CW-04M	10/6/2011 (FD)	6720	---	3940	ND (0.1)	1960	1.66	378	2.80	50.0	1.15
CW-04D	10/5/2011	8310	7.92	4690	0.221	2530	3.39	511	3.50	45.0	0.601
OW-01S	10/5/2011	3930	7.68	2430	0.583	1060	2.32	227	4.50	---	---
OW-01M	10/5/2011	7280	7.81	4320	0.131	2180	2.36	496	3.80	---	---
OW-01D	10/5/2011	7390	7.77	4280	0.114	2120	2.42	495	3.50	---	---
OW-02S	10/5/2011	1810	8.00	952	0.400	382	5.12	110	4.90	---	---
OW-02M	10/5/2011	7260	7.81	4180	ND (0.1)	2120	2.40	500	4.40	---	---
OW-02D	10/5/2011	7290	7.86	4240	ND (0.1)	2120	2.20	498	3.90	---	---
OW-02D	10/5/2011 (FD)	7350	---	4160	ND (0.1)	2160	2.17	499	4.00	---	---
OW-05S	10/5/2011	2540	7.72	1360	0.231	632	2.20	126	4.40	---	---
OW-05M	10/5/2011	7260	7.83	4240	0.116	2090	2.58	489	3.90	46.0	0.897
OW-05D	10/5/2011	7340	7.88	4460	ND (0.1)	2220	2.12	500	4.10	42.0	1.00

NOTES:

ND	parameter not detected at the listed reporting limit
FD	field duplicate
µmhos/cm	micro-mhos per centimeter
NTU	Nephelometric Turbidity Unit
mg/L	milligrams per liter
---	data not collected or available
J	concentration estimated by laboratory or data validation

TABLE 6
Treated Water Quality Compared to OW and CW Pre-injection Water Quality
PG&E Topock Compliance Monitoring Program

Location ID	Sample Date	Hexavalent Chromium (µg/L)	Chromium (µg/L)	Fluoride (mg/L)	Dissolved Molybdenum (µg/L)	Nitrate/ Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	TDS (mg/L)
Treated Water	8/29/2005	ND(1.0)	ND (2.1)	1.95	8.3	3.7	450	3620
Treated Water	7/2/2007	ND(0.2)	ND (1.0)	2.18	17.5	2.60	477	3980
Treated Water	10/4/2011	ND (0.2)	ND (1.0)	2.09	18.6	2.92	501	4260
OW-01S	7/28/2005	19.4	23.5	2.45	17.2	3.2	114	1320
OW-01M	7/27/2005	16.3	18.9	2.31	27	1.01	311	3450
OW-01D	7/27/2005	ND(1.0)	ND(1.3)	1.14	46.1	0.321	441	6170
OW-02S	7/28/2005	15.3	14.8	3.79	35.6	3.81	126	1090
OW-02M	7/28/2005	5.4	5.7	2.19	32.4	0.735	342	4380
OW-02D	7/28/2005	ND(1.0)	ND(1.2)	0.966	51.2	0.1	616	9550
OW-05S	7/28/2005	23.4	25.6	2.3	17.1	3.55	105	1060
OW-05M	7/28/2005	8.6	8.8	2.74	35.4	0.621	417	5550
OW-05D	7/28/2005	ND(1.0)	ND(1.2)	1.11	57	0.151	480	8970
CW-01M	9/15/2005	18.1	17.8	2.34	21.6	1.11	318	2990
CW-01D	9/15/2005	ND(1.0)	1.6	0.951	32.1	0.972	379	6230
CW-02M	9/15/2005	15.8	15.5	2.3	23.1	0.908	342	3500
CW-02D	9/15/2005	ND(1.0)	1.6	0.982	41.6	0.28	601	8770
CW-03M	9/15/2005	8.8	8.1	2.57	24.2	0.642	464	4740
CW-03D	9/15/2005	ND(1.0)	ND(1.0)	1.4	29.2	0.304	672	9550
CW-04M	9/15/2005	19.2	19	1.5	12.3	1.18	240	3310
CW-04D	9/15/2005	ND(1.0)	ND(1.0)	1.01	26	0.188	534	7470

NOTES:

ND Not detected at the listed reporting limit.
mg/L milligrams per liter
µg/L micrograms per liter

Hexavalent chromium samples were analyzed using method 7199 in 2005 and then by method E218.6.
Chromium samples were analyzed using method 6020A for samples collected on 7/28/2005, by method 6010B for samples collected on 9/15/2005, by method 6020B for samples collected on 8/29/2005 and by method E200.8 for all other chromium samples.
Chromium samples of the treated water were unfiltered.

TABLE 7
Treated Water Quality Compared to Second Half 2011 Sampling Event Water Quality
PG&E Topock Compliance Monitoring Program

Location ID	Sample Date	Hexavalent Chromium (µg/L)	Chromium (µg/L)	Fluoride (mg/L)	Molybdenum (µg/L)	Nitrate/Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
Treated Water	4/1/2009	ND (0.2)	ND (1.0)	2.01	19.6	2.48	500	3850
Treated Water	4/7/2010	0.29	ND (1.0)	1.82	18.6	2.87	512	4270
Treated Water	10/4/2011	ND (1.0)	ND (1.0)	2.09	18.6	2.92	501	4260
CW-01M	10/4/2011	2.90	2.80	1.82	16.9	3.10	497	4160
CW-01D	10/4/2011	ND (1.0)	1.20	2.35	18.7	3.50	501	4220
CW-02M	10/6/2011	3.10	2.90	2.75	19.7	3.60	463	3980
CW-02D	10/6/2011	1.20	1.10	3.12	10.7	3.90	486	4150
CW-03M	10/6/2011	9.40	8.70	2.52	19.9	2.80	428	5070
CW-03D	10/6/2011	ND (1.0)	ND (1.0)	4.64	20.8	3.60	487	4160
CW-04M	10/6/2011 (FD)	10.8	9.50	1.66	ND (10)	2.80	378	3940
CW-04M	10/6/2011	10.6	10.2	1.62	ND (10)	2.50	394	3750
CW-04D	10/5/2011	2.10	2.40	3.39	24.7	3.50	511	4690
OW-01S	10/5/2011	15.7	16.0	2.32	15.0	4.50	227	2430
OW-01M	10/5/2011	1.50	2.10	2.36	23.5	3.80	496	4320
OW-01D	10/5/2011	1.00	1.70	2.42	19.2	3.50	495	4280
OW-02S	10/5/2011	30.8	29.6	5.12	41.8	4.90	110	952
OW-02M	10/5/2011	1.60	1.30	2.40	20.2	4.40	500	4180
OW-02D	10/5/2011 (FD)	ND (1.0)	ND (1.0)	2.17	22.9	4.00	499	4160
OW-02D	10/5/2011	ND (1.0)	ND (1.0)	2.20	23.9	3.90	498	4240
OW-05S	10/5/2011	22.3	19.4	2.20	23.5	4.40	126	1360
OW-05M	10/5/2011	ND (1.0)	ND (1.0)	2.58	19.3	3.90	489	4240
OW-05D	10/5/2011	ND (1.0)	ND (1.0)	2.12	18.6	4.10	500	4460

Notes:

FD field duplicate
ND parameter not detected at the listed reporting limit
mg/L milligrams per liter
µg/L micrograms per liter
--- not sampled or required for this event

All hexavalent chromium samples were analyzed with method E218.6

All chromium and molybdenum samples were analyzed with methods E200.8 and E200.7, respectively. Chromium and molybdenum samples were field filtered, except for the treated water.

Fluoride and Sulfate samples were analyzed with method E300.0.

All nitrate/nitrite as nitrogen samples were analyzed with method SM4500NO3E, except for treated water which used method E300.

All total dissolved solid samples were analyzed with method SM2540C.

TABLE 8
Manual Water Level Measurements and Elevations, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location ID	Well Depth (feet BTOC)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time		Water Level Measurement (feet BTOC)	Salinity (%)	Groundwater/Water Elevation Adjusted for Salinity (feet AMSL)
CW-01M	190.0	566.07	28-Mar-11	11:39 AM	109.08	0.48	456.92
			13-Jun-11	6:36 PM	108.14	0.48	457.86
			14-Dec-11	9:24 AM	110.13	0.48	455.87
CW-01D	300.2	566.46	28-Mar-11	11:41 AM	109.10	0.50	457.21
			13-Jun-11	6:38 PM	108.26	0.50	458.05
			14-Dec-11	9:22 AM	110.21	0.50	456.12
CW-02M	208.3	549.45	28-Mar-11	11:28 AM	92.55	0.49	456.82
			13-Jun-11	7:30 PM	91.71	0.49	457.66
			14-Dec-11	9:47 AM	93.76	0.49	455.61
CW-02D	355.0	549.43	28-Mar-11	11:31 AM	92.10	0.49	457.10
			13-Jun-11	7:31 PM	91.30	0.49	457.89
			14-Dec-11	9:45 AM	93.24	0.49	455.95
CW-03M	222.0	534.10	28-Mar-11	11:37 AM	77.39	0.60	456.73
			13-Jun-11	7:35 PM	76.60	0.60	457.52
			14-Dec-11	9:53 AM	78.65	0.60	455.46
CW-03D	340.0	534.14	28-Mar-11	11:35 AM	76.77	0.53	457.20
			13-Jun-11	7:33 PM	76.00	0.53	457.96
			14-Dec-11	9:51 AM	77.92	0.53	456.04
CW-04M	169.8	518.55	28-Mar-11	11:49 AM	61.35	0.43	457.09
			13-Jun-11	7:23 PM	60.50	0.43	457.94
			14-Dec-11	9:36 AM	62.54	0.43	455.90
CW-04D	303.0	518.55	28-Mar-11	11:47 AM	61.20	0.51	457.17
			13-Jun-11	7:21 PM	60.40	0.51	457.97
			14-Dec-11	9:34 AM	62.36	0.51	456.01
OW-01S	113.5	550.21	13-Jun-11	6:46 PM	92.58	0.21	457.56
			14-Dec-11	9:12 AM	94.72	0.21	455.44
OW-01M	185.8	550.36	13-Jun-11	6:45 PM	92.43	0.46	457.82
			14-Dec-11	9:17 AM	94.13	0.46	456.13
OW-01D	277.3	550.36	13-Jun-11	6:43 PM	92.15	0.48	458.03
			14-Dec-11	9:16 AM	93.72	0.48	456.47
OW-02S	103.6	548.88	13-Jun-11	6:58 PM	91.24	0.09	457.59
			14-Dec-11	9:04 AM	93.37	0.09	455.47
OW-02M	210.3	548.52	13-Jun-11	7:01 PM	90.58	0.49	457.82
			14-Dec-11	9:06 AM	92.07	0.49	456.34

TABLE 8
Manual Water Level Measurements and Elevations, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location ID	Well Depth (feet BTOC)	Measuring Point Elevation (feet AMSL)	Monitoring Date & Time		Water Level Measurement (feet BTOC)	Salinity (%)	Groundwater/Water Elevation Adjusted for Salinity (feet AMSL)
OW-02D	340.0	549.01	13-Jun-11	6:57 PM	90.55	0.49	458.20
			14-Dec-11	9:09 AM	92.06	0.49	456.70
OW-05S	110.3	551.83	13-Jun-11	7:06 PM	94.05	0.17	457.72
			14-Dec-11	8:53 AM	96.21	0.17	455.57
OW-05M	250.3	551.81	13-Jun-11	7:10 PM	93.38	0.46	458.26
			14-Dec-11	8:56 AM	95.52	0.46	456.13
OW-05D	350.0	552.41	13-Jun-11	7:13 PM	93.79	0.52	458.44
			14-Dec-11	8:59 AM	96.07	0.52	456.16

Notes:

AMSL above mean sea level
BTOC below top of polyvinyl chloride (PVC) casing
% percentage

Salinity used to adjust water level to freshwater equivalent. Salinity values have been averaged in accordance with the Performance Monitoring Program.

TABLE 9
Vertical Gradients within the OW and CW Clusters
PG&E Topock Compliance Monitoring Program

Well Pairs	**Vertical Gradient (ft/ft)[a]**
CW-01D to CW-01M	0.0022
CW-02D to CW-02M	0.0022
CW-03D to CW-03M	0.0056
CW-04D to CW-04M	0.0004
OW-01M to OW-01S	0.0067
OW-01D to OW-01M	0.0034
OW-02M to OW-02S	0.0056
OW-02D to OW-02M	0.0032
OW-05M to OW-05S	0.0028

[a] Positive value signifies an upward gradient.

Gradients calculated using December 14, 2011 groundwater levels.

TABLE 10
Field Parameter and Manual Water Level Measurements for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location ID	Sampling Date	Specific Conductance (µmhos/cm)	Temperature (°C)	pH	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Salinity (%)	Depth To Water (feet BTOC)
CW-01M	10/4/2011	7994	29.57	7.65	70.2	11.17	6	0.52	108.76
CW-01D	10/4/2011	8006	28.97	7.63	75.6	10.99	0.3	0.52	108.79
CW-02M	10/6/2011	7665	29.73	7.91	74.5	6.75	0.2	0.5	92.48
CW-02D	10/6/2011	8010	30.61	8.05	69.3	8.64	0.6	0.52	92.10
CW-03M	10/6/2011	9134	29.78	7.74	55.8	2.57	0.3	0.59	77.38
CW-03D	10/6/2011	7900	30.79	8.07	70	8.65	0.5	0.51	76.70
CW-04M	10/6/2011	7203	29.4	7.77	113.8	4.06	1	0.47	61.27
CW-04D	10/5/2011	8609	30.67	7.92	63.9	8.46	1	0.56	60.99
OW-01S	10/5/2011	4019	28.66	7.68	91.7	7.59	2	0.26	93.25
OW-01M	10/5/2011	7553	28.42	7.81	83.1	7.05	1	0.49	93.12
OW-01D	10/5/2011	7821	27.89	7.77	89.9	6.52	1	0.51	92.86
OW-02S	10/5/2011	1602	28.72	8	76.2	8.03	1	0.1	91.85
OW-02M	10/5/2011	7538	29.11	7.81	80.3	6.91	1	0.49	91.27
OW-02D	10/5/2011	7616	29.46	7.86	73.3	6.63	1	0.49	91.15
OW-05S	10/5/2011	2551	29.2	7.72	75	6.67	1.3	0.16	94.64
OW-05M	10/5/2011	7426	27.8	7.83	81.2	10.43	1	0.48	94.13
OW-05D	10/5/2011	7674	29.49	7.88	82.4	8.4	1	0.5	94.75

Notes:

µmhos/cm	micro-mhos per centimeter
°C	degree centigrade
ORP	oxidation reduction potential
mV	millivolts
mg/L	milligrams per liter
NTU	Nephelometric Turbidity Unit
%	percentage
---	data rejected due to equipment malfunction

Salinity is calculated using the specific conductance field measurement, the last measurement before sampling.

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01D	CW-01D-026	Barry Collom	10/4/2011	4:44:00 PM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7350	2.0	0.038
					TLI	EPA 200.7	ALD	10/14/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/14/2011	Ethel Suico	mg/L	0.977	0.20	0.0015
					TLI	EPA 200.7	CAD	10/14/2011	Ethel Suico	mg/L	190	0.0125	0.489
					TLI	EPA 200.7	FETD	10/14/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.3	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	17.7	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	18.7	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.41	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/24/2011	Katia Kiarashpoor	µg/L	1.60	1.0	0.28
					TLI	EPA 200.8	BAD	10/14/2011	Katia Kiarashpoor	µg/L	25.8	10.0	0.20
					TLI	EPA 200.8	BED	10/14/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/24/2011	Katia Kiarashpoor	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/14/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	1.20	1.0	0.11
					TLI	EPA 200.8	CUD	10/24/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)J	1.0	0.075
					TLI	EPA 200.8	PBD	10/14/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	SBD	10/14/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.12
					TLI	EPA 200.8	TLD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2150	100	15.0

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01D	CW-01D-026	Barry Collom	10/4/2011	4:44:00 PM	TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.35	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	501	25.0	1.00
					TLI	EPA 6010B	FE	10/13/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/11/2011	Kim Luck	mg/L	51.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/11/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/11/2011	Kim Luck	mg/L	51.0	5.0	1.68
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.128	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4220	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.53	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.50	0.5	0.10
CW-01M	CW-01M-026	Barry Collom	10/4/2011	5:25:00 PM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7420	2.0	0.038
					TLI	EPA 200.7	ALD	10/14/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/14/2011	Ethel Suico	mg/L	1.00	0.20	0.0015
					TLI	EPA 200.7	CAD	10/14/2011	Ethel Suico	mg/L	152	0.0125	0.489
					TLI	EPA 200.7	FETD	10/14/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.4	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	12.6	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	16.9	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.50	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/24/2011	Katia Kiarashpoor	µg/L	1.80	1.0	0.28
					TLI	EPA 200.8	BAD	10/15/2011	Katia Kiarashpoor	µg/L	84.2	10.0	0.20
					TLI	EPA 200.8	BED	10/15/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.18

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01M	CW-01M-026	Barry Collom	10/4/2011	5:25:00 PM	TLI	EPA 200.8	CDD	10/24/2011	Katia Kiarashpoor	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/25/2011	Katia Kiarashpoor	µg/L	2.80	1.0	0.11
					TLI	EPA 200.8	CUD	10/24/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)J	1.0	0.075
					TLI	EPA 200.8	PBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	SBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.12
					TLI	EPA 200.8	TLD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	2.90	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2150	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	1.82	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	497	25.0	1.00
					TLI	EPA 6010B	FE	10/13/2011	Ethel Suico	mg/L	0.0503	0.02	0.0013
					TLI	SM 2320B	ALKB	10/11/2011	Kim Luck	mg/L	75.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/11/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/11/2011	Kim Luck	mg/L	75.0	5.0	1.68
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.769	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4160	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.14	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.10	0.5	0.10
CW-02D	CW-02D-026	Barry Collom	10/6/2011	10:43:00 AM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	7390	2.0	0.038
					TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	1.25	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	78.9	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	14.6	0.0005	0.0685

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02D	CW-02D-026	Barry Collom	10/6/2011	10:43:00 AM	TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	4.29	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	10.7	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.56	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/21/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	3.80	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	11.9	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	1.10	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	5.80	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	1.20	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	2110	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	3.12	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	486	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	65.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	65.0	5.0	1.68

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02D	CW-02D-026	Barry Collom	10/6/2011	10:43:00 AM	TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	0.278	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4150	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	0.719	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.90	0.5	0.10
CW-02M	CW-02M-026	Barry Collom	10/6/2011	11:45:00 AM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	7130	2.0	0.038
					TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	1.17	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	130	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	15.7	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	9.99	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	19.7	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.47	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/19/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	2.40	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	66.6	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	2.90	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07

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ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02M	CW-02M-026	Barry Collom	10/6/2011	11:45:00 AM	TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	3.10	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	2070	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	2.75	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	463	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	52.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	52.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	0.146	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	3980	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.32	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.60	0.5	0.10
CW-03D	CW-03D-026	Barry Collom	10/6/2011	1:25:00 PM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	7350	2.0	0.038
					TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	1.36	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	74.2	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	11/1/2011	Ethel Suico	mg/L	14.5	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	5.42	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	20.8	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.57	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/19/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90

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PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-03D	CW-03D-026	Barry Collom	10/6/2011	1:25:00 PM	TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	1.40	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	11.8	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	2120	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	4.64	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	487	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	56.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	56.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	0.169	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4160	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.04	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.60	0.5	0.10
CW-03M	CW-03M-026	Barry Collom	10/6/2011	2:34:00 PM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	8550	2.0	0.038

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-03M	CW-03M-026	Barry Collom	10/6/2011	2:34:00 PM	TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	1.13	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	204	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.3	0.0125	1.71
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	16.9	0.0125	1.55
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	19.9	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.74	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/19/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	1.30	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	49.0	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	8.70	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	9.40	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	2610	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	2.52	0.5	0.025

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-03M	CW-03M-026	Barry Collom	10/6/2011	2:34:00 PM	TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	428	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	5070	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	0.769	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	2.80	0.5	0.10
CW-04D	CW-04D-026	Barry Collom	10/5/2011	4:14:00 PM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	8310	2.0	0.038
					TLI	EPA 200.7	ALD	10/18/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	1.31	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	131	0.0125	0.489
					TLI	EPA 200.7	FETD	10/18/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.2	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	7.97	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	24.7	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.74	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/18/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	4.10	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	22.3	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04D	CW-04D-026	Barry Collom	10/5/2011	4:14:00 PM	TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	2.40	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	2.10	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	2530	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	3.39	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	511	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	45.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	45.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	0.221	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4690	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	0.601	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.50	0.5	0.10
CW-04M	OW-90-026	Barry Collom	10/6/2011	7:05:00 AM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	6720	2.0	0.038
					TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	0.898	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	167	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.2	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	13.8	0.0005	0.0619

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04M	OW-90-026	Barry Collom	10/6/2011	7:05:00 AM	TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.33	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/19/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	2.10	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	92.4	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	9.50	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	10.8	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	1960	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	1.66	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	378	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	ND (0.1)	0.1	0.014

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04M	OW-90-026	Barry Collom	10/6/2011	7:05:00 AM	TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	3940	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.15	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	2.80	0.5	0.10
CW-04M	CW-04M-026	Barry Collom	10/6/2011	8:48:00 AM	TLI	EPA 120.1	SC	10/10/2011	Gautam Savani	µmhos/cm	6700	2.0	0.038
					TLI	EPA 200.7	ALD	10/19/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/15/2011	Ethel Suico	mg/L	0.892	0.01	0.0015
					TLI	EPA 200.7	CAD	10/15/2011	Ethel Suico	mg/L	166	0.0125	0.489
					TLI	EPA 200.7	FETD	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.2	0.0005	0.0685
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	13.7	0.0005	0.0619
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.27	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SBD	10/19/2011	Ethel Suico	µg/L	ND (10)	10.0	2.90
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/18/2011	Hope Trinidad	µg/L	2.30	1.0	0.28
					TLI	EPA 200.8	BAD	10/18/2011	Hope Trinidad	µg/L	91.4	10.0	0.20
					TLI	EPA 200.8	BED	10/18/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/18/2011	Hope Trinidad	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/18/2011	Hope Trinidad	µg/L	10.2	1.0	0.11
					TLI	EPA 200.8	CUD	10/18/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.07
					TLI	EPA 200.8	PBD	10/18/2011	Hope Trinidad	µg/L	ND (10)	10.0	0.11

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ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04M	CW-04M-026	Barry Collom	10/6/2011	8:48:00 AM	TLI	EPA 200.8	TLD	11/2/2011	Hope Trinidad	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	10/14/2011	Hope Trinidad	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/13/2011	Maksim Gorbunov	µg/L	10.6	1.0	0.14
					TLI	EPA 300.0	CL	10/7/2011	Giawad Ghenniwa	mg/L	1970	100	15.0
					TLI	EPA 300.0	FL	10/7/2011	Giawad Ghenniwa	mg/L	1.62	0.5	0.025
					TLI	EPA 300.0	SO4	10/7/2011	Giawad Ghenniwa	mg/L	394	25.0	1.00
					TLI	EPA 6010B	FE	10/19/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/14/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/14/2011	Kim Luck	mg/L	50.0	5.0	1.68
					TLI	SM2130B	TRB	10/7/2011	Kim Luck	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	3750	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	0.649	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	2.50	0.5	0.10
OW-01D	OW-01D-026	Barry Collom	10/5/2011	8:26:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7390	2.0	0.038
					TLI	EPA 200.7	MOD	10/24/2011	Ethel Suico	µg/L	19.2	10.0	4.00
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	1.39	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	1.70	1.0	0.11
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	1.00	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2120	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.42	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	495	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.114	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4280	125	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.50	0.5	0.10
OW-01M	OW-01M-026	Barry Collom	10/5/2011	8:59:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7280	2.0	0.038
					TLI	EPA 200.7	MOD	10/24/2011	Ethel Suico	µg/L	23.5	10.0	4.00

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-01M	OW-01M-026	Barry Collom	10/5/2011	8:59:00 AM	TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	1.37	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	2.10	1.0	0.11
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	1.50	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2180	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.36	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	496	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.131	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4320	125	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.80	0.5	0.10
OW-01S	OW-01S-026	Barry Collom	10/5/2011	9:30:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	3930	2.0	0.038
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	0.487	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	16.0	1.0	0.11
					TLI	EPA 200.8	MOD	10/24/2011	Katia Kiarashpoor	µg/L	15.0	10.0	0.27
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	15.7	0.2	0.042
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	1060	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.32	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	227	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.583	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	2430	50.0	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.50	0.5	0.10
OW-02D	OW-91-026	Barry Collom	10/5/2011	7:15:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7350	2.0	0.038
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	1.37	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.11
					TLI	EPA 200.8	MOD	10/24/2011	Katia Kiarashpoor	µg/L	22.9	10.0	0.27
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2160	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.17	0.5	0.025

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
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Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-02D	OW-91-026	Barry Collom	10/5/2011	7:15:00 AM	TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	499	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4160	125	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.00	0.5	0.10
OW-02D	OW-02D-026	Barry Collom	10/5/2011	10:33:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7290	2.0	0.038
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	1.41	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.11
					TLI	EPA 200.8	MOD	10/24/2011	Katia Kiarashpoor	µg/L	23.9	10.0	0.27
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2120	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.20	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	498	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4240	125	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.90	0.5	0.10
OW-02M	OW-02M-026	Barry Collom	10/5/2011	11:18:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7260	2.0	0.038
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	1.36	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	1.30	1.0	0.11
					TLI	EPA 200.8	MOD	10/24/2011	Katia Kiarashpoor	µg/L	20.2	10.0	0.27
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	1.60	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2120	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.40	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	500	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4180	125	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.40	0.5	0.10
OW-02S	OW-02S-026	Barry Collom	10/5/2011	11:40:00 AM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	1810	2.0	0.038

TABLE 11
ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-02S	OW-02S-026	Barry Collom	10/5/2011	11:40:00 AM	TLI	EPA 200.7	MOD	10/25/2011	Ethel Suico	µg/L	41.8	10.0	4.00
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	0.292	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/25/2011	Katia Kiarashpoor	µg/L	29.6	1.0	0.11
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	30.8	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	382	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	5.12	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	110	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.40	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	952	50.0	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.90	0.5	0.10
OW-05D	OW-05D-026	Barry Collom	10/5/2011	1:16:00 PM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7340	2.0	0.038
					TLI	EPA 200.7	ALD	10/14/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/14/2011	Ethel Suico	mg/L	1.02	0.20	0.0015
					TLI	EPA 200.7	CAD	10/14/2011	Ethel Suico	mg/L	150	0.0125	0.489
					TLI	EPA 200.7	FETD	10/14/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	19.2	0.001	0.137
					TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	29.0	0.001	0.124
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	18.6	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.42	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/24/2011	Katia Kiarashpoor	µg/L	5.20	1.0	0.28
					TLI	EPA 200.8	BAD	10/15/2011	Katia Kiarashpoor	µg/L	25.7	10.0	0.20
					TLI	EPA 200.8	BED	10/15/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.18

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PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05D	OW-05D-026	Barry Collom	10/5/2011	1:16:00 PM	TLI	EPA 200.8	CDD	10/24/2011	Katia Kiarashpoor	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.11
					TLI	EPA 200.8	CUD	10/24/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.075
					TLI	EPA 200.8	PBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	SBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.12
					TLI	EPA 200.8	TLD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2220	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.12	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	500	25.0	1.00
					TLI	EPA 6010B	FE	10/13/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/11/2011	Kim Luck	mg/L	42.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/11/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/11/2011	Kim Luck	mg/L	42.0	5.0	1.68
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	ND (0.1)	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4460	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	1.00	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.10	0.5	0.10
OW-05M	OW-05M-026	Barry Collom	10/5/2011	2:02:00 PM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	7260	2.0	0.038
					TLI	EPA 200.7	ALD	10/14/2011	Ethel Suico	µg/L	ND (50)	50.0	2.80
					TLI	EPA 200.7	BD	10/14/2011	Ethel Suico	mg/L	1.04	0.20	0.0015
					TLI	EPA 200.7	CAD	10/14/2011	Ethel Suico	mg/L	160	0.0125	0.489
					TLI	EPA 200.7	FETD	10/14/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	EPA 200.7	KD	10/27/2011	Ethel Suico	mg/L	16.5	0.0005	0.0685

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PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05M	OW-05M-026	Barry Collom	10/5/2011	2:02:00 PM	TLI	EPA 200.7	MGD	10/27/2011	Ethel Suico	mg/L	19.6	0.001	0.124
					TLI	EPA 200.7	MND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.20
					TLI	EPA 200.7	MOD	10/27/2011	Ethel Suico	µg/L	19.3	10.0	4.00
					TLI	EPA 200.7	NAD	10/31/2011	Ethel Suico	mg/L	1.42	0.05	0.00586
					TLI	EPA 200.7	NID	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	2.60
					TLI	EPA 200.7	SED	10/27/2011	Ethel Suico	µg/L	ND (50)	50.0	3.20
					TLI	EPA 200.7	ZND	10/27/2011	Ethel Suico	µg/L	ND (10)	10.0	3.90
					TLI	EPA 200.8	AGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.18
					TLI	EPA 200.8	ASD	10/24/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.28
					TLI	EPA 200.8	BAD	10/15/2011	Katia Kiarashpoor	µg/L	43.3	10.0	0.20
					TLI	EPA 200.8	BED	10/15/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.18
					TLI	EPA 200.8	CDD	10/24/2011	Katia Kiarashpoor	µg/L	ND (3.0)	3.0	0.47
					TLI	EPA 200.8	COBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.48
					TLI	EPA 200.8	CRTD	10/24/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.11
					TLI	EPA 200.8	CUD	10/24/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.12
					TLI	EPA 200.8	HGD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.075
					TLI	EPA 200.8	PBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.11
					TLI	EPA 200.8	SBD	10/15/2011	Katia Kiarashpoor	µg/L	ND (10)	10.0	0.12
					TLI	EPA 200.8	TLD	11/2/2011	Katia Kiarashpoor	µg/L	ND (1.0)	1.0	0.12
					TLI	EPA 200.8	VD	11/2/2011	Katia Kiarashpoor	µg/L	ND (5.0)	5.0	0.37
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	ND (1.0)	1.0	0.21
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	2090	100	15.0
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.58	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	489	25.0	1.00
					TLI	EPA 6010B	FE	10/13/2011	Ethel Suico	mg/L	ND (0.02)	0.02	0.0013
					TLI	SM 2320B	ALKB	10/11/2011	Kim Luck	mg/L	46.0	5.0	1.68
					TLI	SM 2320B	ALKC	10/11/2011	Kim Luck	mg/L	ND (5.0)	5.0	1.68
					TLI	SM 2320B	ALKT	10/11/2011	Kim Luck	mg/L	46.0	5.0	1.68

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ARAR Monitoring Information for Groundwater Samples, Second Half 2011
PG&E Topock Compliance Monitoring Program

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05M	OW-05M-026	Barry Collom	10/5/2011	2:02:00 PM	TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.116	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	4240	125	0.40
					TLI	SM4500NH3D	NH3N	10/10/2011	Maria Mangarova	mg/L	0.897	0.5	0.002
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	3.90	0.5	0.10
OW-05S	OW-05S-026	Barry Collom	10/5/2011	2:32:00 PM	TLI	EPA 120.1	SC	10/7/2011	Gautam Savani	µmhos/cm	2540	2.0	0.038
					TLI	EPA 200.7	MOD	10/25/2011	Ethel Suico	µg/L	23.5	10.0	4.00
					TLI	EPA 200.7	NAD	10/14/2011	Ethel Suico	mg/L	0.345	0.05	0.00586
					TLI	EPA 200.8	CRTD	10/25/2011	Katia Kiarashpoor	µg/L	19.4	1.0	0.11
					TLI	EPA 218.6	CR6	10/12/2011	Maksim Gorbunov	µg/L	22.3	0.2	0.042
					TLI	EPA 300.0	CL	10/6/2011	Giawad Ghenniwa	mg/L	632	20.0	3.00
					TLI	EPA 300.0	FL	10/6/2011	Giawad Ghenniwa	mg/L	2.20	0.5	0.025
					TLI	EPA 300.0	SO4	10/6/2011	Giawad Ghenniwa	mg/L	126	25.0	1.00
					TLI	SM2130B	TRB	10/6/2011	Gautam Savani	NTU	0.231	0.1	0.014
					TLI	SM2540C	TDS	10/10/2011	Jenny Tankunakorn	mg/L	1360	50.0	0.40
					EMXT	SM4500NO3-E	NO3NO2N	10/31/2011	Nina Macalinao	mg/L	4.40	0.5	0.10

TABLE 11

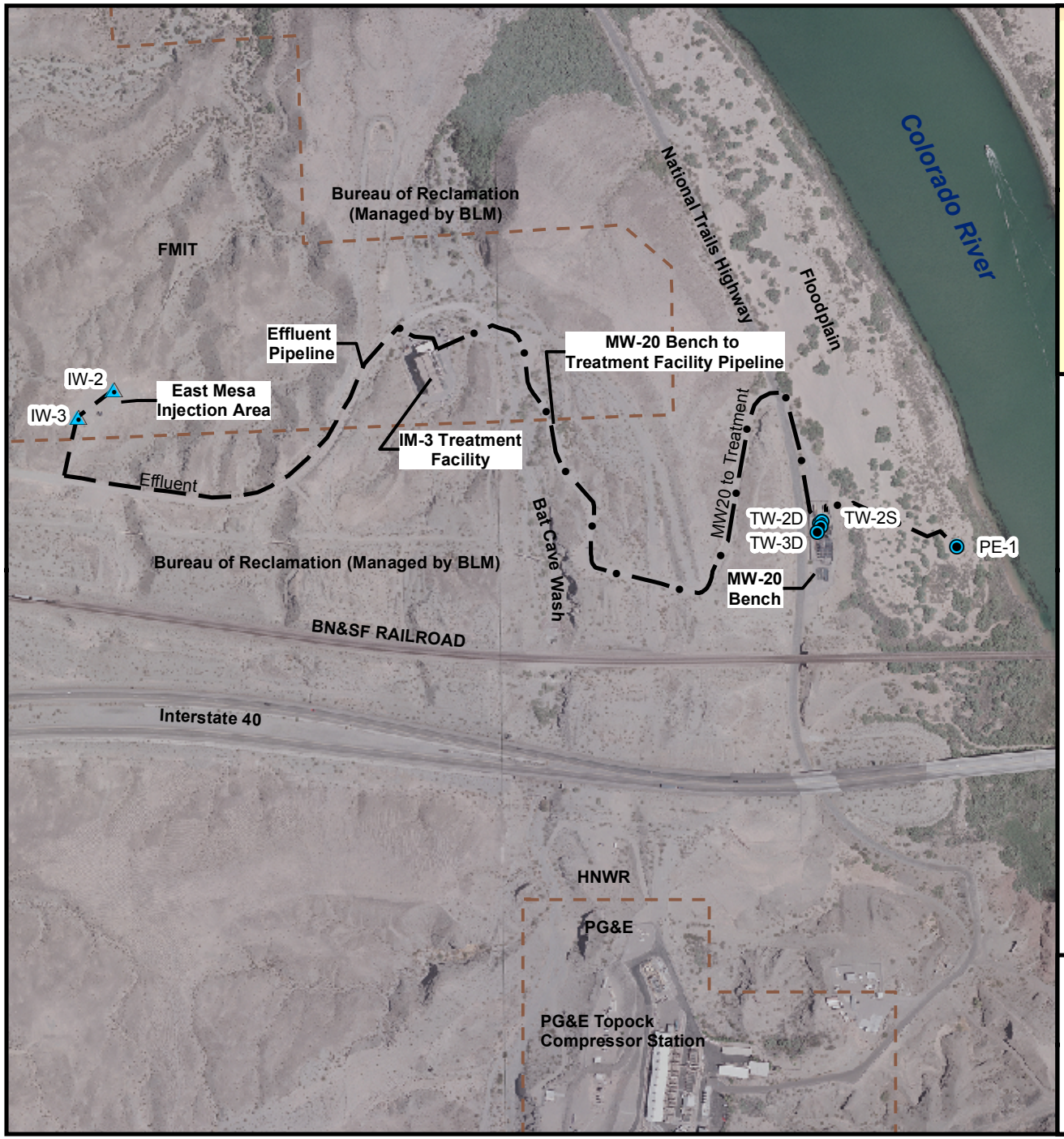
ARAR Monitoring Information for Groundwater Samples, Second Half 2011

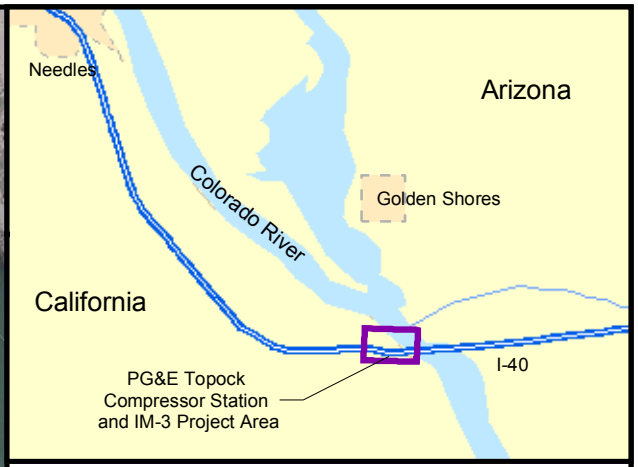
PG&E Topock Compliance Monitoring Program

NOTES:

MDL	method detection limit corrected for sample dilution
RL	reporting limit corrected for sample dilution
ND	parameter not detected at the listed reporting limit
µmhos/cm	micro-mhos per centimeter
NTU	Nephelometric Turbidity Unit
mg/L	milligrams per liter
µg/L	micrograms per liter
J	Concentration estimated by laboratory or data validation
TLI	Truesdail Laboratories, Inc.
EMXT	Emax Laboratories
WDR	Waste Discharge Requirements
SC	specific conductance
CRTD	chromium, dissolved
CR6	hexavalent chromium
CL	chloride
FL	fluoride
SO4	sulfate
TDS	total dissolved solids
TRB	turbidity
NO3NO2N	nitrate/nitrite (as N)
MOD	molybdenum, dissolved
NAD	sodium, dissolved

Figures





N

0 550 1,100 Feet

1 inch = 550 feet

LEGEND

- Property Line
- Existing IM Extraction Well
- Existing IM Injection Well
- Treatment Facility Pipeline

Notes: Location map shows Interim Measures No.3 (IM-3) facilities as of the current report. Aerial photography taken October 2008.

FIGURE 1
SITE LOCATION AND LAYOUT

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

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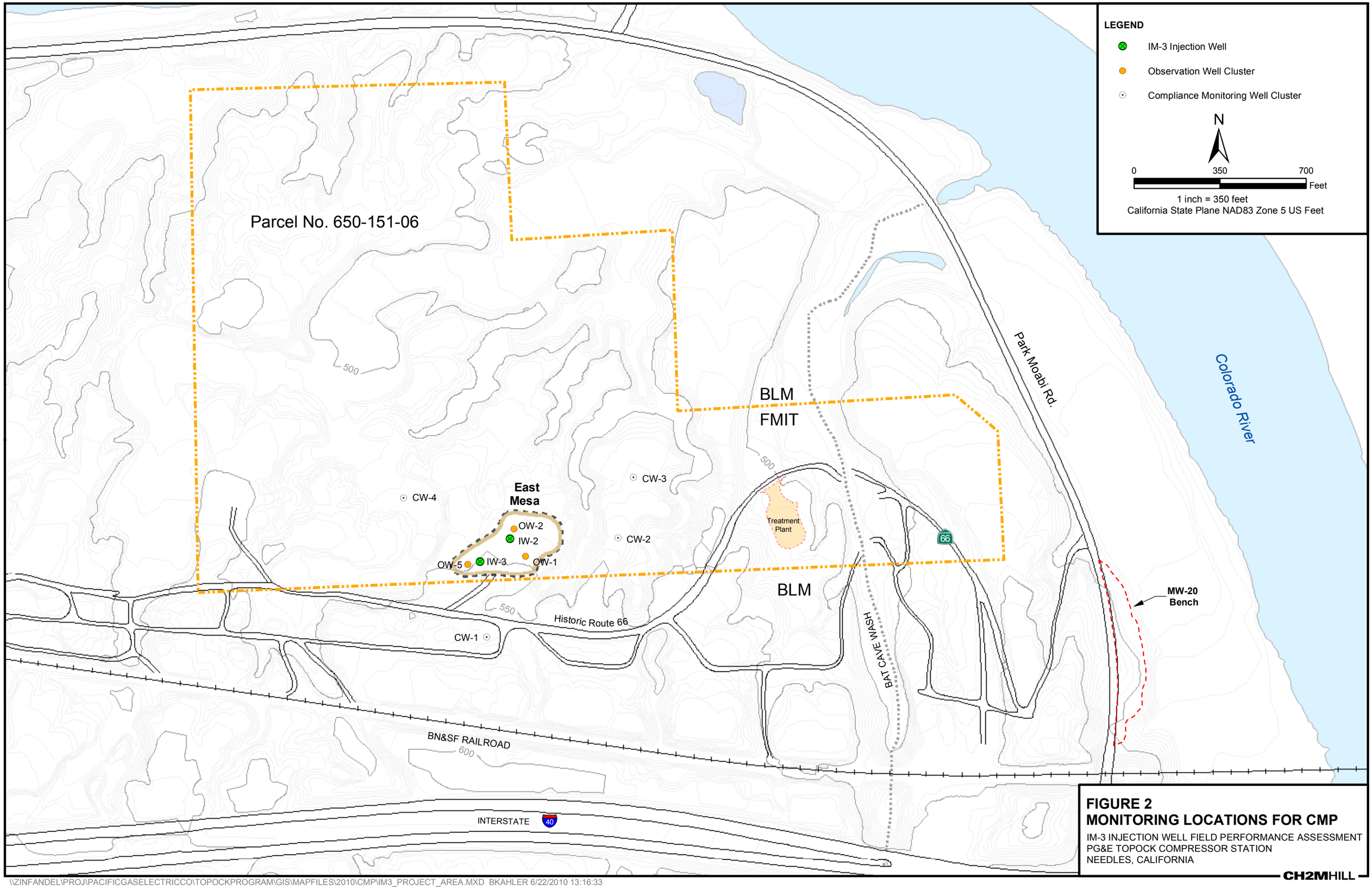
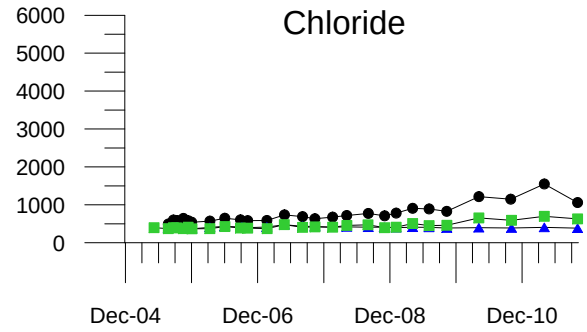


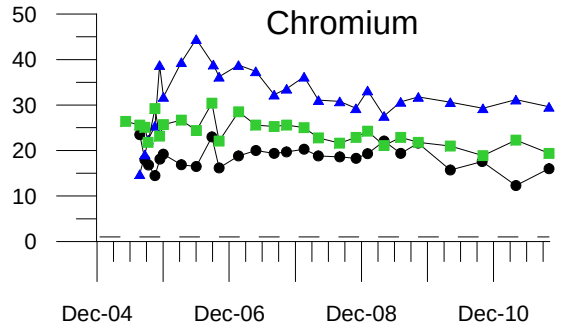
FIGURE 2
MONITORING LOCATIONS FOR CMP

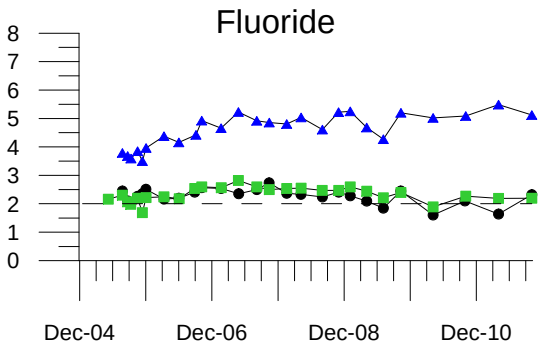
IM-3 INJECTION WELL FIELD PERFORMANCE ASSESSMENT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

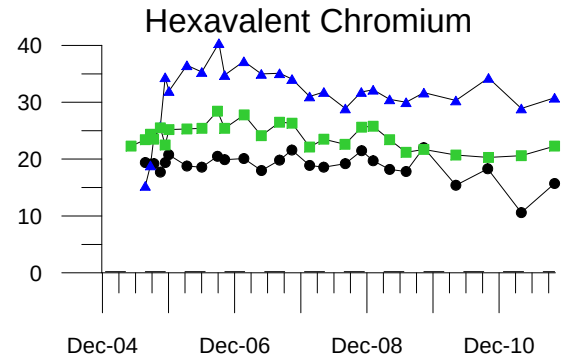
CH2MHILL

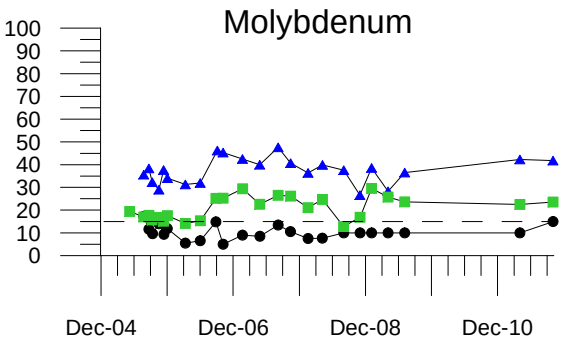
\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\CMP\IM3_PROJECT_AREA.MXD BKAHLER 6/22/2010 13:16:33

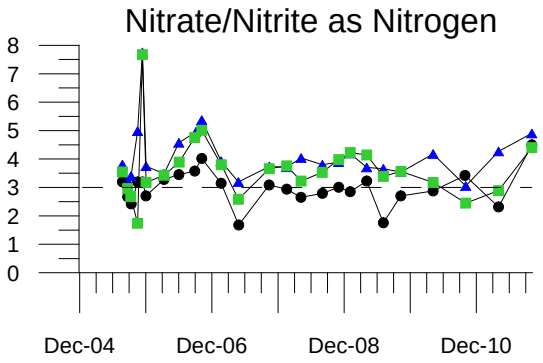


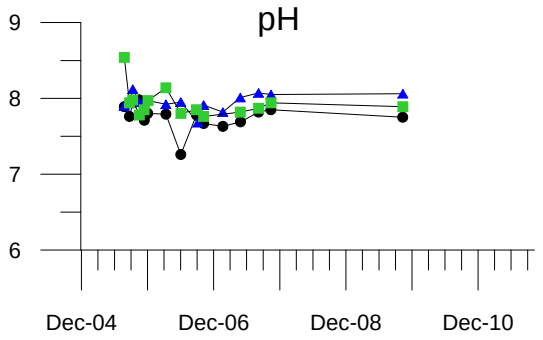


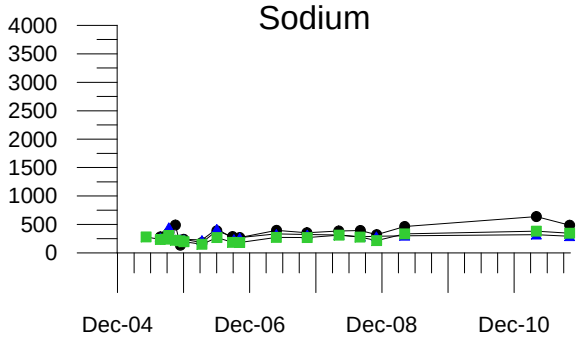


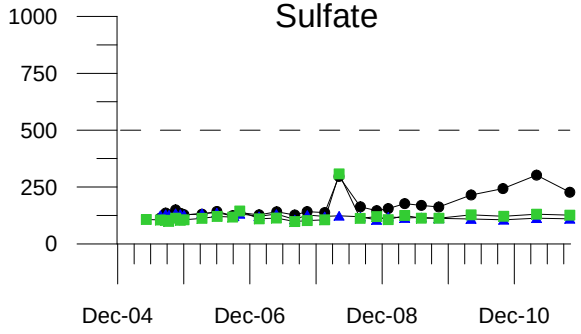


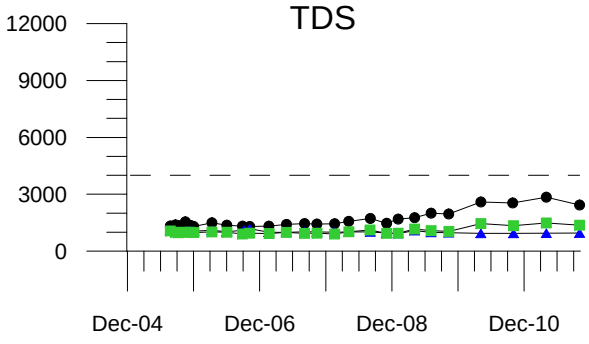


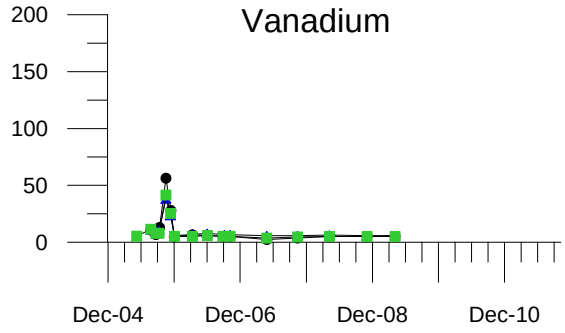


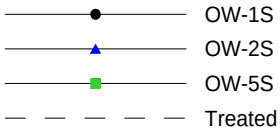








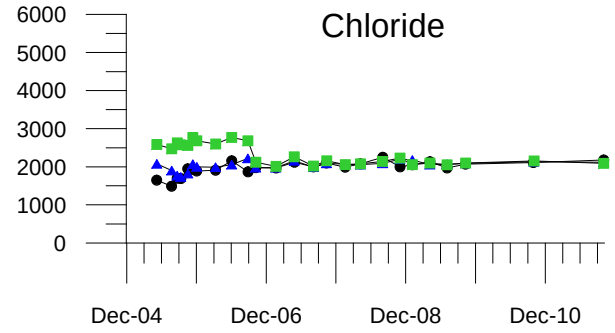


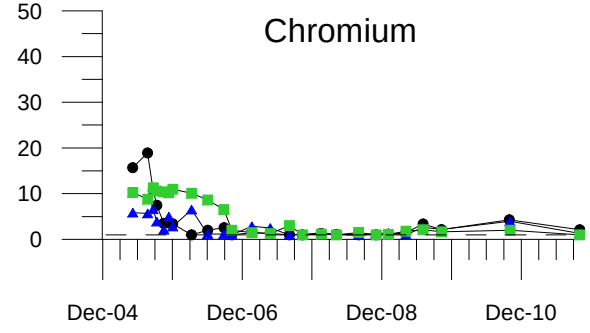


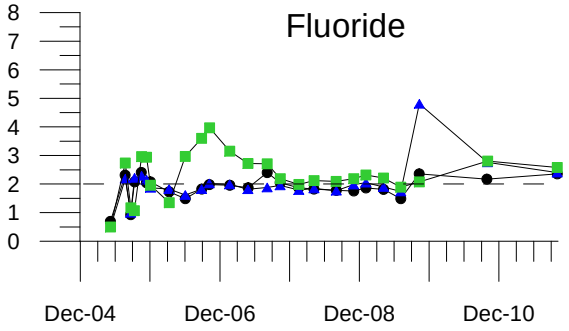
Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. Treated water only on select analytes.

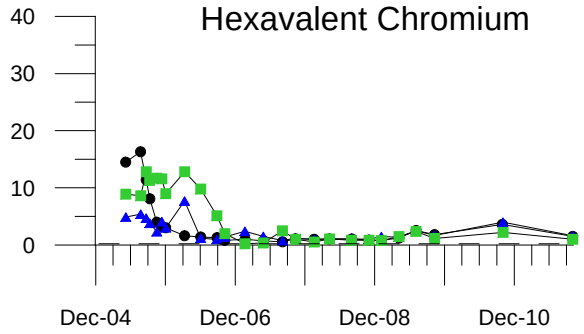
FIGURE 3A
OW-1S, OW-2S, OW-5S
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

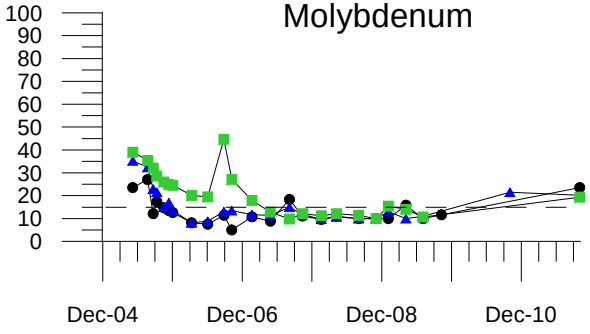
CH2MHILL

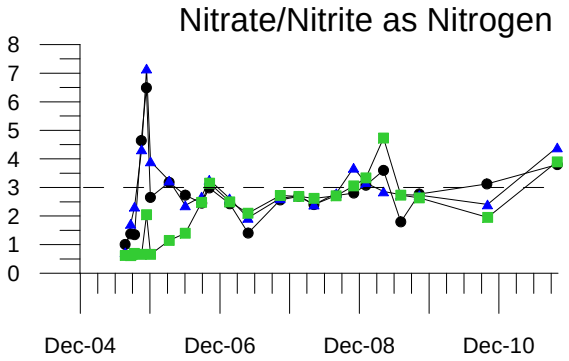


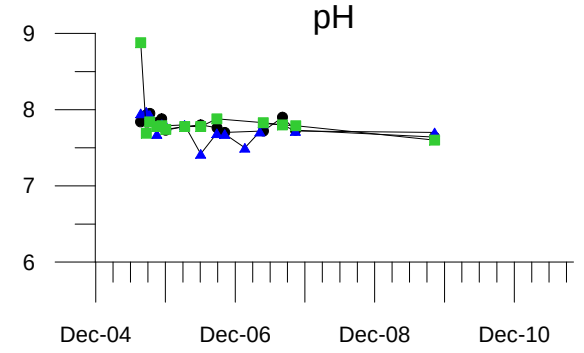


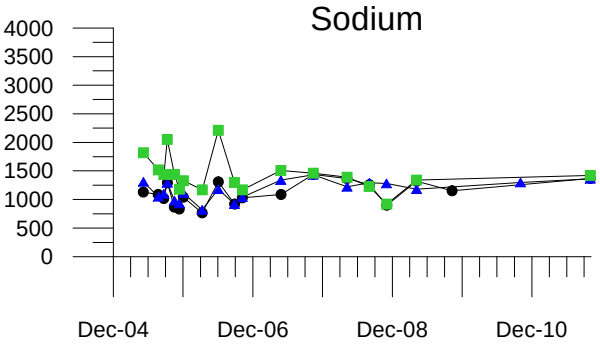


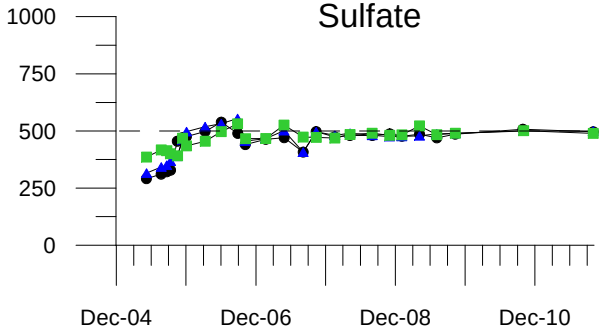


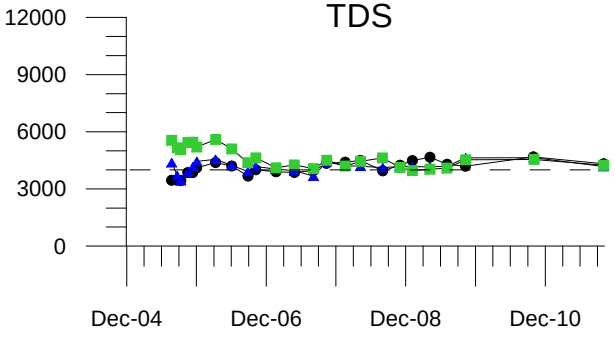


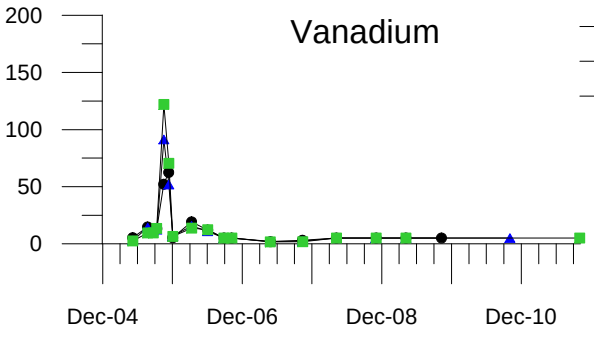


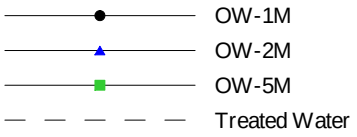








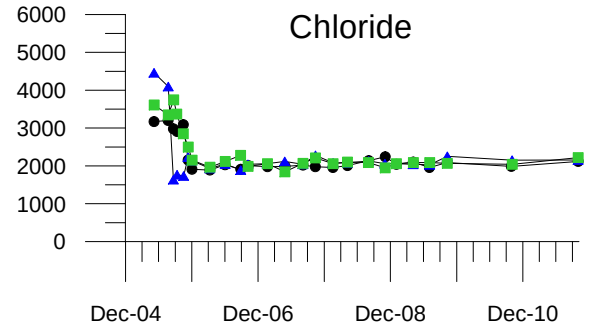


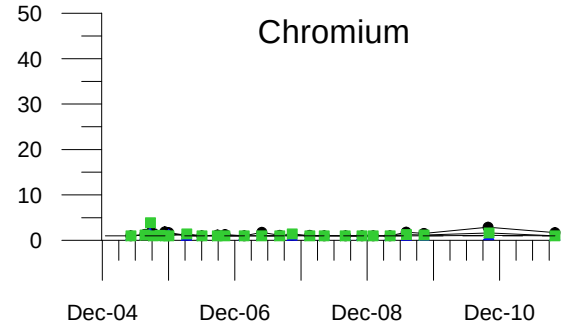


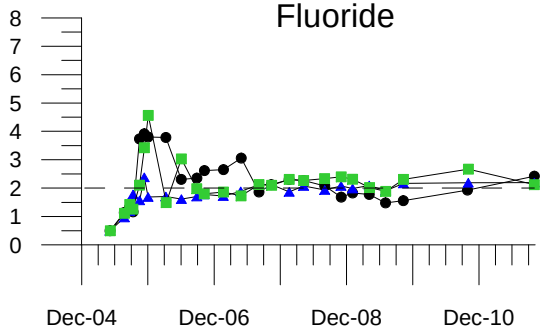
Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. Treated water only on select analytes.

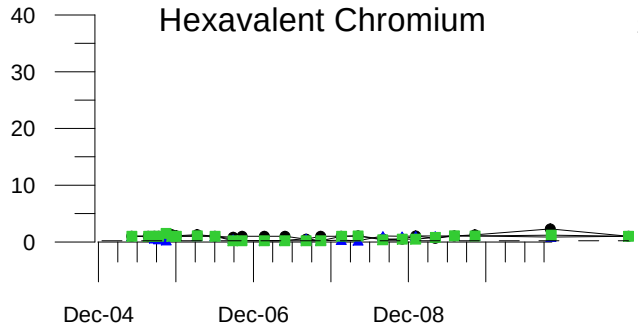
FIGURE 3B
OW-1M, OW-2M, OW-5M
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

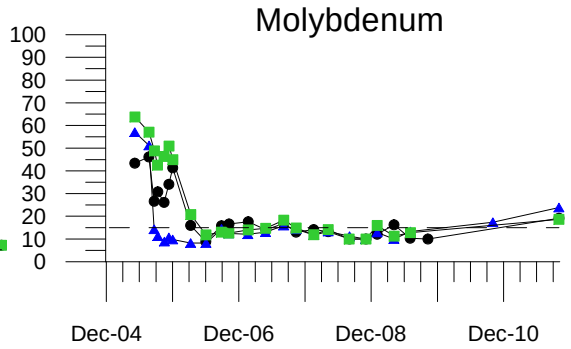
CH2MHILL

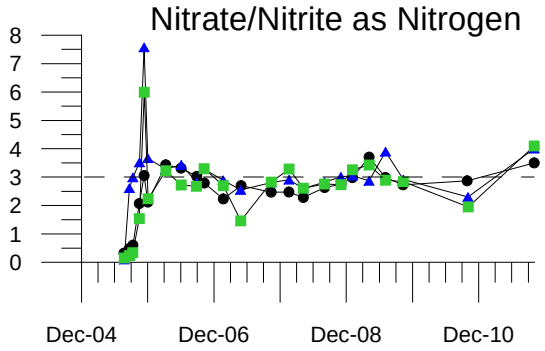


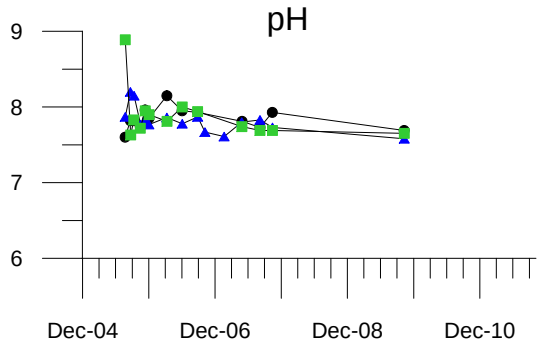


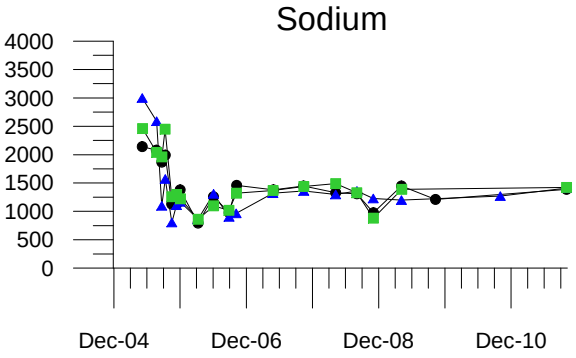


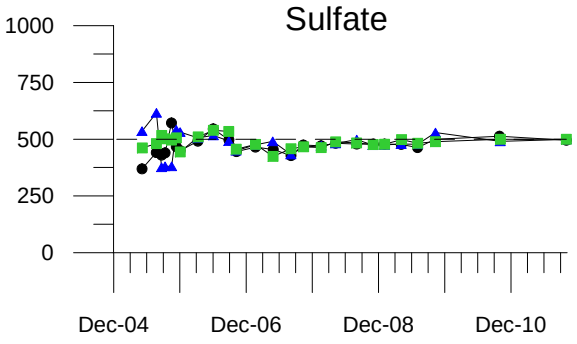


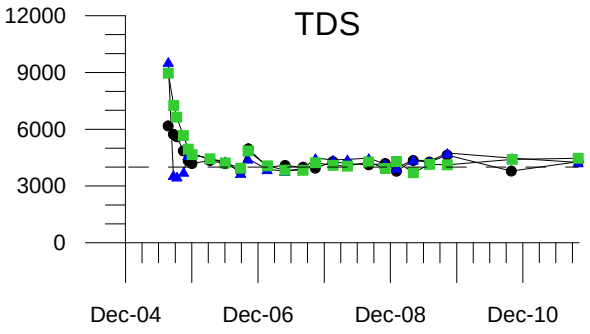


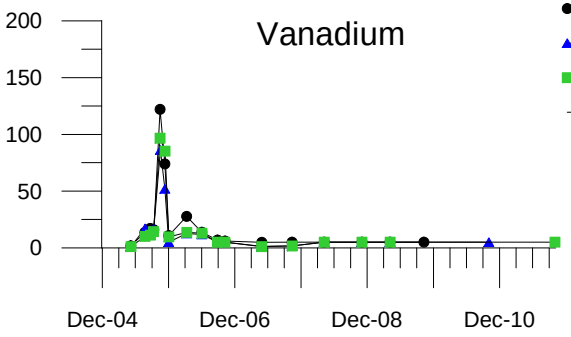


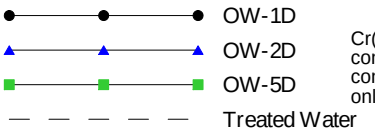








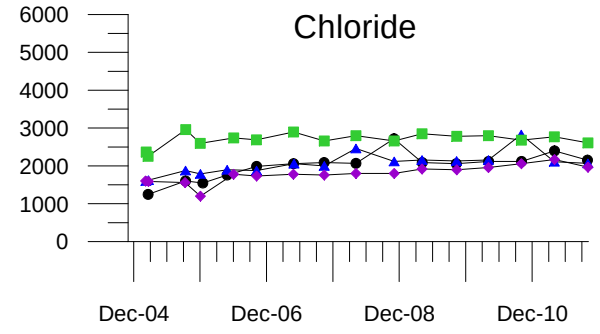


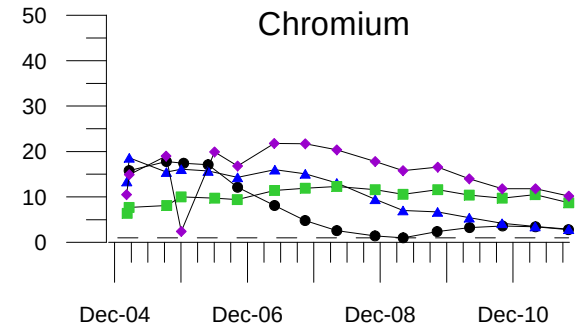


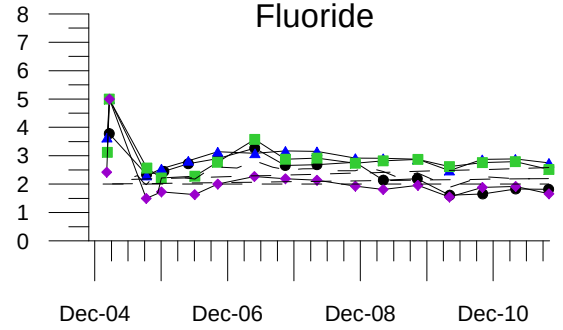
Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. Treated water only on select analytes.

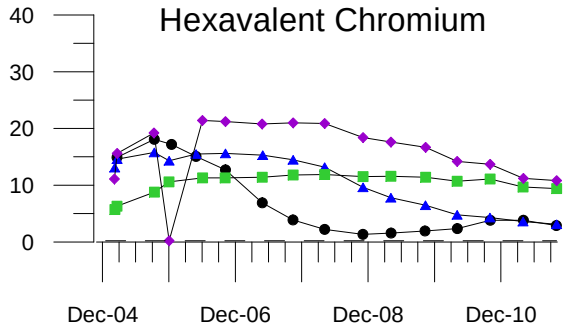
FIGURE 3C
OW-1D, OW-2D, OW-5D
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

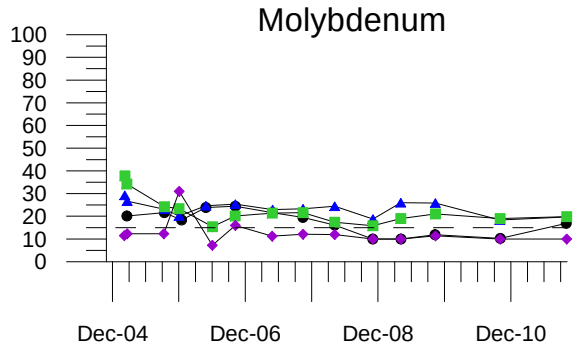
CH2MHILL

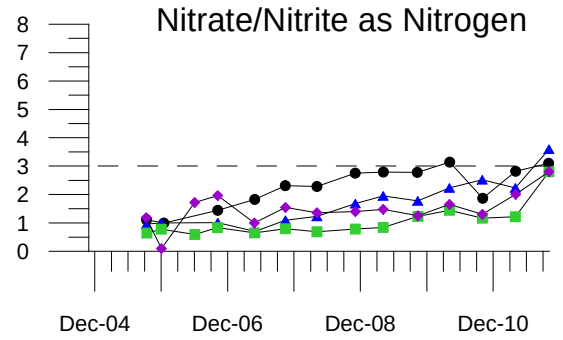


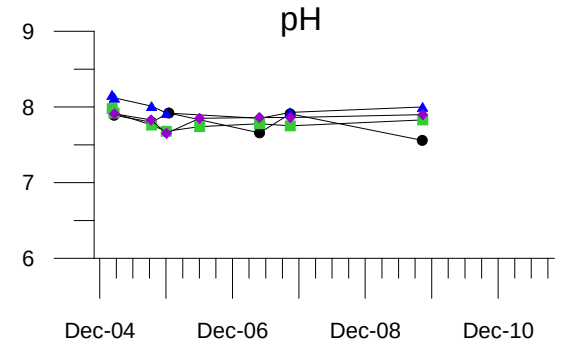


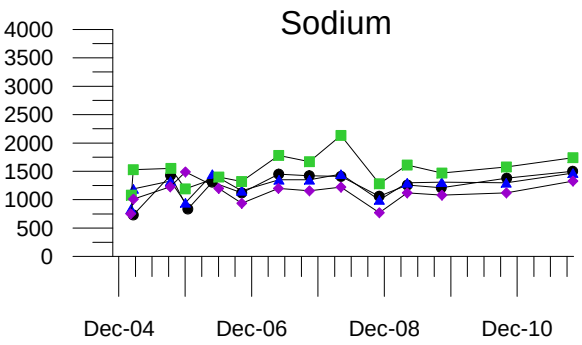


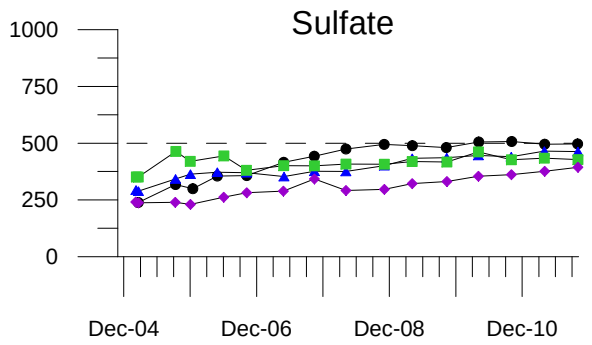


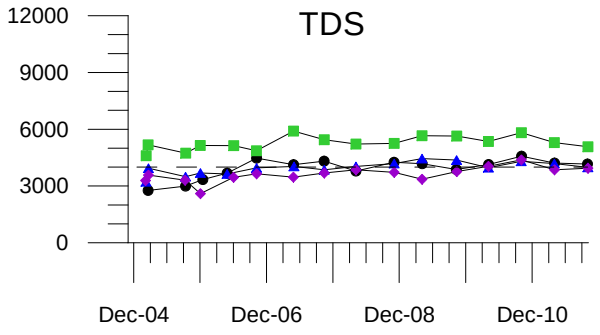


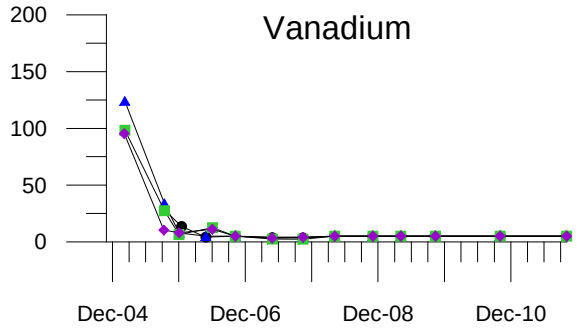


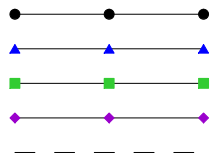








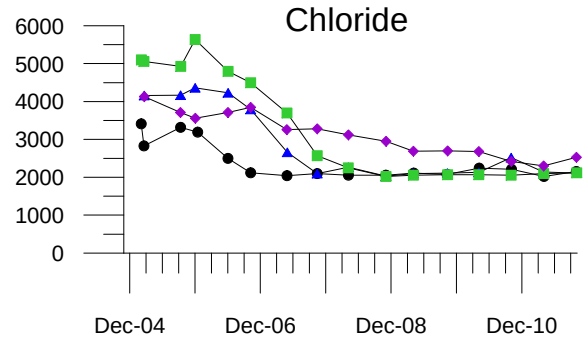


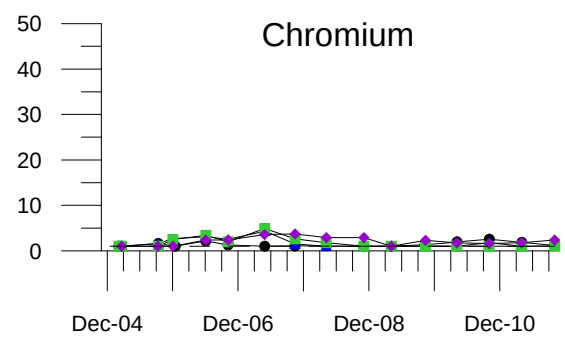


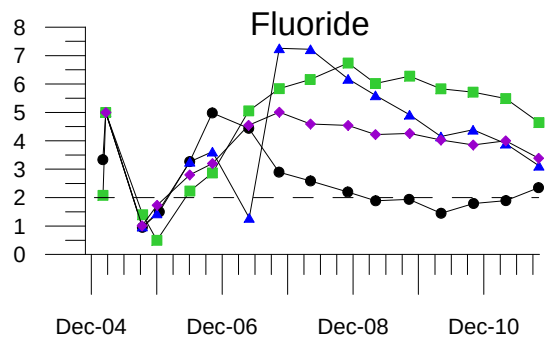
Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. Treated water only on select analytes.

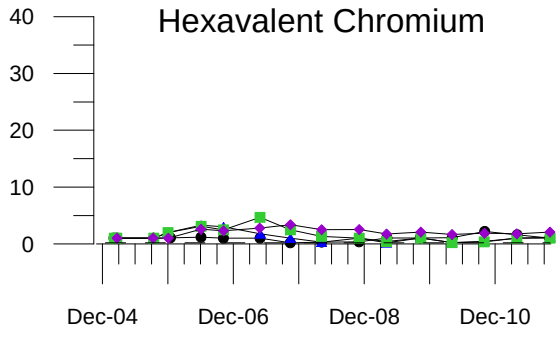
FIGURE 3D
CW-1M, CW-2M, CW-3M, CW-4M
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

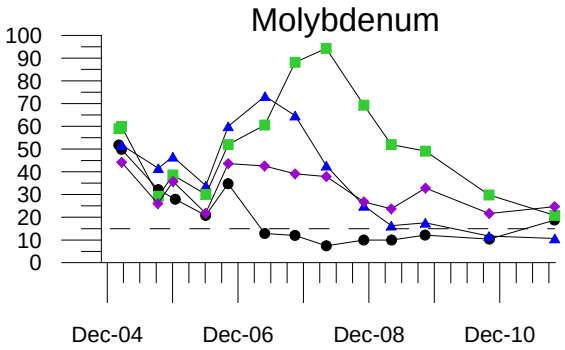
CH2MHILL

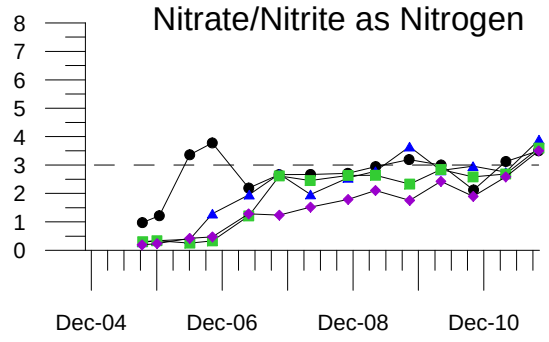


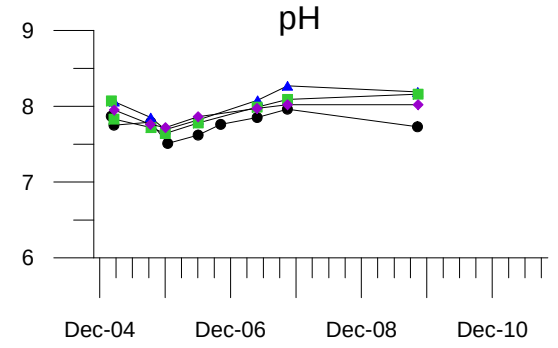


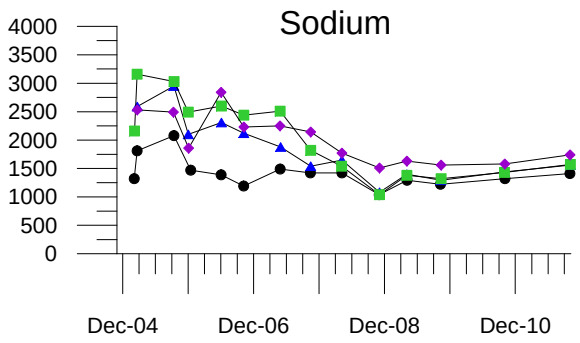


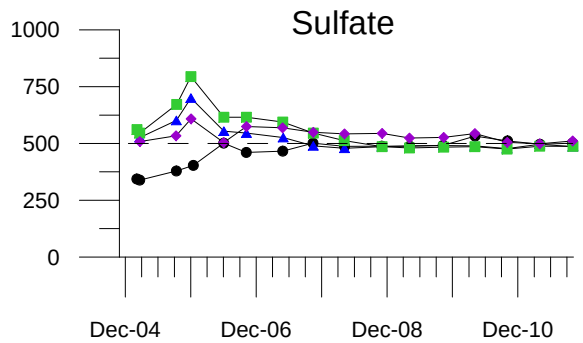


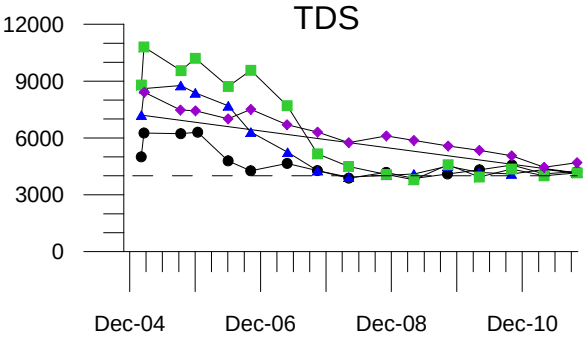


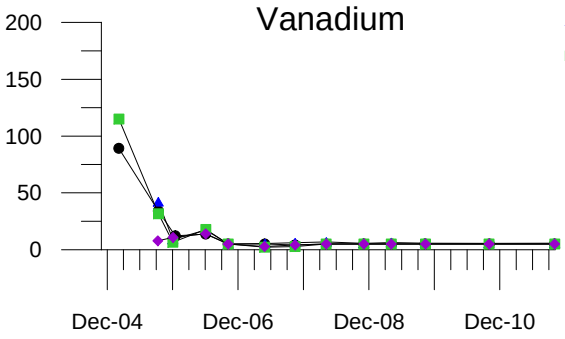


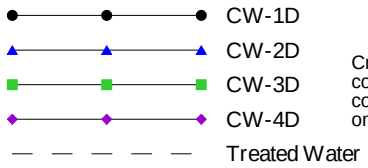








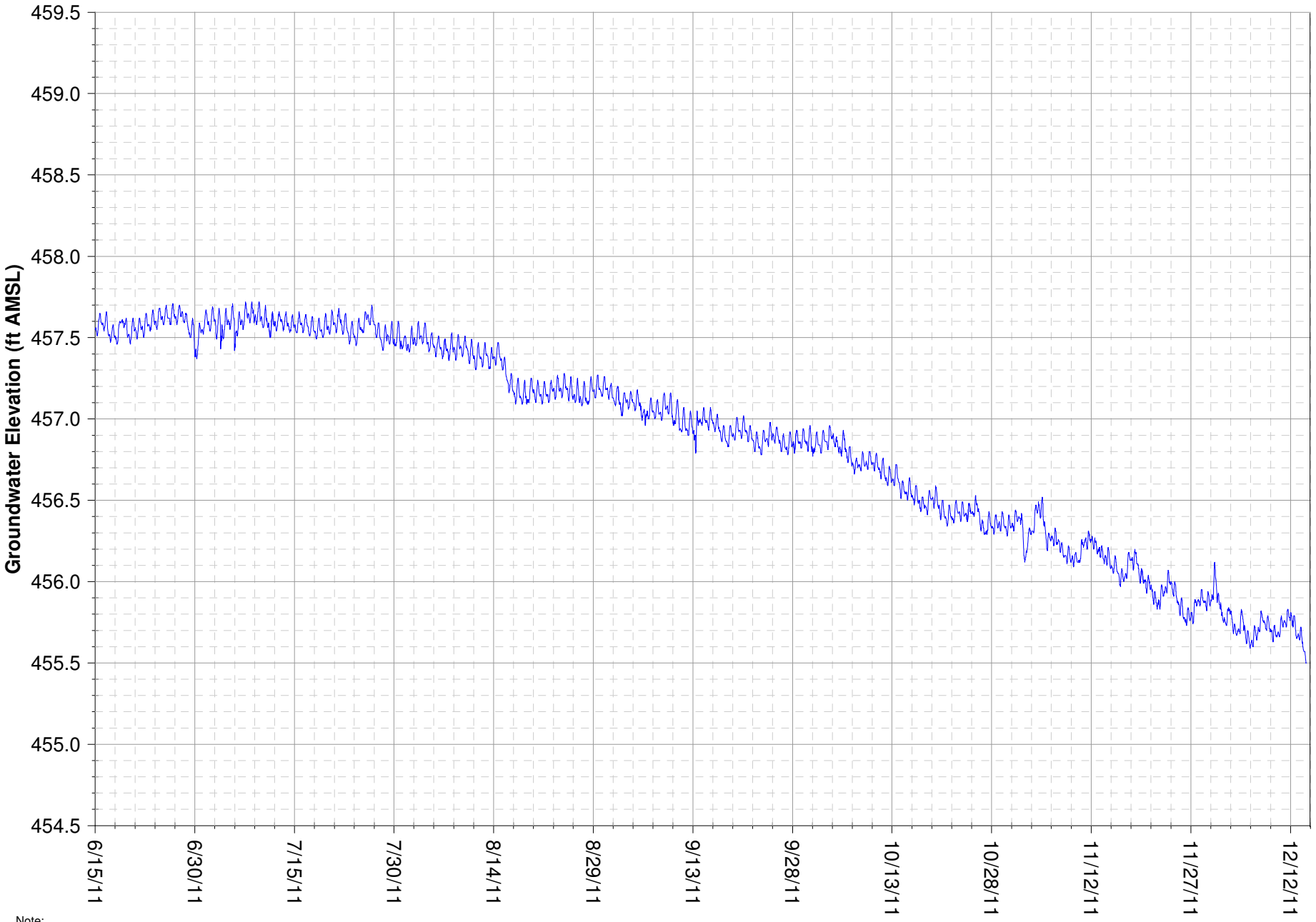




Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. Treated water only on select analytes.

FIGURE 3E
CW-1D, CW-2D, CW-3D, CW-4D
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

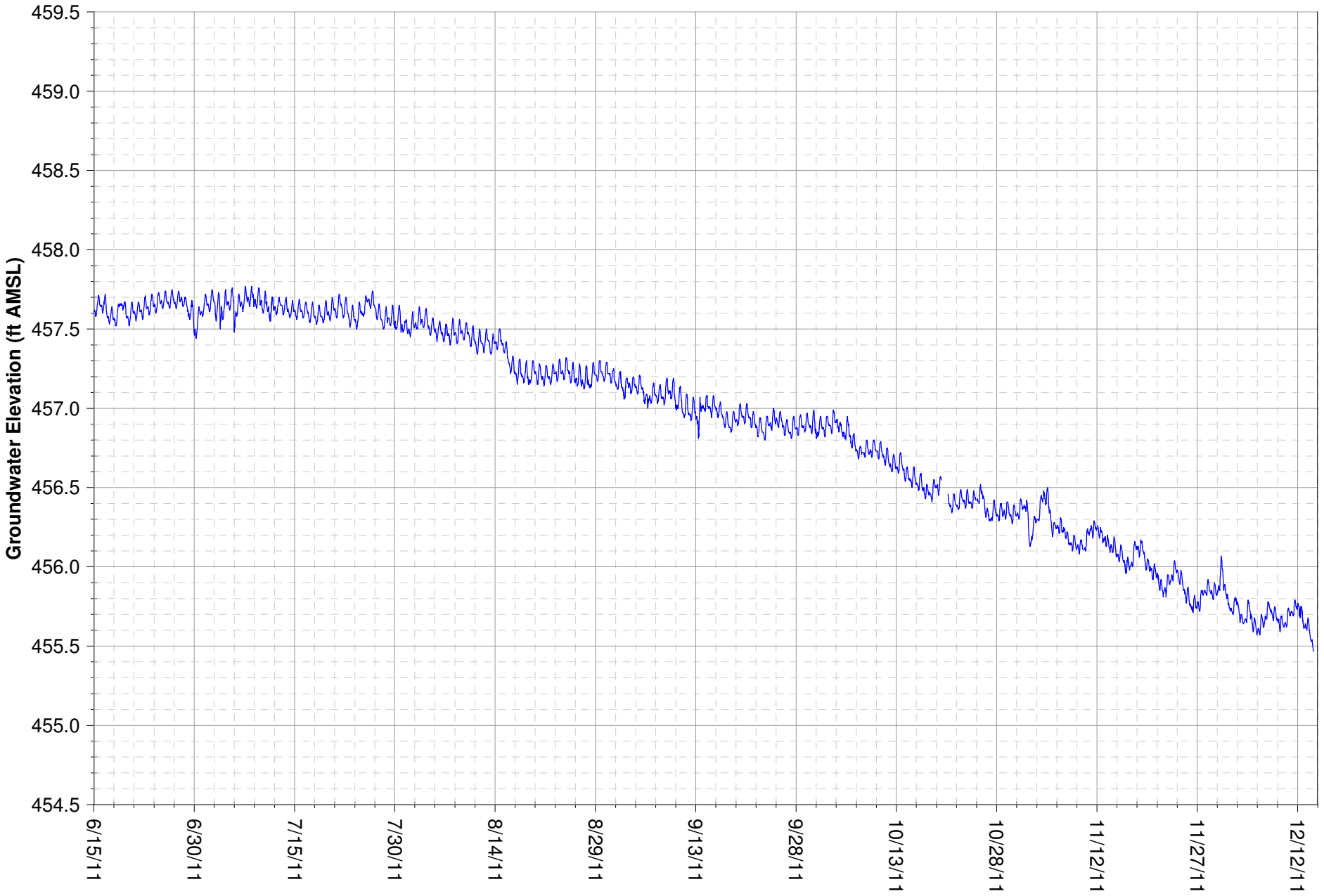
CH2MHILL



Note:
Data subject to review.
Refer to Table 1 for injection well status.

FIGURE 4A
OW-1S GROUNDWATER ELEVATION HYDROGRAPH
IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

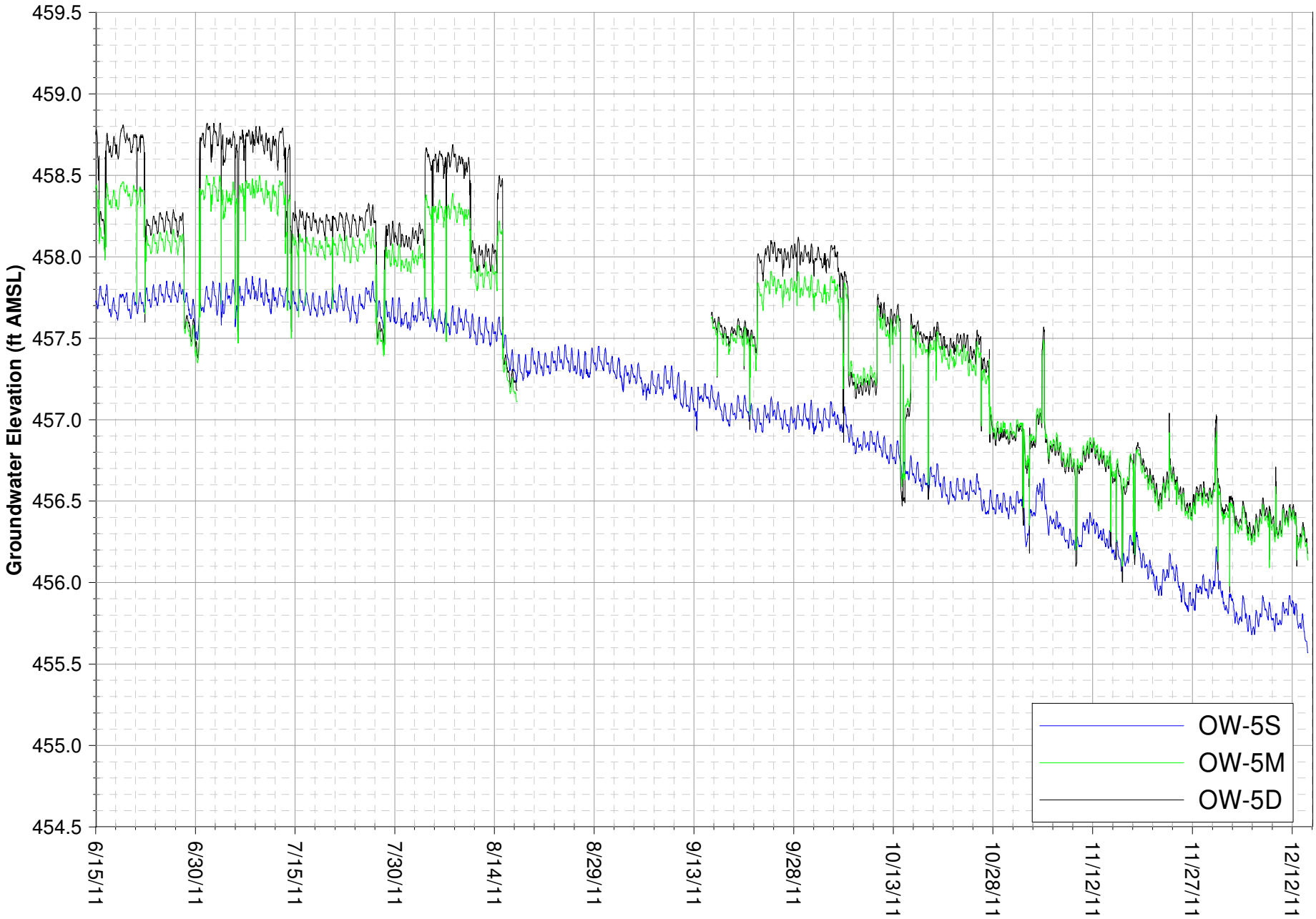
CH2MHILL



Note:
Data subject to review.
Refer to Table 1 for injection well status.

FIGURE 4B
OW-2S GROUNDWATER ELEVATION HYDROGRAPH
IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

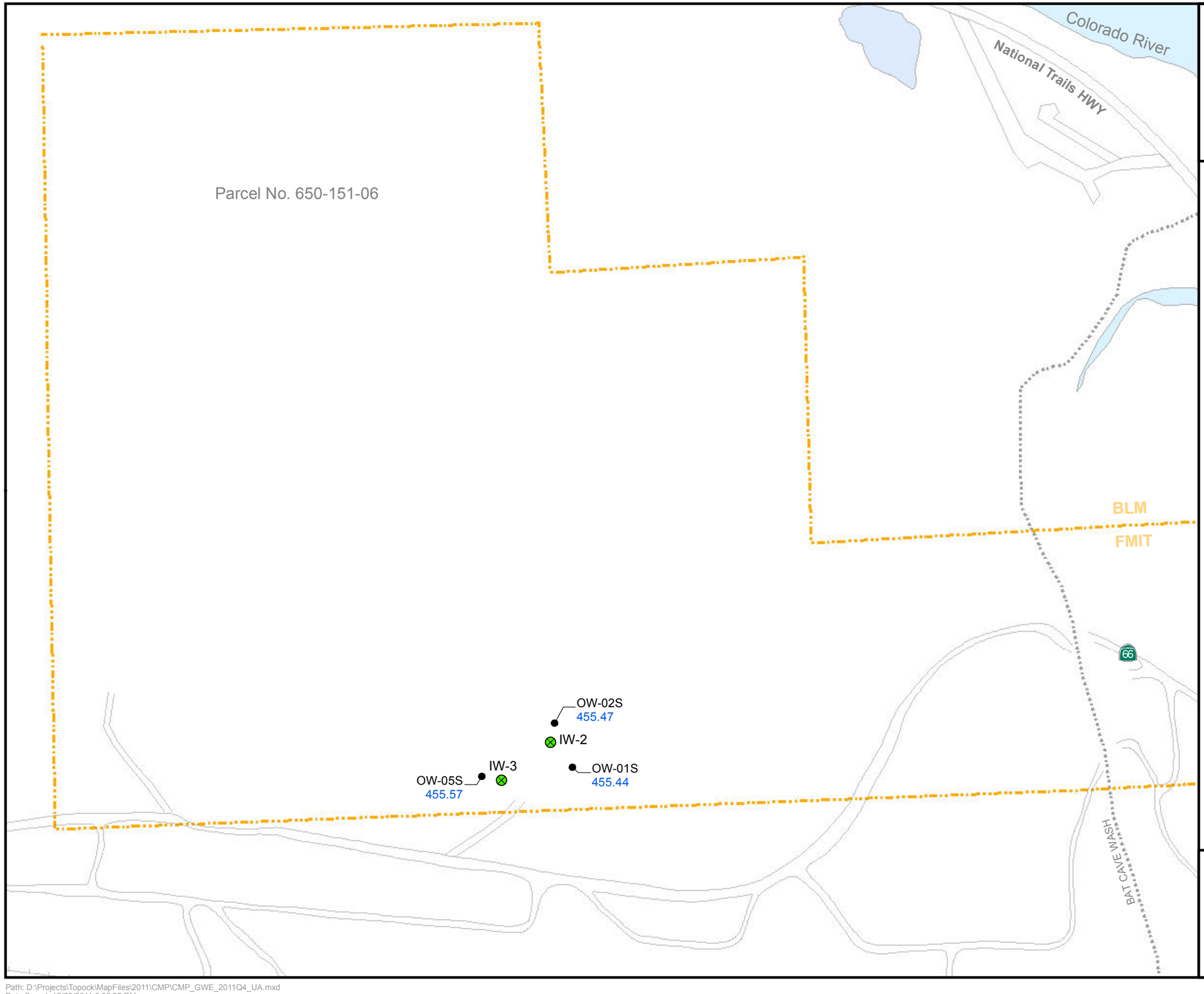
CH2MHILL



Note:
Data subject to review.
Refer to Table 1 for injection well status.
OW-5D data unavailable from August 17, 2011 to September 15, 2011 due to transducer failure.
OW-5M data unavailable from August 17, 2011 to September 15, 2011 due to transducer failure.

FIGURE 4C
OW-5 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



N

0 250 500 Feet

1 inch = 250 feet

California State Plane NAD83 Zone 5 US Feet

LEGEND

- Groundwater Monitoring, Compliance, and Observation Well
- IM-3 Injection Well

Groundwater Elevations for Shallow Wells in IM-3 Injection Area

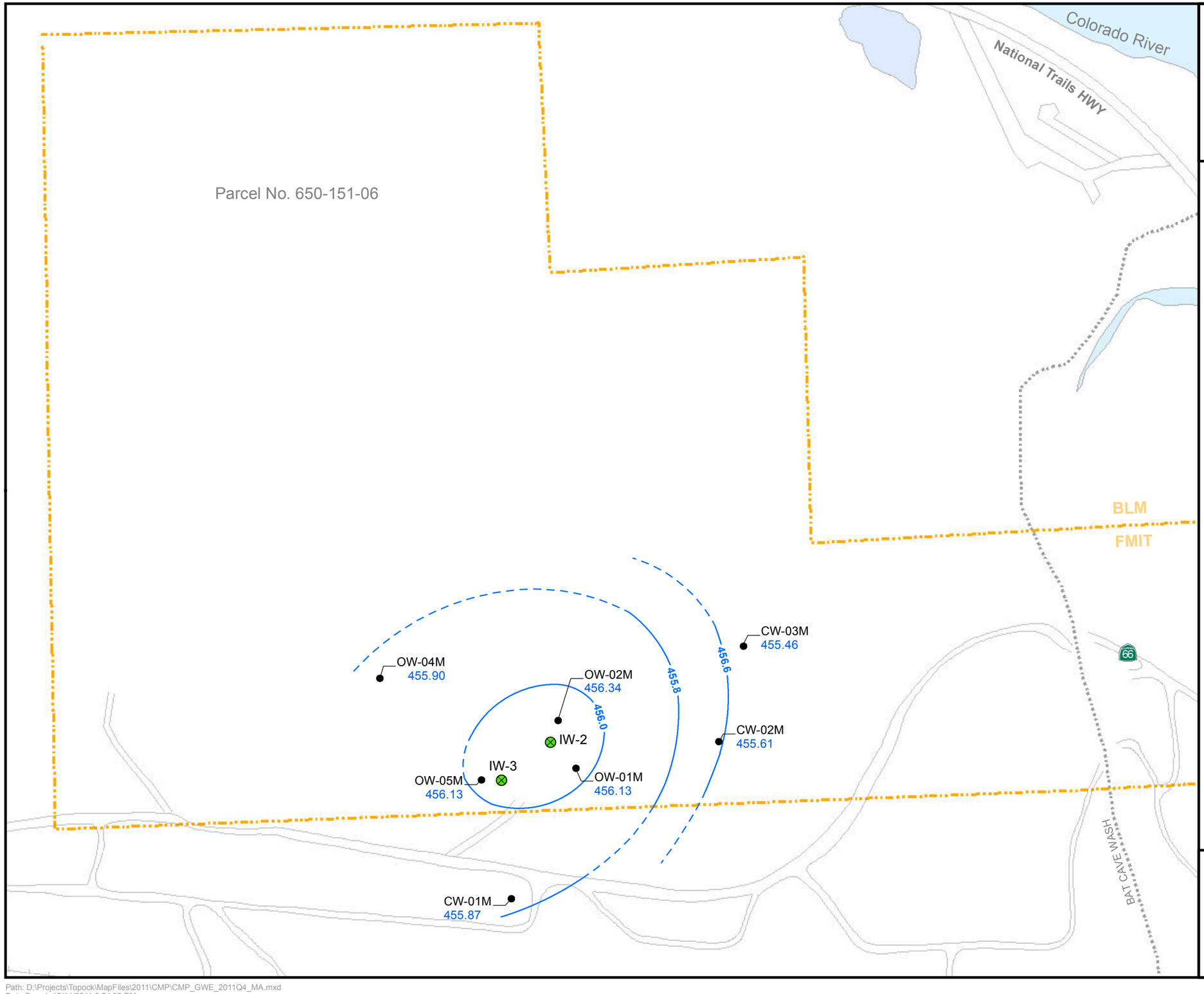
- **OW-05S** 455.57 — Salinity and temperature adjusted groundwater head elevation in feet above mean sea level (MSL).

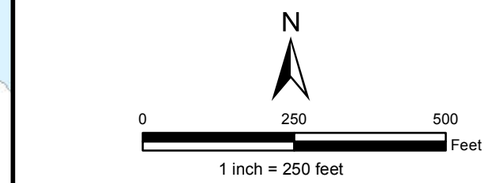
FIGURE 5A
AVERAGE GROUNDWATER ELEVATIONS FOR SHALLOW WELLS DECEMBER 14, 2011

IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Path: D:\Projects\Topock\MapFiles\2011\CMP\CMP_GWE_2011Q4_UA.mxd
Date Saved: 12/20/2011 6:02:35 PM





1 inch = 250 feet

California State Plane NAD83 Zone 5 US Feet

LEGEND

- Groundwater Monitoring, Compliance, and Observation Well
- IM-3 Injection Well

Groundwater Elevations for Mid-Depth Wells in IM-3 Injection Area

- **OW-05M** 456.13 — Salinity and temperature adjusted groundwater head elevation in feet above mean sea level (MSL).
- Groundwater elevation contour in feet above MSL (0.2 foot interval), dashed where inferred.

FIGURE 5B
AVERAGE GROUNDWATER ELEVATION CONTOURS FOR MID DEPTH WELLS DECEMBER 14, 2011

IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Path: D:\Projects\Topock\MapFiles\2011\CMP\CMP_GWE_2011Q4_MA.mxd
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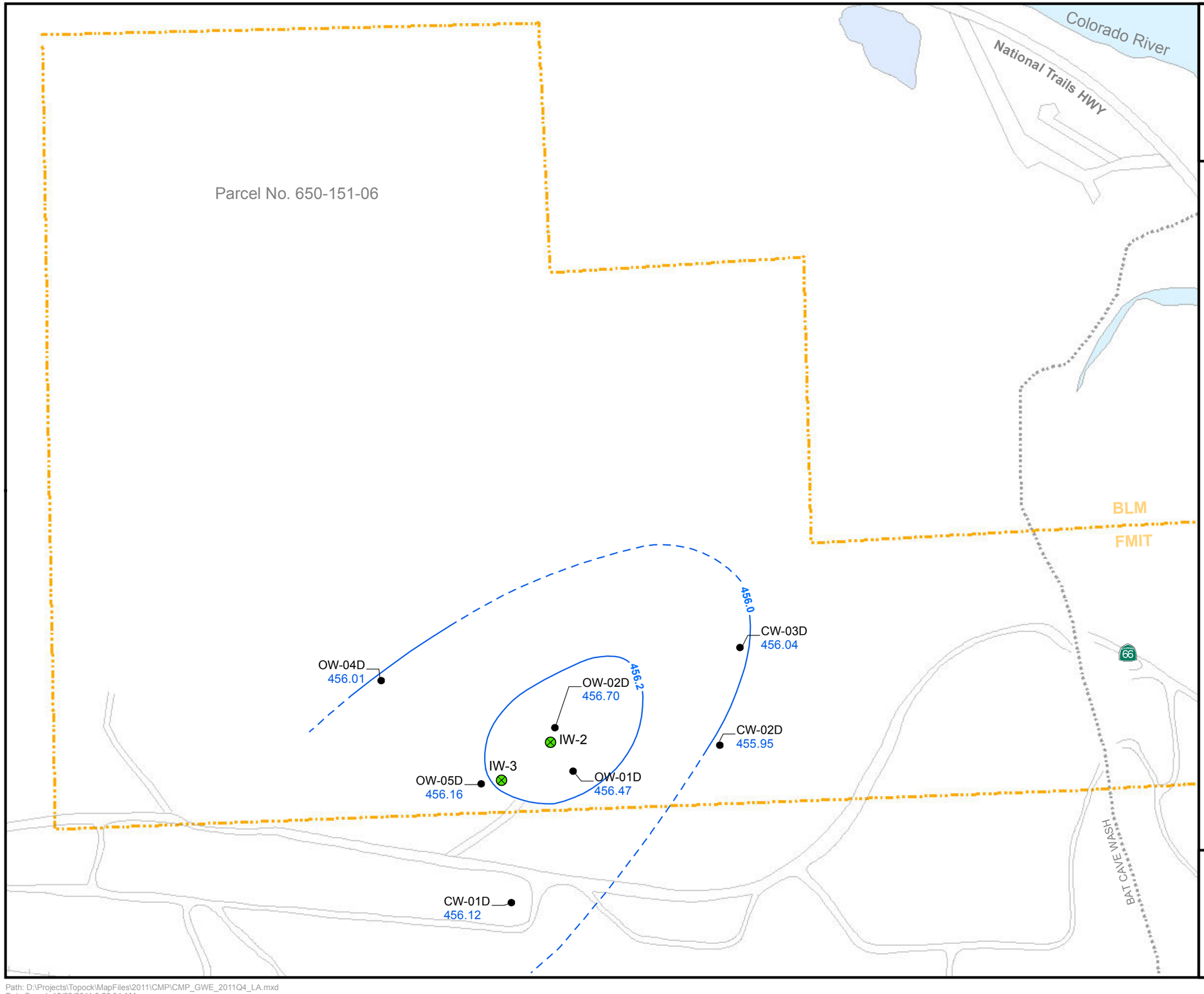

N

0 250 500 Feet

1 inch = 250 feet

California State Plane NAD83 Zone 5 US Feet

LEGEND

- Groundwater Monitoring, Compliance, and Observation Well
- IM-3 Injection Well

Groundwater Elevations for Deep Wells in IM-3 Injection Area

- **OW-05D** 456.16 — Salinity and temperature adjusted groundwater head elevation in feet above mean sea level (MSL).
- Groundwater elevation contour in feet above MSL (0.2 foot interval), dashed where inferred.

FIGURE 5C
AVERAGE GROUNDWATER ELEVATION CONTOURS FOR DEEP WELLS DECEMBER 14, 2011

IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Path: D:\Projects\Topock\MapFiles\2011\CMP\CMP_GWE_2011Q4_LA.mxd
Date Saved: 12/23/2011 9:58:04 AM

Appendix A
Laboratory Reports, Second Half 2011

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

Date: 11-01-2011
EMAX Batch No.: 11J060

Attn: Tamara Frank

E2 Engineering, Inc.
155 Grand Ave., Suite 702
Oakland CA 94612

Subject: Laboratory Report
Project: Topock

Enclosed is the Laboratory report for samples received on 10/06/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
CW-01D-026	J060-01	10/04/11	WATER	NITRATE/NITRITE AS N
CW-01M-026	J060-02	10/04/11	WATER	NITRATE/NITRITE AS N
OW-01D-026	J060-03	10/05/11	WATER	NITRATE/NITRITE AS N
OW-01M-026	J060-04	10/05/11	WATER	NITRATE/NITRITE AS N
OW-01S-026	J060-05	10/05/11	WATER	NITRATE/NITRITE AS N
OW-02D-026	J060-06	10/05/11	WATER	NITRATE/NITRITE AS N
OW-02M-026	J060-07	10/05/11	WATER	NITRATE/NITRITE AS N
OW-02S-026	J060-08	10/05/11	WATER	NITRATE/NITRITE AS N
OW-05D-026	J060-09	10/05/11	WATER	NITRATE/NITRITE AS N
OW-05M-026	J060-10	10/05/11	WATER	NITRATE/NITRITE AS N
OW-05S-026	J060-11	10/05/11	WATER	NITRATE/NITRITE AS N
OW-91-026	J060-12	10/05/11	WATER	NITRATE/NITRITE AS N

The results are summarized on the following pages.

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

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

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

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

CMP026 Emax #1

CH2MHILL E2-1001-

CHAIN OF CUSTODY RECORD

11J060

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringler
Project Number 405681.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 12 Days
Shipping Date: 10/5/2011
COC Number: 2

	Container:	Preservatives:	Filtered:	Holding Time:
	1 Liter Poly	H2SO4, pH<2, 4°C	NA	28

		DATE	TIME	Matrix	Nitrate/Nitrite (SM4500NO3-E)	Number of Containers	COMMENTS
1	CW-01D-026	10/4/2011	16:44	Water	X	1	
2	CW-01M-026	10/4/2011	17:25	Water	X	1	
3	OW-01D-026	10/5/2011	8:26	Water	X	1	
4	OW-01M-026	10/5/2011	8:59	Water	X	1	
5	OW-01S-026	10/5/2011	9:30	Water	X	1	
6	OW-02D-026	10/5/2011	10:33	Water	X	1	
7	OW-02M-026	10/5/2011	11:18	Water	X	1	
8	OW-02S-026	10/5/2011	11:40	Water	X	1	
9	OW-05D-026	10/5/2011	13:16	Water	X	1	
10	OW-05M-026	10/5/2011	14:02	Water	X	1	
11	OW-05S-026	10/5/2011	14:32	Water	X	1	
12	OW-91-026	10/5/2011	7:15	Water	X	1	
					TOTAL NUMBER OF CONTAINERS	12	

For Sample Conditions See Form Attached

ALERT !!
Level III QC

T=13.4°C

	Signatures	Date/Time
Approved by		
Sampled by		10-5-11 1545
Relinquished by	Rafael Davila	10/5/11 15:45
Received by		
Relinquished by	Rafael Davila	10/5/11 22:00
Received by		10/5/11 22:00

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

Received

Special Instructions:
ATTN:
Sample Custody

Report Copy to
Shawn Duffy
(530) 229-3303

Relinquish: Keith Stant 10/6/11

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 11J060
☑ EMAX Courier	See COC	Recepient LVNA
☐ Client Delivery		Date 10-6-11
☐ Third Party		Time 1521

COC Inspection

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

Comments:

Packaging Inspection

Container	☑ Cooler	☑ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 3.4 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

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

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

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

DISCREPANCIES

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

REVIEWS

Sample Labeling _____ Date 10/6/11

SRF _____ Date 10/6/11

PM _____ Date 10/11/11

LEGEND:

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

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

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

CLIENT: E2 ENGINEERING, INC.
PROJECT: TOPOCK

SDG: 11J060

Analyst names:

1. SM4500NO3-E: Nina Macalinao

1003A

CASE NARRATIVE

Client : E2 ENGINEERING, INC.

Project : TOPOCK

SDG : 11J060

METHOD SM4500NO3
NITRATE/NITRITE-N

A total of twelve (12) water samples were received on 10/06/11 for Nitrate/Nitrite as N analysis, Method SM4500NO3 in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition.

Holding Time
Samples were analyzed within the prescribed holding time.

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

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

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for NAJ003WL/C were all within QC limits.

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

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

METHOD SM4500NO3
NITRATE/NITRITE-N

Client : E2 ENGINEERING, INC.
Project : TOPOCK
Batch No. : 11J060

Matrix : WATER
Instrument ID : 70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	NAJ003WB	ND	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00311	NAJ00308	NAJ003W	NA	NA
LCS1W	NAJ003WL	0.512	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00312	NAJ00308	NAJ003W	NA	NA
LCD1W	NAJ003WC	0.492	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00313	NAJ00308	NAJ003W	NA	NA
CW-01D-026	J060-01	3.5	5	NA	0.500	0.100	10/31/1116:39	NA	NAJ00314	NAJ00308	NAJ003W	10/04/1116:44	10/06/11
CW-01M-026	J060-02	3.1	5	NA	0.500	0.100	10/31/1116:40	NA	NAJ00315	NAJ00308	NAJ003W	10/04/1117:25	10/06/11
OW-01D-026	J060-03	3.5	5	NA	0.500	0.100	10/31/1116:41	NA	NAJ00316	NAJ00308	NAJ003W	10/05/1108:26	10/06/11
OW-01M-026	J060-04	3.8	5	NA	0.500	0.100	10/31/1116:44	NA	NAJ00319	NAJ00317	NAJ003W	10/05/1108:59	10/06/11
OW-01S-026	J060-05	4.5	5	NA	0.500	0.100	10/31/1116:44	NA	NAJ00320	NAJ00317	NAJ003W	10/05/1109:30	10/06/11
OW-02D-026	J060-06	3.9	5	NA	0.500	0.100	10/31/1116:45	NA	NAJ00321	NAJ00317	NAJ003W	10/05/1110:33	10/06/11
OW-02M-026	J060-07	4.4	5	NA	0.500	0.100	10/31/1116:46	NA	NAJ00322	NAJ00317	NAJ003W	10/05/1111:18	10/06/11
OW-02S-026	J060-08	4.9	5	NA	0.500	0.100	10/31/1116:47	NA	NAJ00323	NAJ00317	NAJ003W	10/05/1111:40	10/06/11
OW-05D-026	J060-09	4.1	5	NA	0.500	0.100	10/31/1116:49	NA	NAJ00324	NAJ00317	NAJ003W	10/05/1113:16	10/06/11
OW-05M-026	J060-10	3.9	5	NA	0.500	0.100	10/31/1116:50	NA	NAJ00325	NAJ00317	NAJ003W	10/05/1114:02	10/06/11
OW-05S-026	J060-11	4.4	5	NA	0.500	0.100	10/31/1116:51	NA	NAJ00326	NAJ00317	NAJ003W	10/05/1114:32	10/06/11
OW-91-026	J060-12	4.0	5	NA	0.500	0.100	10/31/1116:52	NA	NAJ00327	NAJ00317	NAJ003W	10/05/1107:15	10/06/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: E2 ENGINEERING, INC.
PROJECT: TOPOCK
METHOD: METHOD SM4500NO3
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11J060
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: NAJ003WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/31/11 16:35/16:35

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Nitrate + Nitrite-N	ND	0.500	0.512	102	0.500	0.492	98	4	80-120	20

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

Date: 11-01-2011
EMAX Batch No.: 11J075

Attn: Tamara Frank

E2 Engineering, Inc.
155 Grand Ave., Suite 702
Oakland CA 94612

Subject: Laboratory Report
Project: Topock

Enclosed is the Laboratory report for samples received on 10/07/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
CW-04D-026	J075-01	10/05/11	WATER	NITRATE/NITRITE AS N
CW-02D-026	J075-02	10/06/11	WATER	NITRATE/NITRITE AS N
CW-02M-026	J075-03	10/06/11	WATER	NITRATE/NITRITE AS N
CW-03D-026	J075-04	10/06/11	WATER	NITRATE/NITRITE AS N
CW-03M-026	J075-05	10/06/11	WATER	NITRATE/NITRITE AS N
CW-04M-026	J075-06	10/06/11	WATER	NITRATE/NITRITE AS N
OW-90-026	J075-07	10/06/11	WATER	NITRATE/NITRITE AS N

The results are summarized on the following pages.

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

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

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

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

CMP-026 EMax #2

CH2MHILL E2-1001- **CHAIN OF CUSTODY RECORD** 11J075

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringier
Project Number 405681.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 12 Days
Shipping Date: 10/7/2011
COC Number: 4

	Container:	Preservatives:	Filtered:	Holding Time:	
	1 Liter Poly	H_2SO_4, pH<2, 4°C	NA	28	Nitrate/Nitrite (SM4500NO3-E)

		DATE	TIME	Matrix			Number of Containers	COMMENTS
1	CW-04D-026	10/5/2011	16:14	Water	X		1	
2	CW-02D-026	10/6/2011	10:43	Water	X		1	
3	CW-02M-026	10/6/2011	11:49	Water	X		1	
4	CW-03D-026	10/6/2011	13:25	Water	X		1	
5	CW-03M-026	10/6/2011	14:34	Water	X		1	
6	CW-04M-026	10/6/2011	8:48	Water	X		1	
7	OW-90-026	10/6/2011	7:05	Water	X		1	
						TOTAL NUMBER OF CONTAINERS	7	

T = 8.4°C

	Signatures	Date/Time
Approved by		
Sampled by		10-7-11
Relinquished by		
Received by	Hipolito	10-7-11 800
Relinquished by	Hipolito	10-7-11 1210
Received by	Linda Nakamura	10/7/11

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

ATTN:
Sample Custody

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

10/7/11 14:30

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	
☑ EMAX Courier	SEE COC	ECN 11J075
☐ Client Delivery		Recepient J-LUNA
☐ Third Party		Date 10-7-11
		Time 1420

COC Inspection

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

Comments:

Packaging Inspection

Container	☑ Cooler	☑ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 1 3.4 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N 101541371*	*B - S/N 101541382*			

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

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

DISCREPANCIES

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

REVIEWS

Sample Labeling _____ Date 10/7/11

SRF _____ Date 10/7/11

PM _____ Date 10/10/11

LEGEND:

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

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

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

CLIENT: E2 ENGINEERING, INC.
PROJECT: TOPOCK

SDG: 11J075

Analyst names:

1. SM4500NO3-E: Nina Macalinao

1003A

CASE NARRATIVE

Client : E2 ENGINEERING, INC.

Project : TOPOCK

SDG : 11J075

METHOD SM4500NO3
NITRATE/NITRITE-N

A total of seven (7) water samples were received on 10/07/11 for Nitrate/Nitrite as N analysis, Method SM4500NO3 in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition.

Holding Time
Samples were analyzed within the prescribed holding time.

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

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

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for NAJ003WL/C were all within QC limits.

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

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

METHOD SM4500NO3
NITRATE/NITRITE-N

Client : E2 ENGINEERING, INC.
Project : TOPOCK
Batch No. : 11J075

Matrix : WATER
Instrument ID : 70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	NAJ003WB	ND	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00311	NAJ00308	NAJ003W	NA	NA
LCS1W	NAJ003WL	0.512	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00312	NAJ00308	NAJ003W	NA	NA
LCD1W	NAJ003WC	0.492	1	NA	0.100	0.0200	10/31/1116:35	NA	NAJ00313	NAJ00308	NAJ003W	NA	NA
CW-04D-026	J075-01	3.5	5	NA	0.500	0.100	10/31/1116:55	NA	NAJ00330	NAJ00328	NAJ003W	10/05/1116:14	10/07/11
CW-02D-026	J075-02	3.9	5	NA	0.500	0.100	10/31/1116:56	NA	NAJ00331	NAJ00328	NAJ003W	10/06/1110:43	10/07/11
CW-02M-026	J075-03	3.6	5	NA	0.500	0.100	10/31/1116:56	NA	NAJ00332	NAJ00328	NAJ003W	10/06/1111:49	10/07/11
CW-03D-026	J075-04	3.6	5	NA	0.500	0.100	10/31/1116:56	NA	NAJ00333	NAJ00328	NAJ003W	10/06/1113:25	10/07/11
CW-03M-026	J075-05	2.8	5	NA	0.500	0.100	10/31/1116:57	NA	NAJ00334	NAJ00328	NAJ003W	10/06/1114:34	10/07/11
CW-04M-026	J075-06	2.5	5	NA	0.500	0.100	10/31/1116:58	NA	NAJ00335	NAJ00328	NAJ003W	10/06/1108:48	10/07/11
OW-90-026	J075-07	2.8	5	NA	0.500	0.100	10/31/1116:59	NA	NAJ00336	NAJ00328	NAJ003W	10/06/1107:05	10/07/11

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: E2 ENGINEERING, INC.
PROJECT: TOPOCK
METHOD: METHOD SM4500NO3
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 11J075
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: NAJ003WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/31/11 16:35/16:35

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Nitrate + Nitrite-N	ND	0.500	0.512	102	0.500	0.492	98	4	80-120	20

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

November 4, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-CMP-026, GROUNDWATER MONITORING PROJECT, TLI NO.: 997635

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-CMP-026 groundwater-monitoring project. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data, and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.

The samples were received and delivered with the chain of custody on October 5, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

Michael Ngo
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: PG&E Topock Project
Project Name: 423575.MP.02.GM
Project No.: 423575.MP.02.GM

Laboratory No.: 997653
Date: November 4, 2011
Collected: October 4 - 5, 2011
Received: October 5, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Kim Luck
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Maria Mangarova
EPA 200.7	Metals by ICP	Ethel Suico
SW 6010B	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov

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

Laboratory No.: 997653
Date Received: October 5, 2011

Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-001	CW-01D-026	E120.1	NONE	10/4/2011	16:44	EC	7350	umhos/cm	2.00
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Aluminum	ND	ug/L	50.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	BORON	977	ug/L	200
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Calcium	190	mg/L	12.5
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Iron	ND	ug/L	20.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Magnesium	17.7	mg/L	0.500
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Manganese	ND	ug/L	10.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Molybdenum	18.7	ug/L	10.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Nickel	ND	ug/L	10.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Potassium	16.3	mg/L	0.500
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Selenium	ND	ug/L	50.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Sodium	1410	mg/L	50.0
997653-001	CW-01D-026	E200.7	FLDFLT	10/4/2011	16:44	Zinc	ND	ug/L	10.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Antimony	ND	ug/L	10.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Arsenic	1.6	ug/L	1.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Barium	25.8	ug/L	10.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Beryllium	ND	ug/L	1.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Cadmium	ND	ug/L	3.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Chromium	1.2	ug/L	1.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Cobalt	ND	ug/L	5.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Copper	ND	ug/L	5.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Lead	ND	ug/L	10.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Mercury	ND	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Silver	ND	ug/L	5.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Thallium	ND	ug/L	1.0
997653-001	CW-01D-026	E200.8	FLDFLT	10/4/2011	16:44	Vanadium	ND	ug/L	5.0
997653-001	CW-01D-026	E218.6	FLDFLT	10/4/2011	16:44	Chromium, hexavalent	ND	ug/L	1.0
997653-001	CW-01D-026	E300	NONE	10/4/2011	16:44	Chloride	2150	mg/L	100
997653-001	CW-01D-026	E300	NONE	10/4/2011	16:44	Fluoride	2.35	mg/L	0.500
997653-001	CW-01D-026	E300	NONE	10/4/2011	16:44	Sulfate	501	mg/L	25.0
997653-001	CW-01D-026	SM2130B	NONE	10/4/2011	16:44	Turbidity	0.128	NTU	0.100
997653-001	CW-01D-026	SM2320B	NONE	10/4/2011	16:44	Alkalinity	51	mg/L	5.00
997653-001	CW-01D-026	SM2320B	NONE	10/4/2011	16:44	Bicarbonate	51	mg/L	5.00
997653-001	CW-01D-026	SM2320B	NONE	10/4/2011	16:44	Carbonate	ND	mg/L	5.00
997653-001	CW-01D-026	SM2540C	NONE	10/4/2011	16:44	Total Dissolved Solids	4220	mg/L	125
997653-001	CW-01D-026	SM4500NH3	NONE	10/4/2011	16:44	Ammonia-N	1.53	mg/L	0.500
997653-001	CW-01D-026	SW6010B	NONE	10/4/2011	16:44	Iron	ND	ug/L	20.0
997653-002	CW-01M-026	E120.1	NONE	10/4/2011	17:25	EC	7420	umhos/cm	2.00
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Aluminum	ND	ug/L	50.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	BORON	1000	ug/L	200
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Calcium	152	mg/L	12.5
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Iron	ND	ug/L	20.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Magnesium	12.6	mg/L	0.500
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Manganese	ND	ug/L	10.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Molybdenum	16.9	ug/L	10.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Nickel	ND	ug/L	10.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Potassium	16.4	mg/L	0.500
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Selenium	ND	ug/L	50.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Sodium	1500	mg/L	50.0
997653-002	CW-01M-026	E200.7	FLDFLT	10/4/2011	17:25	Zinc	ND	ug/L	10.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Antimony	ND	ug/L	10.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Arsenic	1.8	ug/L	1.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Barium	84.2	ug/L	10.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Beryllium	ND	ug/L	1.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Cadmium	ND	ug/L	3.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Chromium	2.8	ug/L	1.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Cobalt	ND	ug/L	5.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Copper	ND	ug/L	5.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Lead	ND	ug/L	10.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Mercury	ND	ug/L	1.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Silver	ND	ug/L	5.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Thallium	ND	ug/L	1.0
997653-002	CW-01M-026	E200.8	FLDFLT	10/4/2011	17:25	Vanadium	ND	ug/L	5.0
997653-002	CW-01M-026	E218.6	FLDFLT	10/4/2011	17:25	Chromium, hexavalent	2.9	ug/L	1.0
997653-002	CW-01M-026	E300	NONE	10/4/2011	17:25	Chloride	2150	mg/L	100
997653-002	CW-01M-026	E300	NONE	10/4/2011	17:25	Fluoride	1.82	mg/L	0.500
997653-002	CW-01M-026	E300	NONE	10/4/2011	17:25	Sulfate	497	mg/L	25.0
997653-002	CW-01M-026	SM2130B	NONE	10/4/2011	17:25	Turbidity	0.769	NTU	0.100
997653-002	CW-01M-026	SM2320B	NONE	10/4/2011	17:25	Alkalinity	75.0	mg/L	5.00
997653-002	CW-01M-026	SM2320B	NONE	10/4/2011	17:25	Bicarbonate	75.0	mg/L	5.00
997653-002	CW-01M-026	SM2320B	NONE	10/4/2011	17:25	Carbonate	ND	mg/L	5.00
997653-002	CW-01M-026	SM2540C	NONE	10/4/2011	17:25	Total Dissolved Solids	4160	mg/L	125
997653-002	CW-01M-026	SM4500NH3	NONE	10/4/2011	17:25	Ammonia-N	1.14	mg/L	0.500
997653-002	CW-01M-026	SW6010B	NONE	10/4/2011	17:25	Iron	50.3	ug/L	20.0
997653-003	OW-01D-026	E120.1	NONE	10/5/2011	8:26	EC	7390	umhos/cm	2.00
997653-003	OW-01D-026	E200.7	FLDFLT	10/5/2011	8:26	Molybdenum	19.2	ug/L	10.0
997653-003	OW-01D-026	E200.7	FLDFLT	10/5/2011	8:26	Sodium	1390	mg/L	50.0
997653-003	OW-01D-026	E200.8	FLDFLT	10/5/2011	8:26	Chromium	1.7	ug/L	1.0
997653-003	OW-01D-026	E218.6	FLDFLT	10/5/2011	8:26	Chromium, hexavalent	1.0	ug/L	1.0
997653-003	OW-01D-026	E300	NONE	10/5/2011	8:26	Chloride	2120	mg/L	100
997653-003	OW-01D-026	E300	NONE	10/5/2011	8:26	Fluoride	2.42	mg/L	0.500
997653-003	OW-01D-026	E300	NONE	10/5/2011	8:26	Sulfate	495	mg/L	25.0
997653-003	OW-01D-026	SM2130B	NONE	10/5/2011	8:26	Turbidity	0.114	NTU	0.100
997653-003	OW-01D-026	SM2540C	NONE	10/5/2011	8:26	Total Dissolved Solids	4280	mg/L	125
997653-004	OW-01M-026	E120.1	NONE	10/5/2011	8:59	EC	7280	umhos/cm	2.00
997653-004	OW-01M-026	E200.7	FLDFLT	10/5/2011	8:59	Molybdenum	23.5	ug/L	10.0
997653-004	OW-01M-026	E200.7	FLDFLT	10/5/2011	8:59	Sodium	1370	mg/L	50.0
997653-004	OW-01M-026	E200.8	FLDFLT	10/5/2011	8:59	Chromium	2.1	ug/L	1.0
997653-004	OW-01M-026	E218.6	FLDFLT	10/5/2011	8:59	Chromium, hexavalent	1.5	ug/L	1.0
997653-004	OW-01M-026	E300	NONE	10/5/2011	8:59	Chloride	2180	mg/L	100
997653-004	OW-01M-026	E300	NONE	10/5/2011	8:59	Fluoride	2.36	mg/L	0.500
997653-004	OW-01M-026	E300	NONE	10/5/2011	8:59	Sulfate	496	mg/L	25.0
997653-004	OW-01M-026	SM2130B	NONE	10/5/2011	8:59	Turbidity	0.131	NTU	0.100
997653-004	OW-01M-026	SM2540C	NONE	10/5/2011	8:59	Total Dissolved Solids	4320	mg/L	125

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-005	OW-01S-026	E120.1	NONE	10/5/2011	9:30	EC	3930	umhos/cm	2.00
997653-005	OW-01S-026	E200.7	FLDFLT	10/5/2011	9:30	Sodium	487	mg/L	50.0
997653-005	OW-01S-026	E200.8	FLDFLT	10/5/2011	9:30	Chromium	16.0	ug/L	1.0
997653-005	OW-01S-026	E200.8	FLDFLT	10/5/2011	9:30	Molybdenum	15.0	ug/L	10.0
997653-005	OW-01S-026	E218.6	FLDFLT	10/5/2011	9:30	Chromium, hexavalent	15.7	ug/L	0.20
997653-005	OW-01S-026	E300	NONE	10/5/2011	9:30	Chloride	1060	mg/L	100
997653-005	OW-01S-026	E300	NONE	10/5/2011	9:30	Fluoride	2.32	mg/L	0.500
997653-005	OW-01S-026	E300	NONE	10/5/2011	9:30	Sulfate	227	mg/L	25.0
997653-005	OW-01S-026	SM2130B	NONE	10/5/2011	9:30	Turbidity	0.583	NTU	0.100
997653-005	OW-01S-026	SM2540C	NONE	10/5/2011	9:30	Total Dissolved Solids	2430	mg/L	50.0
997653-006	OW-02D-026	E120.1	NONE	10/5/2011	10:33	EC	7290	umhos/cm	2.00
997653-006	OW-02D-026	E200.7	FLDFLT	10/5/2011	10:33	Sodium	1410	mg/L	50.0
997653-006	OW-02D-026	E200.8	FLDFLT	10/5/2011	10:33	Chromium	ND	ug/L	1.0
997653-006	OW-02D-026	E200.8	FLDFLT	10/5/2011	10:33	Molybdenum	23.9	ug/L	10.0
997653-006	OW-02D-026	E218.6	FLDFLT	10/5/2011	10:33	Chromium, hexavalent	ND	ug/L	1.0
997653-006	OW-02D-026	E300	NONE	10/5/2011	10:33	Chloride	2120	mg/L	100
997653-006	OW-02D-026	E300	NONE	10/5/2011	10:33	Fluoride	2.20	mg/L	0.500
997653-006	OW-02D-026	E300	NONE	10/5/2011	10:33	Sulfate	498	mg/L	25.0
997653-006	OW-02D-026	SM2130B	NONE	10/5/2011	10:33	Turbidity	ND	NTU	0.100
997653-006	OW-02D-026	SM2540C	NONE	10/5/2011	10:33	Total Dissolved Solids	4240	mg/L	125
997653-007	OW-02M-026	E120.1	NONE	10/5/2011	11:18	EC	7260	umhos/cm	2.00
997653-007	OW-02M-026	E200.7	FLDFLT	10/5/2011	11:18	Sodium	1360	mg/L	50.0
997653-007	OW-02M-026	E200.8	FLDFLT	10/5/2011	11:18	Chromium	1.3	ug/L	1.0
997653-007	OW-02M-026	E200.8	FLDFLT	10/5/2011	11:18	Molybdenum	20.2	ug/L	10.0
997653-007	OW-02M-026	E218.6	FLDFLT	10/5/2011	11:18	Chromium, hexavalent	1.6	ug/L	1.0
997653-007	OW-02M-026	E300	NONE	10/5/2011	11:18	Chloride	2120	mg/L	100
997653-007	OW-02M-026	E300	NONE	10/5/2011	11:18	Fluoride	2.40	mg/L	0.500
997653-007	OW-02M-026	E300	NONE	10/5/2011	11:18	Sulfate	500	mg/L	25.0
997653-007	OW-02M-026	SM2130B	NONE	10/5/2011	11:18	Turbidity	ND	NTU	0.100
997653-007	OW-02M-026	SM2540C	NONE	10/5/2011	11:18	Total Dissolved Solids	4180	mg/L	125

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-008	OW-02S-026	E120.1	NONE	10/5/2011	11:40	EC	1810	umhos/cm	2.00
997653-008	OW-02S-026	E200.7	FLDFLT	10/5/2011	11:40	Molybdenum	41.8	ug/L	10.0
997653-008	OW-02S-026	E200.7	FLDFLT	10/5/2011	11:40	Sodium	292	mg/L	50.0
997653-008	OW-02S-026	E200.8	FLDFLT	10/5/2011	11:40	Chromium	29.6	ug/L	1.0
997653-008	OW-02S-026	E218.6	FLDFLT	10/5/2011	11:40	Chromium, hexavalent	30.8	ug/L	1.0
997653-008	OW-02S-026	E300	NONE	10/5/2011	11:40	Chloride	382	mg/L	100
997653-008	OW-02S-026	E300	NONE	10/5/2011	11:40	Fluoride	5.12	mg/L	0.500
997653-008	OW-02S-026	E300	NONE	10/5/2011	11:40	Sulfate	110	mg/L	25.0
997653-008	OW-02S-026	SM2130B	NONE	10/5/2011	11:40	Turbidity	0.400	NTU	0.100
997653-008	OW-02S-026	SM2540C	NONE	10/5/2011	11:40	Total Dissolved Solids	952	mg/L	50.0
997653-009	OW-05D-026	E120.1	NONE	10/5/2011	13:16	EC	7340	umhos/cm	2.00
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Aluminum	ND	ug/L	50.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	BORON	1020	ug/L	200
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Calcium	150	mg/L	12.5
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Iron	ND	ug/L	20.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Magnesium	29.0	mg/L	1.00
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Manganese	ND	ug/L	10.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Molybdenum	18.6	ug/L	10.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Nickel	ND	ug/L	10.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Potassium	19.2	mg/L	1.00
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Selenium	ND	ug/L	50.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Sodium	1420	mg/L	50.0
997653-009	OW-05D-026	E200.7	FLDFLT	10/5/2011	13:16	Zinc	ND	ug/L	10.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Antimony	ND	ug/L	10.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Arsenic	5.2	ug/L	1.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Barium	25.7	ug/L	10.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Beryllium	ND	ug/L	1.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Cadmium	ND	ug/L	3.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Chromium	ND	ug/L	1.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Cobalt	ND	ug/L	5.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Copper	ND	ug/L	5.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Lead	ND	ug/L	10.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Mercury	ND	ug/L	1.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Silver	ND	ug/L	5.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Thallium	ND	ug/L	1.0
997653-009	OW-05D-026	E200.8	FLDFLT	10/5/2011	13:16	Vanadium	ND	ug/L	5.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-009	OW-05D-026	E218.6	FLDFLT	10/5/2011	13:16	Chromium, hexavalent	ND	ug/L	1.0
997653-009	OW-05D-026	E300	NONE	10/5/2011	13:16	Chloride	2220	mg/L	100
997653-009	OW-05D-026	E300	NONE	10/5/2011	13:16	Fluoride	2.12	mg/L	0.500
997653-009	OW-05D-026	E300	NONE	10/5/2011	13:16	Sulfate	500	mg/L	25.0
997653-009	OW-05D-026	SM2130B	NONE	10/5/2011	13:16	Turbidity	ND	NTU	0.100
997653-009	OW-05D-026	SM2320B	NONE	10/5/2011	13:16	Alkalinity	42.0	mg/L	5.00
997653-009	OW-05D-026	SM2320B	NONE	10/5/2011	13:16	Bicarbonate	42.0	mg/L	5.00
997653-009	OW-05D-026	SM2320B	NONE	10/5/2011	13:16	Carbonate	ND	mg/L	5.00
997653-009	OW-05D-026	SM2540C	NONE	10/5/2011	13:16	Total Dissolved Solids	4460	mg/L	125
997653-009	OW-05D-026	SM4500NH3	NONE	10/5/2011	13:16	Ammonia-N	1.00	mg/L	0.500
997653-009	OW-05D-026	SW6010B	NONE	10/5/2011	13:16	Iron	ND	ug/L	20.0
997653-010	OW-05M-026	E120.1	NONE	10/5/2011	14:02	EC	7260	umhos/cm	2.00
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Aluminum	ND	ug/L	50.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	BORON	1040	ug/L	200
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Calcium	160	mg/L	12.5
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Iron	ND	ug/L	20.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Magnesium	19.6	mg/L	1.00
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Manganese	ND	ug/L	10.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Molybdenum	19.3	ug/L	10.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Nickel	ND	ug/L	10.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Potassium	16.5	mg/L	0.500
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Selenium	ND	ug/L	50.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Sodium	1420	mg/L	50.0
997653-010	OW-05M-026	E200.7	FLDFLT	10/5/2011	14:02	Zinc	ND	ug/L	10.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Antimony	ND	ug/L	10.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Arsenic	ND	ug/L	1.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Barium	43.3	ug/L	10.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Beryllium	ND	ug/L	1.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Cadmium	ND	ug/L	3.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Chromium	ND	ug/L	1.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Cobalt	ND	ug/L	5.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Copper	ND	ug/L	5.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Lead	ND	ug/L	10.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Mercury	ND	ug/L	1.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Silver	ND	ug/L	5.0
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Thallium	ND	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997653-010	OW-05M-026	E200.8	FLDFLT	10/5/2011	14:02	Vanadium	ND	ug/L	5.0
997653-010	OW-05M-026	E218.6	FLDFLT	10/5/2011	14:02	Chromium, hexavalent	ND	ug/L	1.0
997653-010	OW-05M-026	E300	NONE	10/5/2011	14:02	Chloride	2090	mg/L	100
997653-010	OW-05M-026	E300	NONE	10/5/2011	14:02	Fluoride	2.58	mg/L	0.500
997653-010	OW-05M-026	E300	NONE	10/5/2011	14:02	Sulfate	489	mg/L	25.0
997653-010	OW-05M-026	SM2130B	NONE	10/5/2011	14:02	Turbidity	0.116	NTU	0.100
997653-010	OW-05M-026	SM2320B	NONE	10/5/2011	14:02	Alkalinity	46.0	mg/L	5.00
997653-010	OW-05M-026	SM2320B	NONE	10/5/2011	14:02	Bicarbonate	46.0	mg/L	5.00
997653-010	OW-05M-026	SM2320B	NONE	10/5/2011	14:02	Carbonate	ND	mg/L	5.00
997653-010	OW-05M-026	SM2540C	NONE	10/5/2011	14:02	Total Dissolved Solids	4240	mg/L	125
997653-010	OW-05M-026	SM4500NH3	NONE	10/5/2011	14:02	Ammonia-N	0.897	mg/L	0.500
997653-010	OW-05M-026	SW6010B	NONE	10/5/2011	14:02	Iron	ND	ug/L	20.0
997653-011	OW-05S-026	E120.1	NONE	10/5/2011	14:32	EC	2540	umhos/cm	2.00
997653-011	OW-05S-026	E200.7	FLDFLT	10/5/2011	14:32	Molybdenum	23.5	ug/L	10.0
997653-011	OW-05S-026	E200.7	FLDFLT	10/5/2011	14:32	Sodium	345	mg/L	50.0
997653-011	OW-05S-026	E200.8	FLDFLT	10/5/2011	14:32	Chromium	19.4	ug/L	1.0
997653-011	OW-05S-026	E218.6	FLDFLT	10/5/2011	14:32	Chromium, hexavalent	22.3	ug/L	0.20
997653-011	OW-05S-026	E300	NONE	10/5/2011	14:32	Chloride	632	mg/L	20.0
997653-011	OW-05S-026	E300	NONE	10/5/2011	14:32	Fluoride	2.20	mg/L	0.500
997653-011	OW-05S-026	E300	NONE	10/5/2011	14:32	Sulfate	126	mg/L	25.0
997653-011	OW-05S-026	SM2130B	NONE	10/5/2011	14:32	Turbidity	0.231	NTU	0.100
997653-011	OW-05S-026	SM2540C	NONE	10/5/2011	14:32	Total Dissolved Solids	1360	mg/L	50.0
997653-012	OW-91-026	E120.1	NONE	10/5/2011	7:15	EC	7350	umhos/cm	2.00
997653-012	OW-91-026	E200.7	FLDFLT	10/5/2011	7:15	Sodium	1370	mg/L	50.0
997653-012	OW-91-026	E200.8	FLDFLT	10/5/2011	7:15	Chromium	ND	ug/L	1.0
997653-012	OW-91-026	E200.8	FLDFLT	10/5/2011	7:15	Molybdenum	22.9	ug/L	10.0
997653-012	OW-91-026	E218.6	FLDFLT	10/5/2011	7:15	Chromium, hexavalent	ND	ug/L	1.0
997653-012	OW-91-026	E300	NONE	10/5/2011	7:15	Chloride	2160	mg/L	100
997653-012	OW-91-026	E300	NONE	10/5/2011	7:15	Fluoride	2.17	mg/L	0.500
997653-012	OW-91-026	E300	NONE	10/5/2011	7:15	Sulfate	499	mg/L	25.0
997653-012	OW-91-026	SM2130B	NONE	10/5/2011	7:15	Turbidity	ND	NTU	0.100
997653-012	OW-91-026	SM2540C	NONE	10/5/2011	7:15	Total Dissolved Solids	4160	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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REPORT

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

Attention: Shawn Duffy
Project Name: PG&E Topock Project
P.O. Number: 423575.MP.02.GM
Project Number: 423575.MP.02.GM

Laboratory No. 997653

Printed 11/4/2011

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

Field ID	Lab ID	Collected	Matrix
CW-01D-026	997653-001	10/04/2011 16:44	Water
CW-01M-026	997653-002	10/04/2011 17:25	Water
OW-01D-026	997653-003	10/05/2011 08:26	Water
OW-01M-026	997653-004	10/05/2011 08:59	Water
OW-01S-026	997653-005	10/05/2011 09:30	Water
OW-02D-026	997653-006	10/05/2011 10:33	Water
OW-02M-026	997653-007	10/05/2011 11:18	Water
OW-02S-026	997653-008	10/05/2011 11:40	Water
OW-05D-026	997653-009	10/05/2011 13:16	Water
OW-05M-026	997653-010	10/05/2011 14:02	Water
OW-05S-026	997653-011	10/05/2011 14:32	Water
OW-91-026	997653-012	10/05/2011 07:15	Water

Anions By I.C. - EPA 300.0 Batch 10AN11E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Chloride	mg/L	10/06/2011 14:57	500	15.0	100.	2150
Fluoride	mg/L	10/06/2011 10:52	5.00	0.0250	0.500	2.35
Sulfate	mg/L	10/06/2011 17:23	50.0	1.00	25.0	501.
997653-002 Chloride	mg/L	10/06/2011 19:48	500	15.0	100.	2150
Fluoride	mg/L	10/06/2011 11:03	5.00	0.0250	0.500	1.82
Sulfate	mg/L	10/06/2011 17:33	50.0	1.00	25.0	497.
997653-003 Chloride	mg/L	10/06/2011 15:18	500	15.0	100.	2120
Fluoride	mg/L	10/06/2011 11:13	5.00	0.0250	0.500	2.42
Sulfate	mg/L	10/06/2011 17:43	50.0	1.00	25.0	495.
997653-004 Chloride	mg/L	10/06/2011 15:28	500	15.0	100.	2180
Fluoride	mg/L	10/06/2011 11:24	5.00	0.0250	0.500	2.36
Sulfate	mg/L	10/06/2011 17:54	50.0	1.00	25.0	496.
997653-005 Chloride	mg/L	10/06/2011 15:39	500	15.0	100.	1060

997653-005	Fluoride	mg/L	10/06/2011 11:34	5.00	0.0250	0.500	2.32
	Sulfate	mg/L	10/06/2011 18:04	50.0	1.00	25.0	227.
997653-006	Chloride	mg/L	10/06/2011 15:49	500	15.0	100.	2120
	Fluoride	mg/L	10/06/2011 11:45	5.00	0.0250	0.500	2.20
	Sulfate	mg/L	10/06/2011 18:15	50.0	1.00	25.0	498.
997653-007	Chloride	mg/L	10/06/2011 15:59	500	15.0	100.	2120
	Fluoride	mg/L	10/06/2011 13:23	5.00	0.0250	0.500	2.40
	Sulfate	mg/L	10/06/2011 18:46	50.0	1.00	25.0	500.
997653-008	Chloride	mg/L	10/06/2011 16:10	500	15.0	100.	382.
	Fluoride	mg/L	10/06/2011 13:44	5.00	0.0250	0.500	5.12
	Sulfate	mg/L	10/06/2011 18:56	50.0	1.00	25.0	110.
997653-009	Chloride	mg/L	10/06/2011 16:41	500	15.0	100.	2220
	Fluoride	mg/L	10/06/2011 13:54	5.00	0.0250	0.500	2.12
	Sulfate	mg/L	10/06/2011 19:07	50.0	1.00	25.0	500.
997653-010	Chloride	mg/L	10/06/2011 16:51	500	15.0	100.	2090
	Fluoride	mg/L	10/06/2011 14:05	5.00	0.0250	0.500	2.58
	Sulfate	mg/L	10/06/2011 19:17	50.0	1.00	25.0	489.
997653-011	Chloride	mg/L	10/06/2011 17:02	100	3.00	20.0	632.
	Fluoride	mg/L	10/06/2011 14:36	5.00	0.0250	0.500	2.20
	Sulfate	mg/L	10/06/2011 19:27	50.0	1.00	25.0	126.
997653-012	Chloride	mg/L	10/06/2011 17:12	500	15.0	100.	2160
	Fluoride	mg/L	10/06/2011 14:46	5.00	0.0250	0.500	2.17
	Sulfate	mg/L	10/06/2011 19:38	50.0	1.00	25.0	499.

Method Blank

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

Duplicate — Lab ID = 997644-001

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

Duplicate — Lab ID = 997645-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	10.0	24.0	24.0	0.204	0 - 20
Sulfate	mg/L	10.0	34.4	34.4	0.0436	0 - 20

Lab Control Sample

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	4.17	4.00	104.	90 - 110
Sulfate	mg/L	1.00	20.0	20.0	100.	90 - 110

Matrix Spike — Lab ID = 997644-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	2.15	2.00(2.00)	108.	85 - 115

Matrix Spike — Lab ID = 997645-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	10.0	70.0	64.0(40.0)	115.	85 - 115
Sulfate	mg/L	10.0	76.4	74.4(40.0)	105.	85 - 115

Matrix Spike Duplicate — Lab ID = 997644-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	2.16	2.00(2.00)	108.	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.97	4.00	99.2	90 - 110
Fluoride	mg/L	1.00	4.16	4.00	104.	90 - 110
Sulfate	mg/L	1.00	20.0	20.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.99	3.00	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.98	3.00	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.96	3.00	98.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.01	3.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.98	3.00	99.4	90 - 110
Fluoride	mg/L	1.00	3.22	3.00	107.	90 - 110

Alkalinity by SM 2320B Batch 10ALK11D 10/11/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Alkalinity as CaCO3	mg/L	10/11/2011	1.00	1.68	5.00	51.0
Bicarbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	51.0
Carbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	ND
997653-002 Alkalinity as CaCO3	mg/L	10/11/2011	1.00	1.68	5.00	75.0
Bicarbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	75.0
Carbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	ND
997653-009 Alkalinity as CaCO3	mg/L	10/11/2011	1.00	1.68	5.00	42.0
Bicarbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	42.0
Carbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	ND
997653-010 Alkalinity as CaCO3	mg/L	10/11/2011	1.00	1.68	5.00	46.0
Bicarbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	46.0
Carbonate (Calculated)	mg/L	10/11/2011	1.00	1.68	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO3	mg/L	1.00	ND

Duplicate — Lab ID = 997653-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	75.0	75.0	0.00	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.	100.	90 - 110

Matrix Spike — Lab ID = 997653-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	135	142(100.)	93.0	75 - 125

Specific Conductivity - EPA 120.1 Batch 10EC11B 10/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7350
997653-002 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7420
997653-003 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7390
997653-004 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7280
997653-005 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	3930
997653-006 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7290
997653-007 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7260
997653-008 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	1810
997653-009 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7340

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 997603-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	4940	4930	0.203	0 - 10

Duplicate — Lab ID = 997653-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7330	7340	0.136	0 - 10

Lab Control Sample

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

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	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	955	998	95.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	960.	998	96.2	90 - 110

Specific Conductivity - EPA 120.1 Batch 10EC11C 10/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-010 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7260
997653-011 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	2540
997653-012 Specific Conductivity	umhos/cm	10/07/2011	1.00	0.0380	2.00	7350

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 997653-012

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7360	7350	0.136	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	710.	706	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	960.	998	96.2	90 - 110

Metals by EPA 6010B, Total Batch 101311A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Iron	ug/L	10/13/2011 15:31	1.00	1.34	20.0	ND
997653-002 Iron	ug/L	10/13/2011 15:49	1.00	1.34	20.0	50.3
997653-009 Iron	ug/L	10/13/2011 15:55	1.00	1.34	20.0	ND
997653-010 Iron	ug/L	10/13/2011 16:01	1.00	1.34	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5160	5000	103.	85 - 120

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1770	2000(2000)	88.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5190	5000	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5280	5000	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5270	5000	105.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2200	2000	110.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2290	2000	115.	80 - 120

Chrome VI by EPA 218.6

Batch 10CrH11J

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Chromium, Hexavalent	ug/L	10/12/2011 12:46	5.25	0.210	1.0	ND
997653-002 Chromium, Hexavalent	ug/L	10/12/2011 13:17	5.25	0.210	1.0	2.9
997653-003 Chromium, Hexavalent	ug/L	10/12/2011 13:59	5.25	0.210	1.0	1.0
997653-004 Chromium, Hexavalent	ug/L	10/12/2011 15:02	5.25	0.210	1.0	1.5

Method Blank

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

Duplicate — Lab ID = 997604-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	16.6	16.8	0.848	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.1	90 - 110

Matrix Spike — Lab ID = 997604-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	45.6	43.0(26.2)	110.	90 - 110

Matrix Spike — Lab ID = 997604-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	210	1860	1760(1050)	109.	90 - 110

Matrix Spike — Lab ID = 997604-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	1280	1770(1050)	53.3	90 - 110

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.48	6.05(5.25)	108.	90 - 110

Matrix Spike — Lab ID = 997653-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	8.00	8.16(5.25)	96.9	90 - 110

Matrix Spike — Lab ID = 997653-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.54	6.27(5.25)	105.	90 - 110

Matrix Spike — Lab ID = 997653-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.41	6.79(5.25)	92.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.97	5.00	99.5	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

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

Chrome VI by EPA 218.6

Batch 10CrH11K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-005 Chromium, Hexavalent	ug/L	10/12/2011 08:43	1.05	0.0400	0.20	15.7
997653-006 Chromium, Hexavalent	ug/L	10/12/2011 09:55	5.25	0.210	1.0	ND
997653-007 Chromium, Hexavalent	ug/L	10/12/2011 11:19	5.25	0.210	1.0	1.6
997653-008 Chromium, Hexavalent	ug/L	10/12/2011 13:45	5.25	0.210	1.0	30.8
997653-009 Chromium, Hexavalent	ug/L	10/12/2011 14:06	5.25	0.210	1.0	ND
997653-010 Chromium, Hexavalent	ug/L	10/12/2011 17:14	5.25	0.210	1.0	ND
997653-011 Chromium, Hexavalent	ug/L	10/12/2011 13:24	1.05	0.0400	0.20	22.3
997653-012 Chromium, Hexavalent	ug/L	10/12/2011 17:34	5.25	0.210	1.0	ND

Method Blank

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

Duplicate — Lab ID = 997653-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	15.8	15.7	0.504	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.96	5.00	99.2	90 - 110

Matrix Spike — Lab ID = 997650-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.41	7.03(5.30)	107.	90 - 110

Matrix Spike — Lab ID = 997650-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.49	7.15(5.30)	106.	90 - 110

Matrix Spike — Lab ID = 997650-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.05	1.06(1.06)	98.8	90 - 110

Matrix Spike — Lab ID = 997650-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.80	8.47(5.30)	106.	90 - 110

Matrix Spike — Lab ID = 997653-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	38.5	37.3(21.6)	105.	90 - 110

Matrix Spike — Lab ID = 997653-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.89	6.18(5.25)	94.4	90 - 110

Matrix Spike — Lab ID = 997653-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	28.6	27.8(26.2)	103.	90 - 110

Matrix Spike — Lab ID = 997653-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	85.4	83.3(52.5)	104.	90 - 110

Matrix Spike — Lab ID = 997653-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.26	6.08(5.25)	103.	90 - 110

Matrix Spike — Lab ID = 997653-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.54	6.20(5.25)	106.	90 - 110

Matrix Spike — Lab ID = 997653-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.11	51.3	48.8(26.5)	110.	90 - 110

Matrix Spike — Lab ID = 997653-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.62	6.14(5.25)	109.	90 - 110

Matrix Spike — Lab ID = 997831-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.36	1.34(1.06)	102.	90 - 110

Matrix Spike — Lab ID = 997831-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.07	6.00(5.25)	101.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.83	5.00	96.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103.	95 - 105

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.83	10.0	98.3	95 - 105

Total Dissolved Solids by SM 2540 C Batch 10TDS11B 10/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4220
997653-002 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4160
997653-003 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4280
997653-004 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4320
997653-005 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	50.0	2430
997653-006 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4240
997653-007 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4180
997653-008 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	50.0	952
997653-009 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4460
997653-010 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4240
997653-011 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	50.0	1360
997653-012 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4160

Method Blank

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

Duplicate Lab ID = 997653-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4200	4240	1.07	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	510.	500.	102	90 - 110

Ammonia Nitrogen by SM4500-NH3D Batch 10NH3-E11B 10/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.53
997653-002 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.14
997653-009 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.00
997653-010 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	0.897

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	0.571	0.649	12.8	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.6	10.0	106.	90 - 110

Matrix Spike — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.90	6.65(6.00)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	7.13	6.65(6.00)	108.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.34	6.00	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.98	6.00	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.74	6.00	95.6	90 - 110

Metals by EPA 200.8, Dissolved

Batch 110211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Mercury	ug/L	11/02/2011 14:29	5.00	0.0750	1.0	ND
Silver	ug/L	11/02/2011 14:29	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 14:29	5.00	0.125	1.0	ND
Vanadium	ug/L	11/02/2011 14:29	5.00	0.370	5.0	ND
997653-002 Mercury	ug/L	11/02/2011 14:57	5.00	0.0750	1.0	ND
Silver	ug/L	11/02/2011 14:57	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 14:57	5.00	0.125	1.0	ND
Vanadium	ug/L	11/02/2011 14:57	5.00	0.370	5.0	ND
997653-009 Mercury	ug/L	11/02/2011 15:05	5.00	0.0750	1.0	ND
Silver	ug/L	11/02/2011 15:05	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 15:05	5.00	0.125	1.0	ND
Vanadium	ug/L	11/02/2011 15:05	5.00	0.370	5.0	ND
997653-010 Mercury	ug/L	11/02/2011 15:54	5.00	0.0750	1.0	ND
Silver	ug/L	11/02/2011 15:54	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 15:54	5.00	0.125	1.0	ND
Vanadium	ug/L	11/02/2011 15:54	5.00	0.370	5.0	ND

Method Blank

Parameter	Unit	DF	Result
Mercury	ug/L	1.00	ND
Silver	ug/L	1.00	ND
Thallium	ug/L	1.00	ND
Vanadium	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Mercury	ug/L	5.00	ND	0.00	0	0 - 20
Silver	ug/L	5.00	ND	0.00	0	0 - 20
Thallium	ug/L	5.00	ND	0.00	0	0 - 20
Vanadium	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.02	2.00	101.	85 - 115
Silver	ug/L	1.00	53.7	50.0	107.	85 - 115
Thallium	ug/L	1.00	51.8	50.0	104.	85 - 115
Vanadium	ug/L	1.00	48.5	50.0	97.0	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	76.9	100.(100.)	76.9	75 - 125
Silver	ug/L	5.00	463.	500.(500.)	92.6	75 - 125
Thallium	ug/L	5.00	462.	500.(500.)	92.4	75 - 125
Vanadium	ug/L	5.00	516.	500.(500.)	103.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.07	2.00	103.	90 - 110
Silver	ug/L	1.00	54.2	50.0	108.	90 - 110
Thallium	ug/L	1.00	52.6	50.0	105.	90 - 110
Vanadium	ug/L	1.00	49.1	50.0	98.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.02	2.00	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.01	2.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	51.1	50.0	102.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	51.1	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	51.1	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.6	50.0	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	47.2	50.0	94.3	90 - 110

Metals by EPA 200.8, Dissolved Batch 101411A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Antimony	ug/L	10/14/2011 23:40	5.00	0.120	10.0	ND
Barium	ug/L	10/14/2011 23:40	5.00	0.200	10.0	25.8
Beryllium	ug/L	10/14/2011 23:40	5.00	0.180	1.0	ND
Cobalt	ug/L	10/14/2011 23:40	5.00	0.485	5.0	ND
Lead	ug/L	10/14/2011 23:40	5.00	0.110	10.0	ND
997653-002 Antimony	ug/L	10/15/2011 00:10	5.00	0.120	10.0	ND
Barium	ug/L	10/15/2011 00:10	5.00	0.200	10.0	84.2
Beryllium	ug/L	10/15/2011 00:10	5.00	0.180	1.0	ND
Cobalt	ug/L	10/15/2011 00:10	5.00	0.485	5.0	ND
Lead	ug/L	10/15/2011 00:10	5.00	0.110	10.0	ND
997653-009 Antimony	ug/L	10/15/2011 01:34	5.00	0.120	10.0	ND
Barium	ug/L	10/15/2011 01:34	5.00	0.200	10.0	25.7
Beryllium	ug/L	10/15/2011 01:34	5.00	0.180	1.0	ND
Cobalt	ug/L	10/15/2011 01:34	5.00	0.485	5.0	ND
Lead	ug/L	10/15/2011 01:34	5.00	0.110	10.0	ND
997653-010 Antimony	ug/L	10/15/2011 01:41	5.00	0.120	10.0	ND
Barium	ug/L	10/15/2011 01:41	5.00	0.200	10.0	43.3
Beryllium	ug/L	10/15/2011 01:41	5.00	0.180	1.0	ND
Cobalt	ug/L	10/15/2011 01:41	5.00	0.485	5.0	ND
Lead	ug/L	10/15/2011 01:41	5.00	0.110	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Barium	ug/L	1.00	ND
Beryllium	ug/L	1.00	ND
Cobalt	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Lead	ug/L	1.00	ND

Duplicate Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	5.00	25.7	25.8	0.544	0 - 20
Beryllium	ug/L	5.00	ND	0.00	0	0 - 20
Cobalt	ug/L	5.00	ND	0.00	0	0 - 20
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	47.8	50.0	95.6	85 - 115
Beryllium	ug/L	1.00	49.3	50.0	98.5	85 - 115
Cobalt	ug/L	1.00	50.9	50.0	102.	85 - 115
Antimony	ug/L	1.00	47.7	50.0	95.4	85 - 115
Lead	ug/L	1.00	49.9	50.0	99.8	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	272.	276.(250.)	98.3	75 - 125
Beryllium	ug/L	5.00	256.	250.(250.)	102.	75 - 125
Cobalt	ug/L	5.00	257.	250.(250.)	103.	75 - 125
Antimony	ug/L	5.00	221.	250.(250.)	88.3	75 - 125
Lead	ug/L	5.00	239.	250.(250.)	95.6	75 - 125

Matrix Spike Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	270.	276.(250.)	97.6	75 - 125
Beryllium	ug/L	5.00	255.	250.(250.)	102.	75 - 125
Cobalt	ug/L	5.00	253.	250.(250.)	101.	75 - 125
Antimony	ug/L	5.00	222.	250.(250.)	88.8	75 - 125
Lead	ug/L	5.00	235.	250.(250.)	94.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	53.2	50.0	106.	90 - 110
Beryllium	ug/L	1.00	53.0	50.0	106.	90 - 110
Cobalt	ug/L	1.00	54.9	50.0	110.	90 - 110
Antimony	ug/L	1.00	52.8	50.0	106.	90 - 110
Lead	ug/L	1.00	54.7	50.0	109.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	48.6	50.0	97.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	48.0	50.0	96.0	90 - 110

MRCVS - Primary

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

Metals by EPA 200.8, Dissolved

Batch 102411A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Arsenic	ug/L	10/24/2011 14:04	5.00	0.285	1.0	1.6
Cadmium	ug/L	10/24/2011 14:04	5.00	0.470	3.0	ND
Chromium	ug/L	10/24/2011 14:04	5.00	0.110	1.0	1.2
Copper	ug/L	10/24/2011 14:04	5.00	0.125	5.0	ND
997653-002 Arsenic	ug/L	10/24/2011 14:11	5.00	0.285	1.0	1.8
Cadmium	ug/L	10/24/2011 14:11	5.00	0.470	3.0	ND
Copper	ug/L	10/24/2011 14:11	5.00	0.125	5.0	ND
997653-003 Chromium	ug/L	10/24/2011 14:46	5.00	0.110	1.0	1.7
997653-004 Chromium	ug/L	10/24/2011 15:16	5.00	0.110	1.0	2.1
997653-005 Chromium	ug/L	10/24/2011 15:52	5.00	0.110	1.0	16.0
Molybdenum	ug/L	10/24/2011 15:52	5.00	0.270	10.0	15.0
997653-006 Chromium	ug/L	10/24/2011 15:30	5.00	0.110	1.0	ND
Molybdenum	ug/L	10/24/2011 15:30	5.00	0.270	10.0	23.9
997653-007 Chromium	ug/L	10/24/2011 15:59	5.00	0.110	1.0	1.3
Molybdenum	ug/L	10/24/2011 15:59	5.00	0.270	10.0	20.2
997653-009 Arsenic	ug/L	10/24/2011 16:13	5.00	0.285	1.0	5.2
Cadmium	ug/L	10/24/2011 16:13	5.00	0.470	3.0	ND
Chromium	ug/L	10/24/2011 16:13	5.00	0.110	1.0	ND
Copper	ug/L	10/24/2011 16:13	5.00	0.125	5.0	ND
997653-010 Arsenic	ug/L	10/24/2011 16:20	5.00	0.285	1.0	ND
Cadmium	ug/L	10/24/2011 16:20	5.00	0.470	3.0	ND
Chromium	ug/L	10/24/2011 16:20	5.00	0.110	1.0	ND
Copper	ug/L	10/24/2011 16:20	5.00	0.125	5.0	ND
997653-012 Chromium	ug/L	10/24/2011 17:17	5.00	0.110	1.0	ND
Molybdenum	ug/L	10/24/2011 17:17	5.00	0.270	10.0	22.9

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Cadmium	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.4	50.0	101.	85 - 115
Cadmium	ug/L	1.00	50.0	50.0	99.9	85 - 115
Chromium	ug/L	1.00	51.7	50.0	103.	85 - 115
Copper	ug/L	1.00	49.4	50.0	98.7	85 - 115
Molybdenum	ug/L	1.00	50.0	50.0	100.	85 - 115

Matrix Spike — Lab ID = 997745-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	281.	255.(250.)	111.	85 - 125
Cadmium	ug/L	5.00	228	250.(250.)	91.2	85 - 125
Chromium	ug/L	5.00	272.	251.(250.)	108.	85 - 125
Copper	ug/L	5.00	238.	250.(250.)	95.2	85 - 125
Molybdenum	ug/L	5.00	274.	264.(250.)	104.	85 - 125

Matrix Spike Duplicate — Lab ID = 997745-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	284.	255.(250.)	112.	75 - 125
Cadmium	ug/L	5.00	233.	250.(250.)	93.3	75 - 125
Chromium	ug/L	5.00	271.	251.(250.)	108.	75 - 125
Copper	ug/L	5.00	236.	250.(250.)	94.3	75 - 125
Molybdenum	ug/L	5.00	278.	264.(250.)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.7	50.0	99.4	90 - 110
Cadmium	ug/L	1.00	50.9	50.0	102.	90 - 110
Chromium	ug/L	1.00	51.1	50.0	102.	90 - 110
Copper	ug/L	1.00	48.7	50.0	97.4	90 - 110
Molybdenum	ug/L	1.00	50.8	50.0	102.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	53.2	50.0	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.2	50.0	104.	90 - 110

Metals by EPA 200.8, Dissolved Batch 102511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-002 Chromium	ug/L	10/25/2011 15:16	5.00	0.110	1.0	2.8
997653-008 Chromium	ug/L	10/25/2011 16:27	5.00	0.110	1.0	29.6
997653-011 Chromium	ug/L	10/25/2011 16:41	5.00	0.110	1.0	19.4

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate — Lab ID = 997653-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.99	2.83	5.40	0 - 20

Lab Control Sample

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

Matrix Spike — Lab ID = 997653-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	245.	253.(250.)	96.7	75 - 125

Matrix Spike Duplicate — Lab ID = 997653-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	256	253.(250.)	101.	75 - 125

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.1	90 - 110

MRCVS - Primary

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard AB

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.1	50.0	96.2	80 - 120

Serial Dilution — Lab ID = 997653-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	28.6	29.6	3.26	0 - 10

Metals by 200.7, Dissolved Batch 102711A

Parameter		Unit	Analyzed	DF	MDL	RL	Result
997653-001	Magnesium	mg/L	10/27/2011 11:27	1.00	0.0619	0.500	17.7
	Manganese	ug/L	10/27/2011 11:27	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 11:27	1.00	4.02	10.0	18.7
	Nickel	ug/L	10/27/2011 11:27	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 11:27	1.00	0.0685	0.500	16.3
	Selenium	ug/L	10/27/2011 11:27	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 11:27	1.00	3.89	10.0	ND
997653-002	Magnesium	mg/L	10/27/2011 11:44	1.00	0.0619	0.500	12.6
	Manganese	ug/L	10/27/2011 11:44	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 11:44	1.00	4.02	10.0	16.9
	Nickel	ug/L	10/27/2011 11:44	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 11:44	1.00	0.0685	0.500	16.4
	Selenium	ug/L	10/27/2011 11:44	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 11:44	1.00	3.89	10.0	ND
997653-009	Magnesium	mg/L	10/27/2011 14:32	2.00	0.124	1.00	29.0
	Manganese	ug/L	10/27/2011 11:50	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 11:50	1.00	4.02	10.0	18.6
	Nickel	ug/L	10/27/2011 11:50	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 14:32	2.00	0.137	1.00	19.2
	Selenium	ug/L	10/27/2011 11:50	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 11:50	1.00	3.89	10.0	ND
997653-010	Magnesium	mg/L	10/27/2011 14:38	2.00	0.124	1.00	19.6
	Manganese	ug/L	10/27/2011 11:56	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 11:56	1.00	4.02	10.0	19.3
	Nickel	ug/L	10/27/2011 11:56	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 11:56	1.00	0.0685	0.500	16.5
	Selenium	ug/L	10/27/2011 11:56	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 11:56	1.00	3.89	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Nickel	ug/L	1.00	ND
Selenium	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Potassium	mg/L	1.00	ND
Magnesium	mg/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nickel	ug/L	1.00	ND	0.00	0	0 - 20
Selenium	ug/L	1.00	ND	0.00	0	0 - 20
Zinc	ug/L	1.00	ND	0.00	0	0 - 20
Manganese	ug/L	1.00	ND	0.00	0	0 - 20
Molybdenum	ug/L	1.00	18.7	18.7	0.00	0 - 20

Duplicate — Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Potassium	mg/L	25.0	15.3	16.3	6.20	0 - 20
Magnesium	mg/L	25.0	16.9	16.9	0.118	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5260	5000	105.	85 - 115
Selenium	ug/L	1.00	5330	5000	106.	85 - 115
Zinc	ug/L	1.00	5360	5000	107.	85 - 115
Potassium	mg/L	1.00	5.00	5.00	100.0	85 - 115
Magnesium	mg/L	1.00	5.29	5.00	106.	85 - 115
Manganese	ug/L	1.00	5320	5000	106.	85 - 115
Molybdenum	ug/L	1.00	5320	5000	106.	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nickel	ug/L	1.00	1920	2000(2000)	95.9	75 - 125
Selenium	ug/L	1.00	2090	2000(2000)	104.	75 - 125
Zinc	ug/L	1.00	2150	2000(2000)	107.	75 - 125
Manganese	ug/L	1.00	2030	2000(2000)	102.	75 - 125
Molybdenum	ug/L	1.00	2010	2020(2000)	99.5	75 - 125

Matrix Spike — Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Potassium	mg/L	25.0	73.3	66.3(50.0)	114.	75 - 125
Magnesium	mg/L	25.0	66.8	66.9(50.0)	99.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5110	5000	102.	90 - 110
Selenium	ug/L	1.00	5090	5000	102.	90 - 110
Zinc	ug/L	1.00	5200	5000	104.	90 - 110
Potassium	mg/L	1.00	5.09	5.00	102.	90 - 110
Magnesium	mg/L	1.00	5.24	5.00	105.	90 - 110
Manganese	ug/L	1.00	5200	5000	104.	90 - 110
Molybdenum	ug/L	1.00	5070	5000	101.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5040	5000	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	5370	5000	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	5260	5000	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	5330	5000	107.	90 - 110
Zinc	ug/L	1.00	5270	5000	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	5210	5000	104.	90 - 110

Metals by 200.7, Dissolved Batch 103111A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Sodium	mg/L	10/31/2011 11:14	100	5.86	50.0	1410
997653-002 Sodium	mg/L	10/31/2011 11:31	100	5.86	50.0	1500
997653-009 Sodium	mg/L	10/31/2011 11:37	100	5.86	50.0	1420
997653-010 Sodium	mg/L	10/31/2011 11:43	100	5.86	50.0	1420

Method Blank

Parameter	Unit	DF	Result
Sodium	mg/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sodium	mg/L	100	1400	1410	0.712	20 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.02	5.00	100.	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sodium	mg/L	100	1630	1610(200.)	112.	125 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	4.92	5.00	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.39	5.00	108.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.18	5.00	104.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	1.99	2.00	99.4	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	2.19	2.00	109.	80 - 120

Metals by 200.7, Dissolved Batch 102411A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-003 Molybdenum	ug/L	10/24/2011 15:53	1.00	4.02	10.0	19.2
997653-004 Molybdenum	ug/L	10/24/2011 16:10	1.00	4.02	10.0	23.5

Method Blank

Parameter	Unit	DF	Result
Molybdenum	ug/L	1.00	ND

Duplicate — Lab ID = 997653-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Molybdenum	ug/L	1.00	19.3	19.2	0.519	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	4900	5000	98.1	85 - 115

Matrix Spike — Lab ID = 997653-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	1960	2020(2000)	97.1	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	4860	5000	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	5340	5000	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	5320	5000	106.	90 - 110

MRCVS - Primary

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

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	43.9	40.0	110.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	40.6	40.0	102.	80 - 120

Metals by 200.7, Dissolved Batch 102511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-008 Molybdenum	ug/L	10/25/2011 11:49	1.00	4.02	10.0	41.8
997653-011 Molybdenum	ug/L	10/25/2011 14:12	1.00	4.02	10.0	23.5

Method Blank

Parameter	Unit	DF	Result
Molybdenum	ug/L	1.00	ND

Duplicate — Lab ID = 997653-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Molybdenum	ug/L	1.00	42.0	41.8	0.477	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	4920	5000	98.4	85 - 115

Matrix Spike — Lab ID = 997653-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	2030	2040(2000)	99.3	75 - 125

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	5280	5000	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	5360	5000	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	5030	5000	101.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	44.1	40.0	110.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	41.6	40.0	104	80 - 120

Metals by 200.7, Dissolved Batch 101411A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Aluminum	ug/L	10/14/2011 13:11	1.00	2.83	50.0	ND
Boron	ug/L	10/14/2011 13:11	1.00	1.50	200.	977.
Calcium	mg/L	10/14/2011 11:03	25.0	0.489	12.5	190.
Iron	ug/L	10/14/2011 13:11	1.00	1.34	20.0	ND
997653-002 Aluminum	ug/L	10/14/2011 13:28	1.00	2.83	50.0	ND
Boron	ug/L	10/14/2011 13:28	1.00	1.50	200.	1000
Calcium	mg/L	10/14/2011 11:20	25.0	0.489	12.5	152.
Iron	ug/L	10/14/2011 13:28	1.00	1.34	20.0	ND
997653-003 Sodium	mg/L	10/14/2011 11:26	100	5.86	50.0	1390
997653-004 Sodium	mg/L	10/14/2011 12:02	100	5.86	50.0	1370
997653-005 Sodium	mg/L	10/14/2011 12:07	100	5.86	50.0	487.
997653-006 Sodium	mg/L	10/14/2011 12:13	100	5.86	50.0	1410
997653-007 Sodium	mg/L	10/14/2011 12:19	100	5.86	50.0	1360
997653-008 Sodium	mg/L	10/14/2011 12:25	100	5.86	50.0	292.
997653-009 Aluminum	ug/L	10/14/2011 13:34	1.00	2.83	50.0	ND
Boron	ug/L	10/14/2011 13:34	1.00	1.50	200.	1020
Calcium	mg/L	10/14/2011 12:30	25.0	0.489	12.5	150.
Iron	ug/L	10/14/2011 13:34	1.00	1.34	20.0	ND
997653-010 Aluminum	ug/L	10/14/2011 13:51	1.00	2.83	50.0	ND
Boron	ug/L	10/14/2011 13:51	1.00	1.50	200.	1040
Calcium	mg/L	10/14/2011 12:36	25.0	0.489	12.5	160.
Iron	ug/L	10/14/2011 13:51	1.00	1.34	20.0	ND
997653-011 Sodium	mg/L	10/14/2011 12:42	100	5.86	50.0	345.
997653-012 Sodium	mg/L	10/14/2011 12:48	100	5.86	50.0	1370

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Calcium	mg/L	1.00	ND
Iron	ug/L	1.00	ND
Sodium	mg/L	1.00	ND
Boron	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0.00	0	0 - 20
Calcium	mg/L	25.0	191.	190.	0.682	0 - 20
Iron	ug/L	1.00	ND	0.00	0	0 - 20
Boron	ug/L	1.00	965.	977	1.22	0 - 20

Duplicate — Lab ID = 997653-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sodium	mg/L	100	1320	1390	5.54	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4940	5000	98.8	85 - 115
Calcium	mg/L	1.00	5.13	5.00	102.	85 - 115
Iron	ug/L	1.00	4940	5000	98.8	85 - 115
Sodium	mg/L	1.00	5.04	5.00	101.	85 - 115
Boron	ug/L	1.00	5040	5000	101.	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	7560	10000(10000)	75.6	75 - 125
Calcium	mg/L	25.0	243.	240.(50.0)	106	75 - 125
Iron	ug/L	1.00	1730	2000(2000)	86.4	75 - 125
Boron	ug/L	1.00	2860	2980(2000)	94.4	75 - 125

Matrix Spike — Lab ID = 997653-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sodium	mg/L	100	1600	1590(200.)	104	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5000	5000	100.	90 - 110
Calcium	mg/L	1.00	5.13	5.00	102.	90 - 110
Iron	ug/L	1.00	4940	5000	98.8	90 - 110
Sodium	mg/L	1.00	5.04	5.00	101.	90 - 110
Boron	ug/L	1.00	5040	5000	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5040	5000	101.	90 - 110

Turbidity by SM 2130 B Batch 10TUC11E 10/6/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997653-001 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.128
997653-002 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.769
997653-003 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.114
997653-004 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.131
997653-005 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.583
997653-006 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	ND
997653-007 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	ND
997653-008 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.400
997653-009 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	ND
997653-010 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.116
997653-011 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	0.231
997653-012 Turbidity	NTU	10/06/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 997653-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.118	0.116	1.71	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.97	8.00	99.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.02	8.00	100.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS11B
Date Calculated: 10/13/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	72.9639	72.9653	72.9653	0.0000	No	0.0014	14.0	25.0	ND	1
997653-1	20	72.4199	72.5047	72.5043	0.0004	No	0.0844	4220.0	125.0	4220.0	1
997653-2	20	49.2966	49.3797	49.3797	0.0000	No	0.0831	4155.0	125.0	4155.0	1
997653-3	20	69.7559	69.8419	69.8416	0.0003	No	0.0857	4285.0	125.0	4285.0	1
997653-4	20	78.4009	78.4874	78.4873	0.0001	No	0.0864	4320.0	125.0	4320.0	1
997653-5	50	65.6289	65.7506	65.7506	0.0000	No	0.1217	2434.0	50.0	2434.0	1
997653-6	20	49.8326	49.9176	49.9175	0.0001	No	0.0849	4245.0	125.0	4245.0	1
997653-7	20	50.4147	50.4986	50.4984	0.0002	No	0.0837	4185.0	125.0	4185.0	1
997653-8	50	74.7117	74.7597	74.7593	0.0004	No	0.0476	952.0	50.0	952.0	1
997653-9	20	49.3790	49.4683	49.4682	0.0001	No	0.0892	4460.0	125.0	4460.0	1
997653-10	20	48.1860	48.271	48.2708	0.0002	No	0.0848	4240.0	125.0	4240.0	1
997653-10D	20	47.9089	47.9929	47.9928	0.0001	No	0.0839	4195.0	125.0	4195.0	1
LCS	100	74.6961	74.7475	74.7471	0.0004	No	0.0510	510.0	25.0	510.0	1
997653-11	50	68.8491	68.9172	68.9169	0.0003	No	0.0678	1356.0	50.0	1356.0	1
997653-12	20	49.4783	49.562	49.5615	0.0005	No	0.0832	4160.0	125.0	4160.0	1
997745-1	20	51.4414	51.5354	51.5352	0.0002	No	0.0938	4690.0	125.0	4690.0	1
997745-2	20	50.9485	51.0315	51.0315	0.0000	No	0.0830	4150.0	125.0	4150.0	1
997745-3	20	51.1402	51.2203	51.2199	0.0004	No	0.0797	3985.0	125.0	3985.0	1
997745-4	20	49.6997	49.7831	49.783	0.0001	No	0.0833	4165.0	125.0	4165.0	1
997745-5	20	50.5311	50.6326	50.6325	0.0001	No	0.1014	5070.0	125.0	5070.0	1
997745-6	20	48.1845	48.2599	48.2595	0.0004	No	0.0750	3750.0	125.0	3750.0	1
997745-7	20	51.1656	51.2446	51.2445	0.0001	No	0.0789	3945.0	125.0	3945.0	1
LCSD											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\ 0^6$$

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.
ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS11B

Date Calculated: 10/13/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
997653-1	7350	0.57	4777.5	0.88
997653-2	7420	0.56	4823	0.86
997653-3	7390	0.58	4803.5	0.89
997653-4	7280	0.59	4732	0.91
997653-5	3930	0.62	2554.5	0.95
997653-6	7290	0.58	4738.5	0.90
997653-7	7260	0.58	4719	0.89
997653-8	1706	0.56	1108.9	0.86
997653-9	7340	0.61	4771	0.93
997653-10	7260	0.58	4719	0.90
997653-10D	7260	0.58	4719	0.89
LCS				
997653-11	2430	0.56	1579.5	0.86
997653-12	7350	0.57	4777.5	0.87
997745-1	8310	0.56	5401.5	0.87
997745-2	7390	0.56	4803.5	0.86
997745-3	7130	0.56	4634.5	0.86
997745-4	7350	0.57	4777.5	0.87
997745-5	8550	0.59	5557.5	0.91
997745-6	6700	0.56	4355	0.86
997745-7	6720	0.59	4368	0.90

TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

132 Condon

Date of Analysis: 10/11/11
Start of Analysis:
Date Sampled:

Analytical Batch: 10ALK11D
Matrix: Water
Date Calculated: 10/12/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	7.00	50	0.02		0.0	0.05		0.9	5	ND	ND	ND	ND	
997653-1	7.50	50	0.02		0.0	2.55		51.0	5	51.0	51.0	ND	ND	
997653-2	7.66	50	0.02		0.0	3.75		75.0	5	75.0	75.0	ND	ND	
997653-9	7.76	50	0.02		0.0	2.10		42.0	5	42.0	42.0	ND	ND	
997653-10	7.74	50	0.02		0.0	2.30		46.0	5	46.0	46.0	ND	ND	
997653-2D	7.69	50	0.02		0.0	3.75		75.0	5	75.0	75.0	ND	ND	
997653-9MS	9.52	50	0.02	2.1	42.0	6.75		135.0	5	135.0	51.0	84	ND	
LCS1	10.35	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	
LCS2	10.30	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	

Calculations as follows:

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

Low Alkalinity: as mg/L CaCO3 $= \dfrac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$

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

Where: T = Total Alkalinity, mg CaCO3/L
P = Phenolphthalein Alkalinity, mg CaCO3/L
A = mL standard acid used
N = normality of standard acid

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

087

LUCA
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

CMP-026 TLI #1 997653

Rec'd 10/05/11
s 997653

10/06/2011 10:38 #272 P.003/007

From TRUESDAIL LABORATORIES

CH2MHILL **CHAIN OF CUSTODY RECORD** Page 1 OF 1

ALERT !! Level III QC

For Sample Conditions See Form Attached

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringler
Project Number 405681.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 10 Days
Shipping Date: 10/5/2011
COC Number: 1

				Container:	250 ml Poly	500 ml Poly	5x500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly			
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
				Filtered:	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA			
				Holding Time:	28	180	180	180	2	2	2	2	2	28			
					Cr6 (E218.6) Field Filtered	* Metals (E200.7-E200.8) Field Filtered Cr,Mo,Na	AlSbAsBaBeBCaCdCoCrCuFePb Filtered Metals (E200series) Field	Metals (6010B) Total Fo	Specific Conductance (E120.1)	Anions (E300.0) Cl, Fl, SO4	Turbidity (SM2130)	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		Number of Containers	COMMENTS
		DATE	TIME	Matrix													
1	CW-01D-026	10/4/2011	16:44	Water	X		X	X	X	X	X	X	X	X		~~10~~ 6	
2	CW-01M-026	10/4/2011	17:25	Water	X		X	X	X	X	X	X	X	X		~~10~~ 6	MH-2
	OW-36-026	10/4/2011	17:55	Water	X											1	Hold
3	OW-01D-026	10/5/2011	8:26	Water	X	X			X	X	X	X				~~14~~ 4	
4	OW-01M-026	10/5/2011	8:59	Water	X	X			X	X	X	X				~~14~~ 4	
5	OW-01S-026	10/5/2011	9:30	Water	X	X			X	X	X	X				~~14~~ 4	
6	OW-02D-026	10/5/2011	10:33	Water	X	X			X	X	X	X				~~14~~ 4	
7	OW-02M-026	10/5/2011	11:18	Water	X	X			X	X	X	X				~~14~~ 4	MH-2
8	OW-02S-026	10/5/2011	11:40	Water	X	X			X	X	X	X				~~14~~ 4	MH-2
9	OW-05D-026	10/5/2011	13:16	Water	X		X	X	X	X	X	X	X	X		~~19~~ 6	
10	OW-05M-026	10/5/2011	14:02	Water	X		X	X	X	X	X	X	X	X		~~15~~ 6	
11	OW-05S-026	10/5/2011	14:32	Water	X	X			X	X	X	X				~~14~~ 4	
12	OW-91-026	10/5/2011	7:15	Water	X	X			X	X	X	X				~~14~~ 4	DUP
															TOTAL NUMBER OF CONTAINERS	~~189~~ 57	

Signatures	Date/Time
Approved by	10-5-11
Sampled by	1545
Relinquished by	
Received by	Rafael Davila 10/5/11 15:45
Relinquished by	Rafael Davila 10/5/11 22:00
Received by	Linda 10/5/11 22:00

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

ATTN:
Sample Custody

Special Instructions:
* The extended metals list includes:
Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Report Copy to
Shawn Duffy
(530) 229-3303

CMP-026 TLI #1 997653

Rec'd 10/05/11
s 997653

CH2MHILL

CHAIN OF CUSTODY RECORD

Page 1 OF 1

ALERT !! Level III QC

For Sample Conditions See Form Attached

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringler
Project Number 405681.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 10 Days
Shipping Date: 10/5/2011
COC Number: 1

				Container:	250 ml Poly	500 ml Poly	6x500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly		
				Preservatives:	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
				Filtered:	Field	Field	Field	NA	NA	NA	NA	NA	NA	NA		
				Holding Time:	28	180	180	180	2	2	2	2	2	28		
	DATE	TIME	Matrix		Cr6 (E218.6) Field Filtered	Metals (E200.7~E200.8) Field Filtered Cr,Mo,Na	AlSbAsBaBeBCaCdCoCrCuFePb Filtered	Metals (E200series) Field Filtered	Metals (6010B) Total Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl, Fl, SO4	Turbidity (SM2130)	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)	Number of Containers	COMMENTS
1	CW-01D-026	10/4/2011	16:44	Water	X		X	X	X	X	X	X	X	X	X	~~10~~ 6	pH for Metals
2	CW-01M-026	10/4/2011	17:25	Water	X		X	X	X	X	X	X	X	X	X	~~10~~ 6	pH=2
	OW-36-026	10/4/2011	17:55	Water	X											1	Hold
3	OW-01D-026	10/5/2011	8:26	Water	X	X				X	X	X	X			~~14~~ 4	
4	OW-01M-026	10/5/2011	8:59	Water	X	X				X	X	X	X			~~14~~ 4	
5	OW-01S-026	10/5/2011	9:30	Water	X	X				X	X	X	X			~~14~~ 4	
6	OW-02D-026	10/5/2011	10:33	Water	X	X				X	X	X	X			~~14~~ 4	
7	OW-02M-026	10/5/2011	11:18	Water	X	X				X	X	X	X			~~14~~ 4	pH=2
8	OW-02S-026	10/5/2011	11:40	Water	X	X				X	X	X	X			~~14~~ 4	pH=2
9	OW-05D-026	10/5/2011	13:16	Water	X		X	X	X	X	X	X	X	X	X	~~10~~ 6	
10	OW-05M-026	10/5/2011	14:02	Water	X		X	X	X	X	X	X	X	X	X	~~10~~ 6	
11	OW-05S-026	10/5/2011	14:32	Water	X	X				X	X	X	X			~~14~~ 4	
12	OW-91-026	10/5/2011	7:15	Water	X	X				X	X	X	X			~~14~~ 4	pH=2
															TOTAL NUMBER OF CONTAINERS	~~105~~ 57	

	Signatures	Date/Time
Approved by		
Sampled by		10-5-11 1545
Relinquished by		
Received by	Rafael Davila	10/5/11 15:45
Relinquished by	Rafael Davila	10/5/11 22:00
Received by	Linda	10/5/11 22:00

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

Special Instructions:
ATTN:
Sample Custody

Report Copy to
Shawn Duffy
(530) 229-3303

Subject: Missing analytes from the CMP samples
From: "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>
Date: Wed, 26 Oct 2011 18:30:50 -0400
To: Sean Condon <seanc@truesdail.com>
CC: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>

Hi Sean,

The CMP Samples were to have the following list of metals – unfortunately everything listed after Pb was cut off from the COC…

Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Please report Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, and Na for SDG 997653 # 1, 2, 9, 10 and SDG 997745 1 – 7.

Shawn Duffy
Project Chemist
CH2M HILL
2525 Airpark Dr.
Redding, CA 96001
Office: (530) 229-3303
Home Office: (530) 243-1078
Fax: (530) 339-3303
Cell: (530) 941-9227

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10-6-2011	997651-11	9.5	N/A	N/A	N/A	GW
	-12					
	-13					
	-14					
	-15					
	-16					
10-6-2011	997653-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
10-7-11	997708-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
997708 (1-5, 11-20)	<1	<2	10/07/11	M.M	Yes	No
997709 (1,3,5,6,8,10,12-16)	↓	↓	↓	↓	↓	↓
997459 (1-6)	plant	>2	10/05/11	KK	No	Yes
997446 (1-6)	plant	>2	10/05/11	KK	No	Yes
997763 (1-10)	<1	<2	10/10/11	M.M	Yes	No
997603 (1-2)	<1	<2	10/9/11	KK	No	No
997654 (1-11)	<1	<2	10/18/11	ICK	No	No
997870	<1	>2	10/12/11	ES	No	yes @ 4:00 pm
997871	↓	↓	↓	↓	↓	↓
997745 total + dissolved (1-7)	<1	<2	10/13/11	KK	No	No
997746	<1	<2	10/13/11	KK	No	No
997652	<1	<2	10/13/11	KK	No	No
997653 (1-12)	<1	<2	10/13/11	KK	No	No
997852 (1-4)	>1	<2	10/13/11	M.M	Yes	No
997829 11	Sludge	—	10/13/11	M.M	Yes	TTLC
997916 (1-2)	Soil	—	10/13/11	M.M	Yes	↓
997867	↓	—	↓	↓	↓	↓
997649 (1-2)	plant	>2	10/12/11	KK	No	Yes
997917	Solid	—	10/14/11	M.M	Yes	STLC
997871	>1	<2	10/14/11	M.M	Yes	No
997872						
997875						
997876						
997880						
997881						
997874						
997893	↓	↓				
997920	Solid	—	10/14/11	M.M	Yes	TTLC
997987	<1	<2	10/19/11	M.M	Yes	— No
998019 (1-2)	<1	<2	10/20/11	M.M	Yes	No
997956	>1	<2				
997958						
998008						
998016 (1-2)	>1	↓	↓	↓	↓	↓
998030 (1-5)	<1	<2	10/21/11	M.M	Yes	No
997968	<1	>2	10/21/11	ES	No	yes @ 3:00 p.m
998095	>1	<2	10/25/11	M.M	Yes	—
998060						—
998076						—
998077	↓	↓	↓	↓	↓	—
998036	Solid	-			Yes	TTLC
998093	↓	-	↓	↓	↓	↓
998110 (1-8,9)	<1	<2	10/26/11	M.M	Yes	—
998111						—
998112 (1-7)						—
998113 (1-8)						—
998114 (1-8)						—
998115 (1-11	↓	↓		↓	↓	—
997884 (1-6)	plant	>2	10/17/11	KK	No	yes on 10/17/11

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 997653

Date Delivered: 10/05/11 **Time:** 12:00 **By:** ☐Mail ☑Field Service ☐Client

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

ALERT !! Level III QC

15. ***Sample Matrix:*** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Linda

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

October 25, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK 2011-CMP-026, GROUNDWATER MONITORING PROJECT, TLI NO.: 997745

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock 2011-CMP-026 groundwater-monitoring project. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data, and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data are under Section 5.

The samples were received and delivered with the chain of custody on October 7, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

During the analysis for Total Dissolved Antimony by EPA 200.7, Antimony was detected in calibration blanks and ICS A+B above the reporting limit. Because all sample results were below the reporting limit and all other QA/QC was within acceptable limits, the data was accepted.

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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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Seven (7) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 423575.MP.02.GM

Laboratory No.: 997745
Date: October 25, 2011
Collected: October 5 - 6, 2011
Received: October 7, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Kim Luck
SM 2130B	Turbidity	Kim Luck
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Maria Mangarova
EPA 200.7	Metals by ICP	Ethel Suico
SW 6010B	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Hope Trinidad
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov

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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.: 423575.MP.02.GM
P.O. No.: 423575.MP.02.GM

Laboratory No.: 997745
Date Received: October 7, 2011
Revision 1; November 4, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-001	CW-04D-026	E120.1	NONE	10/5/2011	16:14	EC	8310	umhos/cm	2.00
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Aluminum	ND	ug/L	50.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Antimony	ND	ug/L	10.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	BORON	1310	ug/L	10.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Calcium	131	mg/L	12.5
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Iron	ND	ug/L	20.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Magnesium	7.97	mg/L	0.500
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Manganese	ND	ug/L	10.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Molybdenum	24.7	ug/L	10.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Nickel	ND	ug/L	10.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Potassium	16.2	mg/L	0.500
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Selenium	ND	ug/L	50.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Sodium	1740	mg/L	50.0
997745-001	CW-04D-026	E200.7	FLDFLT	10/5/2011	16:14	Zinc	ND	ug/L	10.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Arsenic	4.1	ug/L	1.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Barium	22.3	ug/L	10.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Beryllium	ND	ug/L	1.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Cadmium	ND	ug/L	3.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Chromium	2.4	ug/L	1.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Cobalt	ND	ug/L	5.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Copper	ND	ug/L	5.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Lead	ND	ug/L	10.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Mercury	ND	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Silver	ND	ug/L	5.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Thallium	ND	ug/L	1.0
997745-001	CW-04D-026	E200.8	FLDFLT	10/5/2011	16:14	Vanadium	ND	ug/L	5.0
997745-001	CW-04D-026	E218.6	FLDFLT	10/5/2011	16:14	Chromium, hexavalent	2.1	ug/L	1.0
997745-001	CW-04D-026	E300	NONE	10/5/2011	16:14	Chloride	2530	mg/L	100
997745-001	CW-04D-026	E300	NONE	10/5/2011	16:14	Fluoride	3.39	mg/L	0.500
997745-001	CW-04D-026	E300	NONE	10/5/2011	16:14	Sulfate	511	mg/L	25.0
997745-001	CW-04D-026	SM2130B	NONE	10/5/2011	16:14	Turbidity	0.221	NTU	0.100
997745-001	CW-04D-026	SM2320B	NONE	10/5/2011	16:14	Alkalinity	45.0	mg/L	5.00
997745-001	CW-04D-026	SM2320B	NONE	10/5/2011	16:14	Bicarbonate	45.0	mg/L	5.00
997745-001	CW-04D-026	SM2320B	NONE	10/5/2011	16:14	Carbonate	ND	mg/L	5.00
997745-001	CW-04D-026	SM2540C	NONE	10/5/2011	16:14	Total Dissolved Solids	4690	mg/L	125
997745-001	CW-04D-026	SM4500NH3	NONE	10/5/2011	16:14	Ammonia-N	0.601	mg/L	0.500
997745-001	CW-04D-026	SW6010B	NONE	10/5/2011	16:14	Iron	ND	ug/L	20.0
997745-002	CW-02D-026	E120.1	NONE	10/6/2011	10:43	EC	7390	umhos/cm	2.00
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Aluminum	ND	ug/L	50.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Antimony	ND	ug/L	10.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	BORON	1250	ug/L	10.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Calcium	78.9	mg/L	12.5
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Iron	ND	ug/L	20.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Magnesium	4.29	mg/L	0.500
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Manganese	ND	ug/L	10.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Molybdenum	10.7	ug/L	10.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Nickel	ND	ug/L	10.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Potassium	14.6	mg/L	0.500
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Selenium	ND	ug/L	50.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Sodium	1560	mg/L	50.0
997745-002	CW-02D-026	E200.7	FLDFLT	10/6/2011	10:43	Zinc	ND	ug/L	10.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Arsenic	3.8	ug/L	1.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Barium	11.9	ug/L	10.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Beryllium	ND	ug/L	1.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Cadmium	ND	ug/L	3.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Chromium	1.1	ug/L	1.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Cobalt	ND	ug/L	5.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Copper	ND	ug/L	5.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Lead	ND	ug/L	10.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Mercury	ND	ug/L	1.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Silver	ND	ug/L	5.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Thallium	ND	ug/L	1.0
997745-002	CW-02D-026	E200.8	FLDFLT	10/6/2011	10:43	Vanadium	5.8	ug/L	5.0
997745-002	CW-02D-026	E218.6	FLDFLT	10/6/2011	10:43	Chromium, hexavalent	1.2	ug/L	1.0
997745-002	CW-02D-026	E300	NONE	10/6/2011	10:43	Chloride	2110	mg/L	100
997745-002	CW-02D-026	E300	NONE	10/6/2011	10:43	Fluoride	3.12	mg/L	0.500
997745-002	CW-02D-026	E300	NONE	10/6/2011	10:43	Sulfate	486	mg/L	25.0
997745-002	CW-02D-026	SM2130B	NONE	10/6/2011	10:43	Turbidity	0.278	NTU	0.100
997745-002	CW-02D-026	SM2320B	NONE	10/6/2011	10:43	Alkalinity	65.0	mg/L	5.00
997745-002	CW-02D-026	SM2320B	NONE	10/6/2011	10:43	Bicarbonate	65.0	mg/L	5.00
997745-002	CW-02D-026	SM2320B	NONE	10/6/2011	10:43	Carbonate	ND	mg/L	5.00
997745-002	CW-02D-026	SM2540C	NONE	10/6/2011	10:43	Total Dissolved Solids	4150	mg/L	125
997745-002	CW-02D-026	SM4500NH3	NONE	10/6/2011	10:43	Ammonia-N	0.719	mg/L	0.500
997745-002	CW-02D-026	SW6010B	FLDFLT	10/6/2011	10:43	Iron	ND	ug/L	20.0
997745-003	CW-02M-026	E120.1	NONE	10/6/2011	11:49	EC	7130	umhos/cm	2.00
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Aluminum	ND	ug/L	50.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Antimony	ND	ug/L	10.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	BORON	1170	ug/L	10.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Calcium	130	mg/L	12.5
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Iron	ND	ug/L	20.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Magnesium	9.99	mg/L	0.500
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Manganese	ND	ug/L	10.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Molybdenum	19.7	ug/L	10.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Nickel	ND	ug/L	10.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Potassium	15.7	mg/L	0.500
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Selenium	ND	ug/L	50.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Sodium	1470	mg/L	50.0
997745-003	CW-02M-026	E200.7	FLDFLT	10/6/2011	11:49	Zinc	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Arsenic	2.4	ug/L	1.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Barium	66.6	ug/L	10.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Beryllium	ND	ug/L	1.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Cadmium	ND	ug/L	3.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Chromium	2.9	ug/L	1.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Cobalt	ND	ug/L	5.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Copper	ND	ug/L	5.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Lead	ND	ug/L	10.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Mercury	ND	ug/L	1.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Silver	ND	ug/L	5.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Thallium	ND	ug/L	1.0
997745-003	CW-02M-026	E200.8	FLDFLT	10/6/2011	11:49	Vanadium	ND	ug/L	5.0
997745-003	CW-02M-026	E218.6	FLDFLT	10/6/2011	11:49	Chromium, hexavalent	3.1	ug/L	1.0
997745-003	CW-02M-026	E300	NONE	10/6/2011	11:49	Chloride	2070	mg/L	100
997745-003	CW-02M-026	E300	NONE	10/6/2011	11:49	Fluoride	2.75	mg/L	0.500
997745-003	CW-02M-026	E300	NONE	10/6/2011	11:49	Sulfate	463	mg/L	25.0
997745-003	CW-02M-026	SM2130B	NONE	10/6/2011	11:49	Turbidity	0.146	NTU	0.100
997745-003	CW-02M-026	SM2320B	NONE	10/6/2011	11:49	Alkalinity	52.0	mg/L	5.00
997745-003	CW-02M-026	SM2320B	NONE	10/6/2011	11:49	Bicarbonate	52.0	mg/L	5.00
997745-003	CW-02M-026	SM2320B	NONE	10/6/2011	11:49	Carbonate	ND	mg/L	5.00
997745-003	CW-02M-026	SM2540C	NONE	10/6/2011	11:49	Total Dissolved Solids	3980	mg/L	125
997745-003	CW-02M-026	SM4500NH3	NONE	10/6/2011	11:49	Ammonia-N	1.32	mg/L	0.500
997745-003	CW-02M-026	SW6010B	NONE	10/6/2011	11:49	Iron	ND	ug/L	20.0
997745-004	CW-03D-026	E120.1	NONE	10/6/2011	13:25	EC	7350	umhos/cm	2.00
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Aluminum	ND	ug/L	50.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Antimony	ND	ug/L	10.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	BORON	1360	ug/L	10.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Calcium	74.2	mg/L	12.5
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Iron	ND	ug/L	20.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Magnesium	5.42	mg/L	0.500
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Manganese	ND	ug/L	10.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Molybdenum	20.8	ug/L	10.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Nickel	ND	ug/L	10.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Potassium	14.5	mg/L	0.500
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Selenium	ND	ug/L	50.0
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Sodium	1570	mg/L	50.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-004	CW-03D-026	E200.7	FLDFLT	10/6/2011	13:25	Zinc	ND	ug/L	10.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Arsenic	1.4	ug/L	1.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Barium	11.8	ug/L	10.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Beryllium	ND	ug/L	1.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Cadmium	ND	ug/L	3.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Chromium	ND	ug/L	1.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Cobalt	ND	ug/L	5.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Copper	ND	ug/L	5.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Lead	ND	ug/L	10.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Mercury	ND	ug/L	1.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Silver	ND	ug/L	5.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Thallium	ND	ug/L	1.0
997745-004	CW-03D-026	E200.8	FLDFLT	10/6/2011	13:25	Vanadium	ND	ug/L	5.0
997745-004	CW-03D-026	E218.6	FLDFLT	10/6/2011	13:25	Chromium, hexavalent	ND	ug/L	1.0
997745-004	CW-03D-026	E300	NONE	10/6/2011	13:25	Chloride	2120	mg/L	100
997745-004	CW-03D-026	E300	NONE	10/6/2011	13:25	Fluoride	4.64	mg/L	0.500
997745-004	CW-03D-026	E300	NONE	10/6/2011	13:25	Sulfate	487	mg/L	25.0
997745-004	CW-03D-026	SM2130B	NONE	10/6/2011	13:25	Turbidity	0.169	NTU	0.100
997745-004	CW-03D-026	SM2320B	NONE	10/6/2011	13:25	Alkalinity	56.0	mg/L	5.00
997745-004	CW-03D-026	SM2320B	NONE	10/6/2011	13:25	Bicarbonate	56.0	mg/L	5.00
997745-004	CW-03D-026	SM2320B	NONE	10/6/2011	13:25	Carbonate	ND	mg/L	5.00
997745-004	CW-03D-026	SM2540C	NONE	10/6/2011	13:25	Total Dissolved Solids	4160	mg/L	125
997745-004	CW-03D-026	SM4500NH3	NONE	10/6/2011	13:25	Ammonia-N	1.04	mg/L	0.500
997745-004	CW-03D-026	SW6010B	NONE	10/6/2011	13:25	Iron	ND	ug/L	20.0
997745-005	CW-03M-026	E120.1	NONE	10/6/2011	14:34	EC	8550	umhos/cm	2.00
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Aluminum	ND	ug/L	50.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Antimony	ND	ug/L	10.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	BORON	1130	ug/L	10.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Calcium	204	mg/L	12.5
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Iron	ND	ug/L	20.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Magnesium	16.9	mg/L	12.5
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Manganese	ND	ug/L	10.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Molybdenum	19.9	ug/L	10.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Nickel	ND	ug/L	10.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Potassium	16.3	mg/L	12.5

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Selenium	ND	ug/L	50.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Sodium	1740	mg/L	50.0
997745-005	CW-03M-026	E200.7	FLDFLT	10/6/2011	14:34	Zinc	ND	ug/L	10.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Arsenic	1.3	ug/L	1.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Barium	49.0	ug/L	10.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Beryllium	ND	ug/L	1.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Cadmium	ND	ug/L	3.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Chromium	8.7	ug/L	1.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Cobalt	ND	ug/L	5.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Copper	ND	ug/L	5.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Lead	ND	ug/L	10.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Mercury	ND	ug/L	1.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Silver	ND	ug/L	5.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Thallium	ND	ug/L	1.0
997745-005	CW-03M-026	E200.8	FLDFLT	10/6/2011	14:34	Vanadium	ND	ug/L	5.0
997745-005	CW-03M-026	E218.6	FLDFLT	10/6/2011	14:34	Chromium, hexavalent	9.4	ug/L	1.0
997745-005	CW-03M-026	E300	NONE	10/6/2011	14:34	Chloride	2610	mg/L	100
997745-005	CW-03M-026	E300	NONE	10/6/2011	14:34	Fluoride	2.52	mg/L	0.500
997745-005	CW-03M-026	E300	NONE	10/6/2011	14:34	Sulfate	428	mg/L	25.0
997745-005	CW-03M-026	SM2130B	NONE	10/6/2011	14:34	Turbidity	ND	NTU	0.100
997745-005	CW-03M-026	SM2320B	NONE	10/6/2011	14:34	Alkalinity	50.0	mg/L	5.00
997745-005	CW-03M-026	SM2320B	NONE	10/6/2011	14:34	Bicarbonate	50.0	mg/L	5.00
997745-005	CW-03M-026	SM2320B	NONE	10/6/2011	14:34	Carbonate	ND	mg/L	5.00
997745-005	CW-03M-026	SM2540C	NONE	10/6/2011	14:34	Total Dissolved Solids	5070	mg/L	125
997745-005	CW-03M-026	SM4500NH3	NONE	10/6/2011	14:34	Ammonia-N	0.769	mg/L	0.500
997745-005	CW-03M-026	SW6010B	NONE	10/6/2011	14:34	Iron	ND	ug/L	20.0
997745-006	CW-04M-026	E120.1	NONE	10/6/2011	8:48	EC	6700	umhos/cm	2.00
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Aluminum	ND	ug/L	50.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Antimony	ND	ug/L	10.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	BORON	892	ug/L	10.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Calcium	166	mg/L	12.5
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Iron	ND	ug/L	20.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Magnesium	13.7	mg/L	0.500
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Manganese	ND	ug/L	10.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Molybdenum	ND	ug/L	10.0

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Nickel	ND	ug/L	10.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Potassium	16.2	mg/L	0.500
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Selenium	ND	ug/L	50.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Sodium	1270	mg/L	50.0
997745-006	CW-04M-026	E200.7	FLDFLT	10/6/2011	8:48	Zinc	ND	ug/L	10.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Arsenic	2.3	ug/L	1.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Barium	91.4	ug/L	10.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Beryllium	ND	ug/L	1.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Cadmium	ND	ug/L	3.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Chromium	10.2	ug/L	1.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Cobalt	ND	ug/L	5.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Copper	ND	ug/L	5.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Lead	ND	ug/L	10.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Mercury	ND	ug/L	1.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Silver	ND	ug/L	5.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Thallium	ND	ug/L	1.0
997745-006	CW-04M-026	E200.8	FLDFLT	10/6/2011	8:48	Vanadium	ND	ug/L	5.0
997745-006	CW-04M-026	E218.6	FLDFLT	10/6/2011	8:48	Chromium, hexavalent	10.6	ug/L	1.0
997745-006	CW-04M-026	E300	NONE	10/6/2011	8:48	Chloride	1970	mg/L	100
997745-006	CW-04M-026	E300	NONE	10/6/2011	8:48	Fluoride	1.62	mg/L	0.500
997745-006	CW-04M-026	E300	NONE	10/6/2011	8:48	Sulfate	394	mg/L	25.0
997745-006	CW-04M-026	SM2130B	NONE	10/6/2011	8:48	Turbidity	ND	NTU	0.100
997745-006	CW-04M-026	SM2320B	NONE	10/6/2011	8:48	Alkalinity	50.0	mg/L	5.00
997745-006	CW-04M-026	SM2320B	NONE	10/6/2011	8:48	Bicarbonate	50.0	mg/L	5.00
997745-006	CW-04M-026	SM2320B	NONE	10/6/2011	8:48	Carbonate	ND	mg/L	5.00
997745-006	CW-04M-026	SM2540C	NONE	10/6/2011	8:48	Total Dissolved Solids	3750	mg/L	125
997745-006	CW-04M-026	SM4500NH3	NONE	10/6/2011	8:48	Ammonia-N	0.649	mg/L	0.500
997745-006	CW-04M-026	SW6010B	NONE	10/6/2011	8:48	Iron	ND	ug/L	20.0
997745-007	OW-90-026	E120.1	NONE	10/6/2011	7:05	EC	6720	umhos/cm	2.00
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Aluminum	ND	ug/L	50.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Antimony	ND	ug/L	10.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	BORON	898	ug/L	10.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Calcium	167	mg/L	12.5
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Iron	ND	ug/L	20.0

Revision 1; November 4, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Magnesium	13.8	mg/L	0.500
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Manganese	ND	ug/L	10.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Molybdenum	ND	ug/L	10.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Nickel	ND	ug/L	10.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Potassium	16.2	mg/L	0.500
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Selenium	ND	ug/L	50.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Sodium	1330	mg/L	50.0
997745-007	OW-90-026	E200.7	FLDFLT	10/6/2011	7:05	Zinc	ND	ug/L	10.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Arsenic	2.1	ug/L	1.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Barium	92.4	ug/L	10.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Beryllium	ND	ug/L	1.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Cadmium	ND	ug/L	3.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Chromium	9.5	ug/L	1.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Cobalt	ND	ug/L	5.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Copper	ND	ug/L	5.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Lead	ND	ug/L	10.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Mercury	ND	ug/L	1.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Silver	ND	ug/L	5.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Thallium	ND	ug/L	1.0
997745-007	OW-90-026	E200.8	FLDFLT	10/6/2011	7:05	Vanadium	ND	ug/L	5.0
997745-007	OW-90-026	E218.6	FLDFLT	10/6/2011	7:05	Chromium, hexavalent	10.8	ug/L	1.0
997745-007	OW-90-026	E300	NONE	10/6/2011	7:05	Chloride	1960	mg/L	100
997745-007	OW-90-026	E300	NONE	10/6/2011	7:05	Fluoride	1.66	mg/L	0.500
997745-007	OW-90-026	E300	NONE	10/6/2011	7:05	Sulfate	378	mg/L	25.0
997745-007	OW-90-026	SM2130B	NONE	10/6/2011	7:05	Turbidity	ND	NTU	0.100
997745-007	OW-90-026	SM2320B	NONE	10/6/2011	7:05	Alkalinity	50.0	mg/L	5.00
997745-007	OW-90-026	SM2320B	NONE	10/6/2011	7:05	Bicarbonate	50.0	mg/L	5.00
997745-007	OW-90-026	SM2320B	NONE	10/6/2011	7:05	Carbonate	ND	mg/L	5.00
997745-007	OW-90-026	SM2540C	NONE	10/6/2011	7:05	Total Dissolved Solids	3940	mg/L	125
997745-007	OW-90-026	SM4500NH3	NONE	10/6/2011	7:05	Ammonia-N	1.15	mg/L	0.500
997745-007	OW-90-026	SW6010B	NONE	10/6/2011	7:05	Iron	ND	ug/L	20.0

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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REPORT

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

Laboratory No. 997745

Printed 11/4/2011
Revised

Samples Received on 10/7/2011 12:10:00 PM

Field ID	Lab ID	Collected	Matrix
CW-04D-026	997745-001	10/05/2011 16:14	Water
CW-02D-026	997745-002	10/06/2011 10:43	Water
CW-02M-026	997745-003	10/06/2011 11:49	Water
CW-03D-026	997745-004	10/06/2011 13:25	Water
CW-03M-026	997745-005	10/06/2011 14:34	Water
CW-04M-026	997745-006	10/06/2011 08:48	Water
OW-90-026	997745-007	10/06/2011 07:05	Water

Anions By I.C. - EPA 300.0 Batch 10AN11F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Chloride	mg/L	10/07/2011 15:37	500	15.0	100.	2530
Fluoride	mg/L	10/07/2011 13:01	5.00	0.0250	0.500	3.39
Sulfate	mg/L	10/07/2011 17:11	50.0	1.00	25.0	511.
997745-002 Chloride	mg/L	10/07/2011 15:47	500	15.0	100.	2110
Fluoride	mg/L	10/07/2011 13:11	5.00	0.0250	0.500	3.12
Sulfate	mg/L	10/07/2011 17:21	50.0	1.00	25.0	486.
997745-003 Chloride	mg/L	10/07/2011 15:58	500	15.0	100.	2070
Fluoride	mg/L	10/07/2011 13:22	5.00	0.0250	0.500	2.75
Sulfate	mg/L	10/07/2011 17:31	50.0	1.00	25.0	463.
997745-004 Chloride	mg/L	10/07/2011 16:08	500	15.0	100.	2120
Fluoride	mg/L	10/07/2011 13:32	5.00	0.0250	0.500	4.64
Sulfate	mg/L	10/07/2011 17:42	50.0	1.00	25.0	487.
997745-005 Chloride	mg/L	10/07/2011 16:19	500	15.0	100.	2610
Fluoride	mg/L	10/07/2011 13:42	5.00	0.0250	0.500	2.52
Sulfate	mg/L	10/07/2011 17:52	50.0	1.00	25.0	428.
997745-006 Chloride	mg/L	10/07/2011 16:29	500	15.0	100.	1970
Fluoride	mg/L	10/07/2011 13:53	5.00	0.0250	0.500	1.62

997745-006 Sulfate	mg/L	10/07/2011 18:03	50.0	1.00	25.0	394.
997745-007 Chloride	mg/L	10/07/2011 17:00	500	15.0	100.	1960
Fluoride	mg/L	10/07/2011 14:03	5.00	0.0250	0.500	1.66
Sulfate	mg/L	10/07/2011 18:13	50.0	1.00	25.0	378.

Method Blank

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

Duplicate — Lab ID = 997577-008

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

Duplicate — Lab ID = 997704-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	1.00	2.62	2.65	1.10	0 - 20
Sulfate	mg/L	1.00	3.38	3.39	0.414	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.96	4.00	99.0	90 - 110
Fluoride	mg/L	1.00	4.14	4.00	104.	90 - 110
Sulfate	mg/L	1.00	19.9	20.0	99.7	90 - 110

Matrix Spike — Lab ID = 997577-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	2.18	2.00(2.00)	109.	85 - 115

Matrix Spike — Lab ID = 997704-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	1.00	6.85	6.65(4.00)	105.	85 - 115
Sulfate	mg/L	1.00	7.16	7.39(4.00)	94.3	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.94	4.00	98.6	90 - 110
Fluoride	mg/L	1.00	4.14	4.00	103.	90 - 110
Sulfate	mg/L	1.00	19.9	20.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.97	3.00	99.1	90 - 110

Alkalinity by SM 2320B Batch 10ALK11F 10/14/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	45.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	45.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-002 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	65.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	65.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-003 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	52.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	52.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-004 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	56.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	56.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-005 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-006 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND
997745-007 Alkalinity as CaCO3	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Bicarbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	50.0
Carbonate (Calculated)	mg/L	10/14/2011	1.00	1.68	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO3	mg/L	1.00	ND

Duplicate — Lab ID = 997745-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	55.0	56.0	1.80	0 - 0

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.	100.	90 - 110

Matrix Spike — Lab ID = 997745-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO3	mg/L	1.00	154	165(100.)	89.0	75 - 125

Specific Conductivity - EPA 120.1 Batch 10EC11D 10/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	8310
997745-002 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	7390
997745-003 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	7130
997745-004 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	7350
997745-005 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	8550
997745-006 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	6700
997745-007 Specific Conductivity	umhos/cm	10/10/2011	1.00	0.0380	2.00	6720

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8300	8310	0.120	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706	99.2	90 - 110

Lab Control Sample Duplicate

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

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1090	998	109.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	978	998	98.0	90 - 110

Metals by EPA 6010B, Total Batch 101811D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Iron	ug/L	10/19/2011 01:07	1.00	1.34	20.0	ND
997745-002 Iron	ug/L	10/19/2011 01:30	1.00	1.34	20.0	ND
997745-003 Iron	ug/L	10/19/2011 01:36	1.00	1.34	20.0	ND
997745-004 Iron	ug/L	10/19/2011 02:01	1.00	1.34	20.0	ND
997745-005 Iron	ug/L	10/19/2011 02:07	1.00	1.34	20.0	ND
997745-006 Iron	ug/L	10/19/2011 02:13	1.00	1.34	20.0	ND
997745-007 Iron	ug/L	10/19/2011 02:19	1.00	1.34	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate — Lab ID = 997745-001

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5000	5000	100.	85 - 115

Matrix Spike — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1910	2000(2000)	95.6	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1960	2000(2000)	98.2	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4980	5000	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5270	5000	105.	90 - 110

MRCVS - Primary

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

Chrome VI by EPA 218.6

Batch 10CrH11N

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Chromium, Hexavalent	ug/L	10/13/2011 11:22	5.25	0.136	1.0	2.1
997745-002 Chromium, Hexavalent	ug/L	10/13/2011 12:06	5.25	0.136	1.0	1.2
997745-003 Chromium, Hexavalent	ug/L	10/13/2011 12:20	5.25	0.136	1.0	3.1
997745-004 Chromium, Hexavalent	ug/L	10/13/2011 12:30	5.25	0.136	1.0	ND
997745-005 Chromium, Hexavalent	ug/L	10/13/2011 12:40	5.25	0.136	1.0	9.4
997745-006 Chromium, Hexavalent	ug/L	10/13/2011 13:01	5.25	0.136	1.0	10.6
997745-007 Chromium, Hexavalent	ug/L	10/13/2011 13:11	5.25	0.136	1.0	10.8

Method Blank

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

Duplicate — Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	9.55	9.39	1.70	0 - 20

Lab Control Sample

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

Matrix Spike — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.78	7.34(5.25)	108.	90 - 110

Matrix Spike — Lab ID = 997745-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.28	6.45(5.25)	96.8	90 - 110

Matrix Spike — Lab ID = 997745-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	8.76	8.35(5.25)	108.	90 - 110

Matrix Spike — Lab ID = 997745-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.42	6.21(5.25)	104.	90 - 110

Matrix Spike — Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	35.2	35.6(26.2)	98.4	90 - 110

Matrix Spike — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	38.1	36.8(26.2)	105.	90 - 110

Matrix Spike — Lab ID = 997745-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	37.8	37.0(26.2)	103.	90 - 110

Matrix Spike — Lab ID = 997830-001

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

Matrix Spike — Lab ID = 997830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	3.05	6.59(5.25)	32.6	90 - 110

Matrix Spike — Lab ID = 997830-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	12.5	12.6(10.5)	98.6	90 - 110

MRCCS - Secondary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104.	95 - 105

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.64	10.0	96.4	95 - 105

Total Dissolved Solids by SM 2540 C Batch 10TDS11B 10/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4690
997745-002 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4150
997745-003 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	3980
997745-004 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	4160
997745-005 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	5070
997745-006 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	3750
997745-007 Total Dissolved Solids	mg/L	10/10/2011	1.00	0.400	125	3940

Method Blank

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

Duplicate Lab ID = 997653-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4200	4240	1.07	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	510.	500.	102	90 - 110

Ammonia Nitrogen by SM4500-NH3D Batch 10NH3-E11B 10/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	0.601
997745-002 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	0.719
997745-003 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.32
997745-004 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.04
997745-005 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	0.769
997745-006 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	0.649
997745-007 Ammonia as N	mg/L	10/10/2011	1.00	0.00200	0.500	1.15

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	0.571	0.649	12.8	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.6	10.0	106.	90 - 110

Matrix Spike — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.90	6.65(6.00)	104.	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	7.13	6.65(6.00)	108.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.34	6.00	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.98	6.00	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.74	6.00	95.6	90 - 110

Metals by EPA 200.8, Dissolved Batch 101811A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Arsenic	ug/L	10/18/2011 17:51	5.00	0.285	1.0	4.1
Barium	ug/L	10/18/2011 17:51	5.00	0.200	10.0	22.3
Beryllium	ug/L	10/18/2011 17:51	5.00	0.180	1.0	ND
Cadmium	ug/L	10/18/2011 17:51	5.00	0.470	3.0	ND
Chromium	ug/L	10/18/2011 17:51	5.00	0.110	1.0	2.4
Cobalt	ug/L	10/18/2011 17:51	5.00	0.485	5.0	ND
Copper	ug/L	10/18/2011 17:51	5.00	0.125	5.0	ND
Lead	ug/L	10/18/2011 17:51	5.00	0.110	10.0	ND
997745-002 Arsenic	ug/L	10/18/2011 18:39	5.00	0.285	1.0	3.8
Barium	ug/L	10/18/2011 18:39	5.00	0.200	10.0	11.9
Beryllium	ug/L	10/18/2011 18:39	5.00	0.180	1.0	ND
Cadmium	ug/L	10/18/2011 18:39	5.00	0.470	3.0	ND
Chromium	ug/L	10/18/2011 18:39	5.00	0.110	1.0	1.1
Cobalt	ug/L	10/18/2011 18:39	5.00	0.485	5.0	ND
Copper	ug/L	10/18/2011 18:39	5.00	0.125	5.0	ND
Lead	ug/L	10/18/2011 18:39	5.00	0.110	10.0	ND
997745-003 Arsenic	ug/L	10/18/2011 18:46	5.00	0.285	1.0	2.4
Barium	ug/L	10/18/2011 18:46	5.00	0.200	10.0	66.6
Beryllium	ug/L	10/18/2011 18:46	5.00	0.180	1.0	ND
Cadmium	ug/L	10/18/2011 18:46	5.00	0.470	3.0	ND
Chromium	ug/L	10/18/2011 18:46	5.00	0.110	1.0	2.9
Cobalt	ug/L	10/18/2011 18:46	5.00	0.485	5.0	ND
Copper	ug/L	10/18/2011 18:46	5.00	0.125	5.0	ND
Lead	ug/L	10/18/2011 18:46	5.00	0.110	10.0	ND
997745-004 Arsenic	ug/L	10/18/2011 19:00	5.00	0.285	1.0	1.4
Barium	ug/L	10/18/2011 19:00	5.00	0.200	10.0	11.8
Beryllium	ug/L	10/18/2011 19:00	5.00	0.180	1.0	ND
Cadmium	ug/L	10/18/2011 19:00	5.00	0.470	3.0	ND
Chromium	ug/L	10/18/2011 19:00	5.00	0.110	1.0	ND
Cobalt	ug/L	10/18/2011 19:00	5.00	0.485	5.0	ND
Copper	ug/L	10/18/2011 19:00	5.00	0.125	5.0	ND
Lead	ug/L	10/18/2011 19:00	5.00	0.110	10.0	ND
997745-005 Arsenic	ug/L	10/18/2011 19:07	5.00	0.285	1.0	1.3
Barium	ug/L	10/18/2011 19:07	5.00	0.200	10.0	49.0

997745-005	Beryllium	ug/L	10/18/2011 19:07	5.00	0.180	1.0	ND
	Cadmium	ug/L	10/18/2011 19:07	5.00	0.470	3.0	ND
	Chromium	ug/L	10/18/2011 19:07	5.00	0.110	1.0	8.7
	Cobalt	ug/L	10/18/2011 19:07	5.00	0.485	5.0	ND
	Copper	ug/L	10/18/2011 19:07	5.00	0.125	5.0	ND
	Lead	ug/L	10/18/2011 19:07	5.00	0.110	10.0	ND
997745-006	Arsenic	ug/L	10/18/2011 19:14	5.00	0.285	1.0	2.3
	Barium	ug/L	10/18/2011 19:14	5.00	0.200	10.0	91.4
	Beryllium	ug/L	10/18/2011 19:14	5.00	0.180	1.0	ND
	Cadmium	ug/L	10/18/2011 19:14	5.00	0.470	3.0	ND
	Chromium	ug/L	10/18/2011 19:14	5.00	0.110	1.0	10.2
	Cobalt	ug/L	10/18/2011 19:14	5.00	0.485	5.0	ND
	Copper	ug/L	10/18/2011 19:14	5.00	0.125	5.0	ND
	Lead	ug/L	10/18/2011 19:14	5.00	0.110	10.0	ND
997745-007	Arsenic	ug/L	10/18/2011 19:21	5.00	0.285	1.0	2.1
	Barium	ug/L	10/18/2011 19:21	5.00	0.200	10.0	92.4
	Beryllium	ug/L	10/18/2011 19:21	5.00	0.180	1.0	ND
	Cadmium	ug/L	10/18/2011 19:21	5.00	0.470	3.0	ND
	Chromium	ug/L	10/18/2011 19:21	5.00	0.110	1.0	9.5
	Cobalt	ug/L	10/18/2011 19:21	5.00	0.485	5.0	ND
	Copper	ug/L	10/18/2011 19:21	5.00	0.125	5.0	ND
	Lead	ug/L	10/18/2011 19:21	5.00	0.110	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Beryllium	ug/L	1.00	ND
Cadmium	ug/L	1.00	ND
Cobalt	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND

Duplicate Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	3.73	4.07	8.69	0 - 20
Barium	ug/L	5.00	21.6	22.3	3.05	0 - 20
Beryllium	ug/L	5.00	ND	0.00	0	0 - 20
Cadmium	ug/L	5.00	ND	0.00	0	0 - 20
Cobalt	ug/L	5.00	ND	0.00	0	0 - 20
Chromium	ug/L	5.00	2.40	2.38	0.837	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.9	50.0	95.8	85 - 115
Barium	ug/L	1.00	48.1	50.0	96.3	85 - 115
Beryllium	ug/L	1.00	50.6	50.0	101.	85 - 115
Cadmium	ug/L	1.00	52.2	50.0	104.	85 - 115
Cobalt	ug/L	1.00	52.2	50.0	104.	85 - 115
Chromium	ug/L	1.00	50.6	50.0	101.	85 - 115
Copper	ug/L	1.00	49.8	50.0	99.6	85 - 115
Lead	ug/L	1.00	50.5	50.0	101.	85 - 115

Matrix Spike Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	251.	254.(250.)	98.8	75 - 125
Barium	ug/L	5.00	255.	272.(250.)	93.0	75 - 125
Beryllium	ug/L	5.00	253.	250.(250.)	101.	75 - 125
Cadmium	ug/L	5.00	226.	250.(250.)	90.3	75 - 125
Cobalt	ug/L	5.00	250.	250.(250.)	100.	75 - 125
Chromium	ug/L	5.00	258.	252.(250.)	102.	75 - 125
Copper	ug/L	5.00	233.	250.(250.)	93.1	75 - 125
Lead	ug/L	5.00	225.	250.(250.)	90.0	75 - 125

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project
Project Number: 405681.MP.02.CM.04

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Matrix Spike Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	252.	254.(250.)	99.0	75 - 125
Barium	ug/L	5.00	255.	272.(250.)	93.2	75 - 125
Beryllium	ug/L	5.00	253.	250.(250.)	101.	75 - 125
Cadmium	ug/L	5.00	228.	250.(250.)	91.4	75 - 125
Cobalt	ug/L	5.00	252.	250.(250.)	101.	75 - 125
Chromium	ug/L	5.00	259.	252.(250.)	102.	75 - 125
Copper	ug/L	5.00	234	250.(250.)	93.6	75 - 125
Lead	ug/L	5.00	226.	250.(250.)	90.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.2	50.0	96.4	90 - 110
Barium	ug/L	1.00	49.0	50.0	97.9	90 - 110
Beryllium	ug/L	1.00	51.0	50.0	102.	90 - 110
Cadmium	ug/L	1.00	53.2	50.0	106.	90 - 110
Cobalt	ug/L	1.00	53.0	50.0	106.	90 - 110
Chromium	ug/L	1.00	50.8	50.0	102.	90 - 110
Copper	ug/L	1.00	49.8	50.0	99.6	90 - 110
Lead	ug/L	1.00	51.6	50.0	103.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.3	50.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	53.7	50.0	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	53.3	50.0	107.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.9	50.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.1	50.0	104.	90 - 110
Barium	ug/L	1.00	50.5	50.0	101.	90 - 110

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0.00		

Serial Dilution Lab ID = 997745-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	25.0	66.6	66.6	0.00	0 - 10

Metals by EPA 200.8, Dissolved

Batch 110211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Mercury	ug/L	11/02/2011 16:01	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 16:01	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 16:01	5.00	0.125	1.0	ND
997745-002 Mercury	ug/L	11/02/2011 16:08	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 16:08	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 16:08	5.00	0.125	1.0	ND
997745-003 Mercury	ug/L	11/02/2011 16:33	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 16:33	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 16:33	5.00	0.125	1.0	ND
997745-004 Mercury	ug/L	11/02/2011 16:41	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 16:41	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 16:41	5.00	0.125	1.0	ND
997745-005 Mercury	ug/L	11/02/2011 17:02	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 17:02	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 17:02	5.00	0.125	1.0	ND
997745-006 Mercury	ug/L	11/02/2011 17:09	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 17:09	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 17:09	5.00	0.125	1.0	ND
997745-007 Mercury	ug/L	11/02/2011 17:16	5.00	0.0700	1.0	ND
Silver	ug/L	11/02/2011 17:16	5.00	0.175	5.0	ND
Thallium	ug/L	11/02/2011 17:16	5.00	0.125	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Mercury	ug/L	1.00	ND
Silver	ug/L	1.00	ND
Thallium	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Mercury	ug/L	5.00	ND	0.00	0	0 - 20
Silver	ug/L	5.00	ND	0.00	0	0 - 20
Thallium	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.02	2.00	101.	85 - 115
Silver	ug/L	1.00	53.7	50.0	107.	85 - 115
Thallium	ug/L	1.00	51.8	50.0	104.	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	76.9	100.(100.)	76.9	75 - 125
Silver	ug/L	5.00	463.	500.(500.)	92.6	75 - 125
Thallium	ug/L	5.00	462.	500.(500.)	92.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.07	2.00	103.	90 - 110
Silver	ug/L	1.00	54.2	50.0	108.	90 - 110
Thallium	ug/L	1.00	52.6	50.0	105.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.02	2.00	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.01	2.00	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	51.1	50.0	102.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	51.1	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	51.1	50.0	102.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	ND	0.00		

Metals by EPA 200.8, Dissolved Batch 101311B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Vanadium	ug/L	10/14/2011 05:08	5.00	0.370	5.0	ND
997745-002 Vanadium	ug/L	10/14/2011 05:38	5.00	0.370	5.0	5.8
997745-003 Vanadium	ug/L	10/14/2011 05:46	5.00	0.370	5.0	ND
997745-004 Vanadium	ug/L	10/14/2011 05:53	5.00	0.370	5.0	ND
997745-005 Vanadium	ug/L	10/14/2011 06:01	5.00	0.370	5.0	ND
997745-006 Vanadium	ug/L	10/14/2011 06:31	5.00	0.370	5.0	ND
997745-007 Vanadium	ug/L	10/14/2011 06:39	5.00	0.370	5.0	ND

Method Blank

Parameter	Unit	DF	Result
Vanadium	ug/L	1.00	ND

Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Vanadium	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.5	50.0	96.9	85 - 115

Matrix Spike — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Vanadium	ug/L	5.00	255.	250.(250.)	102.	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Vanadium	ug/L	5.00	260.	250.(250.)	104.	75 - 125

MRCCS - Secondary

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

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.6	50.0	97.2	90 - 110

Metals by 200.7, Dissolved Batch 101511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Boron	ug/L	10/15/2011 02:23	1.00	1.50	10.0	1310
Calcium	mg/L	10/15/2011 01:04	25.0	0.489	12.5	131.
997745-002 Boron	ug/L	10/15/2011 02:46	1.00	1.50	10.0	1250
Calcium	mg/L	10/15/2011 01:27	25.0	0.489	12.5	78.9
997745-003 Boron	ug/L	10/15/2011 02:52	1.00	1.50	10.0	1170
Calcium	mg/L	10/15/2011 01:32	25.0	0.489	12.5	130.
997745-004 Boron	ug/L	10/15/2011 03:20	1.00	1.50	10.0	1360
Calcium	mg/L	10/15/2011 02:00	25.0	0.489	12.5	74.2
997745-005 Boron	ug/L	10/15/2011 03:26	1.00	1.50	10.0	1130
Calcium	mg/L	10/15/2011 02:06	25.0	0.489	12.5	204.
997745-006 Boron	ug/L	10/15/2011 03:32	1.00	1.50	10.0	892.
Calcium	mg/L	10/15/2011 02:12	25.0	0.489	12.5	166.
997745-007 Boron	ug/L	10/15/2011 03:38	1.00	1.50	10.0	898.
Calcium	mg/L	10/15/2011 02:17	25.0	0.489	12.5	167.

Method Blank

Parameter	Unit	DF	Result
Calcium	mg/L	1.00	ND
Boron	ug/L	1.00	ND

Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Calcium	mg/L	25.0	129.	131	1.54	0 - 20
Boron	ug/L	1.00	1310	1310	0.305	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Calcium	mg/L	1.00	5.14	5.00	103.	85 - 115
Boron	ug/L	1.00	5010	5000	100.	85 - 115

Matrix Spike — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Calcium	mg/L	25.0	180.	181(50.0)	97.4	75 - 125
Boron	ug/L	1.00	3190	3310(2000)	94.2	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Calcium	mg/L	25.0	178.	181(50.0)	94.8	75 - 125
Boron	ug/L	1.00	3240	3310(2000)	96.6	75 - 125

Metals by 200.7, Dissolved Batch 101811D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Aluminum	ug/L	10/18/2011 23:50	1.00	2.83	10.0	ND
Antimony	ug/L	10/18/2011 23:50	1.00	2.93	10.0	ND
Iron	ug/L	10/18/2011 23:50	1.00	1.34	20.0	ND
997745-002 Aluminum	ug/L	10/19/2011 00:13	1.00	2.83	10.0	ND
Iron	ug/L	10/19/2011 00:13	1.00	1.34	20.0	ND
997745-003 Aluminum	ug/L	10/19/2011 00:19	1.00	2.83	10.0	ND
Antimony	ug/L	10/19/2011 00:19	1.00	2.93	10.0	ND
Iron	ug/L	10/19/2011 00:19	1.00	1.34	20.0	ND
997745-004 Aluminum	ug/L	10/19/2011 00:44	1.00	2.83	10.0	ND
Antimony	ug/L	10/19/2011 00:44	1.00	2.93	10.0	ND
Iron	ug/L	10/19/2011 00:44	1.00	1.34	20.0	ND
997745-005 Aluminum	ug/L	10/19/2011 00:50	1.00	2.83	10.0	ND
Antimony	ug/L	10/19/2011 00:50	1.00	2.93	10.0	ND
Iron	ug/L	10/19/2011 00:50	1.00	1.34	20.0	ND
997745-006 Aluminum	ug/L	10/19/2011 00:56	1.00	2.83	10.0	ND
Antimony	ug/L	10/19/2011 00:56	1.00	2.93	10.0	ND
Iron	ug/L	10/19/2011 00:56	1.00	1.34	20.0	ND
997745-007 Aluminum	ug/L	10/19/2011 01:01	1.00	2.83	10.0	ND
Antimony	ug/L	10/19/2011 01:01	1.00	2.93	10.0	ND
Iron	ug/L	10/19/2011 01:01	1.00	1.34	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Iron	ug/L	1.00	ND
Antimony	ug/L	1.00	ND

Duplicate Lab ID = 997745-001

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4950	5000	99.1	85 - 115
Iron	ug/L	1.00	5000	5000	100.	85 - 115
Antimony	ug/L	1.00	4910	5000	98.2	85 - 115

Matrix Spike — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2070	2000(2000)	103.	75 - 125
Iron	ug/L	1.00	1870	2000(2000)	93.6	75 - 125
Antimony	ug/L	1.00	1890	2000(2000)	94.7	75 - 125

Matrix Spike Duplicate — Lab ID = 997745-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1930	2000(2000)	96.4	75 - 125
Iron	ug/L	1.00	1840	2000(2000)	91.8	75 - 125
Antimony	ug/L	1.00	1900	2000(2000)	95.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4930	5000	98.6	90 - 110
Iron	ug/L	1.00	4980	5000	99.5	90 - 110
Antimony	ug/L	1.00	4930	5000	98.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4710	5000	94.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4900	5000	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4810	5000	96.2	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5170	5000	103.	90 - 110

Metals by 200.7, Dissolved Batch 102111A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-002 Antimony	ug/L	10/21/2011 10:20	1.00	2.93	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Antimony	ug/L	1.00	ND

Duplicate — Lab ID = 997745-002

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

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	5000	5000	100.	85 - 115

Matrix Spike — Lab ID = 997745-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	1.00	1910	2000(2000)	95.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	5000	5000	99.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	5030	5000	100.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	41.5	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	39.3	0.00		

Metals by 200.7, Dissolved Batch 102711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Magnesium	mg/L	10/27/2011 12:24	1.00	0.0619	0.500	7.97
Manganese	ug/L	10/27/2011 12:24	1.00	3.23	10.0	ND
Molybdenum	ug/L	10/27/2011 12:24	1.00	4.02	10.0	24.7
Nickel	ug/L	10/27/2011 12:24	1.00	2.56	10.0	ND
Potassium	mg/L	10/27/2011 12:24	1.00	0.0685	0.500	16.2
Selenium	ug/L	10/27/2011 12:24	1.00	3.22	10.0	ND
Zinc	ug/L	10/27/2011 12:24	1.00	3.89	10.0	ND
997745-002 Magnesium	mg/L	10/27/2011 12:30	1.00	0.0619	0.500	4.29
Manganese	ug/L	10/27/2011 12:30	1.00	3.23	10.0	ND
Molybdenum	ug/L	10/27/2011 12:30	1.00	4.02	10.0	10.7
Nickel	ug/L	10/27/2011 12:30	1.00	2.56	10.0	ND
Potassium	mg/L	10/27/2011 12:30	1.00	0.0685	0.500	14.6
Selenium	ug/L	10/27/2011 12:30	1.00	3.22	10.0	ND
Zinc	ug/L	10/27/2011 12:30	1.00	3.89	10.0	ND
997745-003 Magnesium	mg/L	10/27/2011 12:36	1.00	0.0619	0.500	9.99
Manganese	ug/L	10/27/2011 12:36	1.00	3.23	10.0	ND
Molybdenum	ug/L	10/27/2011 12:36	1.00	4.02	10.0	19.7
Nickel	ug/L	10/27/2011 12:36	1.00	2.56	10.0	ND
Potassium	mg/L	10/27/2011 12:36	1.00	0.0685	0.500	15.7
Selenium	ug/L	10/27/2011 12:36	1.00	3.22	10.0	ND
Zinc	ug/L	10/27/2011 12:36	1.00	3.89	10.0	ND
997745-004 Magnesium	mg/L	10/27/2011 12:42	1.00	0.0619	0.500	5.42
Manganese	ug/L	10/27/2011 12:42	1.00	3.23	10.0	ND
Molybdenum	ug/L	10/27/2011 12:42	1.00	4.02	10.0	20.8
Nickel	ug/L	10/27/2011 12:42	1.00	2.56	10.0	ND
Selenium	ug/L	10/27/2011 12:42	1.00	3.22	10.0	ND
Zinc	ug/L	10/27/2011 12:42	1.00	3.89	10.0	ND
997745-005 Magnesium	mg/L	10/27/2011 15:40	25.0	1.55	12.5	16.9
Manganese	ug/L	10/27/2011 12:48	1.00	3.23	10.0	ND
Molybdenum	ug/L	10/27/2011 12:48	1.00	4.02	10.0	19.9
Nickel	ug/L	10/27/2011 12:48	1.00	2.56	10.0	ND
Potassium	mg/L	10/27/2011 15:40	25.0	1.71	12.5	16.3
Selenium	ug/L	10/27/2011 12:48	1.00	3.22	10.0	ND
Zinc	ug/L	10/27/2011 12:48	1.00	3.89	10.0	ND

997745-006	Magnesium	mg/L	10/27/2011 12:54	1.00	0.0619	0.500	13.7
	Manganese	ug/L	10/27/2011 12:54	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 12:54	1.00	4.02	10.0	ND
	Nickel	ug/L	10/27/2011 12:54	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 12:54	1.00	0.0685	0.500	16.2
	Selenium	ug/L	10/27/2011 12:54	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 12:54	1.00	3.89	10.0	ND
997745-007	Magnesium	mg/L	10/27/2011 13:00	1.00	0.0619	0.500	13.8
	Manganese	ug/L	10/27/2011 13:00	1.00	3.23	10.0	ND
	Molybdenum	ug/L	10/27/2011 13:00	1.00	4.02	10.0	ND
	Nickel	ug/L	10/27/2011 13:00	1.00	2.56	10.0	ND
	Potassium	mg/L	10/27/2011 13:00	1.00	0.0685	0.500	16.2
	Selenium	ug/L	10/27/2011 13:00	1.00	3.22	10.0	ND
	Zinc	ug/L	10/27/2011 13:00	1.00	3.89	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Nickel	ug/L	1.00	ND
Selenium	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Potassium	mg/L	1.00	ND
Magnesium	mg/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nickel	ug/L	1.00	ND	0.00	0	0 - 20
Selenium	ug/L	1.00	ND	0.00	0	0 - 20
Zinc	ug/L	1.00	ND	0.00	0	0 - 20
Manganese	ug/L	1.00	ND	0.00	0	0 - 20
Molybdenum	ug/L	1.00	18.7	18.7	0.00	0 - 20

Duplicate — Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Potassium	mg/L	25.0	15.3	16.3	6.20	0 - 20
Magnesium	mg/L	25.0	16.9	16.9	0.118	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5260	5000	105.	85 - 115
Selenium	ug/L	1.00	5330	5000	106.	85 - 115
Zinc	ug/L	1.00	5360	5000	107.	85 - 115
Potassium	mg/L	1.00	5.00	5.00	100.0	85 - 115
Magnesium	mg/L	1.00	5.29	5.00	106.	85 - 115
Manganese	ug/L	1.00	5320	5000	106.	85 - 115
Molybdenum	ug/L	1.00	5320	5000	106.	85 - 115

Matrix Spike Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nickel	ug/L	1.00	1920	2000(2000)	95.9	75 - 125
Selenium	ug/L	1.00	2090	2000(2000)	104.	75 - 125
Zinc	ug/L	1.00	2150	2000(2000)	107.	75 - 125
Manganese	ug/L	1.00	2030	2000(2000)	102.	75 - 125
Molybdenum	ug/L	1.00	2010	2020(2000)	99.5	75 - 125

Matrix Spike Lab ID = 997745-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Potassium	mg/L	25.0	73.3	66.3(50.0)	114.	75 - 125
Magnesium	mg/L	25.0	66.8	66.9(50.0)	99.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5110	5000	102.	90 - 110
Selenium	ug/L	1.00	5090	5000	102.	90 - 110
Zinc	ug/L	1.00	5200	5000	104.	90 - 110
Potassium	mg/L	1.00	5.09	5.00	102.	90 - 110
Magnesium	mg/L	1.00	5.24	5.00	105.	90 - 110
Manganese	ug/L	1.00	5200	5000	104.	90 - 110
Molybdenum	ug/L	1.00	5070	5000	101.	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

Metals by 200.7, Dissolved Batch 103111A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Sodium	mg/L	10/31/2011 12:06	100	5.86	50.0	1740
997745-002 Sodium	mg/L	10/31/2011 12:12	100	5.86	50.0	1560
997745-003 Sodium	mg/L	10/31/2011 12:18	100	5.86	50.0	1470
997745-004 Sodium	mg/L	10/31/2011 12:23	100	5.86	50.0	1570
997745-005 Sodium	mg/L	10/31/2011 12:29	100	5.86	50.0	1740
997745-006 Sodium	mg/L	10/31/2011 12:35	100	5.86	50.0	1270
997745-007 Sodium	mg/L	10/31/2011 12:41	100	5.86	50.0	1330

Method Blank

Parameter	Unit	DF	Result
Sodium	mg/L	1.00	ND

Duplicate — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sodium	mg/L	100	1400	1410	0.712	20 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.02	5.00	100.	85 - 115

Matrix Spike — Lab ID = 997653-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sodium	mg/L	100	1630	1610(200.)	112.	125 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	4.92	5.00	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.39	5.00	108.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	5.18	5.00	104.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sodium	mg/L	1.00	1.99	2.00	99.4	80 - 120

Metals by 200.7, Dissolved Batch 110111A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-004 Potassium	mg/L	11/01/2011 11:59	1.00	0.0685	0.500	14.5

Method Blank

Parameter	Unit	DF	Result
Potassium	mg/L	1.00	ND

Duplicate — Lab ID = 997745-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Potassium	mg/L	1.00	14.4	14.5	0.415	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	5.17	5.00	103.	85 - 115

Matrix Spike — Lab ID = 997745-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Potassium	mg/L	1.00	16.7	16.5(2.00)	110.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	5.22	5.00	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	5.17	5.00	103.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	2.30	2.00	115.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	2.26	2.00	113.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	2.33	2.00	116.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Potassium	mg/L	1.00	2.30	2.00	115.	80 - 120

Turbidity by SM 2130 B Batch 10TUC11F 10/7/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
997745-001 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	0.221
997745-002 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	0.278
997745-003 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	0.146
997745-004 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	0.169
997745-005 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	ND
997745-006 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	ND
997745-007 Turbidity	NTU	10/07/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate — Lab ID = 997745-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.97	8.00	99.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.02	8.00	100.	90 - 110

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 10TDS11B

Date Calculated: 10/13/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	72.9639	72.9653	72.9653	0.0000	No	0.0014	14.0	25.0	ND	1
997653-1	20	72.4199	72.5047	72.5043	0.0004	No	0.0844	4220.0	125.0	4220.0	1
997653-2	20	49.2966	49.3797	49.3797	0.0000	No	0.0831	4155.0	125.0	4155.0	1
997653-3	20	69.7559	69.8419	69.8416	0.0003	No	0.0857	4285.0	125.0	4285.0	1
997653-4	20	78.4009	78.4874	78.4873	0.0001	No	0.0864	4320.0	125.0	4320.0	1
997653-5	50	65.6289	65.7506	65.7506	0.0000	No	0.1217	2434.0	50.0	2434.0	1
997653-6	20	49.8326	49.9176	49.9175	0.0001	No	0.0849	4245.0	125.0	4245.0	1
997653-7	20	50.4147	50.4986	50.4984	0.0002	No	0.0837	4185.0	125.0	4185.0	1
997653-8	50	74.7117	74.7597	74.7593	0.0004	No	0.0476	952.0	50.0	952.0	1
997653-9	20	49.3790	49.4683	49.4682	0.0001	No	0.0892	4460.0	125.0	4460.0	1
997653-10	20	48.1860	48.271	48.2708	0.0002	No	0.0848	4240.0	125.0	4240.0	1
997653-10D	20	47.9089	47.9929	47.9926	0.0001	No	0.0839	4195.0	125.0	4195.0	1
LCS	100	74.6961	74.7475	74.7471	0.0004	No	0.0510	510.0	25.0	510.0	1
997653-11	50	68.8491	68.9172	68.9169	0.0003	No	0.0678	1356.0	50.0	1356.0	1
997653-12	20	49.4783	49.562	49.5615	0.0005	No	0.0832	4160.0	125.0	4160.0	1
997745-1	20	51.4414	51.5354	51.5352	0.0002	No	0.0938	4690.0	125.0	4690.0	1
997745-2	20	50.9485	51.0315	51.0315	0.0000	No	0.0830	4150.0	125.0	4150.0	1
997745-3	20	51.1402	51.2203	51.2199	0.0004	No	0.0797	3985.0	125.0	3985.0	1
997745-4	20	49.6997	49.7831	49.783	0.0001	No	0.0833	4165.0	125.0	4165.0	1
997745-5	20	50.5311	50.6326	50.6325	0.0001	No	0.1014	5070.0	125.0	5070.0	1
997745-6	20	48.1845	48.2599	48.2595	0.0004	No	0.0750	3750.0	125.0	3750.0	1
997745-7	20	51.1656	51.2446	51.2445	0.0001	No	0.0789	3945.0	125.0	3945.0	1
LCSD											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A-B}{C}\right) x\ 1\ 0^{6}$$

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name | Analyst Signature | Reviewer Printed Name | Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 10TDS11B

Date Calculated: 10/13/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
997653-1	7350	0.57	4777.5	0.88
997653-2	7420	0.56	4823	0.86
997653-3	7390	0.58	4803.5	0.89
997653-4	7280	0.59	4732	0.91
997653-5	3930	0.62	2554.5	0.95
997653-6	7290	0.58	4738.5	0.90
997653-7	7260	0.58	4719	0.89
997653-8	1706	0.56	1108.9	0.86
997653-9	7340	0.61	4771	0.93
997653-10	7260	0.58	4719	0.90
997653-10D	7260	0.58	4719	0.89
LCS				
997653-11	2430	0.56	1579.5	0.86
997653-12	7350	0.57	4777.5	0.87
997745-1	8310	0.56	5401.5	0.87
997745-2	7390	0.56	4803.5	0.86
997745-3	7130	0.56	4634.5	0.86
997745-4	7350	0.57	4777.5	0.87
997745-5	8550	0.59	5557.5	0.91
997745-6	6700	0.56	4355	0.86
997745-7	6720	0.59	4368	0.90

TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

E2 Condor

Date of Analysis: 10/14/11
Start of Analysis:
Date Sampled:

Analytical Batch: 10ALK11F
Matrix: Water
Date Calculated: 10/14/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as $CaCO_3$ (ppm)	CO3 Alkalinity as $CaCO_3$ (ppm)	OH Alkalinity as $CaCO_3$ (ppm)	Low Alkalinity as $CaCO_3$ (<20ppm)
BLANK	6.99	50	0.02		0.0	0.05		0.9	5	ND	ND	ND	ND	
997745-1	7.87	50	0.02		0.0	2.25		45.0	5	45.0	45.0	ND	ND	
997745-2	7.77	50	0.02		0.0	3.25		65.0	5	65.0	65.0	ND	ND	
997745-3	7.87	50	0.02		0.0	2.60		52.0	5	52.0	52.0	ND	ND	
997745-4	7.99	50	0.02		0.0	2.80		56.0	5	56.0	56.0	ND	ND	
997745-5	7.72	50	0.02		0.0	2.50		50.0	5	50.0	50.0	ND	ND	
997745-6	7.74	50	0.02		0.0	2.50		50.0	5	50.0	50.0	ND	ND	
997745-7	7.77	50	0.02		0.0	2.50		50.0	5	50.0	50.0	ND	ND	
997745-4D	7.98	50	0.02		0.0	2.75		55.0	5	55.0	55.0	ND	ND	
997745-2MS	9.58	50	0.02	2.0	40.0	7.70		154.0	5	154.0	74.0	80	ND	
LCS1	10.30	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	
LCS2	10.30	50	0.02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	

Calculations as follows:

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

Low Alkalinity: as mg/L CaCO3 $= \dfrac{(2 \times B - C) \times N \times 50000}{mL \text{ sample}}$

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

Where:
T = Total Alkalinity, mg CaCO3/L
P = Phenolphthalein Alkalinity, mg CaCO3/L
A = mL standard acid used
N = normality of standard acid

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

057

LVCh
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Alk_10c10/15/11, by HT

CMP-026 TLI #2 997745

CH2MHILL **CHAIN OF CUSTODY RECORD** Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringler
Project Number 405691.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 10 Days
Shipping Date: 10/7/2011
COC Number: 3

Rec'd 10/07/11
Lab# 997745

ALERT !!
Level III QC

	DATE	TIME	Matrix	Containers: 250 ml Poly	3x500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly	Number of Containers	COMMENTS
Preservatives:				(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C		
Filtered:				Field	Field	NA	NA	NA	NA	NA	NA	NA		
Holding Times:				28	180	180	2	2	2	2	2	28		
				Cr6 (E218.6) Field Filtered	* Metals (E200series) Field Filtered AlSbAsBaBeBCaCdCoCrCuFePb	Metals (6010B) Total Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl, FI, SO4	Turbidity (SM2130)	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)		
1	CW-04D-026	10/5/2011	10:14	Water	X	X	X	X	X	X	X	X	X	10 → 6
	CW-07-026	10/5/2011	10:40	Water	X									1 Hold
2	CW-07D-026	10/6/2011	10:43	Water	X	X	X	X	X	X	X	X	X	10 → 6
3	CW-02M-026	10/6/2011	11:49	Water	X	X	X	X	X	X	X	X	X	10 → 6
4	CW-03D-026	10/6/2011	13:15	Water	X	X	X	X	X	X	X	X	X	10 → 6
5	CW-03M-026	10/6/2011	14:34	Water	X	X	X	X	X	X	X	X	X	10 → 6
6	CW-04M-026	10/6/2011	8:48	Water	X	X	X	X	X	X	X	X	X	10 → 6
	CW-99-026	10/6/2011	15:00	Water	X									1 Hold
7	CW-30-026	10/6/2011	7:35	Water	X	X	X	X	X	X	X	X	X	10 → 6
													TOTAL NUMBER OF CONTAINERS	135 → 44

pH=2 (1)
pH=2 (3)
pH=2 (1)
pH for Metals

For Sample Conditions
See Form Attached

	Signatures	Date/Time
Approved by		
Sampled by		10-7-11
Relinquished by		10-7-11 880
Received by		10-7-11 12:15
Relinquished by		10-7-11 12:10
Received by		

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

ATTN:
Sample Custody

Special Instructions:
* The extended metals list includes: Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Report Copy to
Shawn Duffy
(530) 329-3303

1084

CMP-026 TLI #2 997745

CH2MHILL **CHAIN OF CUSTODY RECORD** Page 1 OF 1

Project Name PG&E Topock
Location Topock
Project Manager Jay Piper
Sample Manager Matt Ringler
Project Number 405681.MP.02.CM.0
Task Order
Project 2011-CMP-026
Turnaround Time 10 Days
Shipping Date: 10/7/2011
COC Number: 3

Rec'd 10/07/11
Lab# 997745

ALERT !!
Level III QC

	DATE	TIME	Matrix	Container	250 ml Poly	3x500 ml Poly	500 ml Poly	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	2x1 Liter	1 Liter Poly		Number of Containers	COMMENTS
				Preservatives	(NH4)2SO4/NH4OH, 4°C	HNO3, 4°C	HNO3, 4°C	4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2, 4°C			
				Filtered	Field	Field	NA	NA	NA	NA	NA	NA	NA			
				Holding Time	28	180	180	2	2	2	2	2	28			
					Cr6 (E218.6) Field Filtered	Metals (E200series) Field Filtered AlSbAsBaBeBCaCdCoCrCuFePb	Metals (6010B) Total Fe	Specific Conductance (E120.1)	Anions (E300.0) Cl, Fl, SO4	Turbidity (SM2130)	TDS (SM2540C)	Alkalinity (SM2320B)	Ammonia (SM4500NH3)			
1	CW-04D-026	10/5/2011	16:14	Water	X	X	X	X	X	X	X	X	X	pH=2	~~10~~	6
	~~CW-87-026~~	10/5/2011	16:40	Water	X										1	Hold
2	CW-02D-026	10/6/2011	10:43	Water	X	X	X	X	X	X	X	X	X		~~10~~	6
3	CW-02M-026	10/6/2011	11:49	Water	X	X	X	X	X	X	X	X	X	pH=2	~~10~~	6
4	CW-03D-026	10/6/2011	13:25	Water	X	X	X	X	X	X	X	X	X		~~10~~	6
5	CW-03M-026	10/6/2011	14:34	Water	X	X	X	X	X	X	X	X	X		~~10~~	6
6	CW-04M-026	10/6/2011	8:48	Water	X	X	X	X	X	X	X	X	X		~~10~~	6
	~~CW-88-026~~	10/6/2011	15:00	Water	X										1	Hold
7	CW-90-026	10/6/2011	7:05	Water	X	X	X	X	X	X	X	X	X	pH=2	~~10~~	6
														TOTAL NUMBER OF CONTAINERS	~~135~~ 44	

pH for Metals

For Sample Conditions See Form Attached

	Signatures	Date/Time
Approved by		
Sampled by		10-7-11
Relinquished by		10-7-11 800
Received by		
Relinquished by		10-7-11 12:15
Received by		10-7-11 12:10

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

ATTN:
Sample Custody

Special Instructions:

Report Copy to
Shawn Duffy
(530) 229-3303

Subject: Missing analytes from the CMP samples
From: "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>
Date: Wed, 26 Oct 2011 18:30:50 -0400
To: Sean Condon <seanc@truesdail.com>
CC: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>

Hi Sean,

The CMP Samples were to have the following list of metals – unfortunately everything listed after Pb was cut off from the COC…

Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Please report Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, and Na for SDG 997653 # 1, 2, 9, 10 and SDG 997745 1 – 7.

Shawn Duffy
Project Chemist
CH2M HILL
2525 Airpark Dr.
Redding, CA 96001
Office: (530) 229-3303
Home Office: (530) 243-1078
Fax: (530) 339-3303
Cell: (530) 941-9227

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
10-7-11	997708-14	9.5	N/A	N/A	N/A	GW
	-15					
	-16					
	-17					
	-18					
	-19					
	-20					
10-7-11	997709-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
	-13					
	-14					
	-15					
	-16					
10-7-11	997745-1	9.5	N/A	N/A	N/A	GW
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
997708 (1-3, 11-20	<1	<2	10/07/11	M.M	Yes	No
997709 (1,3,5,6,8,10,12-16)	↓	↓	↓	↓	↓	↓
997458 (1-6)	plant >2	>2	10/05/11	KK	NO	yes
997446 KK (1-6)	plant >2	>2	10/05/11	KK	NO	yes
997763 (1-10)	<1	<2	10/10/11	M.M	Yes	No
997603 (1-2)	<1	<2	10/9/11	KK	NO	NO
997604 (1-11)	<1	<2	10/10/11	KK	NO	NO
997870	<1	>2	10/12/11	ES	No	yes @ 4:00 p.m
997871	↓	↓	↓	↓	↓	↓
997745 total + dissolved (1-7)	<1	<2	10/13/11	KK	No	No
997746	<1	<2	10/13/11	KK	NO	NO
997652	<1	<2	10/13/11	KK	No	No
997653 (1-12)	<1	<2	10/3/11	KK	NO	No
997852 (1-4)	>1	<2	10/13/11	M.M	Yes	No
997829 11	Sludge	—	10/13/11	M.M	Yes	TTLC
997816 (1-2)	Soil	—	10/13/11	M.M	Yes	↓
997867	↓	—	↓	↓	↓	↓
997649 (1-2)	plant	>2	10/12/11	KK	NO	yes
997917	Soligh	—	10/14/11	MM	Yes	STLC
997871	>1	<2	10/14/11	M.M	Yes	No
997872	↓	↓	↓	↓	↓	↓
997875						
997876						
997880						
997881						
997874						
997893	↓	↓	↓	↓	↓	↓
997920	Solid	—	10/14/11	MM	Yes	TTLC
997987	<1	<2	10/19/11	M.M	Yes	— No
998019 (1-2)	<1	<2	10/20/11	M.M	Yes	No
997956	>1	<2	↓	↓	↓	↓
997958	↓	↓				
998008						
998016 (1-2)	>1	↓	↓	↓	↓	↓
998039 (1-5)	<1	<2	10/21/11	M.M	Yes	No
997968	<1	>2	10/21/11	ES	No	yes @ 3:00 p.m
998095	>1	<2	10/25/11	M.M	Yes	—
998060	↓	↓	↓	↓	↓	—
998076						—
998077						—
998036	Solid	-	↓	↓	Yes	TTLC
998093	↓	-			↓	↓

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 99745

Date Delivered: 10/7/11 **Time:** 12:10 **By:** ☐Mail ☒Field Service ☐Client

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

15. ***Sample Matrix:*** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Linda

Appendix B
Field Data Sheets, Second Half 2011

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampler TF Field Team 1 Field Conditions

Sampling Event 2011-CMP-025
Date 4/5/11
Page 1 of 1

BEC

Well/Sample Number OW-01S-025 **QC Sample ID** NA QC Sample Time NA

Purge Start Time 11:46 Flow Cell (Y) / N Purge Method temp pump Ded. Pump Min. Purge Volume (gal)/(L) 11 Purge Rate (gpm)/(mLpm) 1

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
93.16	11:48	2	7.56	6622	13	5.38	28.66	3.8	4.207	58.9	
93.16	11:50	4	7.39	5788	8	3.96	29.01	3.1	3.753	47.5	
93.16	11:52	6	7.39	5584	6	3.60	29.60	2.99	3.631	42.3	
93.16	11:54	8	7.40	5482	5	3.50	29.69	2.94	3.571	41.7	
93.17	11:56	10	7.41	5431	4	3.59	29.75	2.70	3.533	45.0	
93.17	11:58	12	7.42	5381	3	3.53	29.78	2.88	3.489	46.1	
~~93.05~~	12:01	15	Stop	pump							
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/1/2010)	7.66	4008	3.3	7.02	29.71	0.26		68.6
Are measurements consistent with previous?	Y	higher	Y	lower	NA	higher	—	lower

Sample Time 1200 Sample Location: pump tubing ✓ well port spigot bailer other

Comments:

Initial Depth to Water (ft BTOC): 93.04
Field measured confirmation of Well Depth (ft btoc):
WD (Well Depth - from database) ft btoc (113.5)
SWH (Standing Water Height) = WD-Initial Depth 20.46
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 3.47
Three Casing Volumes = 10.43

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 556 C-102407
WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal 1140 1143 / Time of Reinstallation 12:03
1140	93.04	12:08	93.05	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampler TF Field Team 1 Field Conditions

Sampling Event 2011-CMP-025
Date 4/5/11
Page 1 of 2

BEC

Well/Sample Number OW-02S-025 **QC Sample ID** NA ow-91-025 QC Sample Time 1300

Purge Start Time 0948 Flow Cell (Y) / N Purge Method Temp Pump Ded. Pump Min. Purge Volume (gal)/(L) 1.56 Purge Rate (gpm)/(mLpm) 1

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
92.00	12:49	2 1	7.71	2.580		4.30	27.33	1.32	1.667	53.0	
92.01	12:50	4 2	7.71	2.556	3	5.20	26.75	1.06	1.311	42.3	
92.02	12:51	3	7.95	1785	91	4.95	27.94	0.89	1.151	39.4	
92.03	12:52	4	7.95	1748		4.91	28.52	0.88	1.138	40.3	
92.05	12:53	5	7.95	1743	50	4.81	28.75	0.87	1.135	41.9	
92.05	12:54	6	7.95	1746	33	4.85	28.81	0.88	1.135	43.0	
92.06	12:55	7	7.95	1745	30	4.87	28.91	0.87	1.135	44.2	
92.06	12:56	8	7.95	1745	25	4.87	28.99	0.87	1.134	44.1	
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/5/2010)	7.94	1780	1.5	5.86	29.35	0.12		160.4
Are measurements consistent with previous?	Y	Y	higher	Y	NA	Y	—	lower

Sample Time 1258 Sample Location: pump tubing X well port ____ spigot ____ bailer ____ other ____

Comments: OW-86-025 EB 1315

Initial Depth to Water (ft BTOC): 91.64

Field measured confirmation of Well Depth (ft btoc):

WD (Well Depth - from database) ft btoc ~~(124)~~ 102.45

SWH (Standing Water Height) = WD-Initial Depth ~~29.36~~ 10.81

D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)

One Casing Volume = D*SWH ~~4.99~~ 1.84

Three Casing Volumes = ~~14.97~~ 5.52

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: 681

WATER LEVEL METER SERIAL NUMBER: PG&E 2005-03

Initial DTW / Before Removal		If Transducer: Approx. 5 min After Reinstallation		Time of Removal	12:41
Time	Initial DTW	Time	Final DTW	Time of Reinstallation	13:07
12:40	91.64	13:12	91.64		

Comments:

Color: clear/ grey, yellow, brown, black, cloudy, green

Odor: none/ sulphur, organic, other

Solids: trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Topock Sampling Log

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampler TP Field Team 1 Field Conditions

Sampling Event 2011-CMP-025
Date 4/5/11
Page 2 of 8

Well/Sample Number OW-02S-025 **QC Sample ID** OW-91-025 QC Sample Time

Purge Start Time Flow Cell: (Y) / N Purge Method Ded. Pump Min. Purge Volume (gal)/(L) Purge Rate (gpm)/(mLpm)

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
92.06	1257	17 9	7.96	1743	24	4.78	29.04	0.87	1.133	48.7	
92.06	1258	18 10	7.97	1741	24	4.79	29.04	0.87	1.134	47.5	
	1259	11	pump off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/5/2010)	7.94	1780	1.9	5.86	29.35	0.73		160.4
Are measurements consistent with previous?	Y	Y	higher	Y	NA	Y		lower

Sample Time _____ Sample Location: pump tubing well port spigot bailer other

Comments: @ IM3 truck pumping @ 05

Initial Depth to Water (ft BTOC):
Field measured confirmation of Well Depth (ft btoc):
WD (Well Depth - from database) ft btoc (121)
SWH (Standing Water Height) = WD-Initial Depth
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH
Three Casing Volumes =

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER:
WATER LEVEL METER SERIAL NUMBER:

Initial DTW / Before Removal		**If Transducer**	
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW
		Time of Removal	
		Time of Reinstallation	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampler TF Field Team 1 Field Conditions

Sampling Event 2011-CMP-025
Date 4/5/11
Page 1 of 1

BEC

Well/Sample Number OW-05S-025 **QC Sample ID** NA QC Sample Time

Purge Start Time 1216 Flow Cell (Y) / N Purge Method temp pump Ded. Pump Min. Purge Volume (gal)/(L) 9 Purge Rate (gpm)/(mLpm) 1

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below)
94.42	1218	2	7.62	1.235	263	4.72	27.80	1.90	2.532	415	
94.66	1220	4	7.65	2787	13	3.66	28.74	1.43	1.810	33.8	
94.65	1222	6	7.67	2693	8	3.75	29.13	1.38	1.745	37.1	
94.66	1224	8	7.68	26.65	6	3.70	29.25	1.36	1.731	38.4	
94.66	1226	10	7.68	2642	5	3.69	29.31	1.35	1.709	42.5	
	1230	14	pump off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/6/2010)	7.87	2910	3.4	7.78	29.44	0.16		104.3
Are measurements consistent with previous?	Y	Y	Y	lower	NA	Y		lower

Sample Time 1230 Sample Location: pump tubing X well port spigot bailer other

Comments: IM3 truck @ location - pumping from wells

Initial Depth to Water (ft BTOC): 94.55
Field measured confirmation of Well Depth (ft btoc):
WD (Well Depth - from database) ft btoc (110.3)
SWH (Standing Water Height) = WD-Initial Depth 15.75
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 2.6775
Three Casing Volumes = 8.03

WQ METER MAKE and SERIAL NUMBER: YSI 556 C-102407
Measure Point: Well TOC Steel Casing
WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal 12:13 / Time of Reinstallation 12:32
12:12	94.55	1337	93.54	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Topock Sampling Log

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/5/11
Sampler TF Field Team 1 Field Conditions warm, clear, light wind Page 1 of 1

Well/Sample Number CW-01D-025 **QC Sample ID** NA QC Sample Time NA

Purge Start Time 10:18 Flow Cell: (Y) N Purge Method temp pump Ded. Pump ____ Min. Purge Volume (gal)/(L) 98 Purge Rate (gpm)/(mLpm) 3

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
108.98	10:25	21	7.54	7413	2	5.11	29.92	4.05	4.821	86.6	
109.03	10:32	42	7.66	7478	1	5.79	29.34	4.09	4.858	77.0	
109.01	10:39	63	7.66	7470	1	5.87	29.38	4.09	4.856	73.5	
109.00	10:46	84	7.66	7483	0	5.92	29.37	4.10	4.863	~~79~~ 69.4	
109.00	10:53	102	7.67	7484	1	5.96	29.35	4.10	4.866	66.8	
	10:57	114	pump off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800 10.8		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/6/2010)	7.56	7870	0.8	13.71	29.46	0.5	7.9	154.4
Are measurements consistent with previous?	Y	Y	Y	low	NA	higher		lower

Sample Time 1057 Sample Location: pump tubing X well port ____ spigot ____ bailer ____ other ____

Comments: ____

Initial Depth to Water (ft BTOC): 108.92
Field measured confirmation of Well Depth (ft btoc): ____
WD (Well Depth - from database) ft btoc (300.2)
SWH (Standing Water Height) = WD-Initial Depth 191.28
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 32.52
Three Casing Volumes = 97.55

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 556 C-102407
WATER LEVEL METER SERIAL NUMBER: PGE 2003-03

Initial DTW / Before Removal		If Transducer	
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW
1015	108.92	NA	NA

Time of Removal NA
Time of Reinstallation NA

Comments: ____

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/5/11
Sampler TF Field Team 1 Field Conditions warm, sunny, lt breeze
Page 1 of 1
BGC

Well/Sample Number CW-01M-025 **QC Sample ID** NA QC Sample Time NA
Purge Start Time 11:06 Flow Cell: (Y) / N Purge Method temp pump Ded. Pump _____ Min. Purge Volume (gal)/(L) 42 Purge Rate (gpm)/(mLpm) 2

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
108.90	11:10	8	7.70	7483	1	5.79	29.68	4.09	4.862	53.0	
108.91	11:14	16	7.69	7487	0	6.09	29.81	4.10	4.866	50.4	
108.91	11:18	24	7.68	7496	0	6.14	29.79	4.10	4.870	52.8	
108.91	11:22	32	7.69	7495	0	6.18	29.78	4.10	4.871	51.9	
108.91	11:27	42	7.70	7488	1.0	6.16	29.85	4.1	4.870	57.7	
108.91	11:30	48	pump off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	✓	✓	✓	✓	NA	✓	✓	✓
Previous Field measurement (10/6/2010)	7.66	7750	0.3	11.6	29.54	0.5		196
Are measurements consistent with previous?	✓	✓	✓	lower	NA	higher		lower

Sample Time 11:29 Sample Location: pump tubing ✓ well port _____ spigot _____ bailer _____ other _____
Comments: _____

Initial Depth to Water (ft BTOC): ~~81.1~~ 108.81 TF
Field measured confirmation of Well Depth (ft btoc): _____
WD (Well Depth - from database) ft btoc (190)
SWH (Standing Water Height) = WD-Initial Depth ~~108.9~~ 81.19
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 13.8
Three Casing Volumes = 41.4

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 556 C-10240
WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
		Approx. 5 min After Reinstallation		Time of Removal NA
Time	Initial DTW	Time	Final DTW	Time of Reinstallation NA
1103	~~108~~ ~~81.10~~ TF	NA	NA	
Comments:	108.81			

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/4/11
Sampler TF Field Team 1 Field Conditions Clear, warm, windy
Page 1 of 1
BEL

Well/Sample Number CW-02D-025 **QC Sample ID** NA QC Sample Time NA

Purge Start Time 1223 Flow Cell (Y) / N Purge Method Temp pump Ded. Pump NA Min. Purge Volume (gal)/(L) 135gal Purge Rate (gpm)/(mLpm) 3

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
91.93	~~1221~~ 1232	27	8.21	7.398	3	12.23	29.91	4.05	4.81	53.6	~~295~~ #2
92.15	~~1230~~ 1241	54	8.05	7.456	2	13.02	30.75	4.07	4.846	39.7	335
92.14	~~1239~~ 1250	81	8.06	7.455	2	13.03	30.80	4.07	4.846	34.2	
92.13	~~1248~~ 1259	108	8.06	7.454	2	13.05	30.85	4.07	4.845	29.9	
92.13	~~1257~~ 1308	135	8.27	7.453	2	13.05	30.87	4.07	4.844	26.9	
	1311	Pump	off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	NA	NA	
Previous Field measurement (10/4/2010)	7.97	7580	0.3	8.95	30.87	0.49		133.4
Are measurements consistent with previous?	Y	Y	Y	Yes	NA	Yes		Low

Sample Time 1310 Sample Location: pump tubing X well port ____ spigot ____ bailer ____ other ____

Comments: 1st controller bad. Switch controller

Initial Depth to Water (ft BTOC): 91.93

Field measured confirmation of Well Depth (ft btoc):

WD (Well Depth - from database) ft btoc (355)

SWH (Standing Water Height) = WD-Initial Depth 263.07

D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)

One Casing Volume = D*SWH 44.72

Three Casing Volumes = 134.2

Measure Point: Well TOC Steel Casing

10D100474

WQ METER MAKE and SERIAL NUMBER: YSI 556 #7705

WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
		Approx. 5 min After Reinstallation		Time of Removal NA
Time	Initial DTW	Time	Final DTW	Time of Reinstallation NA
1220	91.93	NA	NA	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP | **Sampling Event** 2011-CMP-025
Job Number 390378.MP.02.CM.01 | **Date** 4/4/11
Sampler TF | Field Team 1 | Field Conditions warm, clear, windy | Page 1 of 1

Well/Sample Number CW-02M-025 | **QC Sample ID** NA | QC Sample Time NT

Purge Start Time 1343 | Flow Cell (Y) / N | Purge Method temp pump | Ded. Pump _____ | Min. Purge Volume (gal)/(L) 56 gal | Purge Rate (gpm)/(mLpm) 2

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
92.46	1349	12	8.07	7244	3	8.38	29.58	3.97	4.721	15.2	3.3 Hz
92.40	1355	24	8.15	7260	2	9.10	29.79	3.96	4.718	13.0	
92.41	1401	36	~~8.09~~ 8.15	7254	2	9.15	29.80	3.96	4.717	13.1	
92.45	1407	48	8.15	7255	2	9.3	29.83	3.96	4.716	13.3	
92.44	1411	56	8.15	7252	2	9.07	29.85	3.96	4.714	13.1	
	1413	pump	off								
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	N	Y	Y	Y	NA			Y
Previous Field measurement (10/4/2010)	7.85	7500	0.3	5.62	29.97	0.49		115.5
Are measurements consistent with previous?	Y	Y	Y	higher	NA	higher		

Sample Time 1417 | Sample Location: pump tubing X | well port _____ | spigot _____ | bailer _____ | other _____

Comments: _____

ID100474

Initial Depth to Water (ft BTOC): 92.29 | WQ METER MAKE and SERIAL NUMBER: YSI 556 # 7705

Field measured confirmation of Well Depth (ft btoc): _____ | Measure Point: (Well TOC) Steel Casing | WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

WD (Well Depth - from database) ft btoc (202)

SWH (Standing Water Height) = WD-Initial Depth 109.71

D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)

One Casing Volume = D*SWH 18.65

Three Casing Volumes = 55.95

Initial DTW / Before Removal		If Transducer: Approx. 5 min After Reinstallation		
Time	Initial DTW	Time	Final DTW	Time of Removal NA
1338	92.29		NA	Time of Reinstallation NA

Comments: _____

Color: clear, grey, yellow, brown, black, cloudy, green | **Odor:** none, sulphur, organic, other | **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/14/11
Sampler JF Field Team 1 Field Conditions warm clear windy
Page 1 of 1
BAC

Well/Sample Number CW-03D-025 **QC Sample ID** NA QC Sample Time NA

Purge Start Time 1554 Flow Cell: (Y) N Purge Method temp pump Ded. Pump NA Min. Purge Volume (gal)/(L) 135 Purge Rate (gpm)/(mLpm) 3

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
76.58	1603	27	8.35	7314	12	11.81	30.30	3.99	4.745	3.4	
76.58	1612	54	8.33	7338	2	13.03	30.78	4.00	4.769	2.0	
76.58	1621	81	8.32	7342	2	13.06	30.86	4.00	4.768	4.0	
76.57	1630	108	8.32	7338	2	13.04	30.90	4.00	4.770	4.9	
76.57	1639	135	8.31	7339	2	13.03	30.92	3.00	4.770	4.4	
	1640	pump off									
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y
Previous Field measurement (10/4/2010)	8.01	7650	0.2	8.27	31.01	0.49		125.3
Are measurements consistent with previous?	Y	Y	Y	higher	NA	higher		lower

Sample Time 1640 Sample Location: pump tubing X well port ____ spigot ____ bailer ____ other ____

Comments: ____

Initial Depth to Water (ft BTOC): 76.41
Field measured confirmation of Well Depth (ft btoc): ____
WD (Well Depth - from database) ft btoc (340)
SWH (Standing Water Height) = WD-Initial Depth 263.59
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 44.81
Three Casing Volumes = 134.4

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI556 10D100474
WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal NA / Time of Reinstallation NA
1552	76.41	NA	NA	

Comments: ____

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/4/11
Sampler TF Field Team 1 Field Conditions warm, clear, windy Page 1 of 1

Well/Sample Number CW-03M-025 **QC Sample ID** NA QC Sample Time NA

Purge Start Time 1447 Flow Cell: (Y) / N Purge Method temp pump Ded. Pump NA Min. Purge Volume (gal)/(L) 74gal Purge Rate (gpm)/(mL pm) 2

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
77.33	1454	14	7.99	9294	5	2.66	29.65	5.18	6.055	9.8	~~245~~ 305 Hz
77.32	1501	28	8.02	9039	5	2.74	29.81	5.01	5.870	7.4	
77.31	1508	42	8.02	8977	2	2.84	29.84	4.98	5.835	6.8	
77.31	1515	56	8.02	8968	2	2.87	29.86	4.97	5.820	6.2	
77.25	1522	70	8.01	8945	2	2.88	29.86	4.96	5.812	5.7	285 Hz
77.45	1524	74	8.01	8941	2	2.89	29.86	4.96	5.811	5.2	
	1527	pump off									
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	Y	NA			
Previous Field measurement (10/5/2010)	7.64	9430	0.40	1.28	29.41	0.59		104.9
Are measurements consistent with previous?	Y	Y	N	Y	NA			

Sample Time 1526 Sample Location: Y pump tubing X well port spigot bailer other

Comments:

Initial Depth to Water (ft BTOC): 77.05
Field measured confirmation of Well Depth (ft btoc):
WD (Well Depth - from database) ft btoc (222)
SWH (Standing Water Height) = WD-Initial Depth 144.95
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 24.64
Three Casing Volumes = 73.9

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 556 ~~4705~~ 10D100474
WATER LEVEL METER SERIAL NUMBER: ~~PGE 2005-03~~

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal / Time of Reinstallation
1445	77.05	NA	NA	NA / NA

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampling Event 2011-CMP-025
Date 4/4/11
Sampler TF Field Team 1 Field Conditions warm, clear, windy Page 1 of 1 BH

Well/Sample Number CW-04D-025 **QC Sample ID** NA QC Sample Time —

Purge Start Time 1723 Flow Cell (Y) / N Purge Method temp pump Ded. Pump NA Min. Purge Volume (gal)/(L) 124 Purge Rate (gpm)/(mLpm) 3

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
61.44	1731	24	8.15	7.483	2	13.44	29.86	4.09	4.867	3.8	315 Hz
61.44	1739	48	8.16	7.472	2	15.42	30.45	4.08	4.859	8.7	
61.46	1747	72	8.15	7736	2	14.45	30.55	4.24	5.030	10.6	
61.47	1755	96	8.14	7893	2	13.93	30.58	4.33	5.130	9.8	
61.47	1803	124	8.14	7898	2	13.71	30.62	4.37	5.177	9.3	
	1805	pump off									
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	Y	Y	Y	—	NA	N	Y	Y
Previous Field measurement (10/5/2010)	7.8	7330	0.8	4.89	30.45	0.47	Y	138.8
Are measurements consistent with previous?	Y	Y	Y	[illegible]	NA	[illegible]		[illegible]

Sample Time 1804 Sample Location: pump tubing X well pod ____ spigot ____ bailer ____ other ____

Comments: DO very high - no bubbles, etc - called Barry - will change out tomorrow
1810- Collect EQB CW-87-025

Initial Depth to Water (ft BTOC): 61.00
Field measured confirmation of Well Depth (ft btoc): ~~37~~
WD (Well Depth - from database) ft btoc (303)
SWH (Standing Water Height) = WD-Initial Depth 248
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 41.14
Three Casing Volumes = 123

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 556 10D 1004774
WATER LEVEL METER SERIAL NUMBER: PGE 2005-03

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal NA / Time of Reinstallation NA
1724	61.00	NA	NA	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Project Name PG&E Topock CMP
Job Number 390378.MP.02.CM.01
Sampler TF Field Team 1 Field Conditions

Sampling Event 2011-CMP-025
Date 4/5/11
Page 1 of 1

BEC

Well/Sample Number CW-04M-025 **QC Sample ID** OW-90-025 QC Sample Time 0907

Purge Start Time ~~8:27~~ 8:33 Flow Cell: Y / N Purge Method temp pump Ded. Pump NA Min. Purge Volume (gal)/(L) 56 Purge Rate (gpm)/(mLpm) 2

Water Level	Time	Vol. Purged gallons / liters	pH**	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS** g/L	Eh/ORP mv	Comments (See description below
61.43	~~8:33~~ 39	12	7.78	6.920	2	3.81	29.35	3.76	4.489	19.6	Hz 250
61.43	~~8:39~~ 45	24	7.77	6804	2	2.28	29.47	3.70	4.425	64.6	
61.43	~~8:45~~ 51	36	7.77	6793	0	2.19	29.52	3.69	4.413	75.6	
61.43	~~8:51~~ 57	48	7.76	6787	1	2.19	29.52	3.68	4.413	79.2	
61.43	~~8:55~~ 9:01	56	7.75	6790	1	2.18	29.55	3.68	4.410	81.4	
	910 TF Pump off										
Parameter Compliance Criteria			6.2<pH<9.2						1.0800		

**If pH or TDS is out of range check calibration, take to IM3 and check pH, SC-get second probe. If still out of range immediately contact B. Collom ((541) 740-3250). If B. Collom unavailable contact S. Duffy ((530) 941-9227). If S. Duffy unavailable contact J. Piper ((702) 953-1202 x36602 or (702) 525-1137). If J. Piper unavailable contact Christina Hong ((213) 228-8248 x35448 or (213) 228-8242).

Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Did Parameters Stablize prior to sampling?	✓	✓	✓	✓	NA	✓	✓	✓
Previous Field measurement (10/5/2010)	7.87	4380	0.4	2.4	29.59	0.28		128.2
Are measurements consistent with previous?	✓	freeze	✓	✓	NA	freeze		✓

Sample Time 0905 Sample Location: pump tubing X well port ____ spigot ____ bailer ____ other ____

Comments: pump leaking air - tighten hose clamp @ pump - restart pump @ 8:33

Initial Depth to Water (ft BTOC): 61.14
Field measured confirmation of Well Depth (ft btoc): ____
WD (Well Depth - from database) ft btoc (169.8)
SWH (Standing Water Height) = WD-Initial Depth 108.66
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)
One Casing Volume = D*SWH 18.47
Three Casing Volumes = 55.42

Measure Point: Well TOC Steel Casing

WQ METER MAKE and SERIAL NUMBER: YSI 09K100101
WATER LEVEL METER SERIAL NUMBER: PGE2005-03

Initial DTW / Before Removal		If Transducer		
Time	Initial DTW	Approx. 5 min After Reinstallation Time	Final DTW	Time of Removal NA / Time of Reinstallation NA
8:21	61.14	NA	NA	

Comments:

Color: clear, grey, yellow, brown, black, cloudy, green **Odor:** none, sulphur, organic, other **Solids:** Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Topock CMP Manual Water Level Snapshot

Personnel: B. Collom/CH2M Hill

WLI serial number: PGE 2005-01B

Loc ID	Depth to Water (ft BTOC)	Date	Time	Comments
CW-1M	110.13	12-14-11	0924	
CW-1D	110.21		0922	
CW-2M	93.76		0947	
CW-2D	93.24		0945	
CW-3M	78.65		0953	
CW-3D	77.92		0951	
CW-4M	62.54		0936	
CW-4D	62.36		0934	
OW-1S	94.72		0912	
OW-1M	94.13		0917	
OW-1D	93.72		0916	
OW-2S	93.37		0904	
OW-2M	92.07		0906	
OW-2D	92.06		0909	
OW-5S	96.21		0853	
OW-5M	95.52		0856	
OW-5D	96.07		0859	