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October 5, 2007

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Robert Perdue
Executive Officer
California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Subject: Interim Measures Compliance Monitoring Program
Groundwater Monitoring Report, Third Quarter 2007
PG&E Topock Compressor Station, Needles, California

Dear Mr. Yue and Mr. Perdue:

Enclosed is the *Groundwater Monitoring Report, Third Quarter 2007* for the Interim Measure Compliance Monitoring Program (CMP) at the PG&E Topock Compressor Station. This monitoring report presents the results of the third quarter 2007 CMP groundwater monitoring event, and has been prepared in conformance with RWQCB Order No. R7-2006-0060, as well as with DTSC's July 15, 2005 letter approving the Compliance Monitoring Plan and June 9, 2006 letter modifying the reporting requirements.

On August 8, 2006, 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 hexavalent chromium, total chromium, total dissolved solids and pH to be used to determine if contingency plan actions were necessary based on sample results. The concentrations used to trigger the contingency plan are as follows: hexavalent chromium greater than 32.6 µg/L, total chromium greater than 28.0 µg/L, total dissolved solids greater than 10,800 mg/L, and pH outside of the range of 7.6 to 8.89.

During the third quarter 2007 monitoring event, primary and duplicate samples from the well OW-2S exceeded the hexavalent chromium action level (35.1 and 33.6 µg/L), and primary and duplicate samples from the well OW-2S exceeded the total chromium action level (32.3 and 31.4 µg/L). A review of the water quality parameters indicative of treated groundwater injection (hexavalent chromium, total dissolved solids, sulfate, nitrate/nitrite and fluoride) confirm that

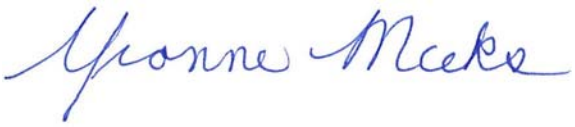
injected water has not yet reached OW-2S and that these concentrations of total and hexavalent chromium are not related to injected water (which has significantly lower chromium concentrations), but instead are related to the natural variability within the shallower portions of the aquifer.

In a letter dated January 5, 2007, DTSC stated that it was not necessary to follow contingency plan requirements for hexavalent and total chromium with respect to OW-2S and OW-5S. The Colorado River Basin RWQCB concurred with this decision in a letter dated March 2, 2007. As such, the contingency plan was not triggered due to the hexavalent and total chromium concentrations detected in OW-2S during the third quarter 2007.

No other samples exceeded the action levels for hexavalent chromium, total chromium, pH, or total dissolved solids during third quarter 2007 sampling. The next CMP sampling event is scheduled to occur the week of October 8, 2007.

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

Sincerely,



cc. Cliff Raley, RWQCB
Abdi Haile, RWQCB
Christopher Guerre, DTSC

Enclosure

Compliance Monitoring Program Groundwater Monitoring Report, Third Quarter 2007

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

Prepared for

California Department of Toxic Substances Control and the California Regional Water Quality Control Board, Colorado River Basin Region

On behalf of

Pacific Gas and Electric Company

October 5, 2007

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Compliance Monitoring Program
Groundwater Monitoring Report
Third Quarter 2007

PG&E Topock Compressor Station
Needles, California

Prepared for

California Department of Toxic Substance Control and the California Regional Water Quality Control Board Colorado River Basin Region

On Behalf of

Pacific Gas and Electric Company

October 5, 2007

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

Serena Lee, P.G. No. 8259
Associate Hydrogeologist

Contents

Tables

Figures

Appendices

Acronyms and Abbreviations

CCV	continuing calibration verification
CVS	calibration verification standard
CMP	Compliance Monitoring Program
Cr(T)	total dissolved chromium
Cr(VI)	hexavalent chromium
CW	compliance well
DTSC	California Department of Toxic Substances Control
IM	Interim Measure
IM No. 3	Interim Measure No. 3
IW	injection well
µg/L	micrograms per liter
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
USEPA	United States Environmental Protection Agency
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 are provided at the end of this report.)

On October 13, 2004, the California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) adopted Waste Discharge Requirements (WDR) Order No. R7-2004-0103, which authorized PG&E to inject treated groundwater into wells located in the East Mesa area of the Topock site. This WDR was superseded on September 20, 2006 by WDR No. R7-2006-0060. Work described in this report was performed in accordance with the new WDR No. R7-2006-0060.

The WDR specifies effluent limitations, prohibitions, specifications, and provisions for subsurface injection. Monitoring and Reporting Program (MRP) No. R7-2004-0103 specified the requirements for the Compliance Monitoring Program (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. As with the WDR, MRP No. R7-2004-0103 was superseded on September 20, 2006 by MRP No. R7-2006-0060. This report adheres to requirements established in MRP No. R7-2006-0060. The *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* (CH2M HILL, 2005a) was submitted to the Water Board and the California Department of Toxic Substances Control (DTSC) on June 17, 2005 (herein referred to as the Compliance Monitoring Plan). The Compliance Monitoring Plan and its addendum provide the objectives, proposed monitoring program, data evaluation methods, and reporting requirements for the CMP. In a letter dated June 9, 2006, DTSC modified the reporting requirements of the Compliance Monitoring Plan (DTSC, 2006). This report incorporates the additional requirements.

The injection system consists of two injection wells, 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 summarizes the history of injection for IM No. 3.

TABLE 1
Operational Status of Interim Measures No. 3 Injection Wells Through Third Quarter 2007
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 and then returned to IW-3 after August 31.

Figure 2 shows the locations of the injection wells and the groundwater monitoring wells (observation wells and compliance monitoring wells) in the CMP. Table 2 summarizes information on well construction and sampling methods for all wells in the CMP.

In December 2006, PG&E requested a reduction of constituents analyzed during quarterly sampling of the CMP observation wells (CH2M HILL, 2006a). In a letter dated January 22, 2007 (DTSC, 2007), DTSC approved PG&E's request. The Water Board concurred in a letter dated January 23, 2007 (Water Board, 2007). Observation wells (OWs) are now sampled for a limited suite of constituents during quarterly monitoring events. The first quarter 2007 sampling event was the first event to incorporate this change. Semiannual CMP events still retain the original constituent suite for the OWs and compliance wells (CWs).

Under the CMP, as of May 2007, samples are collected from OWs and CWs (Figure 2) according to the following schedule:

- Nine observation wells located near the IM No. 3 injection well field are sampled quarterly for a limited suite of constituents.
- Eight compliance monitoring wells and nine observation wells located around the IM No. 3 injection well field are sampled semiannually for a full suite of constituents.

For semiannual sampling events, laboratory analyses include total dissolved chromium [Cr(T)], hexavalent chromium [Cr(VI)], metals, specific conductance, pH, total dissolved solids (TDS), turbidity, and major inorganic cations and anions. For quarterly events, the metals, cations, and anions list is reduced. 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 third quarter 2007 CMP groundwater monitoring event.

2.0 Third Quarter 2007 Activities

This section provides a summary of the monitoring and sampling activities completed during the third quarter 2007. The third quarter 2007 monitoring event was conducted during August 8th and 9th, 2007 and consisted of:

- Nine observation monitoring wells (OW series) were sampled for water quality analyses.
- Groundwater elevations and field water quality data were collected prior to sampling.
- One duplicate sample was collected at well OW-2S to assess field sampling and analytical quality control.

Continuous groundwater elevation data were collected using pressure transducers/data loggers at each 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* (CH2M HILL, 2005b).

CMP groundwater samples were analyzed by Truesdail Laboratories, Inc. in Tustin, California, a California-certified analytical laboratory. Analytical methods, sample volumes and containers, sample preservation, and quality control sample requirements are in accordance with the *Sampling, Analysis, and Field Procedures Manual* (CH2M HILL, 2005b). Data validation and management were conducted in accordance with the *Quality Assurance Project Plan* (QAPP) provided as Appendix D of the *Sampling, Analysis, and Field Procedures Manual*.

3.0 Third Quarter 2007 Results

This section summarizes the results of the CMP groundwater sampling conducted during the third quarter 2007. Figure 2 presents the locations of the CMP groundwater wells.

The data presented include results for Cr(VI), Cr(T), pH, 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 for the third quarter 2007 monitoring are presented in Appendix A.

3.1 Analytical Results

Nine observation wells were sampled during the third quarter 2007 sampling event. Analytical results for Cr(VI) and Cr(T), other metals, and general chemistry parameters are presented in Tables 3 and 4 and are discussed below. Interim action levels/water quality objectives (WQOs) were updated in the *Addendum to the Compliance Monitoring Plan*, which was submitted to DTSC and the Water Board on December 13, 2005 (CH2M HILL, 2005c). On August 8, 2006, 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), Cr(T), TDS, and pH to be used to determine if contingency plan actions were necessary based on sample results.

3.1.1 Hexavalent and Total Chromium

Table 3 presents the Cr(VI) and Cr(T) results for groundwater in the shallow, middle, and deep wells for the third quarter 2007 CMP sampling event. For shallow wells, the maximum detected Cr(VI) concentration was 35.1 micrograms per liter (µg/L) in well OW-2S on August 9, 2007. For the middle wells, the maximum detected Cr(VI) concentration was 2.5 µg/L in well OW-5M on August 8, 2007. For the deep wells, the maximum detected Cr(VI) concentration was 0.6 µg/L in well OW-2D on August 9, 2007.

During the third quarter 2007, samples from one well exceeded the WQO of 32.6 µg/L for Cr(VI). The August 9, 2007 primary and field duplicate samples from well OW-2S had concentrations of 35.1 µg/L and 33.6 µg/L. For these exceedances, the results were not considered to be the result of the injection of treated groundwater, as the average concentration of Cr(VI) from the IM No. 3 treatment plant is normally less than 1.0 µg/L (CH2M HILL, 2007a). Cr(VI) concentrations at OW-2S have been consistently above the WQOs since November 2005. In addition, other parameters that would indicate arrival of the injected water at OW-2S (such as a change in sulfate or TDS concentrations) are not observed in samples from this well. The results are thus considered reflective of the variance in background water quality.

For shallow wells, the maximum detected Cr(T) concentration was 32.3 µg/L in well OW-2S on August 9, 2007. For the middle wells, the maximum detected Cr(T) concentration was

3.0 µg/L in well OW-5M on August 8, 2007. For the deep wells, the maximum detected Cr(T) concentration was 1.1 µg/L in well OW-1D on August 9, 2007.

During the third quarter 2007, samples from one well exceeded the WQO of 28 µg/L for Cr(T). The August 9, 2007 field duplicate and primary samples from well OW-2S had concentrations of 32.3 µg/L and 31.4 µg/L. Consistent with the Cr(VI) levels found in the same well, these exceedances of the WQO for Cr(T) are considered reflective of the variance in background water quality.

3.1.2 Other Metals and General Chemistry

Table 4 presents the other metals and general chemistry results for the CMP groundwater wells sampled during the third quarter 2007. As previously mentioned, the observation wells are now sampled for a limited suite of constituents during quarterly monitoring events. Metals and ions detected in the third quarter 2007 sampling included boron, chloride, fluoride, molybdenum, nitrate/nitrite as nitrogen, and sulfate. Concentrations of metals and ions detected during this sampling event are similar to those detected in previous sampling events.

During the third quarter 2007, the sampling results from all wells were within the WQOs for TDS (10,800 mg/L) and pH (7.6 to 8.89).

3.2 Analytical Data Quality Review

The laboratory analytical data generated from the third quarter 2007 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 for the PG&E Topock Program, which is Appendix D of the *Sampling, Analysis, and Field Procedures Manual, Revision 1* (CH2M HILL, 2005b). 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

For the third quarter of 2007, matrix interference was encountered in one groundwater sample that affected the sensitivity for Cr(VI) when using United States Environmental Protection Agency (USEPA) Method E218.6. The Cr(VI) sample result from OW-5M reflected 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. The Cr(VI) reporting limit is typically 0.2 µg/L for groundwater samples collected under the CMP. No qualifier flags were applied.

3.2.2 Matrix Spike Samples

For the third quarter 2007 sampling event, all matrix spike acceptance criteria were met.

3.2.3 Quantitation and Sensitivity

For the third quarter 2007 sampling event, method and analyte combinations met the project reporting limit objectives, except for the matrix interference issue explained above.

3.2.4 Holding Time Data Qualification

For the third quarter 2007 sampling event, all method holding time requirements were met, with the following exception. Based on the March 2007 EPA Ruling, pH now has a 15 minute holding time. As a result, pH (SM4500-HB) samples analyzed in a certified lab will require qualification. The methodology for field collection and laboratory analysis remains the same as described in the approved site QAPP and is unchanged from previous CMP sampling events. However, because USEPA method requirements have changed, the validation of the data must take this into consideration when reviewing analytical data. Therefore, pH results were qualified as estimated and "J" flagged.

3.2.5 Field and Laboratory Duplicates

For the third quarter 2007 sampling event, field and laboratory duplicate acceptance criteria were met.

3.2.6 Method and Equipment Blanks

For the third quarter 2007 sampling event, method and equipment blank acceptance criteria were met.

3.2.7 Calibration

For the third quarter 2007 sampling event, initial and continuing calibration verifications (CCV) were performed as required by the methods. All calibration criteria were met, with the following exception. No second source calibration verification standard (CVS) was analyzed during the analysis of the anions due to analyst error. An additional CCV was analyzed instead. The CVS runs before and after this sample passed quality control criteria, so the absence of the sample-specific CVS did not affect the results of the analyses. Corrective action was taken by the laboratory to prevent the error from occurring again. No flags were applied.

3.2.8 Conclusion

For the third quarter 2007 groundwater sampling event, the completeness objectives were met for the method and analyte combinations, with the exception of pH due to the March 2007 EPA Ruling. 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. Under WDR No. R7-2006-0060 for the IM No. 3 groundwater treatment system, PG&E is required to submit WDR monitoring reports on the 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 5 provides selected analytical results from three of the monthly reports: August 29,

2005, March 18, 2006, and August 1, 2007. 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), Cr(T), fluoride, molybdenum, nitrate 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 August 2005 through August 2007 effluent characteristics):

- Cr(VI): typically non-detect (1.0) µg/L
- Cr(T): typically non-detect (1.0) µg/L
- Fluoride: approximately 1.9 to 2.2 milligrams per liter (mg/L)
- Molybdenum: approximately 8 to 18 µg/L
- Nitrate as nitrogen: approximately 2 to 6 mg/L
- Sulfate: approximately 500 mg/L
- TDS: approximately 4,200 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 5 also lists the results of baseline sampling for the observation wells and compliance wells. A full set of nine OW groundwater samples were collected on July 27 and 28, 2005, and a full set of eight CW groundwater samples were 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 Cr(T), 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 6 presents a comparison between the treated water quality and the results from the most recent sampling event, the third quarter 2007 sampling event. These samples were collected after approximately 25 months of injection. While the pre-injection OW and CW sample results were significantly different from the treated water quality, a number of the OW and CW third quarter 2007 sample results have changed in that these 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, and OW-5D.

Wells OW-1M, OW-1D, OW-2M, OW-2D, OW-5M, and OW-5D are locations and depths where the treated water injection front has largely replaced the local pre-injection groundwater. To date, all shallow observations wells (wells OW-1S, OW-2S, and OW-5S) show no water quality effects due to injection of treated water, indicating that injected water has not yet reached these depths and locations.

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, Cr(T), fluoride, Cr(VI), molybdenum, nitrate as nitrogen, pH, sodium, sulfate, TDS, and vanadium. Water quality hydrographs (time-series plots) of these 11 analytes in each observation well within the IM No. 3 injection well field are presented in Figures 3A through 3C.

The observation well 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-2D), 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. TDS, sodium, sulfate, chloride, and molybdenum are particularly consistent and show that the local groundwater quality at shallow depths is not being affected by injection of treated water or outside water sources.

3.4 Water Level Measurements

Table 7 presents the manual water level measurements and groundwater elevations for the third quarter 2007 monitoring event.

As a requirement of the conditional approval by DTSC (DTSC, 2005), water level measurements were used to produce hydrographs for each well cluster. Figures 4A through 4G present hydrographs that illustrate groundwater elevation trends and vertical hydraulic gradients observed over the third quarter 2007 reporting period at the observation and compliance wells.

Average groundwater elevation maps for shallow, middle, and deep wells are provided as Figures 5A through 5C. Water levels used to produce the monthly average groundwater elevation contour plots were taken from a select number of days in which the levels remained reasonably constant. These dates are noted on each figure.

3.4.1 Groundwater Flow Characteristics

The injection well field is located in the East Mesa area of the Topock site (Figure 2). Overall sitewide water level contour maps for shallow wells are prepared quarterly (CH2M HILL, 2007b), with flow consistently being shown to move to the east across the uplands portions of the site.

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 around the active injection well IW-03. The potentiometric surfaces in prior CMP reports mapped the growth of the groundwater mound over time and show that, after 25 months of injection, the mound has increased in height by 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 July 15 through August 14, 2007 averages. As expected with a mound, the potentiometric surface of the deep wells is broader, while the potentiometric surface of the middle wells is more localized to the vicinity of the injection well. 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 8 presents the vertical gradient data calculated using the July 15 through August 14, 2007 average groundwater levels. The magnitude of the vertical gradients is similar between clusters and between the depth intervals, indicating that the vertical gradient is 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 undoubtedly 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, and salinity. Table 9 summarizes the field water quality data measured during the third quarter 2007 monitoring event. Field data sheets for the third quarter 2007 event are presented in Appendix B.

3.6 WDR Monitoring Requirements

Table 10 identifies the laboratory that performed each analysis and lists the following information as required by the WDR for the third quarter 2007 monitoring event:

- Sample location
- Sample identification number
- Sampler name
- Sample date
- Sample time
- Laboratory performing analysis
- Analysis method

- Analysis parameter
- Analysis date
- Laboratory technician
- Analysis result
- Result reporting limit
- Method detection limit

4.0 Status of Monitoring Activities

4.1 Quarterly Monitoring

The next quarterly monitoring event will occur during the first quarter of 2008. This event will include the sampling and analysis scope that was presented in the Compliance Monitoring Plan (CH2M HILL, 2005a, 2005c) and subsequent approved scope revisions (DTSC, 2007 and Water Board, 2007). The groundwater monitoring report for this quarterly CMP monitoring event will be submitted by April 15, 2008.

4.2 Semiannual Monitoring

The next semiannual monitoring event will occur in October during the fourth quarter of 2007. This CMP monitoring event, which encompasses both the OW and CW wells, will include the sampling and analysis scope presented in the Compliance Monitoring Plan (CH2M HILL, 2005a, 2005c) and subsequent approved scope revisions (DTSC, 2007 and Water Board, 2007). The groundwater monitoring report for this semiannual CMP monitoring event will be submitted by January 15, 2008.

5.0 References

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

CH2M HILL. 2005a. *Groundwater Compliance Monitoring Plan for Interim Measure No. 3 Injection Area, Topock Compressor Station, Needles, California*. June 17.

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

_____. 2007a. *August 2007 Monitoring Report for Interim Measures No. 3 Groundwater Treatment System, Water Discharge Requirements Order No. R7-2006-0060, Topock Compressor Station, Needles, California*. September 14.

_____. 2007b. *Groundwater and Surface Water Monitoring Report, First Quarter 2007, Topock Compressor Station, Needles, California.* May 31.

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: October 5, 2007

Tables

TABLE 2
Well Construction and Sampling Summary for Groundwater Samples, Third Quarter 2007
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 Installed	Remarks
IM Compliance Wells												
CW-01M	East Mesa	566.16	140 - 190	2 (PVC)	190.0	108.8	Dedi Redi-Flo AR	2	42	165	Active	
CW-01D	East Mesa	566.57	250 - 300	2 (PVC)	300.2	108.8	Temp Redi-Flo AR	3	110	180	Active	
CW-02M	East Mesa	549.37	152 - 202	2 (PVC)	202.0	92.4	Temp Redi-Flo AR	2	55	195	Active	
CW-02D	East Mesa	549.64	285 - 335	2 (PVC)	355.0	91.8	Temp Redi-Flo AR	3	140	159	Active	
CW-03M	East Mesa	534.21	172 - 222	2 (PVC)	222.0	77.2	Temp Redi-Flo AR	2	75	180	Active	
CW-03D	East Mesa	534.27	270 - 320	2 (PVC)	340.0	77.1	Temp Redi-Flo AR	3	140	143	Active	
CW-04M	East Mesa	518.66	119.5 - 169.8	2 (PVC)	169.8	61.2	Temp Redi-Flo AR	2	60	160	Active	
CW-04D	East Mesa	518.68	233 - 283	2 (PVC)	303.0	61.2	Temp Redi-Flo AR	3	120	134	Active	
IM Observation Wells												
OW-01S	East Mesa	550.21	83.5 - 113.5	2 (PVC)	113.5	92.8	Temp Waterra Hyd.	1	15	100	Active	
OW-01M	East Mesa	550.45	165 - 185	2 (PVC)	185.8	92.4	Temp Redi-Flo AR	2	54	109.6	Active	
OW-01D	East Mesa	550.48	257 - 277	2 (PVC)	277.0	92.8	Temp Redi-Flo AR	3	100	111.4	Active	
OW-02S	East Mesa	548.88	71 - 101	2 (PVC)	121.0	91.5	Temp Waterra Hyd.	2	15	100	Active	
OW-02M	East Mesa	548.59	190 - 210	2 (PVC)	210.3	91.0	Temp Redi-Flo AR	3	60	111.4	Active	
OW-02D	East Mesa	549.15	310 - 330	2 (PVC)	340.0	90.6	Temp Redi-Flo AR	3	120	110.3	Active	
OW-05S	East Mesa	551.83	70 - 110	2 (PVC)	110.3	94.4	Temp Waterra Hyd.	1	9	100	Active	
OW-05M	East Mesa	551.81	210 - 250	2 (PVC)	250.3	93.7	Temp Redi-Flo AR	3	80	112.5	Active	
OW-05D	East Mesa	552.33	300 - 320	2 (PVC)	350.0	93.6	Temp Redi-Flo AR	3	135	113.2	Active	

Notes:

AMSL	above mean sea level
BGS	below ground surface
BTOC	below top of polyvinyl chloride (PVC) casing
Dedi	dedicated
Redi-Flo AR	adjustable-rate electric submersible pump
Temp	temporary
Hyd	Hydrolift, Waterra inertial pump

Depth to water shown is the most recently measured depth to water.
All wells were purged and sampled using well-volume method.

TABLE 3
Chromium Results for Groundwater Samples, Third Quarter 2007
PG&E Topock Compliance Monitoring Program

			Method:	E218.6	E200.8
Location ID	**Sample Date**			**Hexavalent Chromium (µg/L)**	**Dissolved Chromium (µg/L)**
OW-01S	8/9/2007			19.8	19.4
OW-01M	8/9/2007			0.57	ND (1.0)
OW-01D	8/9/2007			0.50	1.10
OW-02S	8/9/2007			35.1	32.3
OW-02S	8/9/2007	(FD)		33.6	31.4
OW-02M	8/9/2007			0.76	ND (1.0)
OW-02D	8/9/2007			0.60	ND (1.0)
OW-05S	8/9/2007			26.5	25.3
OW-05M	8/8/2007			2.50	3.00
OW-05D	8/9/2007			ND (0.2)	ND (1.0)

Notes:

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

Hexavalent Chromium is lab filtered and Dissolved Chromium is field filtered.

TABLE 4
Metals and General Chemistry Results for Groundwater Samples, Third Quarter 2007
PG&E Topock Compliance Monitoring Program

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	Method:	E120.1	SM4500-HB	SM2540C	E180.1	E200.7	E200.8	E300.0	E300.0	E300.0	E300.0
Location ID	**Sample Date**	**Specific Conductance (µmhos/cm)**	**pH (pH units)**	**Total Dissolved Solids (mg/L)**	**Turbidity (NTU)**	**Dissolved Boron (mg/L)**	**Dissolved Molybdenum (µg/L)**	**Chloride (mg/L)**	**Fluoride (mg/L)**	**Sulfate (mg/L)**	**Nitrate/Nitrite as Nitrogen (mg/L)**
OW-01S	8/9/2007	2400	7.82 J	1450	0.915	0.319	13.5	686	2.50	127	3.06
OW-01M	8/9/2007	6590	7.90 J	3970	0.873	1.15	18.4	2000	2.40	408	2.77
OW-01D	8/9/2007	6540	7.73 J	3990	0.144	1.30	16.8	2020	1.86	428	2.85
OW-02S	8/9/2007	1780	8.07 J	972	1.36	0.773	40.3	435	4.92	108	4.14
OW-02S	8/9/2007 (FD)	1760	8.06 J	1020	1.58	0.682	47.6	437	4.82	107	4.03
OW-02M	8/9/2007	6550	7.80 J	3670	0.141	1.22	15.0	1990	1.88	408	2.54
OW-02D	8/9/2007	6580	7.83 J	3910	ND (0.1)	1.07	15.9	2040	2.12	432	2.58
OW-05S	8/9/2007	1660	7.87 J	932	1.87	0.451	26.5	406	2.60	97.8	4.00
OW-05M	8/8/2007	6800	7.80 J	4060	ND (0.1)	1.13	9.80	2020	2.71	473	8.15
OW-05D	8/9/2007	6860	7.69 J	3830	0.191	1.26	18.3	2070	2.13	458	2.61

Notes:

FD	field duplicate
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 or RL estimated by laboratory or data validation

TABLE 5
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)	Total Chromium (µg/L)	Fluoride (mg/L)	Molybdenum (µg/L)	Nitrate (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	3/18/2006	ND(1.0)	ND(1.0)	1.92	8.2	2.79	482	4040
Treated Water	8/1/2007	ND(0.2)	ND(1.0)	2.25	17.5	6.06	503	4270
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 with method E218.6.
Total chromium samples were analyzed with method E200.7. Total chromium samples of the treated water were unfiltered.

TABLE 6

Treated Water Quality Compared to Third Quarter 2007 Sampling Event Water Quality

PG&E Topock Compliance Monitoring Program

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Location ID	Sample Date	Hexavalent Chromium (µg/L)	Total Chromium (µg/L)	Fluoride (mg/L)	Dissolved Molybdenum (µg/L)	Nitrate/Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
Treated Water	3/8/2006	ND (1.0)	ND (1.0)	1.92	8.20	2.79	482	4040
Treated Water	9/7/2006	ND (1.0)	ND (1.0)	1.93	13.6	2.50	486	4420
Treated Water	8/1/2007	ND (0.2)	ND (1.0)	2.25	17.5	6.06	503	4270
OW-01S	8/9/2007	19.8	19.4	2.50	13.5	3.06	127	1450
OW-01M	8/9/2007	0.57	ND (1.0)	2.40	18.4	2.77	408	3970
OW-01D	8/9/2007	0.50	1.10	1.86	16.8	2.85	428	3990
OW-02S	8/9/2007	35.1	32.3	4.92	40.3	4.14	108	972
OW-02S	8/9/2007 (FD)	33.6	31.4	4.82	47.6	4.03	107	1020
OW-02M	8/9/2007	0.76	ND (1.0)	1.88	15.0	2.54	408	3670
OW-02D	8/9/2007	0.60	ND (1.0)	2.12	15.9	2.58	432	3910
OW-05S	8/9/2007	26.5	25.3	2.60	26.5	4.00	97.8	932
OW-05M	8/8/2007	2.50	3.00	2.71	9.80	8.15	473	4060
OW-05D	8/9/2007	ND (0.2)	ND (1.0)	2.13	18.3	2.61	458	3830

Notes:

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

Hexavalent chromium samples were analyzed with method E218.6.

Total chromium samples were analyzed with methods E200.7 and E200.8. Total chromium and molybdenum samples were filtered, except for the treated water.

Molybdenum samples were analyzed with method E200.8.

Fluoride, Sulfate and Nitrate/Nitrite as Nitrogen samples were analyzed with method E300.0.

Total Dissolved Solid samples were analyzed with methods E160.1 and SM2540C.

TABLE 7
Manual Water Level Measurements and Elevations, Third Quarter 2007
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 (percent)	Groundwater/Water Elevation Adjusted for Salinity (feet AMSL)
OW-01S	113.5	550.21	09-Aug-07	12:04 PM	92.81	0.12	457.33
OW-01M	185.8	550.45	09-Aug-07	1:06 PM	92.43	0.45	457.90
OW-01D	277.0	550.48	09-Aug-07	1:52 PM	92.80	0.50	457.52
OW-02S	121.0	548.75	09-Aug-07	10:27 AM	91.53	0.11	457.13
OW-02M	210.3	548.59	09-Aug-07	9:31 AM	91.00	0.45	457.43
OW-02D	340.0	549.15	09-Aug-07	7:55 AM	90.58	0.51	458.29
OW-05S	110.3	551.75	09-Aug-07	6:52 AM	94.39	0.11	457.30
OW-05M	250.3	551.75	08-Aug-07	1:18 PM	93.69	0.45	457.86
OW-05D	350.0	552.35	09-Aug-07	5:12 AM	93.60	0.51	458.50

Notes:

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

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

TABLE 8
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	0.0034
CW-02D to CW-02M	0.0090
CW-03D to CW-03M	0.0114
CW-04D to CW-04M	0.0066
OW-01M to OW-01S	0.0039
OW-01D to OW-01M	0.0044
OW-02M to OW-02S	0.0032
OW-02D to OW-02M	0.0095

[a] Positive value signifies an upward gradient.

Gradients calculated using July 15 through August 14, 2007 average groundwater levels.

TABLE 9
Field Parameter Measurements for Groundwater Samples, Third Quarter 2007
PG&E Topock Compliance Monitoring Program

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Location ID	Sampling Date	Specific Conductance (µmhos/cm)	Temperature (°C)	pH (pH units)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Salinity (%)
OW-01S	8/9/2007	2337	30.81	7.69	65.6	4.29	3.1	0.119
OW-01M	8/9/2007	6445	30.51	7.77	55.3	5.99	2.2	0.349
OW-01D	8/9/2007	6440	29.99	7.12	55	7.13	1.8	0.349
OW-02S	8/9/2007	1703	29.47	7.95	52.8	7.67	4.1	0.85
OW-02M	8/9/2007	6432	30.37	7.6	74.6	6.46	2.1	0.348
OW-02D	8/9/2007	6463	31.34	7.65	113.5	6.17	1.9	0.349
OW-05S	8/9/2007	1602	29.42	7.86	119.9	6.47	4.2	0.8
OW-05M	8/8/2007	6613	29.05	7.63	112.5	7.62	2	0.359
OW-05D	8/9/2007	6593	30.45	7.53	78.8	6.01	1.7	0.357

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

TABLE 10
Board Order No. R7-2006-0060 WDR Monitoring Information for Groundwater Samples, Third Quarter 2007
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-01D	OW-01D-013	Aurora Hinckley	8/9/2007	3:35:00 PM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	6540	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	0.144	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.30	0.20	0.000084
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	1.10	1.00	0.075
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	16.8	5.00	0.47
					TLI	EPA 218.6	CR6	8/10/2007	Jean Paul Gleeson	µg/L	0.50	0.20	0.018
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	2020	100	22.0
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	1.86	0.50	0.0905
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	2.85	1.00	0.084
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	428	250	15.4
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	3990	250	64.0
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.73 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-01M	OW-01M-013	Aurora Hinckley	8/9/2007	2:43:00 PM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	6590	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	0.873	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.15	0.20	0.000084
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	ND (1.0)	1.00	0.075
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	18.4	5.00	0.47
					TLI	EPA 218.6	CR6	8/10/2007	Jean Paul Gleeson	µg/L	0.57	0.20	0.018
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	2000	100	22.0
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	2.40	0.50	0.0905
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	2.77	1.00	0.084
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	408	250	15.4
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	3970	250	64.0
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.90 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-01S	OW-01S-013	Aurora Hinckley	8/9/2007	1:47:00 PM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	2400	2.00	0.153

TABLE 10
Board Order No. R7-2006-0060 WDR Monitoring Information for Groundwater Samples, Third Quarter 2007
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-01S	OW-01S-013	Aurora Hinckley	8/9/2007	1:47:00 PM	TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	0.915	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	0.319	0.20	0.000084
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	19.4	1.00	0.075
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	13.5	5.00	0.47
					TLI	EPA 218.6	CR6	8/10/2007	Jean Paul Gleeson	µg/L	19.8	0.20	0.018
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	686	20.0	4.39
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	2.50	0.50	0.0905
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	3.06	1.00	0.084
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	127	50.0	3.07
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	1450	50.0	12.8
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.82 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-02D	OW-02D-013	Aurora Hinckley	8/9/2007	9:59:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	6580	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	ND (0.1)	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.07	0.20	0.000084
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	ND (1.0)	1.00	0.075
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	15.9	5.00	0.47
					TLI	EPA 218.6	CR6	8/9/2007	Jean Paul Gleeson	µg/L	0.60	0.20	0.018
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	2040	100	22.0
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	2.12	0.50	0.0905
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	2.58	1.00	0.084
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	432	250	15.4
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	3910	250	64.0
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.83 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-02M	OW-02M-013	Aurora Hinckley	8/9/2007	11:08:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	6550	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	0.141	0.10	0.016

TABLE 10

Board Order No. R7-2006-0060 WDR Monitoring Information for Groundwater Samples, Third Quarter 2007

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-02M	OW-02M-013	Aurora Hinckley	8/9/2007	11:08:00 AM	TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.22	0.20	0.000084
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	15.0	5.00	0.47
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	ND (1.0)	1.00	0.075
					TLI	EPA 218.6	CR6	8/9/2007	Jean Paul Gleeson	µg/L	0.76	0.20	0.018
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	2.54	1.00	0.084
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	1.88	0.50	0.0905
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	1990	100	22.0
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	408	250	15.4
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	3670	250	64.0
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.80 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-02S	MW-90-CMP-013	Aurora Hinckley	8/9/2007	10:30:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	1760	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	1.58	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	0.682	0.20	0.000084
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	47.6	5.00	0.47
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	31.4	1.00	0.075
					TLI	EPA 218.6	CR6	8/10/2007	Jean Paul Gleeson	µg/L	33.6	1.00	0.088
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	437	20.0	4.39
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	4.82	0.50	0.0905
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	107	50.0	3.07
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	4.03	1.00	0.084
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	1020	50.0	12.8
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	8.06 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-02S	OW-02S-013	Aurora Hinckley	8/9/2007	11:56:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	1780	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	1.36	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	0.773	0.20	0.000084

TABLE 10
Board Order No. R7-2006-0060 WDR Monitoring Information for Groundwater Samples, Third Quarter 2007
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-013	Aurora Hinckley	8/9/2007	11:56:00 AM	TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	32.3	1.00	0.075
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	40.3	5.00	0.47
					TLI	EPA 218.6	CR6	8/10/2007	Jean Paul Gleeson	µg/L	35.1	1.00	0.088
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	108	50.0	3.07
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	4.14	1.00	0.084
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	4.92	0.50	0.0905
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	435	20.0	4.39
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	972	50.0	12.8
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	8.07 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-05D	OW-05D-013	Aurora Hinckley	8/9/2007	7:28:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	6860	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	0.191	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.26	0.20	0.000084
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	18.3	5.00	0.47
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	ND (1.0)	1.00	0.075
					TLI	EPA 218.6	CR6	8/9/2007	Jean Paul Gleeson	µg/L	ND (0.2)	0.20	0.018
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	458	250	15.4
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	2.61	1.00	0.084
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	2.13	0.50	0.0905
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	2070	100	22.0
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	3830	250	64.0
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.69 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-05M	OW-05M-013	Barry Collom	8/8/2007	3:10:00 PM	TLI	EPA 120.1	SC	8/9/2007	Tina Acquiat	UMHOS/CM	6800	2.00	0.153
					TLI	EPA 180.1	TRB	8/9/2007	Gautam Savani	NTU	ND (0.1)	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	1.13	0.20	0.000084
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	3.00	1.00	0.075

TABLE 10

Board Order No. R7-2006-0060 WDR Monitoring Information for Groundwater Samples, Third Quarter 2007

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-013	Barry Collom	8/8/2007	3:10:00 PM	TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	9.80	5.00	0.47
					TLI	EPA 218.6	CR6	8/9/2007	Jean Paul Gleeson	µg/L	2.50	1.00	0.088
					TLI	EPA 300.0	CL	8/9/2007	Giawad Ghenniwa	mg/L	2020	200	43.9
					TLI	EPA 300.0	FL	8/9/2007	Giawad Ghenniwa	mg/L	2.71	0.50	0.0905
					TLI	EPA 300.0	NO3N	8/9/2007	Giawad Ghenniwa	mg/L	8.15	1.00	0.084
					TLI	EPA 300.0	SO4	8/9/2007	Giawad Ghenniwa	mg/L	473	50.0	3.07
					TLI	SM2540C	TDS	8/9/2007	Tina Acquiat	mg/L	4060	250	64.0
					TLI	SM4500-HB	PH	8/9/2007	Tina Acquiat	PH Units	7.80 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001
OW-05S	OW-05S-013	Aurora Hinckley	8/9/2007	8:23:00 AM	TLI	EPA 120.1	SC	8/14/2007	Tina Acquiat	UMHOS/CM	1660	2.00	0.153
					TLI	EPA 180.1	TRB	8/10/2007	Gautam Savani	NTU	1.87	0.10	0.016
					TLI	EPA 200.7	BD	8/27/2007	Daisy Duyan	mg/L	0.451	0.20	0.000084
					TLI	EPA 200.8	MOD	8/24/2007	Michel Mendoza	µg/L	26.5	5.00	0.47
					TLI	EPA 200.8	CRTD	8/28/2007	Michel Mendoza	µg/L	25.3	1.00	0.075
					TLI	EPA 218.6	CR6	8/9/2007	Jean Paul Gleeson	µg/L	26.5	1.00	0.088
					TLI	EPA 300.0	NO3N	8/10/2007	Giawad Ghenniwa	mg/L	4.00	1.00	0.084
					TLI	EPA 300.0	FL	8/10/2007	Giawad Ghenniwa	mg/L	2.60	0.50	0.0905
					TLI	EPA 300.0	CL	8/10/2007	Giawad Ghenniwa	mg/L	406	20.0	4.39
					TLI	EPA 300.0	SO4	8/10/2007	Giawad Ghenniwa	mg/L	97.8	50.0	3.07
					TLI	SM2540C	TDS	8/14/2007	Tina Acquiat	mg/L	932	50.0	12.8
					TLI	SM4500-HB	PH	8/10/2007	Tina Acquiat	PH Units	7.87 J	2.00	0.07
					TLI	SM4500NO2B	NO2N	8/10/2007	Tina Acquiat	mg/L	ND (0.005)	0.005	0.001

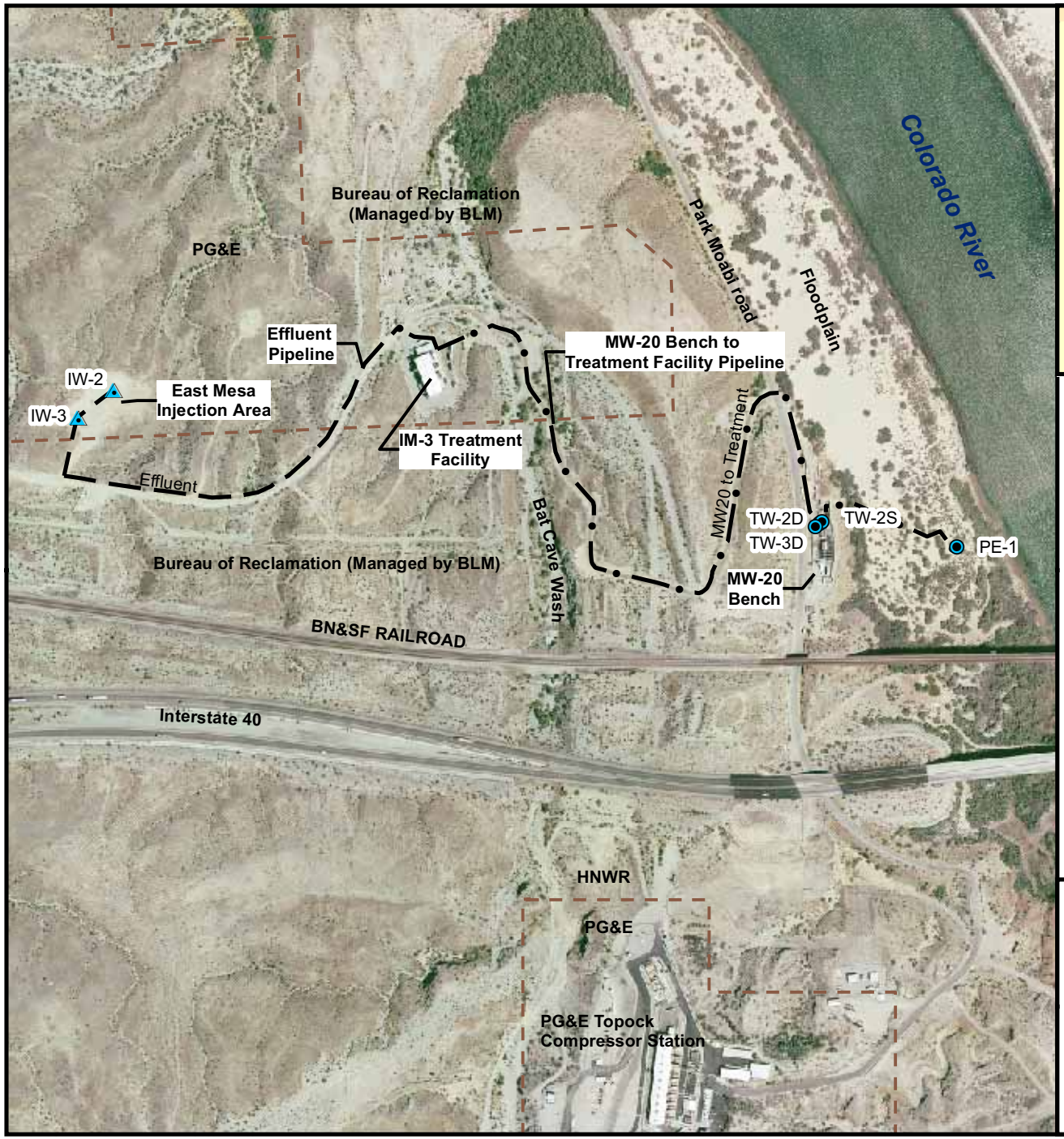
NOTES:

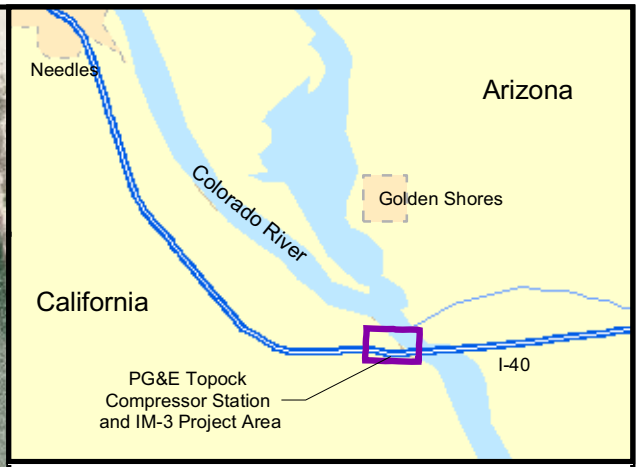
MDL	method detection limit corrected for sample dilution
RL	reporting limit
ND	parameter not detected at the listed reporting limit
J	concentration or RL estimated by laboratory or data validation
R	result exceeded analytical criteria for precision and accuracy; should not be used for project decision making
µmhos/cm	micro-mhos per centimeter
NTU	Nephelometric Turbidity Unit
mg/L	milligrams per liter
µg/L	micrograms per liter

TLI	Truesdail Laboratories, Inc.
WDR	Waste Discharge Requirements

SC	specific conductance	CAD	calcium, dissolved
PH	pH	MOD	molybdenum, dissolved
TDS	total dissolved solids	NID	nickel, dissolved
TRB	turbidity	PBD	lead, dissolved
CRTD	chromium, dissolved	HGD	mercury, dissolved
CR6	hexavalent chromium	SED	selenium, dissolved
CL	chloride	TLD	thallium, dissolved
FL	fluoride	COBD	cobalt, dissolved
ALD	aluminum, dissolved	CDD	cadmium, dissolved
BD	boron, dissolved	BED	beryllium, dissolved
FED	iron, dissolved	AGD	silver, dissolved
MND	manganese, dissolved	VD	vanadium, dissolved
ZND	zinc, dissolved	NO3NO2N	nitrate/nitrite (as N)
SBD	antimony, dissolved	NH3N	ammonia (as N)
ASD	arsenic, dissolved	SO4	sulfate
BAD	barium, dissolved	SBD	antimony, dissolved
CUD	copper, dissolved	ALKB	alkalinity, bicarb.as CACO3
MGD	magnesium, dissolved	ALKC	alkalinity, as carbonate
NAD	sodium, dissolved	ALKT	alkalinity, total as CACO3
KD	potassium, dissolved		

Figures





N

0 550 1,100 Feet

1 inch equals 550 feet

LEGEND

- Existing IM Injection Well
- Existing IM Extraction Well
- Treatment Facility Pipeline
- PG&E Property Line

Notes:
Aerial photography taken May 2005.

FIGURE 1
SITE LOCATION AND LAYOUT

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

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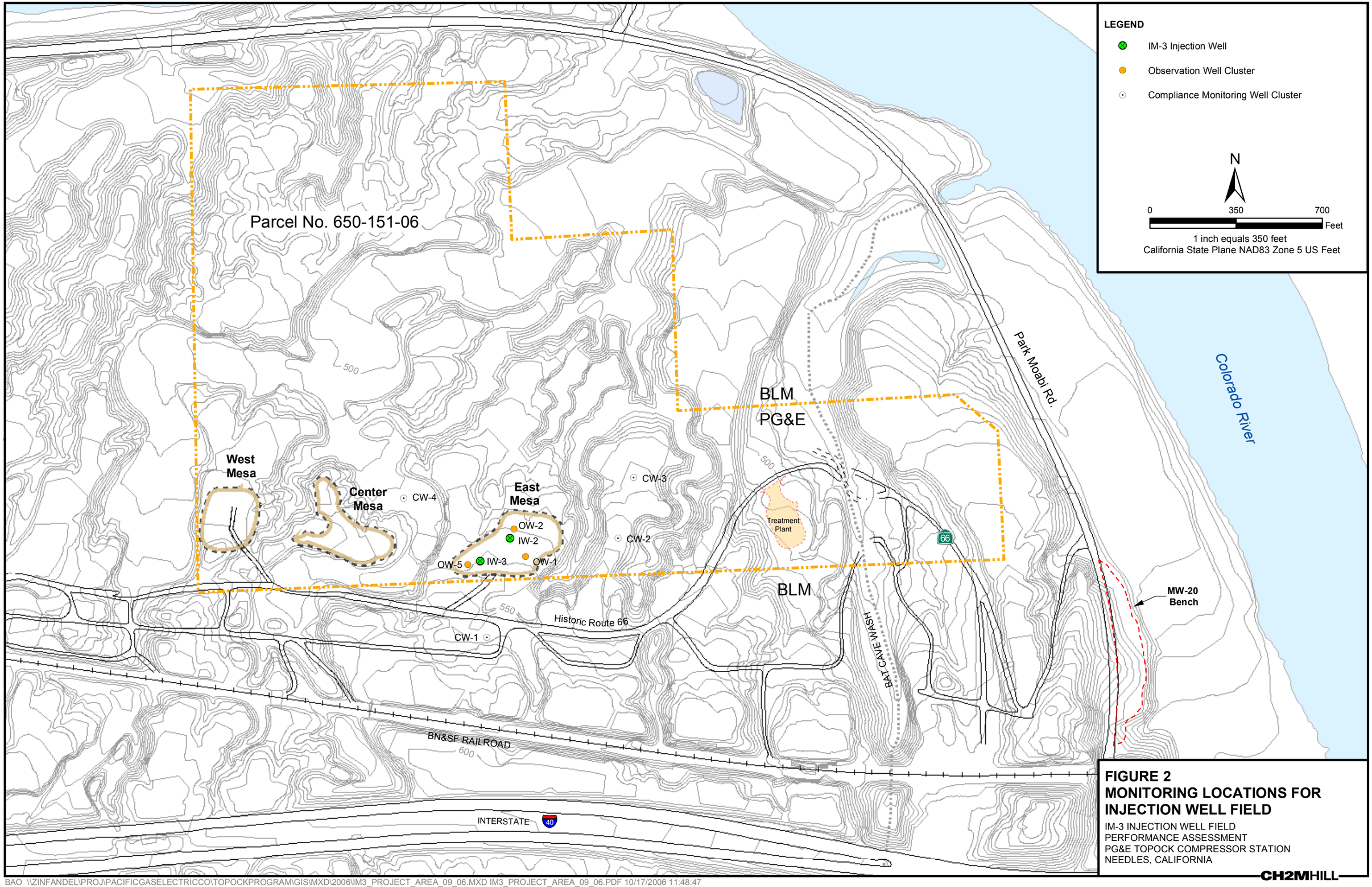

FIGURE 2
MONITORING LOCATIONS FOR INJECTION WELL FIELD

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

CH2MHILL

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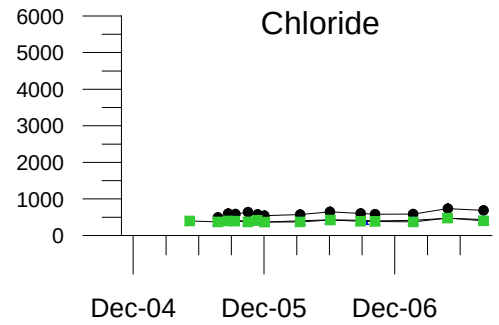

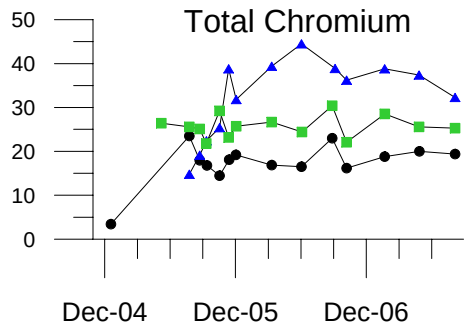

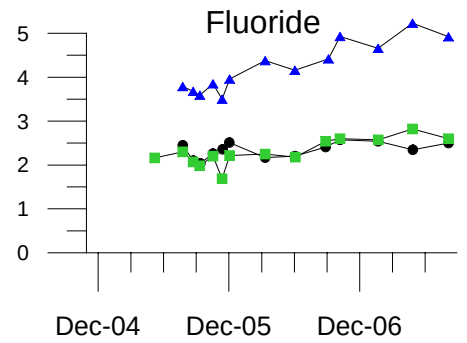

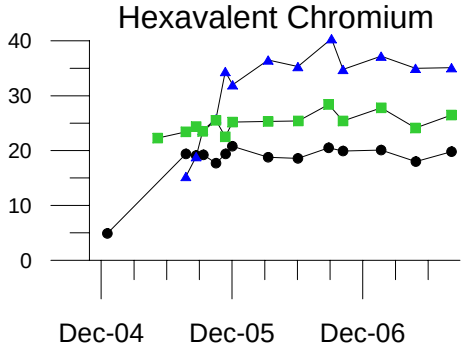

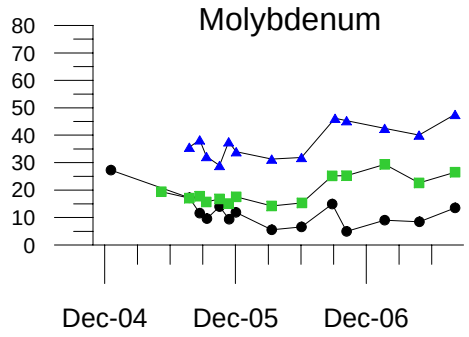

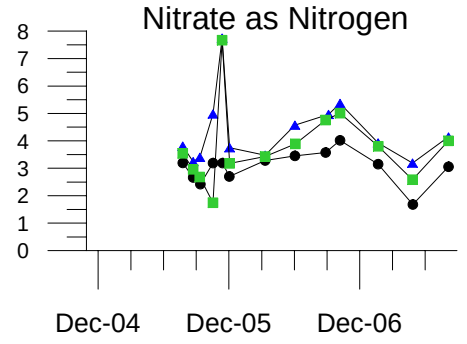

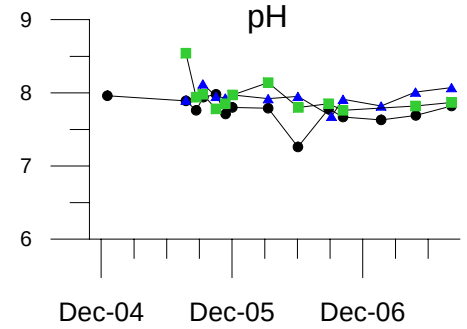

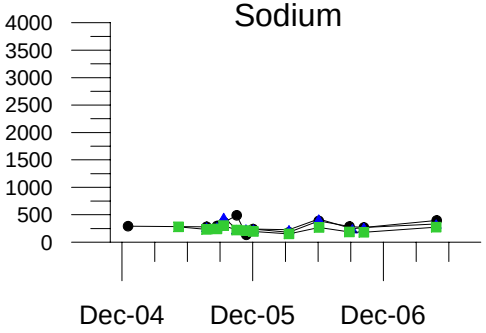

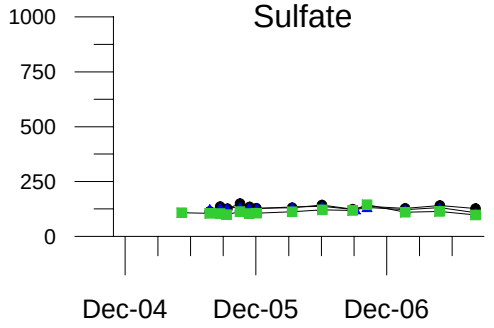

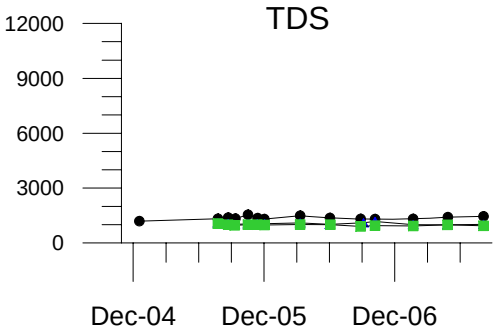

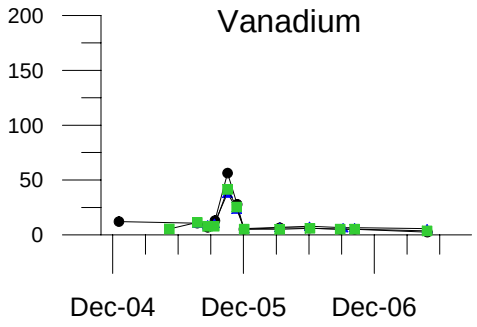

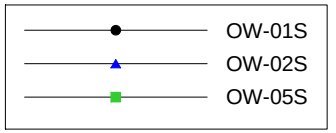

Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. pH in pH units.

FIGURE 3A
OW-01S, OW-02S, OW-05S
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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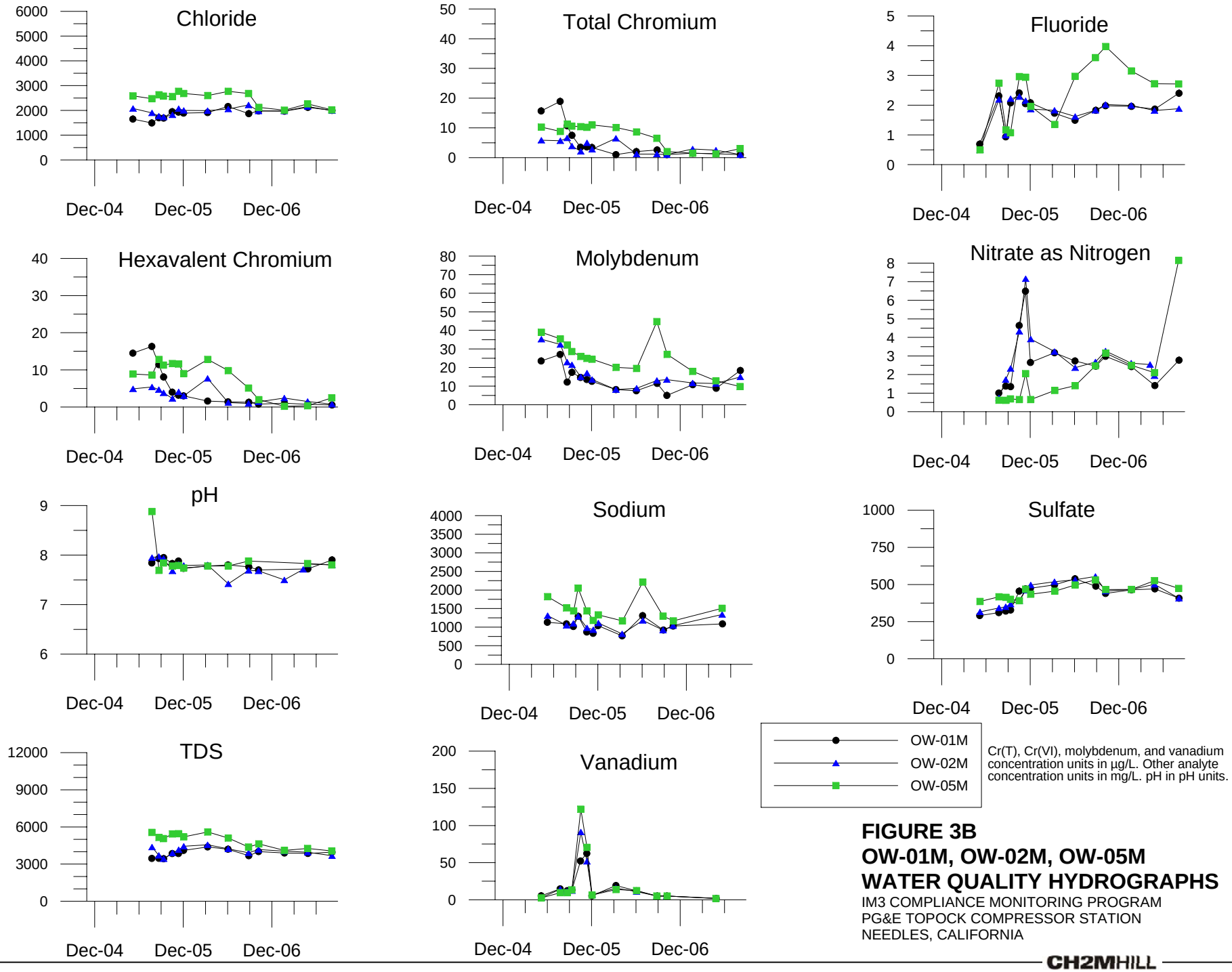

Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. pH in pH units.

FIGURE 3B
OW-01M, OW-02M, OW-05M
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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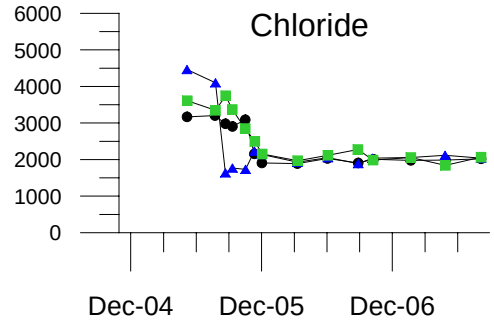

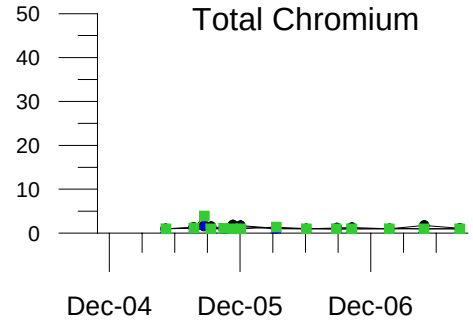

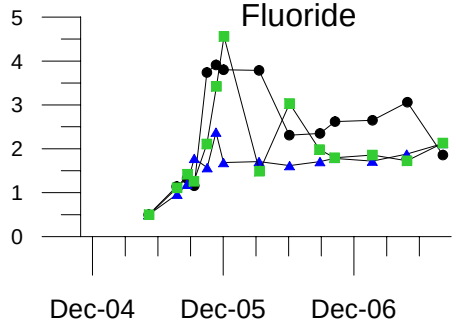

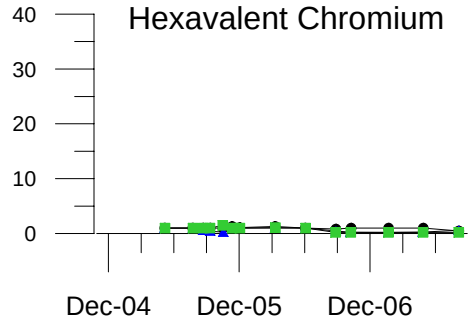

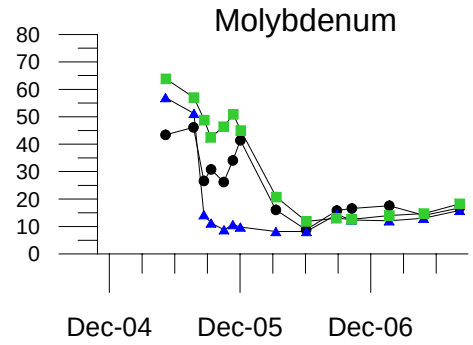

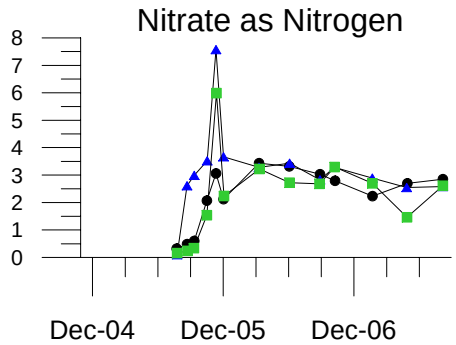

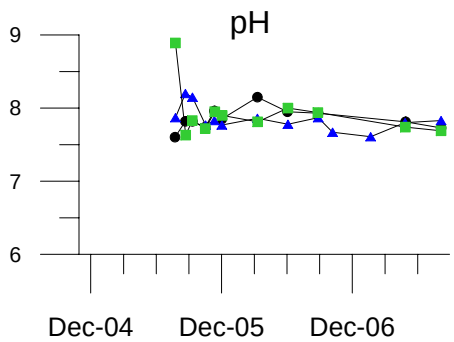

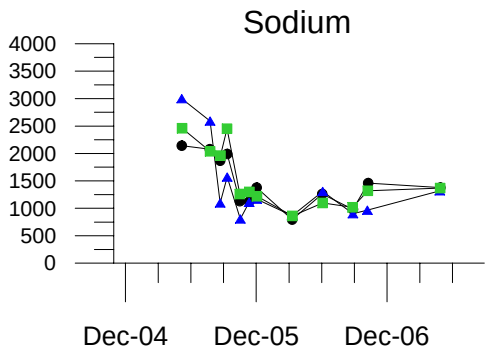

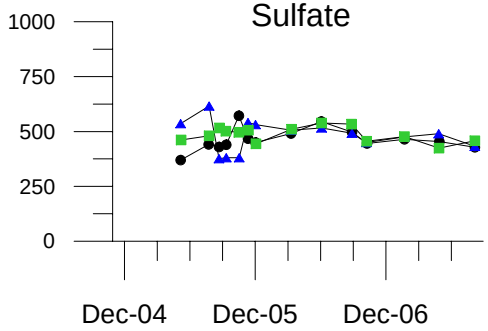

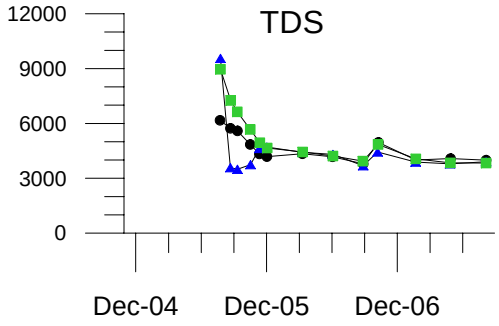

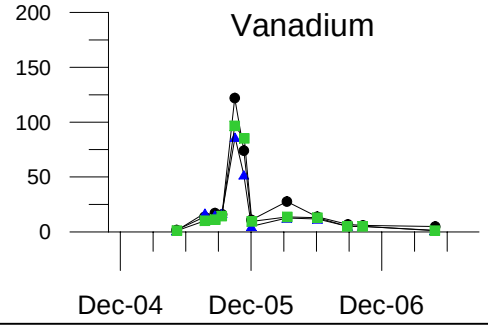

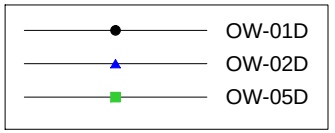

Cr(T), Cr(VI), molybdenum, and vanadium concentration units in µg/L. Other analyte concentration units in mg/L. pH in pH units.

FIGURE 3C
OW-01D, OW-02D, OW-05D
WATER QUALITY HYDROGRAPHS
IM3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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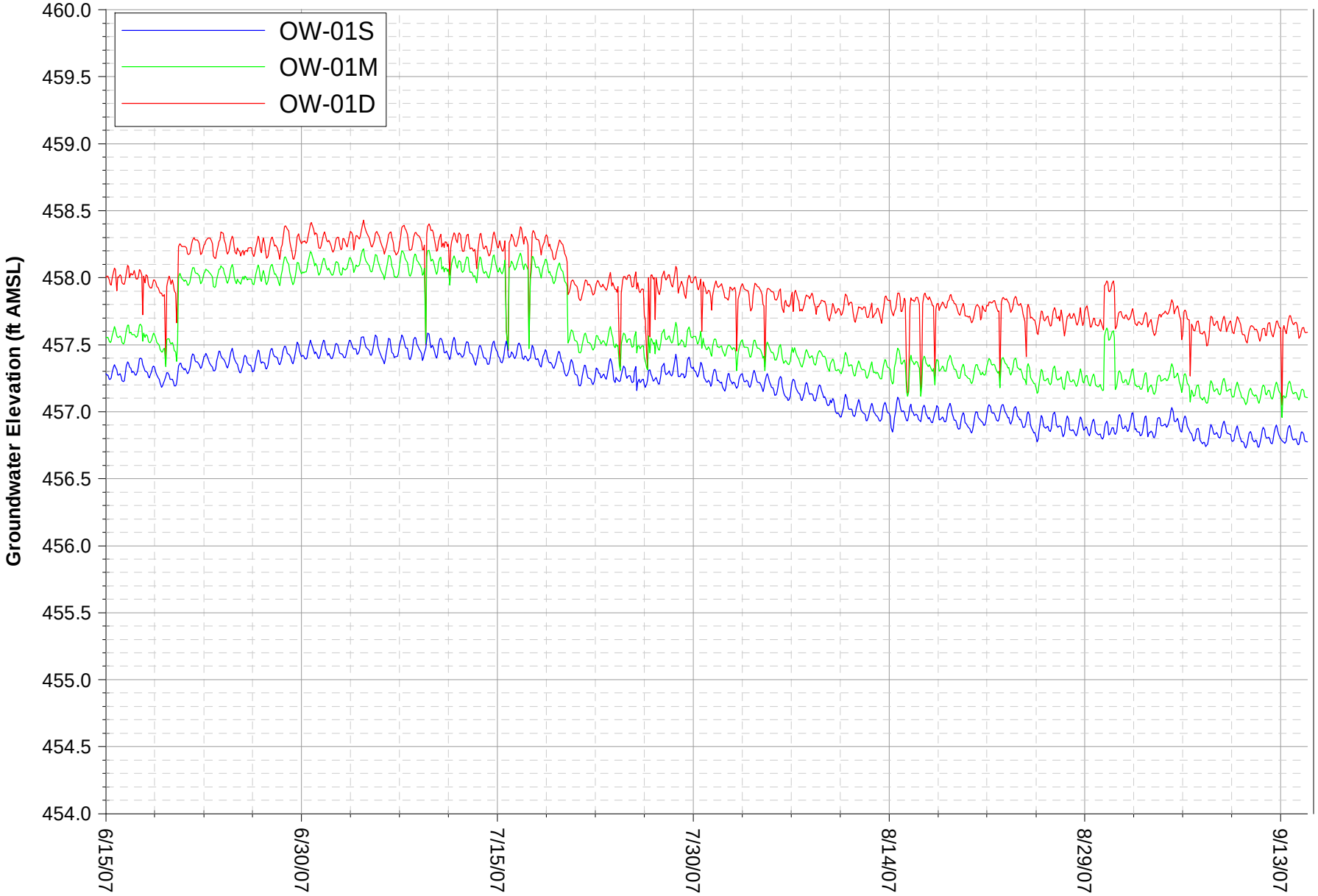
PRIVILEGED AND CONFIDENTIAL



Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4A
OW-01 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.
The transducer in OW-02D malfunctioned on September 4, 2007. No data is available after this date.

FIGURE 4B
OW-02 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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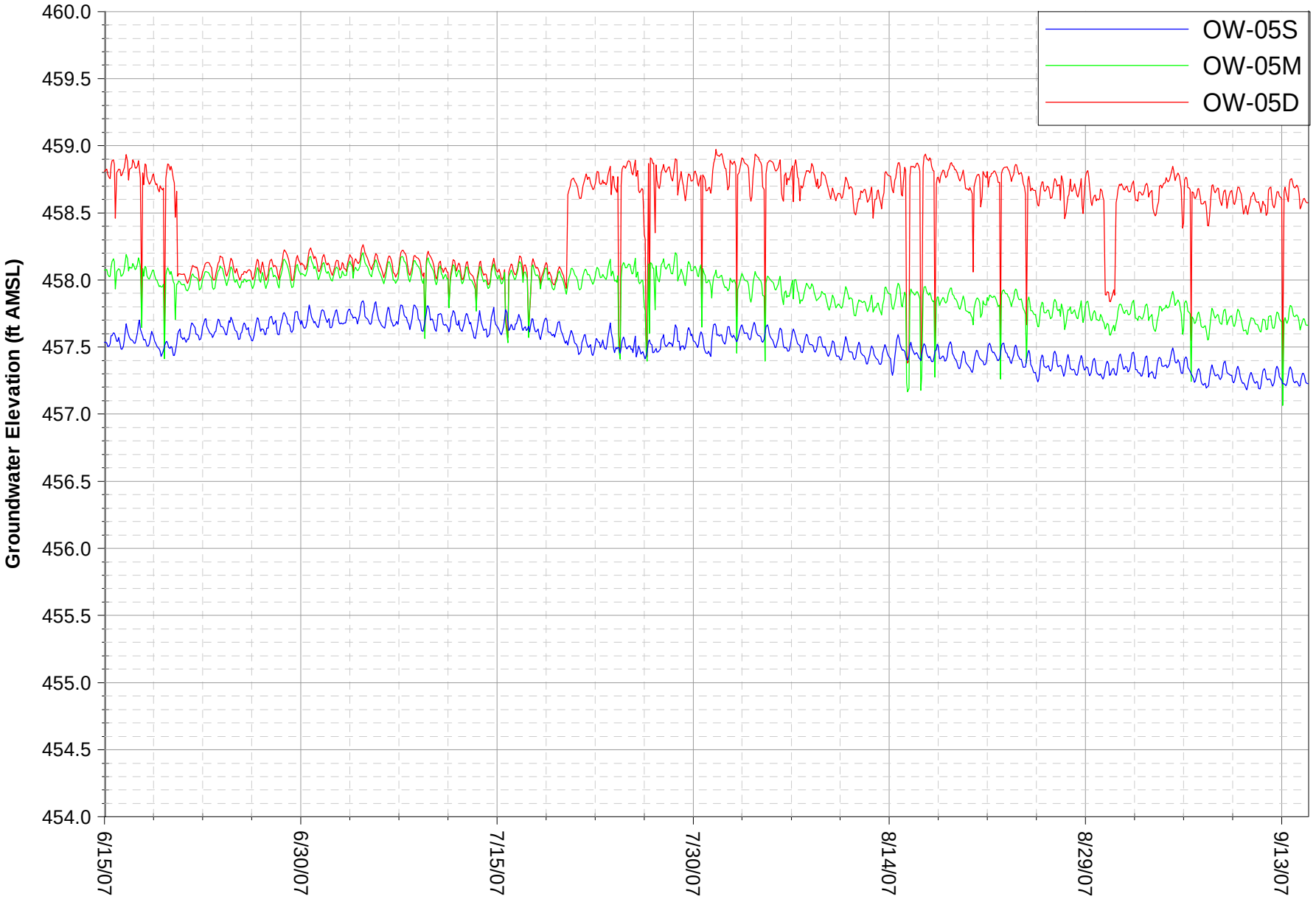

Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4C
OW-05 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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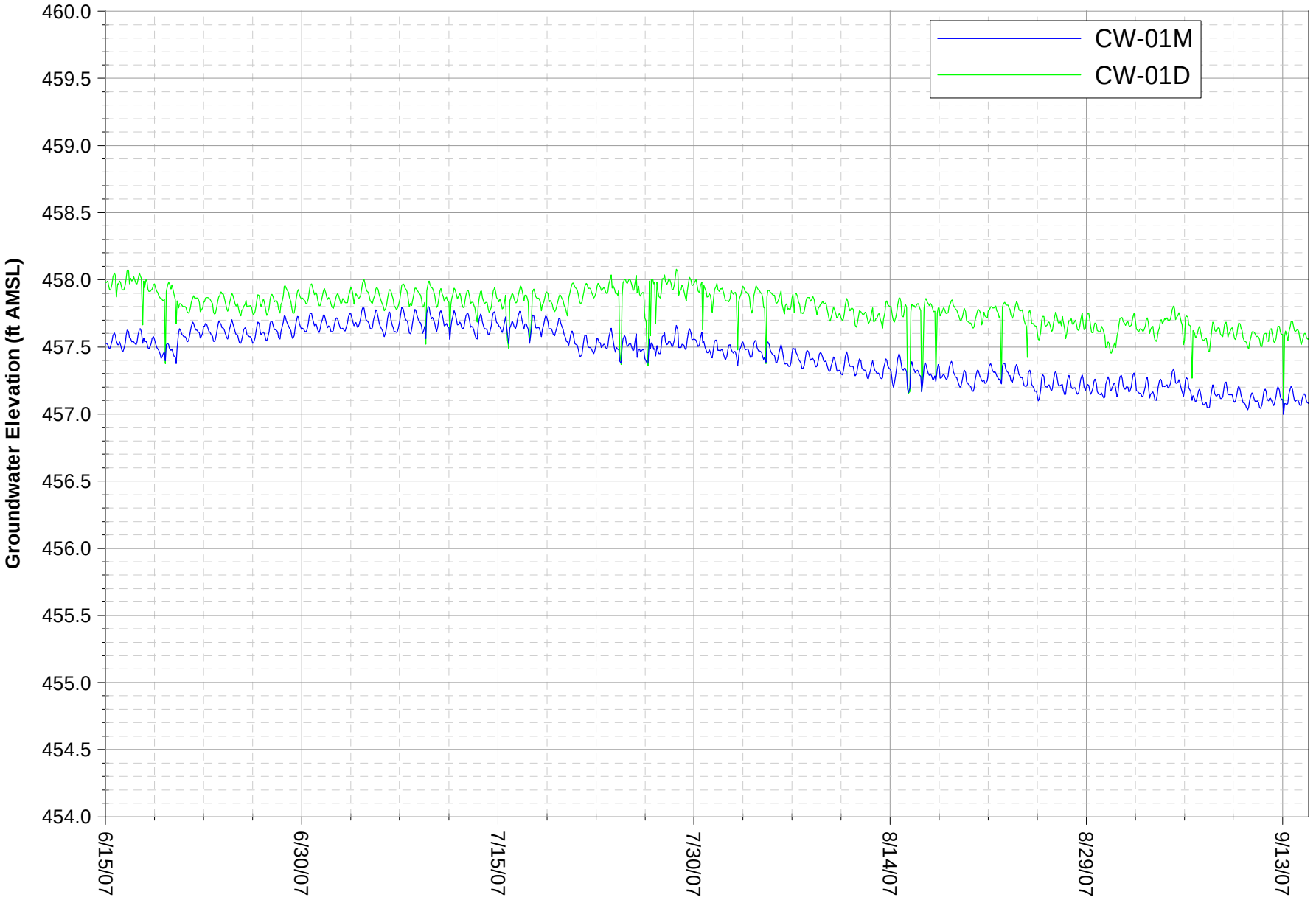

Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4D
CW-01 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4E
CW-02 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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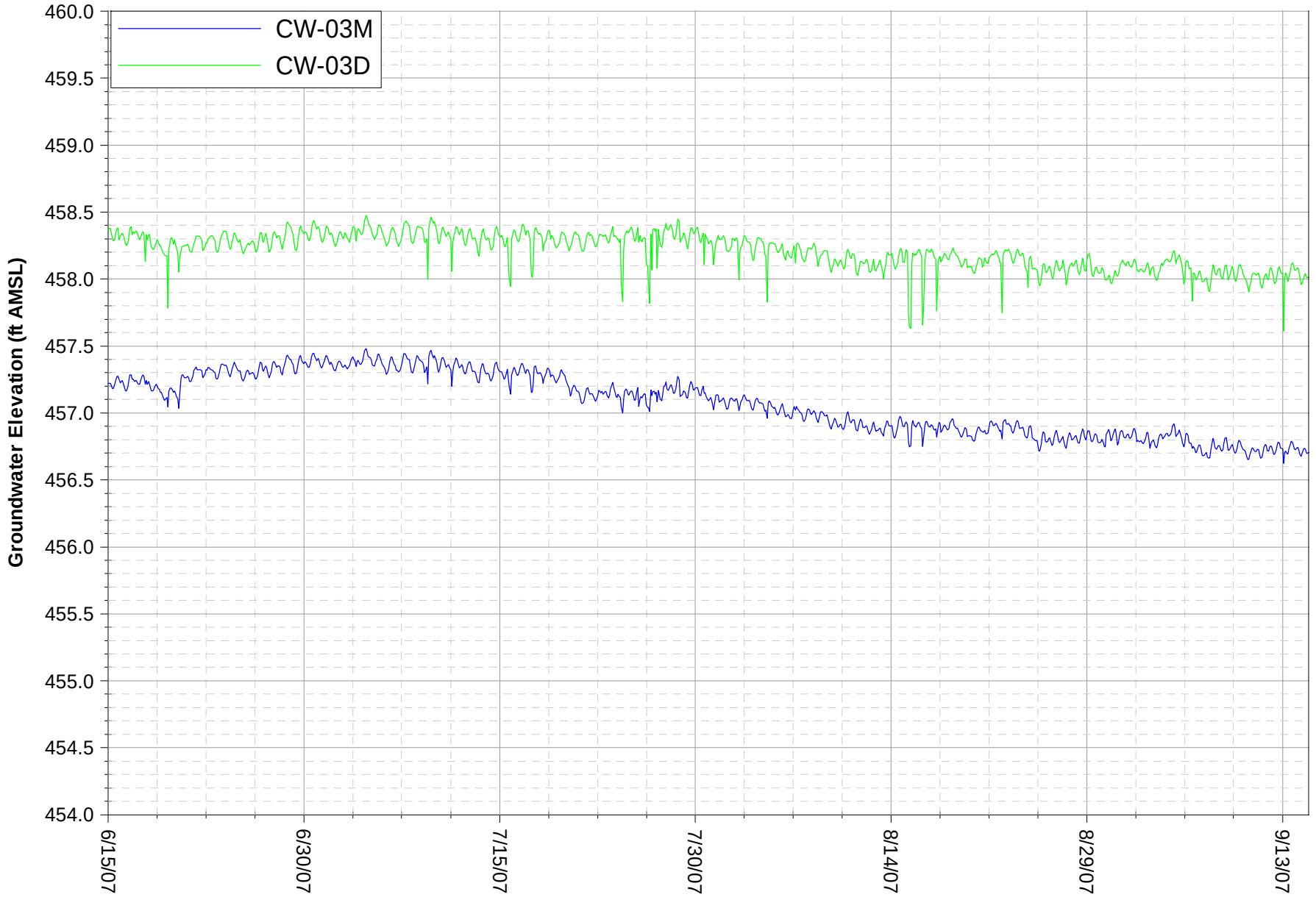

Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4F
CW-03 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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Note:
Data subject to review.
Injection in IW-2 occurred June 20 through July 20, 2007 and on August 30, 2007.
Injection in IW-3 occurred July 20 through August 30, 2007 and after August 31, 2007.

FIGURE 4G
CW-04 GROUNDWATER ELEVATION HYDROGRAPHS
IM-3 COMPLIANCE MONITORING PROGRAM
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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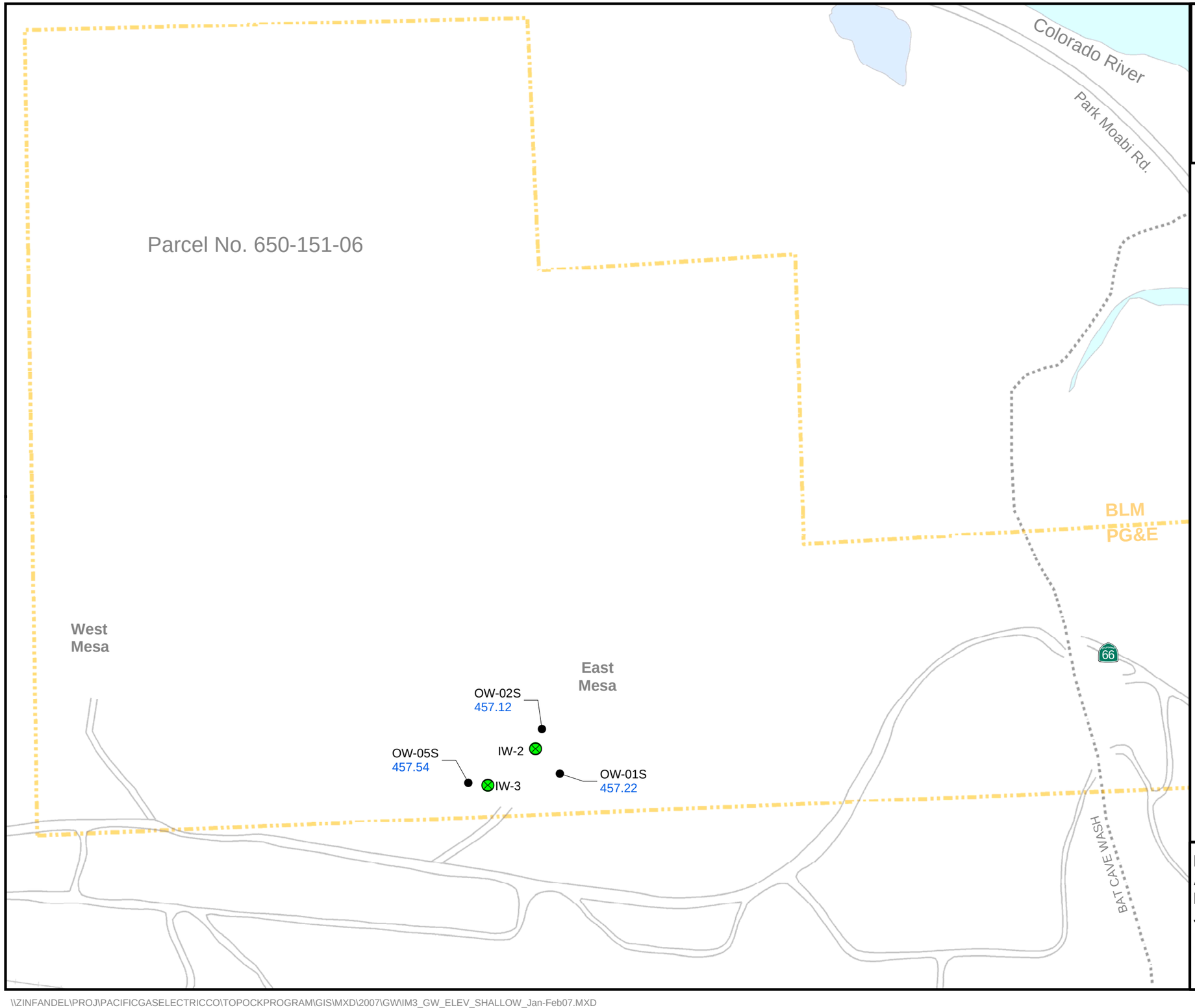

N

0 250 500 Feet

1 inch equals 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-02S** 454.75 — Salinity and temperature adjusted groundwater head elevation in feet above mean sea level (MSL)

Note: Average monthly groundwater elevations are calculated with pressure transducer data measured at 120 minute intervals.

FIGURE 5A
AVERAGE GROUNDWATER ELEVATIONS FOR SHALLOW WELLS JULY 15 THROUGH AUGUST 14, 2007

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

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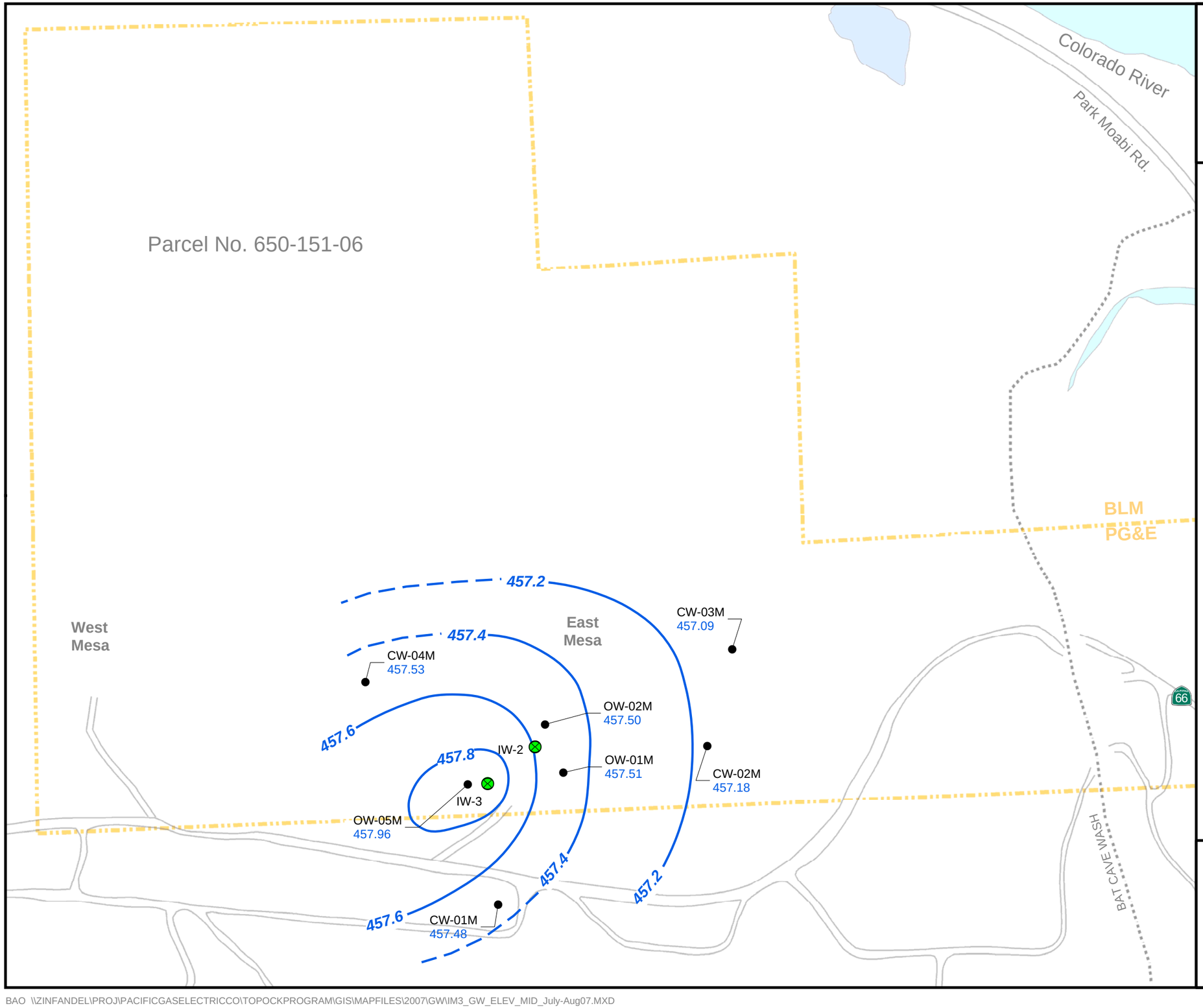

N

0 250 500 Feet

1 inch equals 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-02M** 454.75 — 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

Note: Average monthly groundwater elevations are calculated with pressure transducer data measured at 120 minute intervals.

FIGURE 5B
AVERAGE GROUNDWATER ELEVATION CONTOURS FOR MID-DEPTH WELLS JULY 15 THROUGH AUGUST 14, 2007

INTERIM MEASURES COMPLIANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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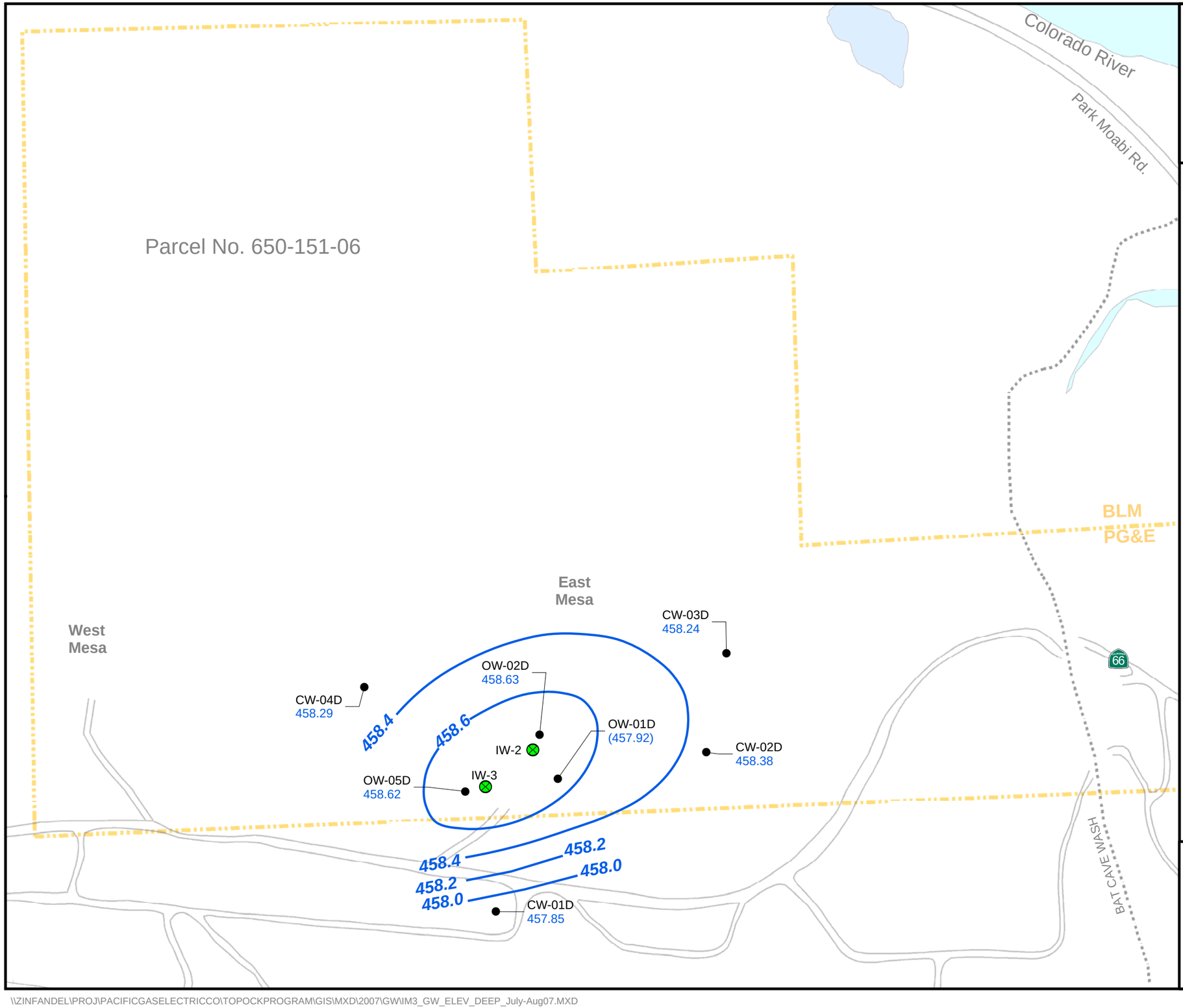

N

0 250 500 Feet

1 inch equals 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** 454.75 — 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

Notes:
Data posted and contoured from monthly average heads measured with tranducers at 120 minute intervals. (OW-1D) excluded from contouring.

FIGURE 5C
AVERAGE GROUNDWATER ELEVATION CONTOURS FOR DEEP WELLS JULY 15 THROUGH AUGUST 14, 2007

INTERIM MEASURES COMPLIANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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Appendix A
Laboratory Reports, Third Quarter 2007

Appendix B
Field Data Sheets, Third Quarter 2007