



July 20, 2007

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

Subject: Updates and Modifications to the PG&E's Topock Groundwater and Surface
Water Monitoring Program
PG&E Topock Compressor Station, Needles, California

Dear Mr. Yue:

This letter documents the updates and modifications to the Groundwater and Surface Water Monitoring Program (GMP) at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, as discussed during the meeting held July 10, 2007 between representatives of the California Department of Toxic Substances Control (DTSC) and PG&E. In addition, this letter transmits the additional information requested by DTSC at the July 10 meeting to support the modifications.

The updates and modifications to the Interim Measures Performance Monitoring Program (PMP) that were discussed at the July 10, 2007 meeting, as well as the additional information requested by DTSC not related to the updates below, will be documented in separate correspondence.

1. Modifications to Well Sampling Frequencies in the Groundwater Monitoring Program

Table 1 (attached) shows the current sampling frequency for each well at the PG&E Topock site as defined by DTSC (2006¹) and the revised sampling frequency discussed at the July 10, 2007 meeting. Figure 1 is a site map showing the updated sampling frequencies agreed to for each well. Table 1 also lists a summary of the reasons and rationale discussed in the July 10 meeting for supporting the new sampling frequencies.

The revised sampling frequencies will take effect upon DTSC approval of Table 1. The next bi-weekly sampling event is scheduled to occur the week of July 23rd; the next monthly sampling event is scheduled to occur the week of August 6th, 2007; and the next quarterly/semi-annual/annual sampling event is scheduled to occur the first week of October 2007.

2. Streamline the Reporting Frequency/Format for Future Topock GMP Reports

Beginning with the 2nd Quarter (May 2007 event) GMP report to be submitted to DTSC in late-August 2007, future GMP quarterly reports will be submitted in a letter format. The letter will provide a narrative of sampling activities during the quarter and will highlight noteworthy

¹ Letter from DTSC to PG&E, Modification of Groundwater and Shoreline Surface Water Sampling Frequencies at PG&E Topock Compressor Station, dated October 26, 2006.

results. Attachments will include tables of current and preceding quarter laboratory results, a figure showing current quarter laboratory results on a site map, and an electronic appendix of field sampling logs.

The annual GMP report format will remain unchanged. Only electronic copies of laboratory data packages will be submitted with annual reports. The next annual report, for 2007 GMP monitoring, will be submitted in early 2008.

In addition to the quarterly and annual reporting of analytical results in the GMP and PMP programs, PG&E will continue to provide a monthly email to DTSC transmitting chromium graphs for four near-river wells MW-34-100, MW-44-115, MW-44-125 and MW-46-175.

3. Discontinue the Analysis of Title 22 Metals at Groundwater Monitoring Wells in Future GMP Monitoring Events

Quarterly analyses for Title 22 metals have been ongoing at nine monitoring wells for more than two years of GMP sampling and a substantive metals data-set now exists for these wells (CH2M HILL 2007). The GMP modification agreed to by DTSC at the July 10, 2007 meeting is to continue quarterly sampling at two wells (MW-10 and MW-12) and discontinue the analysis for Title 22 metals at the remaining seven wells.

At the July 10, 2007 meeting, DTSC requested an electronic database report of all metals results in groundwater for all wells at the PG&E Topock site since monitoring began in 1997. This database report will be submitted to DTSC separately via e-mail by July 27, 2007.

The revised analytical program will take effect upon DTSC approval; the next quarterly sampling for metals is scheduled to occur the first week of October 2007.

4. Discontinue the Analysis of Hardness, Total Dissolved Solids (TDS,) and Total Suspended Solids (TSS) in Future Surface Water Monitoring Events

Analysis for hardness, total dissolved solids (TDS) and total suspended solids (TSS) has been ongoing in surface water sampling since July 2005. The GMP modification agreed to by DTSC on July 10, 2007 is to discontinue the analysis of these parameters in future surface water monitoring events. As documented in the 2006 Annual Groundwater Monitoring Report (CH2M HILL 2007²), data have been consistent for these analytes for the ten sampling events dating back to July 2005 and have adequately established water quality conditions in the river throughout various stages of the annual river cycle.

It is appropriate to discontinue hardness analyses since chromium has yet to be detected in surface water samples and sufficient hardness data has been collected that provides a reasonable understanding of the range of hardness concentrations over time. As a condition of DTSC's approval of the discontinuation of hardness analysis, additional hardness data will be collected in the future if Hexavalent chromium is detected in future surface water sampling events. The additional future hardness data will be used to more precisely define numeric water quality criteria in 40 Code of Federal Regulations §131.38 and Arizona Administrative Code R18-11-109.

² Groundwater and Surface Water Monitoring Report, Fourth Quarter 2006 and Annual Summary PG&E Topock Compressor Station, Needles, California. Prepared by CH2M HILL dated April 2, 2007.

TDS data have been collected at in-channel surface water monitoring stations to recognize potential discharges from the Topock plume or groundwater to the river (DTSC, 2007). It is appropriate to discontinue TDS analyses as existing TDS data do not exhibit critical information that could not be inferred from specific conductance (SC) analyses that will continue to be monitored during in-channel surface water monitoring events. As a condition of DTSC's approval of the discontinuation of TDS and TSS analysis, PG&E will continue to measure turbidity and specific conductance during future surface water sampling events.

The revised analytical program will take effect upon DTSC approval; the next in channel surface water sampling event is scheduled to occur with the October 2007 3rd Quarter GMP sampling event.

5. Wider Application of Cr(VI) Method 7196

Two methods are used for Cr(VI) analysis in the GMP. EPA Method 7196 is a colorimetric analysis that typically has a 10 µg/L reporting limit and EPA Method 7199 is a mass spectroscopy analysis that offers a lower detection limit and provides more analytical records/documentation in the event of possible matrix interferences. Currently, Method 7196 is used for analysis of samples from wells with Cr(VI) concentrations typically greater than 100 µg/L and Method 7199 is used for wells with Cr(VI) concentrations typically less than 100 µg/L.

The GMP modification agreed to by DTSC on July 10, 2007 is to analyze samples from wells with Cr(VI) concentrations typically greater than 20 µg/L by Method 7196, and to analyze samples from wells with Cr(VI) concentrations typically less than 20 µg/L by Method 7199. Two wells near the leading edge of the groundwater plume, MW-47-055 and TW-4, will be excluded from this change and will continue to have groundwater samples analyzed by Method 7199.

The wells that are affected by this change are MW-13, MW-14, MW-18, MW-31-060, MW-35-135, MW-36-090, MW-39-060, MW-39-070, MW-39-080, MW-40D, MW-46-175, and OW-3S.

The revised analytical program will take effect upon DTSC approval; the next sampling event involving the affected wells is the monthly floodplain sampling scheduled to occur the week of August 6, 2007.

6. Discontinue Lab Analysis of pH and Specific Conductivity.

The water quality parameters pH and specific conductance (SC) have been measured in groundwater and surface water in the GMP since 1997, both as field data while purging before sample collection, and as laboratory parameters.

The GMP modification agreed to by DTSC on July 10, 2007 is to discontinue the lab analyses for pH and SC in future groundwater sampling. The attached plot (Figure 2) shows the close correlation between lab and field SC results from GMP groundwater and shoreline surface water samples from 2005 – 2007. pH and SC will continue to be collected as field measurements in future groundwater sampling events. The field measurement equipment is calibrated daily and maintenance is overseen by the on-site field coordinator. Field measurements for pH and SC are kept in the field database and reported with sampling logs accompanying each monitoring report.

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The discontinuation of laboratory analysis for pH and SC does not apply to future surface water sampling. DTSC has requested that future surface water samples continue to be analyzed for pH and SC by both laboratory and field measurements.

7. Modify the Frequency for Groundwater 'Snapshot' Water Level Measurement and Map in Future GMP Reports.

Quarterly GMP reports since 2005 have included a 'snapshot' or synoptic shallow water table elevation map. The snapshot map is prepared primarily from manual water level measurements collected over a short time frame (several hours) and is supplemented at additional wells with transducer water level data.

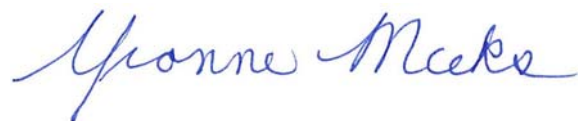
Based on the overall consistency in water table elevation maps between 2005 and 2007, the GMP modification agreed to by DTSC on July 10 is to reduce the frequency of the shallow water level measurement and map activity from quarterly to annually. Field measurements necessary for preparation of the 'snapshot' water level map for shallow groundwater will be collected in the winter quarter, and the map will be presented with the annual GMP report.

8. Incorporate slant wells (MW-52 and MW-53) into GMP monitoring program. Incorporate vertical and slant wells in Arizona into GMP after installation.

Slant wells MW-52 and MW-53 were installed along the California shore in spring 2007. The initial sampling of those wells is on a monthly basis for 6 events. The GMP modification agreed to by DTSC on July 10, 2007 is to modify the sampling frequency to a quarterly basis after the initial 6 monthly events. The revised sampling frequency at slant wells MW-52 and MW-53 will take effect upon DTSC approval; the sixth monthly sampling event is scheduled for early September 2007. The sampling frequency will be re-assessed after one year of quarterly sampling.

Thank you for your participation at the July 10, 2007 meeting and your agreement to these modifications to the GMP. Based upon discussions at the meeting, DTSC concurrence is expected by July 31, 2007 and the 2nd Quarter 2007 GMP report will be submitted in the revised format by the end of August 2007. Please call me at (805) 234-2257 if you have any questions or would like additional information.

Sincerely,



Enclosure

cc: Chris Guerre/DTSC
Karen Baker/DTSC
Kevin Sullivan/P&G&E

TABLE 1
Recommended Groundwater Sampling Frequency Modifications - DTSC/PG&E July 10, 2007 Meeting
PG&E Topock Groundwater Monitoring Programs: Site-wide GMP and Interim Measures IMCP and CMP

Well ID	Monitoring Interval	Monitoring Program ^a	Current Sampling Frequency	New Sampling Frequency	Reasons for Modification ^b	Additional Remarks
CW-01D	Lower	IM3 CMP	Semiannual	<i>no change</i>		
CW-01M	Mid	IM3 CMP	Semiannual	<i>no change</i>		
CW-02D	Lower	IM3 CMP	Semiannual	<i>no change</i>		
CW-02M	Mid	IM3 CMP	Semiannual	<i>no change</i>		
CW-03D	Lower	IM3 CMP	Semiannual	<i>no change</i>		
CW-03M	Mid	IM3 CMP	Semiannual	<i>no change</i>		
CW-04D	Lower	IM3 CMP	Semiannual	<i>no change</i>		
CW-04M	Mid	IM3 CMP	Semiannual	<i>no change</i>		
MW-09	Upper	GMP	Annual	<i>no change</i>		
MW-10	Upper	GMP	Quarterly	Semiannual	(4)	
MW-11	Upper	GMP	Annual	<i>no change</i>		
MW-12	Upper	GMP	Quarterly	<i>no change</i>		
MW-13	Upper	GMP	Semiannual	Annual	(2) and (9)	
MW-14	Upper	GMP	Semiannual	Annual	(2) and (9)	
MW-15	Upper	GMP	Biennial	<i>no change</i>		
MW-16	Upper	GMP	Biennial	<i>no change</i>		
MW-17	Upper	GMP	Biennial	<i>no change</i>		
MW-18	Upper	GMP	Semiannual	<i>no change</i>		
MW-19	Upper	GMP	Quarterly	Annual	(4) and (9)	
MW-20-070	Upper	GMP	Quarterly	Semiannual	(4) and (9)	vertical profile monitoring location
MW-20-100	Mid	GMP	Quarterly	Semiannual	(4)	vertical profile monitoring location
MW-20-130	Lower	GMP	Quarterly	Semiannual	(4)	vertical profile monitoring location
MW-21	Upper	GMP-IMCP	Quarterly	<i>no change</i>		
MW-22	Upper	GMP	Semiannual	<i>no change</i>		
MW-23	Bedrock	GMP	Quarterly	<i>no change</i>		
MW-24A	Upper	GMP	Quarterly	Semiannual	(4)	schedule after Uplands In-Situ testing
MW-24B	Lower	GMP	Quarterly	Semiannual	(4)	schedule after Uplands In-Situ testing
MW-24BR	Bedrock	GMP	Quarterly	<i>no change</i>		
MW-25	Upper	GMP	Semiannual	Annual	(4) and (9)	
MW-26	Upper	GMP	Semiannual	<i>no change</i>		
MW-27-020	Upper	GMP	Annual	<i>no change</i>		
MW-27-060	Mid	GMP	Annual	<i>no change</i>		
MW-27-085	Lower	GMP-IMCP	Monthly	Quarterly	(1) and (9)	
MW-28-025	Upper	GMP	Annual	<i>no change</i>		
MW-28-090	Lower	GMP-IMCP	Quarterly	<i>no change</i>		
MW-29	Upper	GMP	Annual	<i>no change</i>		
MW-30-030	Upper	GMP	Biennial	<i>no change</i>		
MW-30-050	Mid	GMP	not sampled	<i>no change</i>		removed from GMP sampling (DTSC Oct-06)
MW-31-060	Upper	GMP	Semiannual	Annual	(4) and (9)	
MW-31-135	Lower	GMP	Semiannual	Annual	(4) and (9)	
MW-32-020	Upper	GMP-IMCP	Quarterly	Annual	(3), (5), (9)	
MW-32-035	Upper	GMP-IMCP	Quarterly	Annual	(3) and (9)	
MW-33-040	Upper	GMP-IMCP	Quarterly	<i>no change</i>		
MW-33-090	Mid	GMP-IMCP	Quarterly	<i>no change</i>		
MW-33-150	Lower	GMP-IMCP	Quarterly	<i>no change</i>		

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Well ID	Monitoring Interval	Monitoring Program ^a	Current Sampling Frequency	New Sampling Frequency	Reasons for Modification ^b	Additional Remarks
MW-33-210	Lower	GMP-IMCP	Quarterly	<i>no change</i>		
MW-34-055	Mid	GMP	Annual	<i>no change</i>		
MW-34-080	Lower	GMP-IMCP	Monthly	<i>no change</i>		
MW-34-100	Lower	GMP-IMCP	Biweekly	Monthly	(1), (4), (9)	well-characterized location
MW-35-060	Upper	GMP	Semiannual	<i>no change</i>		
MW-35-135	Lower	GMP	Semiannual	Annual	(9)	
MW-36-020	Upper	GMP	Annual	Biennial	(3), (8), (9)	
MW-36-040	Upper	GMP	Annual	Biennial	(3), (8), (9)	
MW-36-050	Mid	GMP	Annual	Biennial	(3), (8), (9)	
MW-36-070	Mid	GMP-IMCP	Quarterly	Annual	(3), (8), (9)	
MW-36-090	Lower	GMP	Monthly	Semiannual	(2), (8), (9)	defines vertical plume limits on floodplain
MW-36-100	Lower	GMP	Monthly	Semiannual	(4), (8), (9)	key well for monitoring trend near PE-1
MW-37D	Lower	GMP	Quarterly	Annual	(4) and (9)	
MW-37S	Mid	GMP	Semiannual	Annual	(2) and (9)	
MW-38D	Lower	GMP	Annual	<i>no change</i>		
MW-38S	Upper	GMP	Annual	<i>no change</i>		
MW-39-040	Upper	GMP-IMCP	Quarterly	Biennial	(3), (5), (8), (9)	
MW-39-050	Mid	GMP	Annual	<i>no change</i>		
MW-39-060	Mid	GMP	Annual	<i>no change</i>		
MW-39-070	Mid	GMP	Quarterly	Annual	(2), (8), (9)	defines vertical plume limits on floodplain
MW-39-080	Lower	GMP	Monthly	Semiannual	(4), (8), (9)	well for monitoring trend near TW-3D
MW-39-100	Lower	GMP	Monthly	Semiannual	(4), (8), (9)	well for monitoring trend near TW-3D
MW-40D	Lower	GMP	Quarterly	Semiannual	(2) and (9)	Access challenges; on I-40 median
MW-40S	Upper	GMP	Annual	Biennial	(3) and (9)	Access challenges; on I-40 median
MW-41D	Lower	GMP	Semiannual	<i>no change</i>		deep well defines northern limit of plume
MW-41M	Mid	GMP	Semiannual	Annual	(3) and (9)	
MW-41S	Upper	GMP	Semiannual	<i>no change</i>		shallow well downgradient of IM3 injection
MW-42-030	Upper	GMP	Semiannual	Biennial	(3), (5), (9)	
MW-42-055	Mid	GMP-IMCP	Quarterly	<i>no change</i>	(3), (8), (9)	
MW-42-065	Mid	GMP-IMCP	Quarterly	<i>no change</i>	(3), (8), (9)	
MW-43-025	Upper	GMP	Semiannual	Annual	(1), (3), (9)	
MW-43-075	Lower	GMP-IMCP	Quarterly	Annual	(1), (3), (9)	
MW-43-090	Lower	GMP-IMCP	Quarterly	Annual	(1), (3), (9)	
MW-44-070	Mid	GMP-IMCP	Quarterly	<i>no change</i>		
MW-44-115	Lower	GMP-IMCP	Monthly	<i>no change</i>		
MW-44-125	Lower	GMP-IMCP	Monthly	<i>no change</i>		
MW-45-095	Lower	GMP	not sampled	<i>no change</i>		removed from GMP sampling (DTSC Oct-06)
MW-46-175	Lower	GMP-IMCP	Monthly	<i>no change</i>		
MW-46-205	Lower	GMP-IMCP	Quarterly	<i>no change</i>		
MW-47-055	Upper	GMP-IMCP	Quarterly	<i>no change</i>		
MW-47-115	Lower	GMP-IMCP	Quarterly	<i>no change</i>		
MW-48	Bedrock	GMP	Quarterly	<i>no change</i>		
MW-49-135	Lower	GMP	Quarterly	Semiannual	(1) and (3)	
MW-49-275	Lower	GMP	Quarterly	Semiannual	(1) and (3)	
MW-49-365	Lower	GMP	Quarterly	Semiannual	(1) and (3)	

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MW-50-095	Mid	GMP	Quarterly	<i>no change</i>		
MW-50-200	Lower	GMP	Quarterly	<i>no change</i>		
MW-51	Mid	GMP	Quarterly	<i>no change</i>		
OW-01D	Lower	IM3 CMP	Quarterly	<i>no change</i>		Current frequency corrected from working table
OW-01M	Mid	IM3 CMP	Quarterly	<i>no change</i>		
OW-01S	Upper	IM3 CMP	Quarterly	<i>no change</i>		
OW-02D	Lower	IM3 CMP	Quarterly	<i>no change</i>		Current frequency corrected from working table
OW-02M	Mid	IM3 CMP	Quarterly	<i>no change</i>		
OW-02S	Upper	IM3 CMP	Quarterly	<i>no change</i>		
OW-03D	Lower	GMP	Semiannual	Biennial	(6) and (9)	Change made based on review of meeting notes
OW-03M	Mid	GMP	Semiannual	Biennial	(6) and (9)	Current frequency corrected from working table
OW-03S	Upper	GMP	Semiannual	Biennial	(6) and (9)	Change made based on review of meeting notes
OW-05D	Lower	IM3 CMP	Quarterly	<i>no change</i>		Current frequency corrected from working table
OW-05M	Mid	IM3 CMP	Quarterly	<i>no change</i>		
OW-05S	Upper	IM3 CMP	Quarterly	<i>no change</i>		
PE-01	Lower	IM3 Extraction	Monthly	<i>no change</i>		active extraction well
PGE-07	Lower-Bedrock	GMP	Biennial	<i>no change</i>		MAROS analysis did not address bedrock wells
PGE-08	Bedrock	GMP	Biennial	<i>no change</i>		MAROS analysis did not address bedrock wells
TW-01	Upper	GMP	Biennial	<i>no change</i>		
TW-02D	Lower	IM3 Extraction	Annual	<i>no change</i>		standby extraction well
TW-02S	Upper	IM3 Extraction	Annual	<i>no change</i>		standby extraction well
TW-03D	Lower	IM3 Extraction	Monthly	<i>no change</i>		active extraction well
TW-04	Lower	GMP	Semiannual	Quarterly	(2)	
TW-05	Lower	GMP	Annual	<i>no change</i>		
Park Moabi 3	Mid	GMP	Biennial	Annual	(7)	active supply well
Park Moabi 4	Mid	GMP	Biennial	Annual	(7)	backup supply well

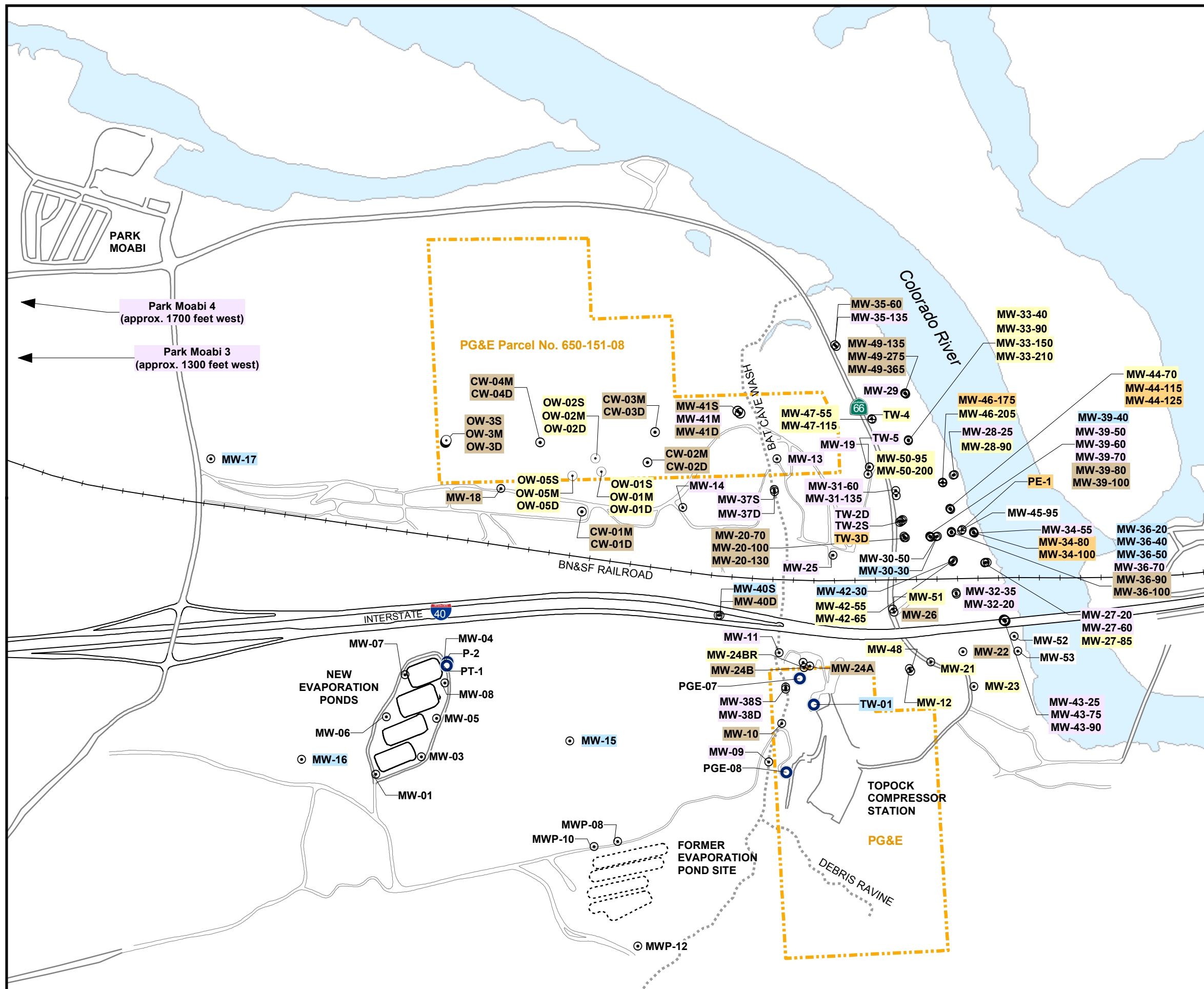
NOTES:

^a **Current Monitoring Programs** (sampling for site COCs or WDR-required parameters):
 Groundwater Monitoring Program (GMP), IM Performance Monitoring Contingency Plan (IMCP), IM Compliance Monitoring Program (IM3 CMP)

^b **Reasons/Rationale for Modifying Sampling Frequency** (discussed with DTSC July 10, 2007 meeting):

- (1) Monitoring location adjacent to Colorado River
- (2) Plume fringe monitoring location used for defining Cr(VI) 50 ug/L contour line; trend established
- (3) Well has been consistently non-detect for Cr(VI), or has a well-established, stable Cr(VI) trend
- (4) Within-plume location with long sampling history; continued monitoring of long-term trends warranted
- (5) Monitoring well near other well(s) which provide comparable data (monitoring redundancy)
- (6) Background water quality monitoring
- (7) Nearest drinking water supply well
- (8) Frequency based on screen depths, reducing zone, and plume depth at nested well location
- (9) Reduced sampling frequency supported by MAROS analysis of current data trends

Bold red font indicates sampling frequency changes selected by DTSC in July 10, 2007 meeting.



LEGEND

- ⊙ Groundwater Monitoring Well
- ⊙ Test Well or Supply Well (Inactive)
- ⊕ Extraction Well
- PG&E Property Boundary

Recommended Sampling Frequency for Groundwater Monitoring Program (GMP) - July 10, 2007 meeting

- ⊙ PGE-08 Biennial Sampling
- ⊙ MW-09 Annual Sampling
- ⊙ MW-25 Semi-Annual Sampling
- ⊙ MW-10 Quarterly Sampling
- ⊙ MW-39-100 Monthly Sampling
- ⊙ PGE-06 Not Sampled or To Be Determined

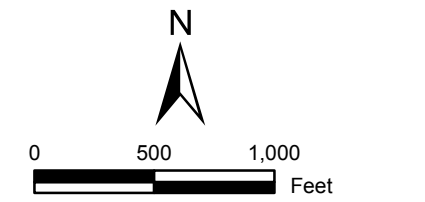


FIGURE 1 Draft: 7/16/07
RECOMMENDED GROUNDWATER SAMPLING FREQUENCY MODIFICATIONS, JULY 2007
 GROUNDWATER AND SURFACE WATER MONITORING PROGRAM
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA

Figure 2 - Topock GMP Lab vs Field SC

