Topock Project Executive Abstract

Document Title: Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Submitting Agency/Authored by: PG&E

Final Document? ☐ Yes ☒ No

Date of Document: January 15, 2009

Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)

PG&E

Priority Status: ☐ HIGH ☐ MED ☒ LOW
Is this time critical? ☐ Yes ☒ No

Action Required:
☒ Information Only ☐ Review & Comment
Return to: _____

By Date:_____
☐ Other / Explain:

Type of Document:
☐ Draft ☒ Report ☐ Letter ☐ Memo

☐ Other / Explain:

What does this information pertain to?
☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)
☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)
☐ Corrective Measures Study (CMS)/Feasibility Study (FS)
☐ Corrective Measures Implementation (CMI)/Remedial Action
☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)
☐ Interim Measures
☒ Other / Explain: Regional Water Quality Control Board (RWQCB)

Is this a Regulatory Requirement?
☐ Yes
☒ No
If no, why is the document needed?

What is the consequence of NOT doing this item? What is the consequence of DOING this item? Not performing this monitoring would result in the loss of valuable data on the longer term performance of the floodplain in situ pilot test.

Other Justification/s:
☐ Permit ☐ Other / Explain:

Brief Summary of attached document:
The report summarizes the activities conducted during the fourth Quarter 2009 for the Upland In-Situ Pilot Test. The report presents data collected since the last report was submitted.

Written by: ARCADIS on behalf of PG&E

Recommendations: None

How is this information related to the Final Remedy or Regulatory Requirements: The report provides the results of ongoing monitoring at the site of the Uplands in situ pilot study. The results of the pilot test will be used in the evaluation of in situ remedies as a potential component of the final groundwater remedy.

Other requirements of this information?
None.

Pacific Gas and Electric Company

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January 15, 2010

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

Subject: PG&E Topock Compressor Station, Needles, California
Upland In-Situ Pilot Test
Fourth Quarter 2009 Monitoring Report
(Rescinded Board Order R7-2007-0015)

Dear Mr. Perdue:

Enclosed is the Fourth Quarter 2009 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Upland reductive zone in situ pilot test. Although the Waste Discharge Requirement (WDR) issued by the Colorado River Basin Regional Water Quality Control Board (Water Board) under Board Order R7-2007-0015 was rescinded in May 2009, PG&E is continuing to monitor the test area and is providing this report for your information.

If you have any questions regarding this report, please call me at (805) 234-2257.

Sincerely,

Yvonne Meeks
Topock Project Manager

Enclosures:
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In Situ Pilot Test.

cc: Cliff Raley, Water Board
Robert Perdue, CA RWQCB
Aaron Yue, DTSC (2 copies)

Pacific Gas and Electric Company

Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

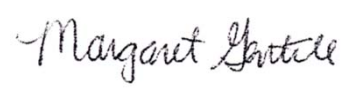
PG&E Topock Compressor Station
San Bernardino County, California

15 January 2010

ARCADIS

This report was prepared under the supervision of a California licensed Professional Geologist (PG)

Janis Lutrick
Senior Scientist



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Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

PG&E Topock Compressor Station
San Bernardino County, California

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Calscience	Calscience Environmental Laboratories, Inc.
gpm	Gallons per minute
ISPT	In-Situ Pilot Test
µg/L	Micrograms per liter
mg/L	Milligrams per liter
MRP	Monitoring and Reporting Program
OZARK	Ozark Underground Laboratories, Inc.
PG&E	Pacific Gas and Electric Company
SAFPM	*Sampling, Analysis, and Field Procedures Manual, PG&E Topock Program, Revision 1*
S/M/D	Shallow/Middle/Deep
TOC	Total Organic Carbon
Truesdail	Truesdail Laboratories
USEPA	United States Environmental Protection Agency

Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
Work Plan	*In-Situ Hexavalent Chromium Reduction Pilot Test Plan – Upland Plume Treatment* (September 2006)

ARCADIS

Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

PG&E Topock Compressor Station
San Bernardino County, California

1.0 Introduction

Pacific Gas and Electric Company (PG&E) implemented an Upland reductive zone in-situ pilot test (ISPT) to address chromium concentrations in groundwater at the Topock Compressor Station (the Site) near Needles, California. The purpose of the Upland ISPT was to evaluate the efficacy of using a reagent mixture to remove hexavalent chromium from groundwater using chemical reduction to form stable, insoluble trivalent chromium. The Upland ISPT consisted of the recirculation of the reagent mixture between the two recirculation wells (PTR-1 and PTR-2) and monitoring the results in surrounding groundwater monitoring wells (PT-7 Shallow/Middle/Deep [S/M/D] through PT-9S/M/D, MW-11, MW-24A/B, and MW-38S/D). Figure 1 provides a map of the PG&E Topock Compressor Station and ISPT area (all figures are provided at the end of the report).

California Regional Water Quality Control Board, Colorado River Basin Region (Water Board), Order No. R7-2007-0015 authorized PG&E to inject a total of approximately 38,000 gallons of reagent through the duration of the test. An automated reagent dosing system metered the reagent injections at regular intervals during each day of the pilot test. The pilot test concluded activities on December 3, 2008, at the end of the nine month period allowed in Order No. R7-2007-0015.

The Monitoring and Reporting Program (MRP) under Order No. R7-2008-0015 required a final report to be submitted within 90 days of the completion of the ISPT. The *Upland Reductive Zone In-Situ Pilot Test, Final Completion Report* (ARCADIS 2009a) was submitted on March 3, 2009 and summarizes the activities and results related to the Upland ISPT from March 2008 through December 3, 2008.

The Monitoring and Reporting Program (MRP) under Order No. R7-2007-0015 required monthly monitoring reports to be submitted by the 15th day of the following month. A letter requesting the Order be rescinded was submitted to the Water Board on March 20, 2009 (Appendix A). The rescission was approved on May 21, 2009. While active injection and operation of the in situ pilot test has ceased, ARCADIS took monitoring samples from the Upland ISPT area during the fourth quarter of 2009 in order to document ongoing conditions at the site. This report describes monitoring activities related to the Upland ISPT for the fourth quarter 2009 (October through December).

2.0 In-Situ Pilot Test Sampling Locations

Table 1 summarizes the well construction details for the recirculation wells (PTR-1 and PTR-2) and monitoring wells (PT-7S/M/D through PT-9S/M/D, MW-11, MW-24A/B, and MW-38S/D). Figure 2 provides a map of the sampling locations. Figure 3 presents the well construction and cross section information for the monitoring wells sampled in the Upland ISPT. The sampling list was optimized after the Water Board Order was rescinded in May 2009; the list was reduced to the following wells: PT-7S/M/D through PT-9S/M/D, MW-24A, and MW-38S/D.

3.0 Description of Activities

The fourth quarter 2009 sampling event was conducted October 27 through 29, 2009. The sampling event was performed in accordance with the applicable procedures contained within the *Sampling, Analysis, and Field Procedures Manual, PG&E Topock Program, Revision 1 (*"SAFPM") (CH2M Hill, 2005). The new data included in this report is from the fourth quarter sampling event of 2009.

Samples were collected, labeled, and packaged according to the SAFPM, as summarized in Section 4.0. Table 2 presents the field parameter results. Tables 3 and 4 present the groundwater analytical results, including historical data from July 2007 to present. Calibration logs for field-monitoring instruments are included in Appendix B. Groundwater sampling logs are included in Appendix C.

With the rescission of the Waste Discharge Requirements for the pilot test, the groundwater analytical suite was reduced to the following parameters: total dissolved chromium, hexavalent chromium, fluorescein, rhodamine, nitrate, sulfate, dissolved iron, dissolved manganese, dissolved arsenic, dissolved molybdenum, dissolved selenium, total organic carbon, and bicarbonate alkalinity. In the fourth quarter, samples were also analyzed for barium and fluoride.

4.0 Sampling and Analytical Procedures

4.1 Groundwater Sampling

Groundwater sampling and associated tasks were performed in accordance with the applicable procedures contained in the SAFPM (CH2M Hill, 2005) and as summarized below.

Monitoring wells were purged and sampled. Prior to groundwater sampling, the depth to water was recorded for each well. These data were used to evaluate the volume of standing water in the well. The monitoring wells were purged using a WaTerra® purge pump with dedicated polyethylene tubing. Purging continued until three casing volumes had been removed. The field parameters, such as pH, specific conductance, and temperature were recorded (Table 2). After completion of purging, the groundwater samples were collected in the appropriate containers.

The samples were stored in coolers at 4 degrees Celsius and transported to Truesdail, Calscience, and Ozark via a courier service under chain-of-custody documentation. Truesdail and Calscience are certified by the California Department of Health Services (Certification #1237 and #1230, respectively) under the State of California's Environmental Laboratory Accreditation Program.

Analyses were performed in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136), or equivalent methods promulgated by the USEPA.

Sample results are summarized in Tables 3 and 4. Calibration logs for field-monitoring instruments are presented in Appendix B. Sampling logs are presented in Appendix C. Copies of laboratory analytical results are presented on compact disc in Appendix D.

Table 5 identifies the laboratory that performed each analysis and lists the following required monitoring information:

- Sample Location
- Sample identification
- Sampler name

- Sample date
- Sample time
- Laboratory performing the analysis
- Analysis method
- Analysis date
- Laboratory technician

Monitoring wells PT-7M and PT-7D were sampled during the fourth quarter 2009 groundwater sampling event. Higher doses of carbon in the vicinity of these wells resulted in the temporary generation of carbon dioxide gas beyond the ability of the aquifer to diffuse the gas naturally. Resulting elevated levels of gas in the well casing prevented the wells from being effectively purged during the first quarter 2009 event. Although elevated levels of gas were again present in each well during the fourth quarter 2009 event, grab samples were able to be retrieved and analyzed.

Groundwater samples from the sampling events were analyzed for hexavalent chromium (United States Environmental Protection Agency [USEPA] Method 218.6 SM 2500-Cr) and total dissolved chromium (USEPA Method SW 6020) by Truesdail Laboratories (Truesdail); dissolved arsenic, dissolved barium, dissolved manganese, dissolved molybdenum, dissolved selenium, and dissolved iron (USEPA 200.8), sulfate and nitrate (USEPA 300), alkalinity bicarbonate (USEPA Method 2320B), total organic carbon (TOC) (USEPA Method 5310B), and fluoride (USEPA SM 4500F) by Calscience Environmental Laboratories, Inc. (Calscience); and for fluorescein and rhodamine WT by Ozark Underground Laboratories, Inc. (fluorescence spectroscopy according to Ozark standard operating procedures). Hexavalent chromium was also analyzed in the field at the Interim Measures 3 facility using HACH Method 8023 - program 1560.

5.0 Analytical Results

5.1 Groundwater Analytical Results

Summaries of the field test parameters, primary parameters, and secondary parameters are presented in Tables 2, 3, and 4, respectively.

Ten months after the pilot test ended, results from the October 2009 sampling event indicate:

- Hexavalent chromium continues to be reduced to non-detect levels at PT-7M, PT-7D, PT-8S, and MW-24A. Organic carbon was effectively delivered and organic carbon distribution was sustained during the pilot test at these locations. Complete chromium reduction was sustained at PT-8S and MW-24A, despite the return toward baseline conditions at these locations with respect to total organic carbon (TOC), dissolved manganese, dissolved iron, dissolved arsenic, and sulfate concentrations following the pilot test.

- Complete chromium reduction was also sustained at PT-7M and PT-7D. In these locations, groundwater parameters affected by the pilot test fluctuated in the fourth quarter, as indicated by changes in TOC, dissolved manganese, dissolved iron, dissolved arsenic, and sulfate concentrations. These changes likely were caused by reduced groundwater that was created by the injection of organic carbon in earlier phases of the pilot test. This groundwater that was upgradient of the monitoring wells appears to now be present in these locations.

- In locations where less TOC was distributed during pilot test operations, chromium concentrations increased or remained relatively stable in October 2009, but remained below baseline (pre-study) levels: 770 µg/L compared to baseline concentration of 1,200 µg/L in PT-7S and 1,760 µg/L compared to baseline concentration of 6,540 µg/L in PT-8D).

- Arrival of treated groundwater downgradient of the recirculation system was first evident at PT-9S (approximately 115 feet downgradient) in October 2008, when hexavalent chromium concentrations began decreasing. Treated groundwater continued to arrive at this location through May 2009 as hexavalent chromium concentrations remained below baseline concentrations and tracer and TOC concentrations increased. However, hexavalent

chromium concentrations returned to levels comparable to baseline conditions at PT-9S in August 2009 and remained at these levels in October 2009.

- IRZ treated water continues to arrive at well PT-8M, with decreasing Cr (VI) concentrations post-ISPT operation and increasing concentrations of dissolved iron and manganese. Presumably, the water passing through this location was distributed upgradient during the pilot test operation.

With the use of in-situ technology, the creation of the desired reducing environment may cause temporary solubilization and mobilization of reducible metals that naturally reside in the aquifer matrix, such as manganese, iron, and arsenic. The post-test manganese, iron and arsenic concentrations demonstrate the attenuation of these metals over time after the disappearance of injected organic carbon from the system. In particular, arsenic concentrations decreased rapidly as organic carbon concentrations decreased in PT-7S, PT-7M, PT-8S, and MW-24A following the end of pilot test injections. In the fourth quarter 2009, arsenic concentrations in all pilot test wells sampled had returned to baseline concentrations and were less than 10 μg/L, the maximum contaminant level for arsenic. Similarly, dissolved manganese and dissolved iron concentrations continued to decrease or remain comparable to baseline at PT-7S, and PT-8S, while concentrations fluctuated at PT-7M, PT-7D, and MW-24A.

In the fourth quarter, fluoride was sampled for the second time since the pilot began and concentrations were again consistent with historical concentrations in the area.

Barium concentrations ranged from 26.1 to 156 ug/L in the baseline sampling event (Table 6). In the fourth quarter 2009, barium concentrations in four locations (PT-7M, PT-7D, PT-8M, and MW-24A) were higher than baseline, ranging from 122 to 1,140 ug/L. At PT-7M the detected barium concentration of 1,140 μg/L exceeded the California maximum contaminant level (1,000 μg/L). The barium increases at PT-7M, PT-7D, and MW-24A were in locations where elevated concentrations of ethanol were delivered during pilot test operations. The increase in barium concentration at PT-8M in the fourth quarter 2009 coincided with increases in dissolved iron and dissolved manganese, indicating the arrival of reduced groundwater that was created by the injection of organic carbon in earlier phases of the pilot test.

The increase in barium concentrations appears to be the result of injection of higher than intended organic carbon concentrations during the pilot test. During the pilot test, short circuiting of the injection water back to the extraction screen (ARCADIS, 2009), led to a localized very high TOC loading, an order of magnitude higher than is planned

for any full scale application of an IRZ at Topock. The excessive carbon loading resulted in the near complete consumption of sulfate (as measured at PT-7M, PT-7D, PT-8S, and MW-24A; Table 3) and subsequent dissolution of barite, a barium sulfate mineral that occurs naturally in the aquifer (the barite is used by sulfate-reducing bacteria as a source of sulfate in the absence of dissolved sulfate in the water). The concentrations of barium are expected to decline to baseline levels as sulfate concentrations return to baseline within and downgradient of the IRZ. Evidence of this was observed at well PT-7D during the fourth quarter sampling event. Barium concentrations in PT-7D dropped from 2,800 to 512 µg/L as TOC levels decreased and sulfate levels increased. Based on the data from the pilot, barium levels are not expected to exceed CA water standards (1,000 µg/L) within the IRZ during normal full scale operations, because the carbon loading rate will not be designed to completely consume the dissolved sulfate in the aquifer in the full scale operation.

6.0 References

ARCADIS, 2006. In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan, Upland Plume Treatment (Work Plan), Waste Discharge Requirements, Order No. R7-2006-0015, PG&E Topock Compressor Station, San Bernardino County, California, September 29.

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ARCADIS, 2009a. PG&E, Upland Reductive Zone In-Situ Pilot Test, Final Completion Report, PG&E Topock Compressor Station, San Bernardino County, California, March 3.

ARCADIS, 2009b. PG&E, Third Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test, PG&E Topock Compressor Station, San Bernardino County, California, December 15.

California Regional Water Quality Control Board, Colorado River Basing Region, 2008. Letter to Yvonne J. Meeks, Project Manager, Pacific Gas & Electric Company, May 29, 2008.

CH2M Hill, 2005. Sampling, Analysis, and Field Procedures Manual (SAFPM), PG&E Topock Program, PG&E Topock Compressor Station Needles, California, March 31, 2005.

Cooper, D.C., Morse, J.W. 1998. Extractability of metal sulfide minerals in acidic solutions: application to environmental studies of trace metal contamination within anoxic sediments. Environmental Science and Technology. 32: 1076-1078.

Gleyzes, C., Tellier, S., and Astruc, M. 2002. Fractionation studies of trace elements in contaminated soils and sediments: a review of sequential extraction procedures. Trends in Analytical Chemistry. 21(6,7): 451 – 467.

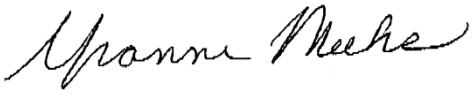
Pacific Gas & Electric Company, 2008. Letter to Robert Perdue. Executive Officer. California Regional Water Quality Control Board, Colorado River Basin Region, May 29, 2008.

7.0 Certification

PG&E submitted a signature delegation letter to the Water Board on July 5, 2006. The letter delegated PG&E's signature authority to Mr. Curt Russell and Ms. Yvonne Meeks.

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 Meeks
Company: PG&E
Title: Project Manager
Date: January 15, 2010

Table 1
Boring and Well Construction Detail Summary
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Well or Boring Designation	Date Completed	Aquifer Zone	Ground Elevation* (feet msl)	TOC Elevation** (feet msl)	Total Depth of Boring (feet bgs)	Casing Diameter (inches)	Boring Diameter (inches)	Well Completion Depth (feet bgs)	Well Completion Elevation (feet msl)	Screen Depth Interval (feet bgs)	Screen Elevation Interval (feet msl)	Sand Pack Depth Interval (feet bgs)	Sand Pack Elevation Interval (feet msl)	Bentonite Depth Interval (feet bgs)	Bentonite Elevation Interval (feet msl)	Well Permit Number	Distance From PTR-1 (feet)	Distance From PTR-2 (feet)	Latitude	Longitude
PT-7S	11-May-07	S	-	561.04	155	2	6	230	330.54	130-150	431-411	129-155	432-406	127-129	434-432	2007040400	17	122	34.71663	-114.49390
PT-7M	11-May-07	M	-	560.66***	187.5	2	6	187.5	373.66	165-185	396-376	164-187	397-374	162-164	399-397	2007040401	20	118	34.71662	-114.49391
PT-7D	11-May-07	D	-	560.46	221.5	2	6	230	330.42	197-217	363-343	196-221.5	364-338.5	194-196	366-364	2007040402	17	122	34.71663	-114.49390
PT-8S	21-May-07	S	-	562.60	152	2	6	225	337.60	127-147	436-416	126-152	437-411	124-126	439-437	2007040403	68	70	34.71650	-114.49382
PT-8M	21-May-07	M	562.47	562.59	184.5	2	6	184.5	378.09	162-182	401-381	161-184.5	402-378.5	159-161	404-402	2007040404	67	71	34.71651	-114.49381
PT-8D	21-May-07	D	-	562.07	212.5	2	6	225	337.07	190-210	373-353	189-212.5	374-350.5	187-189	376-374	2007040405	68	70	34.71650	-114.49382
PT-9S	6-Jun-07	S	-	559.68	153	2	6	218	341.67	128-148	432-412	126-153	434-407	120-126	440-434	2007040406	119	180	34.71684	-114.49362
PT-9M	6-Jun-07	M	559.50	559.67	187	2	6	187	372.67	162-182	398-378	158-187	402-373	155-158	405-402	2007040407	116	181	34.71684	-114.49364
PT-9D	6-Jun-07	D	559.56	559.66	212.5	2	6	218	341.66	190-210	370-350	188-212.5	372-347.5	156-188	404-372	2007040408	120	181	34.71684	-114.49362
MW-11	30-Jun-97	S	-	522.19	86.5	4	6	84	438.19	62-82	460-480	59-83	522.83-509.83	55-59	467.19-463.19	-	179	282	-	-
MW-24A	13-May-96	S	-	567.44	124.5	4	-	124.5	441.50	104-124	443-463	99-124.5	441.5-416.5	91-99	475-467	-	131	12	-	-
MW-24B	16-May-98	M	-	565.18	217.5	4	-	217.5	348.50	193-213	373-393	188-217.5	378-348.5	182.5-188	383.5-378	-	127	59	-	-
MW-38S	11-Apr-04	S	522.8	526.66	130	2	-	130	400.00	75-95	455-475	70-95.3	460-434.7	65-70	465-460	-	308	270	34.718640	-114.494285
MW-38D	10-Apr-04	D	523.0	526.74	195	2	-	195	335.00	166-188	364-384	152.8 - 188.3	377.2-341.7	147-152.8	383-377.2	-	323	280	34.715851	-114.494402
PTR-1	2-May-07	S/D	554***	560.21	225	6	10	225	335.21	125-160 175-220	435-470 385-340	123-162 173-225	442-403 392-340	118-123 162-173	442-437 398-387	2007040409	0	138	34.71666	-114.49395
PTR-2	2-May-07	S/D	554***	564.94	223	6	10	223	341.94	118-158 173-218	447-407 392-347	117-159 172-223	448-406 393-218	115-117 159-172	450-448 406-393	2007040410	138	0	34.71634	-114.49369

Notes:

feet bgs	Feet below ground surface
feet msl	Feet mean sea level
PTI-	Pilot test injection well
PT-	Pilot test monitoring well
S	Shallow
M	Middle
D	Deep
TOC	Top of casing
*	Elevations are in feet, North American Vertical Datum of 1988 (NAVD 88), NGS data sheet EU0763.
**	Reference elevation
***	Elevations are approximate, resurvey in progress
-	Not available

Table 2
Summary of Field Parameters
PG&E Topock
Needles, California
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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
PT-7S	18-Jul-07	N	130-150	-62.7	7.67	5,697	31.25	4.13	103.58	920
	22-Jan-08	N		132	7.60	4,369	23.5	4.12	105.75	1,760
	06-Mar-08	N		-70.4	7.26	5,514	29.47	0.54	105.11	1,800
	13-Mar-08	N		-112.4	7.32	4,860	29.6	0.15	104.98	1,400
	18-Mar-08	N		-114.1	7.42	5,328	29.6	0.075	104.89	1,280
	25-Mar-08	N		-55.9	7.43	5,235	29.69	0.87	104.66	1,680
	02-Apr-08	N		-179.1	7.50	5,577	29.68	0.41	104.78	1,700
	17-Apr-08	N		-161.8	7.37	5,682	27.01	0.66	104.26	1,340
	29-Apr-08	N		-210.6	7.37	4,804	29.75	0.35	103.33	220
	15-May-08	N		-155.6	7.35	5,090	30.1	0.38	103.72	1,040
	29-May-08	N		-143	7.33	5,781	29.88	0.33	103.77	1,440
	11-Jun-08	N		41.6	7.27	5,694	29.95	0.72	103.64	1,800
	24-Jun-08	N		0.2	6.83	5,044	30.11	0.16	103.55	1,060
	23-Jul-08	N		22.8	7.47	5,503	30.13	0.18	103.59	201
	21-Aug-08	N		-92.0	7.39	6,500	30.15	0.67	103.53	820
	18-Sep-08	N		-165.8	7.54	5,479	28.63	0.79	104.22	489
	15-Oct-08	N		5363.0	7.20	5,362	29.97	0.32	104.48	<10
	12-Nov-08	N		-109.4	7.60	5,897	29.93	0.17	104.78	280
	05-Feb-09	N		-18.2	7.54	5,791	30.50	0.39	105.39	166
	15-May-09	N		78.6	7.01	6,004	30.61	0.06	103.60	<10
	04-Aug-09	N		49.8	7.02	5,759	30.87	0.44	103.97	1,120
	29-Oct-09	**N**		**52.1**	**7.08**	**5,682**	**30.19**	**0.14**	**105.68**	**774**
PT-7M	19-Jul-07	N	165-185	-40.2	7.76	7,224	33.99	3.75	103.90	1,480
	24-Jan-08	N		10.6	7.17	9,257	30.06	0.85	105.79	2,840
	06-Mar-08	N		-487	7.34	6,818	29.91	0.07	105.48	22
	13-Mar-08	N		-280.12	6.99	6,650	29.99	0.08	105.06	240
	18-Mar-08	N		-324.9	6.85	6,870	30.21	0.057	105.07	86
	25-Mar-08	N		-320.6	6.75	6,806	30.25	0.46	104.67	37
	02-Apr-08	N		-338.3	7.01	7,208	30.20	0.13	104.83	220
	17-Apr-08	N		-231.4	6.85	6,980	28.00	0.55	104.31	80
	29-Apr-08	N		-278.6	6.89	6,610	30.55	0.36	101.26	1,020
	14-May-08	N		-254.3	6.72	7,802	30.82	0.13	103.80	80
	29-May-08	N		-213.9	6.76	7,526	30.81	0.22	103.72	60
	11-Jun-08	N		-199.3	6.77	6,879	31.07	0.27	83.83	27
	19-Jun-08	N		-239.1	6.74	8,241	31.02	0.08	102.84	---
	25-Jun-08	N		-161.8	6.66	7,973	31.11	0.13	79.51	35
	01-Jul-08	N		-217.2	6.61	7,604	31.41	0.04	97.30	---
	23-Jul-08	N		-187.9	6.68	7,417	31.48	0.13	88.72	14
	21-Aug-08	N		-189.2	6.72	8,498	31.49	0.32	103.48	160
	18-Sep-08	N		-231.0	6.78	7,506	31.57	0.57	104.51	37
	15-Oct-08	N		-199.3	7.29	7,931	25.91	1.05	103.89	419
	12-Nov-08	N		-35.9	6.82	5,974	22.76	0.94	104.77	<10
	15-May-09	N		-171.3	7.07	6,355	29.25	1.06	104.70	<10
	04-Aug-09	N		-144.7	7.25	6,511	32.94	0.56	104.90	<10
	29-Oct-09	**N**		**-168.2**	**7.17**	**7,689**	**23.05**	**1.02**	**105.77**	**51**

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PG&E Topock
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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
PT-7D	18-Jul-07	N	197-217	-76.7	7.91	16,327	31.46	1.9	103.65	6,240
	24-Jan-08	N		10.9	7.86	19,260	30.35	0.58	105.90	9,280
	06-Mar-08	N		-322.8	7.97	12,840	30.3	0.05	105.53	568
	13-Mar-08	N		-189.4	7.76	1,138	30.43	0.07	105.04	360
	18-Mar-08	N		-379.8	7.28	12,933	30.46	0.58	105.00	58
	25-Mar-08	N		-320.4	7.19	13,090	30.53	0.74	104.75	35
	02-Apr-08	N		-313	7.50	13,818	30.53	0.05	104.83	140
	17-Apr-08	N		-310.1	7.01	10,406	28.2	0.42	104.11	360
	29-Apr-08	N		-311.3	7.05	9,035	30.79	0.63	94.86	260
	15-May-08	N		-424.7	6.68	10,224	31.02	0.36	103.76	100
	29-May-08	N		-330.7	6.68	10,985	31.03	0.32	101.80	100
	11-Jun-08	N		-274.9	6.78	8,920	31.38	0.29	84.54	23
	19-Jun-08	N		-372.1	6.70	10,173	31.44	0.09	102.18	---
	24-Jun-08	N		-248.9	6.51	8,952	31.2	0.1	86.30	54
	01-Jul-08	N		-290.4	6.65	9,071	31.44	0.05	102.94	---
	23-Jul-08	N		-189.2	6.67	8,509	31.72	0.12	80.54	18
	21-Aug-08	N		-256.3	7.00	8,647	32.01	0.15	103.69	180
	18-Sep-08	N		-258.8	6.65	9,188	30.00	0.28	103.66	<10
	14-Oct-08	N		-205.6	6.14	8,508	28.54	0.45	103.64	78
	12-Nov-08	N		-195.0	7.71	8,290	21.15	0.33	104.58	18
	15-May-09	N		-128.3	7.13	15,418	29.43	1.21	104.80	<10
	04-Aug-09	N		-185.4	7.54	10,897	32.62	1.14	104.70	<10
	29-Oct-09	**N**		**-53.5**	**7.36**	**15,207**	**24.50**	**1.07**	**105.62**	**17**
PT-8S	16-Jul-07	N	127-147	-66.4	7.90	5,389	31.07	7.02	105.29	1,670
	23-Jan-08	N		109.1	7.49	5,890	29.44	5.68	107.38	1,980
	05-Mar-08	N		-68.6	7.71	5,440	29.61	2.77	107.00	1,040
	13-Mar-08	N		131	7.34	4,969	29.72	0.26	106.61	390
	18-Mar-08	N		-145.9	7.64	5,024	29.61	0.48	106.47	162
	25-Mar-08	N		-43	7.51	4,795	29.54	0.49	106.39	306
	02-Apr-08	N		-176.3	7.53	5,101	29.57	0.08	106.31	1,080
	16-Apr-08	N		44.8	7.48	5,251	27.89	0.56	105.91	667
	29-Apr-08	N		-132.9	7.19	6,017	29.58	0.26	106.87	180
	14-May-08	N		-204.5	7.11	6,480	29.78	0.21	105.41	60
	28-May-08	N		-276.3	7.72	6,949	29.58	0.46	105.45	32
	11-Jun-08	N		-252.7	6.61	9,212	29.63	0.36	105.41	18
	19-Jun-08	N		-296.4	6.90	9,079	29.68	0.11	105.41	---
	25-Jun-08	N		-217.8	6.66	10,733	30.1	0.14	105.29	46
	01-Jul-08	N		-178.9	6.85	9,835	29.97	0.09	105.33	---
	23-Jul-08	N		-204.0	6.99	10,853	30	0.13	105.16	500
	20-Aug-08	N		-188.9	6.94	9,860	30	1.89	105.41	12
	17-Sep-08	N		-165.6	6.79	9,114	30	6.79	103.60	<10
	15-Oct-08	N		-145.7	6.92	9,055	28	0.49	106.10	28
	12-Nov-08	N		-82.3	7.08	9,443	25	0.99	106.44	11
	04-Feb-09	N		-146.0	7.02	8,421	28	2.91	106.93	<10
	13-May-09	N		-184.0	6.65	7,224	30	0.08	105.90	11
	04-Aug-09	N		-164.4	7.01	6,526	30	1.03	105.81	<10
	28-Oct-09	**N**		**-194.4**	**7.12**	**6,069**	**30**	**0.16**	**106.50**	**<10**

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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
PT-8M	18-Jul-07	N	162-182	54.9	7.18	6,698	29.67	2.9	105.18	3,740
	23-Jan-08	N		36.1	7.17	8,047	29.95	1.72	107.30	4,660
	05-Mar-08	N		-96.4	7.40	7,930	29.89	1.68	107.10	3,680
	13-Mar-08	N		145.3	7.14	6,886	29.84	2.52	106.72	4,060
	19-Mar-08	N		164.5	7.34	7,238	29.87	3.64	106.65	3,340
	25-Mar-08	N		-6.1	7.19	6,955	29.99	2.77	106.30	4,100
	02-Apr-08	N		-129.7	7.23	7,308	29.81	1.47	106.24	4,100
	16-Apr-08	N		8.7	7.14	7,230	28.4	1.55	105.98	4,080
	29-Apr-08	N		-49.6	7.04	6,453	29.81	3.02	103.26	4,120
	14-May-08	N		-35.1	6.98	6,939	30.00	2.90	105.59	3,820
	28-May-08	N		-69.4	7.13	7,094	29.93	3.95	105.37	4,220
	11-Jun-08	N		-38.0	7.06	6,769	29.95	2.23	105.35	3,860
	19-Jun-08	N		-75.5	7.02	7,437	29.99	0.15	105.73	---
	25-Jun-08	N		23	6.89	6,634	30.19	0.85	76.50	4,140
	01-Jul-08	N		-22.2	6.98	6,438	30.03	0.07	105.30	---
	23-Jul-08	N		-0.6	7.13	6,511	29.93	0.31	105.47	4,000
	20-Aug-08	N		-37.0	7.22	6,769	29.97	0.32	105.71	3,140
	17-Sep-08	N		-80.1	7.01	6,884	29.87	1.11	105.93	2,460
	15-Oct-08	N		-101.0	6.99	6,277	29.99	0.24	106.19	2,940
	12-Nov-08	N		15.6	6.93	6,507	29.77	0.16	106.46	2,200
	04-Feb-09	N		3.9	6.77	7,084	29.94	1.22	106.90	1,660
	13-May-09	N		-12.3	6.42	7,316	30.40	0.08	99.50	639
	04-Aug-09	N		-100.2	6.64	7,426	30.29	2.18	105.56	579
	28-Oct-09	**N**		**21.4**	**6.79**	**7,272**	**30.48**	**0.14**	**106.42**	**782**
PT-8D	16-Jul-07	N	190-210	-54.6	7.99	16,042	33.76	6.39	105.09	6,120
	23-Jan-08	N		24.1	7.86	17,790	30.23	0.97	107.34	6,980
	05-Mar-08	N		-128.4	8.13	18,118	30.18	0.78	107.09	6,220
	13-Mar-08	N		195	7.85	1,589	30.3	1.21	106.80	5,740
	18-Mar-08	N		-57.3	7.93	17,392	30.28	1.34	106.77	5,460
	25-Mar-08	N		-34	7.87	16,250	30.32	0.77	106.45	5,700
	02-Apr-08	N		-169.2	7.90	16,964	30.15	0.29	107.17	4,800
	16-Apr-08	N		-39.1	7.85	17,458	28.44	0.90	106.13	6,480
	29-Apr-08	N		-108.1	7.74	15,000	30.39	0.71	105.91	4,940
	14-May-08	N		-99.5	7.57	14,622	30.37	0.32	105.89	3,800
	28-May-08	N		-52.9	7.79	16,139	30.24	0.39	105.50	1,220
	11-Jun-08	N		-89.7	7.75	15,420	30.36	0.43	106.56	3,960
	19-Jun-08	N		-129.8	7.76	16,400	30.4	0.26	105.63	---
	25-Jun-08	N		-163.9	7.49	14,750	30.38	0.23	104.57	2,920
	01-Jul-08	N		-155.5	7.71	15,337	30.47	0.18	105.20	
	23-Jul-08	N		-110.3	7.93	15,325	30.41	0.20	104.97	3,660
	20-Aug-08	N		-156.0	8.04	16,099	30.35	0.38	105.69	4,100
	17-Sep-08	N		-192.7	7.86	15,196	30.24	0.42	106.06	3,820
	15-Oct-08	N		-244.3	7.25	13,194	30.10	0.73	106.76	512
	12-Nov-08	N		-109.4	7.44	15,128	30.13	0.16	106.34	596
	04-Feb-09	N		-236.0	8.02	15,755	29.38	1.32	107.11	1,340
	13-May-09	N		-189.4	7.68	17,782	30.70	0.05	106.50	1,700
	04-Aug-09	N		-192.4	7.99	16,270	30.38	0.38	105.60	1,780
	28-Oct-09	**N**		**-154.5**	**7.99**	**15,852**	**30.47**	**0.30**	**118.96**	**2,000**

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PT-9S	17-Jul-07	N	128-148	-61.5	7.86	4,919	33.28	4.97	102.33	2,620
	22-Jan-08	N		157.1	7.53	4,784	27.16	3.97	104.50	1,580
	05-Mar-08	N		41.8	7.71	4,942	25.95	4.21	104.08	1,360
	12-Mar-08	N		144.6	7.62	4,280	27.81	3.12	103.80	1,480
	19-Mar-08	N		125.6	7.73	4,819	27.07	2.68	103.71	1,200
	26-Mar-08	N		25.1	7.54	4,106	27.92	3.1	103.47	1,580
	02-Apr-08	N		-34.4	7.60	4,822	27.91	3.2	103.38	1,540
	16-Apr-08	N		149.3	7.50	4,800	27.79	2.79	103.09	1,640
	29-Apr-08	N		180.4	7.44	4,350	28.55	5.99	107.00	1,360
	14-May-08	N		-57.5	7.44	4,369	28.23	2.91	102.56	1,240
	28-May-08	N		2.0	7.52	4,840	28.61	2.78	102.48	1,540
	11-Jun-08	N		146.1	7.50	4,511	26.51	4.74	102.50	1,540
	25-Jun-08	N		21.4	7.30	4,778	28.86	3.91	102.27	1,420
	24-Jul-08	N		123.4	7.63	4,490	29.7	4.79	102.54	1,740
	20-Aug-08	N		-9.6	7.74	4,499	29.97	4.54	102.87	1,760
	17-Sep-08	N		154.4	7.43	4,908	27.72	2.86	103.00	1,880
	15-Oct-08	N		114.0	7.47	4,660	28.37	4.94	103.32	1,100
	12-Nov-08	N		-2.3	7.37	5,912	25.66	3.15	103.53	760
	05-Feb-09	N		-53.6	7.51	5,907	26.4	2.49	104.08	1,060
	14-May-09	N		-40.6	7.20	5,615	29.17	3.22	102.30	1,080
	05-Aug-09	N		-10.0	7.28	5,352	30.2	2.98	102.81	1,320
	29-Oct-09			**8.6**	**7.49**	**5,446**	**27.23**	**4.3**	**103.58**	**620**
PT-9M	17-Jul-07	N	162-182	-57.0	7.34	6,605	31.74	4.09	102.34	3,460
	22-Jan-08	N		58.8	7.03	7,963	30.05	3.34	104.49	3,000
	05-Mar-08	N		-41.7	7.37	7,982	29.99	3.06	104.10	2,100
	12-Mar-08	N		120.5	7.14	7,080	29.87	3.46	103.86	2,740
	19-Mar-08	N		48.9	7.28	7,710	30.08	3.03	103.69	2,420
	26-Mar-08	N		110.2	7.10	6,572	29.88	3.56	103.48	2,480
	02-Apr-08	N		55.7	7.08	7,798	29.81	2.34	77.22	2,800
	16-Apr-08	N		40.3	7.09	7,653	29.28	2.07	78.96	2,940
	29-Apr-08	N		-1.2	7.04	6,791	29.96	3.95	98.07	2,760
	14-May-08	N		-17.0	6.94	7,633	30.13	3.59	102.80	2,760
	28-May-08	N		-6.8	7.09	7,593	29.99	3.65	102.40	2,640
	11-Jun-08	N		70.1	7.00	7,238	30.13	4	90.56	2,980
	25-Jun-08	N		23.1	6.91	6,977	30.08	4.1	102.75	2,800
	24-Jul-08	N		198.7	7.27	6,706	30.01	4.57	102.47	2,800
	20-Aug-08	N		6.3	7.20	7,282	30.02	3.83	102.82	2,800
	17-Sep-08	N		111.3	7.07	7,304	29.85	4.04	103.06	2,860
	15-Oct-08	N		66.9	7.11	6,726	29.73	3.73	103.27	3,280
	12-Nov-08	N		71.3	7.14	7,152	29.85	2.95	103.36	3,180
	05-Feb-09	N		55.3	7.17	7,950	29.79	1.88	104.20	3,260
	14-May-09	N		25.7	6.88	8,183	30.17	2.36	102.80	2,870
	05-Aug-09	N		112.7	7.01	8,078	30.2	3.08	102.83	2,960
	29-Oct-09	**N**		**68.6**	**7.15**	**8,225**	**29.95**	**2.91**	**103.66**	**2,940**

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PT-9D	17-Jul-07	N	190-210	-74.8	7.87	14,027	31.46	1.14	102.18	10,050
	22-Jan-07	N		47.9	7.76	17,070	30.4	1.23	104.38	17,080
	05-Mar-08	N		-85.7	8.05	17,396	30.44	0.98	104.12	15,820
	12-Mar-08	N		198.4	7.78	1,541	30.16	1.52	103.89	14,060
	19-Mar-08	N		71.3	7.94	16,747	30.35	0.97	103.80	13,580
	26-Mar-08	N		35.2	7.81	13,975	30.39	0.98	103.50	12,220
	02-Apr-08	N		-93	7.83	16,109	30.41	0.51	105.17	13,980
	16-Apr-08	N		44.1	7.76	12,223	29.4	1.25	103.31	14,130
	29-Apr-08	N		-53.9	7.60	14,014	30.31	0.96	102.82	10,790
	14-May-08	N		-89.2	7.56	15,231	30.44	0.7	102.92	10,850
	28-May-08	N		101.2	7.68	15,667	30.34	0.8	102.51	14,450
	11-Jun-08	N		107.6	7.62	15,590	30.11	1.15	85.69	13,660
	25-Jun-08	N		14.2	7.45	14,474	30.46	0.68	102.49	10,400
	24-Jul-08	N		162.4	7.65	14,681	30.34	0.77	102.05	10,780
	20-Aug-08	N		17.7	7.84	16,555	30.46	1.15	102.87	14,400
	17-Sep-08	N		136.6	7.73	15,588	30.32	1.2	103.11	15,180
	15-Oct-08	N		80.0	7.52	13,691	30.06	2.56	103.36	9,300
	12-Nov-08	N		80.7	7.64	16,534	30.19	0.69	103.42	13,900
	05-Feb-09	N		37.1	7.73	16,997	30.48	0.99	104.10	15,860
	15-May-09	N		112.3	7.60	16,823	30.42	0.80	102.60	14,220
	05-Aug-09	N		74.7	7.66	15,340	30.37	0.98	102.78	11,180
	28-Oct-09	**N**		**31.1**	**7.90**	**16,692**	**30.26**	**1.13**	**103.50**	**15,760**
MW-11	17-Jul-07	N	63-88	-23.7	7.56	2,176	30.15	8.81	65.60	260
	24-Jan-08	N		137.3	7.40	2,312	28710	7.61	67.67	342
	04-Mar-08	N		51.6	7.47	2,262	28.79	0.93	67.09	350
	11-Mar-08	N		149.2	7.44	2,169	29.81	7.1	66.97	319
	19-Mar-08	N		29.5	7.61	2,279	29.27	5.59	66.85	340
	26-Mar-08	N		110.2	7.37	2,205	29.52	7.91	66.62	360
	01-Apr-08	N		-48.8	7.47	4,194	29.17	6.44	66.60	334
	15-Apr-08	N		66.5	7.24	2,097	30.06	5.66	66.06	326
	28-Apr-08	N		-23.2	7.41	20	29.86	9.03	65.82	322
	13-May-08	N		-35.9	7.24	2,351	30.04	6.76	65.83	420
	27-May-08	N		32.1	7.24	2,208	29.87	9.66	65.64	380
	10-Jun-08	N		-11.3	7.20	2,196	30.73	8.14	65.49	302
	24-Jun-08	N		54.6	7.01	2,287	29.17	8.96	65.54	252
	22-Jul-08	N		125.8	7.40	2,370	29.35	6.71	65.63	299
	21-Aug-08	N		151.7	7.43	2,210	29.49	8.68	65.84	285
	16-Sep-08	N		-43.3	7.32	2,203	29.37	7.51	66.10	269
	14-Oct-08	N		43.0	7.42	2,120	29.37	6.43	66.36	337
	11-Nov-08	N		144.3	7.69	2,161	29.21	5.87	66.78	343
	03-Feb-09	N		39.2	7.00	2,229	29.22	6.48	67.30	330
	14-May-09	N		14.0	7.18	2,252	29.46	7.22	65.63	246

Table 2
Summary of Field Parameters
PG&E Topock
Needles, California
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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
MW-24A	18-Jul-07	N	104-124	-43.9	7.67	2,707	32.20	2.89	110.05	1,100
	24-Jan-08	N		79.8	7.51	3,090	28.51	1.95	112.20	2,980
	06-Mar-08	N		-119.7	7.45	10,486	29.02	0.61	111.33	325
	12-Mar-08	N		-201.4	7.44	9,758	31.2	0.2	111.50	14,060
	19-Mar-08	N		-250.7	7.04	9,950	30.13	0.16	111.48	111
	26-Mar-08	N		-299.6	6.54	8,402	30.7	0.39	111.25	173
	01-Apr-08	N		-299.1	7.06	1,638	30.6	0.04	---	440
	17-Apr-08	N		-285.9	6.62	10,291	30.9	1.39	110.85	160
	30-Apr-08	N		-315.7	6.45	10,294	32.03	1.46	110.15	220
	30-Apr-08	FD		-315.7	6.45	10,294	32.03	1.46	110.15	220
	15-May-08	N		-350.1	6.54	10,940	33.47	0.44	109.82	120
	27-May-08	N		-278.1	6.33	10,759	32.8	1.29	110.20	<10
	12-Jun-08	N		-259.9	6.70	10,910	32.6	0.8	111.66	<10
	19-Jun-08	N		-222.4	6.49	11,469	32.81	1.28	110.28	---
	26-Jun-08	N		-228.5	7.20	107	30.84	0.17	110.13	18
	01-Jul-08	N		-320.4	6.82	10,282	31.3	0.07	109.73	---
	24-Jul-08	N		-224.9	7.57	10,670	32.38	0.32	110.26	180
	19-Aug-08	N		-302.5	7.20	10,311	33.74	2.06	110.53	17
	16-Sep-08	N		-343.8	6.54	9,799	30.03	0.31	110.78	50
	16-Oct-08	N		-259.4	7.01	10,626	30.91	0.70	111.11	123
	13-Nov-08	N		-284.9	7.57	10,952	27.05	0.44	111.33	<10
	03-Feb-09	N		-360.6	6.66	10,894	28.14	1.13	111.92	<10
	14-May-09	N		-212.3	7.13	10,531	31.64	0.11	110.23	<10
	03-Aug-09	N		-276.8	6.92	9,113	31.2	0.96	110.58	<10
	27-Oct-09	**N**		**-206.0**	**7.41**	**6,001**	**30.91**	**0.17**	**111.10**	**<10**
MW-24B	18-Jul-07	N	193-213	-57.9	7.86	15,371	31.40	3.02	107.92	2,340
	24-Jan-08	N		-9.7	7.74	17,450	29.91	0.85	109.75	5,400
	06-Mar-08	N		28.1	7.73	17,751	28.05	1.49	110.20	4,400
	12-Mar-08	N		-19.4	7.78	1,669	30.62	1.11	109.47	4,800
	19-Mar-08	N		-32.7	7.90	17,369	30.16	0.78	109.22	4,460
	26-Mar-08	N		-28	7.77	14,547	30.91	88	109.23	4,700
	02-Apr-08	N		-292.2	7.77	17,340	30.13	0.54	109.00	4,420
	17-Apr-08	N		-141.4	7.77	16,429	30.42	1.09	108.60	4,640
	30-Apr-08	N		-222.7	7.79	15,539	30.45	0.85	105.82	3,800
	15-May-08	N		-82.0	7.65	17,017	30.36	0.80	108.57	3,860
	28-May-08	N		-105.4	7.76	16,854	30.25	2.54	108.14	3,940
	12-Jun-08	N		-66.6	7.72	16,160	30.23		111.23	3,980
	26-Jun-08	N		24.7	7.68	10,275	30.09	0.49	108.06	3,400
	24-Jul-08	N		-22.0	7.82	16,374	30.19	0.39	108.29	3,240
	19-Aug-08	N		-25.7	7.61	16,302	30.51	0.48	108.31	3,400
	17-Sep-08	N		-64.4	7.76	15,433	29.49	0.79	108.56	3,360
	16-Oct-08	N		88.6	7.60	15,816	31.18	1.18	109.03	3,380
	13-Nov-08	N		9.3	7.66	16,049	31.12	0.47	109.14	3,000
	04-Feb-09	N		-18.6	7.69	16,432	31.64	1.29	109.90	3,000
	14-May-09	N		-35.2	7.61	16,708	30.21	0.09	108.50	2,700

Table 2
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PG&E Topock
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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
MW-38S	17-Jul-07	N	75-95	27.2	7.52	3,306	29.00	6.02	69.04	720
	23-Jan-08	N		36.6	7.56	3,175	27.08	5.33	71.05	1,140
	04-Mar-08	N		150	7.59	3,194	27.72	0.57	70.71	1,200
	11-Mar-08	N		56	7.70	3,094	28.37	2.95	70.40	1,300
	20-Mar-08	N		117.6	7.71	3,218	27.3	5.31	70.43	1,140
	26-Mar-08	N		24.1	7.39	2,687	28.36	4.2	70.18	1,260
	01-Apr-08	N		-16.4	7.57	5,892	28.48	4.6	70.10	1,280
	15-Apr-08	N		116.4	7.41	2,958	28.64	3.89	69.66	1,180
	28-Apr-08	N		-88.8	7.70	2,875	29.05	5.22	69.45	1,340
	13-May-08	N		-41.3	7.38	3,213	28.62	4.18	69.27	1,120
	27-May-08	N		-20.0	7.43	3,035	28.39	4.82	69.17	1,180
	10-Jun-08	N		-14.1	7.50	2,569	28.8	1.59	66.62	1,320
	24-Jun-08	N		10.7	7.20	3,041	28.65	4.82	69.12	1,140
	22-Jul-08	N		185.1	7.54	3,045	29.33	2.85	69.10	1,280
	20-Aug-08	N		7.2	7.71	2,832	28.88	1.49	65.66	1,340
	16-Sep-08	N		80.9	7.46	2,811	29.00	1.54	69.50	1,360
	14-Oct-08	N		141.6	7.43	2,684	28.63	0.67	69.94	1,540
	11-Nov-08	N		136.7	7.77	2,701	27.87	3.71	70.18	1,440
	03-Feb-09	N		40.1	7.28	2,816	28.41	3.33	70.83	1,600
	12-May-09	N		94.4	7.42	2,595	29.29	2.92	69.10	762
	03-Aug-09	N		93.0	7.36	2,390	29.20	1.41	69.33	977
	27-Oct-09	**N**		**88.9**	**7.74**	**2,307**	**27.78**	**0.8**	**69.95**	**980**
MW-38D	17-Jul-07	N	166-188	-62.9	7.81	20,894	30.63	1.2	69.37	1,410
	23-Jan-08	N		-32.8	7.78	23,020	30.28	0.14	71.29	69
	04-Mar-08	N		-39	7.86	23,367	30.09	0.11	71.01	77
	11-Mar-08	N		-54.0	7.80	2,260	30.28	0.3	70.86	72
	20-Mar-08	N		174.8	7.95	234	30.18	0.14	70.79	54
	26-Mar-08	N		-47.9	7.77	19,673	30.4	0.18	70.53	54
	01-Apr-08	N		-79.7	8.10	42,680	30.22	0.10	67.43	53
	15-Apr-08	N		-56.2	7.65	21,852	30.06	0.50	70.83	62
	15-Apr-08	FD		-56.2	7.65	21,852	30.06	0.50	70.83	62
	28-Apr-08	N		-2.1	7.79	21,005	30.26	0.45	69.96	62
	13-May-08	N		-106.5	7.62	23,691	30.27	0.18	188.30	<10
	27-May-08	N		10.2	7.68	2,246	30.27	0.57	69.63	189
	10-Jun-08	N		36.9	7.74	21,879	30.49	0.5	69.22	64
	24-Jun-08	N		-80.4	7.80	22,824	30.32	0.17	69.58	53
	22-Jul-08	N		110.6	7.81	23,605	30.41	0.15	69.50	69
	20-Aug-08	N		89.0	7.93	22,069	30.33	0.20	69.81	66
	16-Sep-08	N		-118.3	7.73	21,191	29.29	0.39	70.07	70
	14-Oct-08	N		86.3	7.72	21,347	30.19	2.56	70.38	87
	11-Nov-08	N		159.3	7.82	21,866	30.24	0.33	68.70	71
	03-Feb-09	N		58.4	7.64	23,061	30.12	0.55	71.15	59
	12-May-09	N		-21.0	7.70	23,376	30.45	0.04	69.50	52
	03-Aug-09	N		8.7	7.74	22,012	30.49	0.48	69.80	49
	27-Oct-09	**N**		**10.1**	**7.87**	**22,123**	**30.17**	**0.28**	**69.79**	**61**

Table 2
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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)
PTR-1	19-Jul-07	N	*	-50.9	7.91	8,927	31.2	1.6	102.65	201
	25-Jan-08	N		228.7	7.48	7,093	22.52	2.09	---	920
	06-Mar-08	N		23.2	7.77	4,750	26.9	1.2	---	641
	11-Mar-08	N		114.3	6.74	4,453	32.84	1.99	---	380
	20-Mar-08	N		-139.7	7.97	3,105	37.50	1.54	---	62
	27-Mar-08	N		185.1	7.46	1,489	31.28	3.7	---	654
	01-Apr-08	N		-215.3	7.97	10,980	33.58	1.39	---	240
	16-Apr-08	N		-42.4	7.63	4,019	33.01	0.92	---	52
	29-Apr-08	N		-232.9	7.23	4,479	28.91	0.54	---	22
	15-May-08	N		-221.6	6.98	5,158	32.1	0.60	---	120
	29-May-08	N		-107.5	7.34	4,640	36.35	0.80	---	25
	12-Jun-08	N		-159.4	7.69	5,661	33.60	1.34	---	1
	19-Jun-08	N		-119.7	7.79	6,231	38.28	0.78	---	---
	26-Jun-08	N		-113.6	7.58	5,640	38.43	1.10	---	<10
	01-Jul-08	N		-1115	7.62	5,868	39.84	1.24	---	---
	24-Jul-08	N		90.5	7.46	5,365	37.00	1.24	---	480
	19-Aug-08	N		40.8	7.44	5,752	36.86	1.60	---	<10
	18-Sep-08	N		-33.3	7.57	5,804	31.94	0.96	---	<10
	16-Oct-08	N		-74.8	7.28	6,139	38.5	1.35	---	11
	13-Nov-08	N		-23.3	7.33	4,410	33.2	1.09	---	<10
	04-Feb-09	N		-227.9	7.25	5,702	32.15	0.50	102.73	<10
	14-May-09	**N**		**-223.7**	**6.79**	**6,123**	**31.17**	**0.04**	**101.00**	**<10**
PTR-2	18-Jul-07	N	*	-56.7	7.40	9,367	30.52	1.01	110.34	2,020
	25-Jan-08	N		167.8	7.31	9,122	28.41	2.37	---	4,920
	06-Mar-08	N		33.8	7.31	1,007	28.7	1.27	---	4,800
	11-Mar-08	N		125	6.92	9,837	28.21	1.59	---	5,660
	20-Mar-08	N		-27.2	7.70	4,116	37.18	3.66	---	19,500
	27-Mar-08	N		52.8	7.76	2,146	32.21	4.4	---	8,700
	01-Apr-08	N		-46.9	7.45	1,953	36.75	1.56	---	4,240
	15-Apr-08	N		-79.1	7.42	50	33.21	2.24	---	552
	29-Apr-08	N		-82.4	7.20	10,168	26.61	2.07	---	5,320
	15-May-08	N		45.0	7.30	11,203	29.69	1.43	---	5,060
	28-May-08	N		-60.0	7.73	8,988	32.73	1.95	---	4,280
	10-Jun-08	N		69.0	7.54	10,684	37.77	1.46	---	196
	19-Jun-08	N		170.6	7.55	9,106	38.22	1.4	---	---
	26-Jun-08	N		20.9	7.32	10,484	31.34	0.79	---	4,280
	01-Jul-08	N		-54.3	7.20	10,163	37.45	0.81	---	---
	24-Jul-08	N		281.5	7.26	10,747	33.07	1.18	---	4,900
	19-Aug-08			-19.6	7.30	5,956	37.04	---	---	2,000
	18-Sep-08	N		128.9	7.37	5,782	30.6	1.49	---	2,160
	16-Oct-08	N		-154.8	7.14	10,131	28.5	0.85	---	4,440
	13-Nov-08	N		16.5	7.09	11,109	33.11	0.88	---	4,360
	05-Feb-09	N		-40.7	7.29	12,167	29.83	0.29	107.7	2,060
	13-May-09	**N**		**-74.3**	**7.09**	**12,175**	**30.59**	**0.07**	**105.88**	**2,380**

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Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (ºC)	DO (mg/L)	Depth to Water (feet below TOC)	Hexavalent Chromium Field (µg/L)

Notes:
Most recent data indicated in **BOLD**
Depth to water recorded prior to any sampling activities. Recirculation wells PTR-1 and PTR-2 cannot be gauged post-construction due to necessary piping and well caps

ft bgs	Feet below ground surface
mV	Millivolts
µS/cm	Microsiemens per centimeter
ºC	Degrees Celsius
µg/L	Micrograms per liter
mg/L	Milligrams per liter
ORP	Oxidation Reduction Potential
N	Normal
DO	Dissolved oxygen
TOC	Top of Casing
---	Not analyzed/Not available
*	PTR-1 Screen: 125-160 and 175-220 ft bgs. PTR-2 Screen: 118-158 and 173-218 ft bgs.

Oct result for PT-7M & PT-7D are grab samples. Unable to effectively purge well because of gas buildup in the well.
Oct ORP value for PT-7S is under review; likely a mis-reading was recorded.

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
Needles, California
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-7S	18-Jul-07	a	N	1,200	1,260	1,080	---	---	22	<0.1	6,160	<500	55.6	1,050	674	1.18	23 [1]	42.2 [1]
	23-Jan-08	a	N	1,400	1,390	---	---	---	18.7	<0.1	558	<2,500	<2,500	462	608	2.99	<25	33.3
	06-Mar-08	a	N	1,420	1,270	---	---	ND	18.6	<0.1	<500	<500	<500	34	637	<1	24.7	21.7
	13-Mar-08	a	N	1,100	1,070	---	0.02	ND	15.4	<0.1	<500	<2,500	<2,500	<10	588	1.25	---	---
	18-Mar-08	a	N	1,300	1,280	---	0.64	ND	17.7	<0.1	<500	<2,500	---	11	606	1.17	---	---
	25-Mar-08	a	N	1,420	1,410	---	0.96	ND	19.3	<0.2	<500	<2,500	<2,500	23	630	1.88	---	---
	02-Apr-08	a	N	1,490	1,510	---	0.24	ND	---	---	<500	<2,500	---	---	665	<1	---	---
	17-Apr-08	a	N	1,320	1,280	---	2.42	ND	---	---	<500	<2,500	---	---	737	<1	33.5	33.3
	29-Apr-08	a **	N	812	855	---	5.71	ND	13.5	0.95	<500	<500	<500	189	567	1.84	---	---
	15-May-08	a	N	876	868	---	2.89	ND	---	---	<500	<500	---	---	563	<1	---	---
	29-May-08	a	N	1,230	1,190	---	0.07	ND	18.9	<0.5	<500	<500	<500	47.9	675	<1	29.9	26.4
	11-Jun-08	a	N	1,580	1,350	---	0.17	ND	---	---	<500	<500	---	---	764	---	25.9	35.1
	24-Jun-08	a	N	927	801	---	1.04	ND	13.2	<0.5	<500	<500	<500	134	599	1.88	---	---
	23-Jul-08	a	N	182	190	---	25.3	3.00	4.38	<1	<500	<500	1,450	1,650	547	14.3	369	7.08
	21-Aug-08	a	N	401 J	398	---	338	0.37	9.00	<1	<500	<500	2,230	2,620	486	896	59.4	15.2
	18-Sep-08		N	429	502	---	2.18	0.12	15.00	<0.5	<500	<500	690	855	629	3.21	44.0	25.7
	15-Oct-08		N	<0.2	39	---	31.7	2.80	2.93	<0.5	604	<500	1,470	1,710	381	47.8	43.0	<5
	12-Nov-08		N	152	316	---	15.3	1.71	11.30	<0.5	<500	<500	945	1,380	543	15.9	32.3	22.2
	05-Feb-09	a	N	794	729	---	8.18	ND	10 UB	<0.1	<100	102	366	369	770	1.5	29.4	24.8
	15-May-09		N	818	876	---	ND	ND	16.00	<0.2	1,820	<100	259	286	610	1 J	26.4	15.0
	04-Aug-09	a	N	836	805	---	ND	ND	17.00	---	---	278	189	---	620	0.85 UB	21.5	11.5 J
	29-Oct-09		**N**	**770**	**646**	---	**ND**	**ND**	**16.00**	---	---	**393 J**	**158**	---	**680**	**3.1 J**	**19.7**	**9.6**

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Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-7M	19-Jul-07	a	N	2,320	2,240	2,110	---	---	25.2	<0.1	6,260	<500	31.6	1,150	1,250	1.02	14.7 [1]	101 [1]
	24-Jan-08	a	N	2,440	2,340	---	---	---	30.4	<0.5	<500	<1,000	<1,000	<10	1,280	<1	16.6	85.0
	06-Mar-08	a	N	30	16.5	---	ND	ND	<0.5	<0.1	<500	<500	702	711	846	216	67.0	<5
	06-Mar-08	a	FD	33.3	18	---	0.03	ND	<0.5	<0.1	<500	<500	703	714	832	213	---	---
	13-Mar-08	a	N	<0.2	<5	---	1,193	ND	<0.5	<0.1	<500	<2,500	3,320	3,540	656	446	---	---
	18-Mar-08	a	N	<0.2	<5	---	3,390	ND	<5	<1	1,040	<2,500	---	6,290	205	1,550	---	---
	25-Mar-08	a	N	6.9	<5	---	3,030	ND	<2.5	<0.5	1,740	<2,500	8,690	9,500	144	1,500	---	---
	02-Apr-08	a	N	2	<5	---	2,820	ND	---	---	2,660	<2,500	---	---	105	1,270	---	---
	17-Apr-08	a	N	<1	<5	---	7,650	ND	---	---	6,320	3,700	---	---	<10	4,640	<25	<25
	29-Apr-08	a **	N	<1	1.08	---	8,175	ND	<10	<2	1,680	1,300	11,300	14,100	<10	8,050	---	---
	14-May-08	a	N	<1.1	1.52	---	7,725	ND	---	---	9,070	6,900	---	---	<20	8,040	---	---
	29-May-08	a	N	<1	1.34	---	4,163	ND	<10	<10	12,400	11,000	18,600	18,400	<10	10,700	<5	<5
	11-Jun-08	a	N	1.4	1.98	---	3,000	ND	---	---	15,100	10,900	---	---	11.2	8,530	<5	<5
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	9,340	---	---
	25-Jun-08	a	N	<1	1.02	---	1,898	ND	<2.5	<2.5	18,500	13,200	21,900	26,300	<2.5	8,630	---	---
	01-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	8,180	---	---
	08-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	6,980	---	---
	15-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,810	---	---
	23-Jul-08	a	N	<0.2	<1	---	12.4	ND	<2.5	<2.5	27,100	19,100	24,400	26,500	3.11	5,180	<5	<5
	28-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	4,930	---	---
	21-Aug-08	a	N	<0.2 UJ	<1	---	1,088	ND	<2.5	<2.5	38,600	34,400	31,400	31,300	11.8	5,530	<50	<5
	03-Sep-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	2,870	---	---
	18-Sep-08		N	<0.2	<1	---	1,088	ND	<1	<1	13,600	25,100	22,900	29,200	6.65	2,930	<5	<5
	15-Oct-08		N	<0.2	<1	---	990	ND	<2.5	<2.5	33,600	27,800	16,100	16,300	57.8	2,210	<5	<5
	12-Nov-08		N	<0.2	<1	---	404	ND	<1	<1	4,090	2,690	1,100	1,190	17.5	395	<5	<5
	15-May-09		N	<0.2	<1	---	236	ND	<0.2	<0.2	8,930	6,930 J	1,950	1,930	<2 UB	110	<1	<1
	04-Aug-09	a	N	<0.2	<1	---	303	ND	<0.2	---	---	4,350	977	---	3.3	79	<1	<1 UJ
	29-Oct-09		**N**	**<0.2**	**<1**	---	**503**	**ND**	**<0.2**	---	---	**16,100 J**	**3,050**	---	**34.0**	**950**	**1.41**	**<1**

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PG&E Topock
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-7D	18-Jul-07	a	N	7,260	7,890	7,750	---	---	7.4	<0.1	<500	<500	48.3	54	1,140	<1	129 [1]	8.10 [1]
	24-Jan-08	a	N	8,010	7,920	---	---	---	9.9	<0.5	<500	<1,000	<1,000	14	1,150	<1	87.4	<10
	06-Mar-08	a	N	506	499	---	ND	ND	<0.5	<0.1	<500	<500	<500	193	903	234	203	<5
	13-Mar-08	a	N	80.6	160	---	1,185	ND	<0.5	<0.2	<500	<2,500	<2,500	1,050	903	313	---	---
	18-Mar-08	a	N	<2.1	69.3	---	780	ND	<1	<0.2	<500	<2,500	---	2,220	621	309	---	---
	25-Mar-08	a	N	4	17.8 UB	---	645	ND	<1	<0.5	<500	<2,500	4,080	4,320	612	313	---	---
	02-Apr-08	a	N	<0.2	<5	---	578	ND	---	---	<500	<2,500	---	---	633	256	---	---
	17-Apr-08	a	N	22.6	7.64	---	4,163	ND	---	---	<500	<2,500	---	---	179	1,410	65.3	<25
	29-Apr-08	a	N	<0.2	17.2	---	5,010	ND	<10	<2	<500	<500	2,960	3,380	98	2,920	---	---
	15-May-08	a	N	<1.1	1.48	---	4,088	ND	---	---	2,280	1,730	---	---	96	2,780	---	---
	29-May-08	a	N	<1	1.14	---	3,945	ND	<10	<10	2,660	2,000	8,860	8,850	100	1,690	50.8	<5
	11-Jun-08	a	N	1.5	1.48	---	6,293	ND	---	---	4,920	2,740	---	---	50.5	4,620	34.6	<5
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	4,520	---	---
	24-Jun-08	a	N	<1	49.2	---	5,250	ND	<10	<10	10,600	1,280	9,700	11,400	12.7	4,450	---	---
	01-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	5,850	---	---
	08-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	4,580	---	---
	15-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	5,430	---	---
	23-Jul-08	a	N	<0.2	2.18	---	2,048	ND	<5	<5	7,870	5,380	18,100	19,900	<5	5,140	<5	<5
	28-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	5,140	---	---
	21-Aug-08	a	N	<0.2 UJ	1.13	---	1,658	ND	<2.5	<2.5	7,130	6,140	19,100	20,300	30.1	4,500	10.2	<5
	03-Sep-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	5,110	---	---
	18-Sep-08		N	<0.2	3.07	---	758	ND	<1	<1	25,900	10,000	27,000	20,100	11.3	2,890	<5	<5
	15-Oct-08		N	<0.2	7.37	---	528	ND	<1	<1	14,300	6,150	23,700	25,400	17	1,640	<50	<50
	12-Nov-08		N	<0.2	2.8	---	318	ND	<2.5	<2.5	4,460	<500	18,200	22,100	7.8	791	<25	<5
	15-May-09		N	<0.2	<1	---	328	ND	<0.5	<0.5	836	315 J	246	579	290	3.7 J	<1	<1
	04-Aug-09	a	N	<0.2	<1	---	810	ND	<0.5	---	---	5,150	6,170	---	82	770	11	<1 UJ
	28-Oct-09		**N**	**<0.2**	**1.46**	---	**345**	**ND**	**<0.5 UJ**	---	---	**746 J**	**354**	---	**510**	**5**	**<1**	**<1**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-8S	16-Jul-07	a	N	1,750	1,660	1,620	---	---	25.1	<0.1	2,670	<500	25.1	269	869	1.35	45.4 [1]	83.9 [1]
	23-Jan-08	a	N	1,620	1,680	---	---	---	24.9	<0.1	<500	<2,500	<2,500	<10	734	1.03	---	---
	05-Mar-08	a	N	1,430	1,340	---	ND	ND	22.6	<0.1	<500	<500	<500	<10	727	1.1	---	---
	13-Mar-08	a	N	657	657	---	ND	ND	8.4	1.61	<500	<2,500	<2,500	333	618	12.5	---	---
	18-Mar-08	a	N	160	164	---	ND	ND	1.7	0.82	<500	<2,500	---	1,050	561	7.18	---	---
	25-Mar-08	a	N	455	438	---	0.07	ND	6.2	2.42	<500	<2,500	<2,500	973	591	4.16	---	---
	02-Apr-08	a	N	877	884	---	ND	ND	---	---	<500	<2,500	---	---	634	1.39	---	---
	16-Apr-08	a	N	775	747	---	0.15	ND	---	---	<500	<2,500	---	---	408	<1	---	---
	29-Apr-08	a	N	76.7	95.7	---	18.6	ND	1.4	<0.2	<500	<500	2,300	2,910	560	74.3	---	---
	14-May-08	a	N	<0.2	18.1	---	9.60	0.35	---	---	<500	<500	---	---	481	36	---	---
	28-May-08	a	N	<0.2	2.68	---	60.0	6.92	<0.5	<2.5	532	<500	3,560	3,930	161	49.6	---	---
	28-May-08	a	FD	<0.2	3.05	---	62.1	6.72	<0.5	<2.5	544	<500	3,520	3,950	162	91.6	---	---
	11-Jun-08	a	N	1.8	4.97	---	323	42.6	---	---	5,530	4,210	---	---	12.7	1,100	---	---
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	842	---	---
	25-Jun-08	a	N	<1	1.8	---	123	97.4	<1	<1	6,600	5,540	15,600	17,600	2.6	1,710	---	---
	01-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,740	---	---
	08-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,090	---	---
	15-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,230	---	---
	23-Jul-08	a	N	<0.2	<1	---	83.3	97.2	<5	<5	6,380	5,050	17,200	18,100	<5	1,210	---	---
	28-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,020	---	---
	20-Aug-08	a	N	<0.2 J	16.0	---	89.3	69.2	<1	<2.5	13,600	11,200	9,560	10,700	3.9	439	---	---
	17-Sep-08		N	<0.2	3.7	---	72.8	51.4	<1	<1	12,800	10,300	4,700	5,380	4.1	189	---	---
	15-Oct-08		N	<0.2	1.0	---	136	69.0	<1	<2.5	9,240	8,200	2,720	3,040	5.5	164	---	---
	12-Nov-08		N	<0.2	<1	---	83.3	49.6	<1	<1	19,700	8,090	1,640	3,030	5.2	5.41	---	---
	04-Feb-09	a	N	<0.2	<1	---	160	35.6	1.4	<0.5	7,100	6,150	2,600	2,880	100	3.90	8.15	2.42 J
	13-May-09	a	N	<0.2	3.8	---	104	38.8	<0.2	<0.2	8,920	5,000	2,600	2,770	150	2.40 J	13.3	<1
	04-Aug-09	a	N	<0.2	<1	---	83.3	33.0	<0.2	---	---	3,790	2,320	---	240	2.3 UB	14.0	4.58 J
	28-Oct-09		**N**	**<0.2**	**<1**	---	**65.2**	**23.6**	**9.9**	---	---	**763**	**1,460**	---	**740**	**1.70**	**4.5**	**24.1 J**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-8M	18-Jul-07	a	N	3,960	4,120	4,140	---	---	31.8	<0.5	<500	<500	15.5	22.7	1,330	1.4	12.0 [1]	151 [1]
	23-Jan-08	a	N	4,050	4,030	---	---	---	34.9	<0.1	<500	<2,500	<2,500	<10	1,210	1.31	---	---
	05-Mar-08	a	N	3,820	3,910	---	ND	ND	33.9	<0.1	<500	<500	<500	<10	1,290	1.39	---	---
	13-Mar-08	a	N	3,870	3,870	---	ND	ND	32.4	<0.1	<500	<2,500	<2,500	<10	1,250	1.34	---	---
	19-Mar-08	a	N	4,030	3,850	---	ND	ND	32.6	<0.2	<500	<2,500	---	<10	1,230	1.15	---	---
	25-Mar-08	a	N	3,890	3,820	---	ND	ND	32.8	<0.2	<500	<2,500	<2,500	<10	1,230	1.02	---	---
	02-Apr-08	a	N	3,880	3,810	---	ND	ND	---	---	<500	<2,500	---	---	1,290	1.11	---	---
	16-Apr-08	a	N	3,670	3,730	---	ND	ND	---	---	<500	<2,500	---	---	1,280	<1	---	---
	29-Apr-08	a	N	3,570	3,760	---	ND	ND	31.5	<0.2	<500	<500	<500	<10	1,250	<1	---	---
	14-May-08	a	N	3,880	3,760	---	ND	ND	---	---	<500	<500	---	---	1,220	1.42	---	---
	28-May-08	a	N	3,830	3,660	---	ND	ND	12.6	<2.5	<500	<500	<500	12.8	1,010	<1	---	---
	11-Jun-08	a	N	2,720	3,500	---	0.32	ND	---	---	<500	<500	---	---	1,220	1.38	---	---
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	<2	---	---
	25-Jun-08	a	N	3,710	3,540	---	0.02	ND	30.2	<1	<500	<500	<500	<10	1,190	1.53	---	---
	25-Jun-08	a	FD	3,550	3,470	---	0.02	ND	30.9	<1	<500	<500	<500	<10	1,190	1.46	---	---
	01-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	1.58	---	---
	23-Jul-08	a	N	3,620	3,480	---	0.03	ND	29.4	<1	<500	<500	<500	<10	1,130	1.55	---	---
	20-Aug-08	a	N	2,770 J	2,740	---	1.92	ND	21.8	<1	<500	<500	<500	80	1,090	2.21	---	---
	17-Sep-08		N	1,950	2,310	---	0.49	0.07	18.5	<1	<500	<500	<500	231	1,040	2.40	---	---
	15-Oct-08		N	2,900	2,780	---	0.50	0.99	26.5	<1	<500	<500	<500	16	1,110	1.64	---	---
	12-Nov-08		N	1,660	1,650	---	2.05	2.82	12.0	1.21	<500	<500	<500	314	878	2.34	---	---
	04-Feb-09	a	N	1,170	1,350	---	68.6	2.92	11.0	<0.5	300	179	554	532	890	3.80	6.51	60.9 J
	13-May-09		N	702	698	---	101	1.52	6.1	<0.2	644	<100	882	985	590	1.90 J	6.17	23.1
	04-Aug-09	a	N	571	512	---	150	ND	6.0	---	---	582	1,590	---	630	2.4 UB	4.75	23.9 J
	28-Oct-09		**N**	**884**	**843**	---	**20.7**	**ND**	**<0.2**	---	---	**3,400**	**2,070**	---	**320**	**1.70**	**19.70**	**<1 UJ**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-8D	16-Jul-07	a	N	6,540	7,260	7,290	---	---	9.72	<0.2	2,620	<500	23.5	186	1,110	<1	91.6 [1]	9.10 [1]
	23-Jan-08	a	N	6,210	6,340	---	---	---	11.4	<0.5	<500	<5,000	<5,000	<10	1,080	<1	---	---
	05-Mar-08	a	N	6,510	6,600	---	ND	ND	10.7	<0.2	<500	<2,500	<2,500	<10	1,110	<1	---	---
	13-Mar-08	a	N	6,560	5,030	---	ND	ND	12.7	<0.5	<500	<2,500	<2,500	<10	1,270	<1	---	---
	18-Mar-08	a	N	5,750	5,280	---	ND	ND	11.8	<0.5	<500	<2,500	---	<10	1,130	<1	---	---
	25-Mar-08	a	N	5,380	5,310	---	ND	ND	12.3	<0.5	<500	<2,500	<2,500	<10	1,160	<1	---	---
	02-Apr-08	a	N	2,640	5,180	---	ND	ND	---	---	<500	<2,500	---	---	1,180	<1	---	---
	16-Apr-08	a	N	6,340	6,270	---	ND	ND	---	---	<500	<2,500	---	---	1,100	<1	---	---
	29-Apr-08	a	N	4,570	4,380	---	2.20	ND	12.9	<0.5	<500	<500	<500	<10	1,240	<1	---	---
	14-May-08	a	N	2,300	3,470	---	10.6	ND	---	---	<500	<500	---	---	1,210	8.24	---	---
	28-May-08	a	N	3,940	3,790	---	4.52	ND	11.2	<2.5	<500	<500	<500	82.1	1,170	<1	---	---
	11-Jun-08	a	N	3,310	3,530	---	6.92	ND	---	---	<500	<500	---	---	1,190	1.5	---	---
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	2.26	---	---
	25-Jun-08	a	N	2,120	2,550	---	48.7	ND	7.2	<2.5	<500	<500	929	975	1,140	91.1	---	---
	01-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	4.17	---	---
	08-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	50.9	---	---
	15-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	1.67	---	---
	23-Jul-08	a	N	3,000	2,700	---	8.78	ND	9.6	<2.5	<500	<500	<500	72.4	1,170	2.42	---	---
	28-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	24.6	---	---
	20-Aug-08	a	N	3,710 J	3,550	---	4.67	ND	9.3	<2.5	<500	<500	<500	107.0	1,130	1.39	---	---
	17-Sep-08	a	N	3,130	3,430	---	ND	ND	10.1	<2.5	<500	<2,500	<2,500	45.0	1,180	<1	---	---
	15-Oct-08		N	18	1,420	---	65.5	ND	7.0	<2.5	<500	<2,500	<2,500	1,410	1,120	58.1	---	---
	12-Nov-08		N	714	802	---	33.2	ND	5.5	<1	<500	<2,500	<2,500	952	1,120	1.64	---	---
	04-Feb-09	a	N	982	1,180	---	18.3	ND	9.3	<1	<100	152	406	532	1,400	0.6	---	---
	04-Feb-09	a	FD	966	1,170	---	20.0	ND	8.9	<1	<100	198	424	490	1,300	<0.5	65.0	5.21 J
	13-May-09		N	1,440	1,630	---	9.53	ND	5.4	<0.5	108	<100	268	362	960	<0.5	82.2	<1
	04-Aug-09	a	N	1,450	1,390	---	1.82	ND	9.1	---	---	591	220	---	1,100	<0.5	67.7	<1 UJ
	28-Oct-09		**N**	**1,760**	**1,710**	---	**2.16**	**ND**	**10.0**	---	---	**891**	**265**	---	**1,200**	**<0.5**	**71.6**	**<1 UJ**
	28-Oct-09		**FD**	**1,780**	**1,590**	---	**2.36**	**ND**	**10.0**	---	---	**885**	**254**	---	**1,200**	**<0.5**	**65.9**	**<1 UJ**

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PG&E Topock
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-9S	17-Jul-07	a	N	1,180	1,150	1,170	---	---	16.4	<0.1	1,080	<500	29	125	689	1.24	48.4 [1]	56.9 [1]
	22-Jan-08	a	N	1,380	1,250	---	---	---	17.3	<0.5	917	1,000	<500	36.7	644	<1	---	---
	05-Mar-08	a	N	1,380	1,340	---	0.01	ND	17.7	<0.1	1,060	<500	<500	145	718	<1	---	---
	12-Mar-08	a	N	1,140	1,010	---	ND	ND	16.3	<0.1	<500	<500	<500	12.5	525	<1	---	---
	19-Mar-08	a	N	1,390	1,380	---	ND	ND	17.6	<0.1	<500	<2,500	---	21.7	633	<1	---	---
	26-Mar-08	a	N	1,350	1,310	---	ND	ND	17.5	<0.1	<500	<2,500	<2,500	16.5	668	<1	---	---
	02-Apr-08	a	N	1,340	1,300	---	ND	ND	---	---	<500	<2,500	---	---	670	<1	---	---
	16-Apr-08	a	N	1,410	1,350	---	0.04	ND	---	---	<500	<2,500	---	---	424	<1	---	---
	29-Apr-08	a	N	1,050	1,080	---	ND	ND	17.3	<0.1	<500	<500	<500	16.6	559	<1	---	---
	14-May-08	a	N	1,060	1,030	---	ND	ND	---	---	<500	<500	---	---	563	<1	---	---
	28-May-08	a	N	1,280	1,210	---	ND	ND	17.5	<0.5	635	<500	<500	52.1	643	<1	---	---
	11-Jun-08	a	N	1,270	1,180	---	ND	ND	---	---	719	<500	---	---	678	---	---	---
	25-Jun-08	a	N	1,030	1,060	---	0.02	ND	15.9	<0.5	<500	<500	<500	33.3	595	<1	---	---
	24-Jul-08	a	N	1,450	1,240	---	ND	ND	16.6	<1	1,310	<500	<500	194.0	627	1.25	---	---
	20-Aug-08	a	N	1,460	1,390	---	1.55	2.2	17.0	<1	1,240	<500	<500	164.0	667	1.25	---	---
	17-Sep-08		N	1,290	1,400	---	4.36	ND	16.0	<0.5	<500	<500	<500	22.2	689	1.22	---	---
	15-Oct-08		N	929	889	---	2.93	0.81	11.4 J	<0.5	<500	<500	<500	28.3	558	1.15	---	---
	12-Nov-08		N	530	484	---	56.3	1.84	8.9	<0.5	1,480	<500	1,280	1,820	377	146	---	---
	05-Feb-09	a	N	633	458	---	25.2	3.54	14.0 UB	<0.1	5,850	<100	893	973	720	7.0	28.3	54.3 J
	14-May-09		N	826	936	---	121	1.60	13.0	<0.2	9,180	<100	800	1,110	510	44.0	31.4	41.5
	05-Aug-09		N	1,060	1,180	---	159	1.23	14.0	---	---	300	683	---	520	2.2	28.8	40.8
	29-Oct-09		**N**	**1,010**	**956**	---	**ND**	**ND**	**10.0**	---	---	**329 J**	**559**	---	**440**	**2.6**	**32.9**	**32.8**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-9M	17-Jul-07	a	N	2,340	2,270	2,250	---	---	24.4	<0.1	<500	<500	18.7	27.2	1,410	1.17	7.07 [1]	165 [1]
	17-Jul-07	a	FD	2,240	2,270	2,220	---	---	24.6	<0.1	<500	<500	18.2	32.3	1,410	1.21	7.53 [1]	173 [1]
	22-Jan-08	a	N	2,940	2,400	---	---	---	24.3	<0.5	<500	<500	<500	<10	1,390	1.02	---	---
	05-Mar-08	a	N	2,310	2,400	---	ND	ND	24.5	<0.1	<500	<500	<500	<10	1,460	<1	---	---
	12-Mar-08	a	N	2,590	2,360	---	ND	ND	22.3	<0.1	<500	<500	<500	<10	1,370	<1	---	---
	19-Mar-08	a	N	2,660	2,570	---	0.06	ND	23	<0.2	<500	<2,500	---	<10	1,430	<1	---	---
	26-Mar-08	a	N	2,610	2,490	---	0.13	ND	23.5	<0.2	<500	<2,500	<2,500	<10	1,340	<1	---	---
	26-Mar-08	a	FD	2,500	2,500	---	ND	ND	23.5	<0.2	<500	<2,500	<2,500	<10	1,340	<1	---	---
	02-Apr-08	a	N	2,520	2,510	---	ND	ND	---	---	1,260	<2,500	---	---	1,510	<1	---	---
	16-Apr-08	a	N	2,550	2,570	---	ND	ND	---	---	<500	<2,500	---	---	908	<1	---	---
	29-Apr-08	a	N	2,370	2,360	---	ND	ND	22.2	<0.2	<500	<500	<500	<10	1,460	<1	---	---
	14-May-08	a	N	2,550	2,430	---	ND	ND	---	---	<500	<500	---	---	1,450	<1	---	---
	28-May-08	a	N	2,500	2,300	---	0.05	ND	23.6	<1	<500	<500	<500	<10	1,410	<1	---	---
	11-Jun-08	a	N	2,500	2,330	---	ND	ND	---	---	<500	<500	---	---	1,460	---	---	---
	25-Jun-08	a	N	2,460	2,260	---	ND	ND	21.3	<1	<500	<500	<500	<10	1,450	1.28	---	---
	24-Jul-08	a	N	2,620	2,230	---	ND	ND	20.7	<1	<500	<500	<500	<10	1,400	1.47	---	---
	20-Aug-08	a	N	2,500	2,400	---	0.06	ND	21.5	<1	<500	<500	<500	<10	1,420	1.38	---	---
	17-Sep-08		N	2,260	2,590	---	ND	0.04	22.1	<1	<500	<2,500	<2,500	<10	1,480	<1	---	---
	15-Oct-08		N	2,660	2,630	---	ND	ND	26.1 J	<1	<500	<500	<500	<10	1,490	1.07	---	---
	12-Nov-08		N	2,590	2,800	---	ND	ND	23.6	<0.5	<500	<2,500	<2,500	<10	1,450	1.00	---	---
	05-Feb-09	a	N	2,680	2,590	---	0.03	ND	23.0 J	<0.2	1,480 J	134	1.06	24.6	1,800	0.63	7.61	163 J
	14-May-09		N	2,580	2,750	---	ND	ND	22.0 J	<0.2	1,560 J	117 J	1.12	27.5	1,400	0.79 J	7.22	101
	05-Aug-09	a	N	2,490	2,580	---	ND	ND	20.0	---	---	1,030	<1	---	1,400	0.64 UB	7.05	121
	29-Oct-09		**N**	**2,560**	**2,600**	---	**ND**	**ND**	**20.0 J**	---	---	**1,370 J**	**<1**	---	**1,500**	**0.66**	**7.76**	**114**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PT-9D	17-Jul-07	a	N	15,700	15,600	<1	---	---	9.3	<0.2	<500	<500	29.4	33.8	1,260	1.14	92.2 [1]	9.06 [1]
	22-Jan-08	a	N	17,400	15,300	---	---	---	11.8	<0.5	<500	<5,000	<5,000	<10	1,390	<1	---	---
	22-Jan-08	a	FD	16,400	15,500	---	---	---	10.9	<0.5	<500	<5,000	<5,000	<10	1,310	<1	---	---
	05-Mar-08	a	N	16,000	15,600	---	ND	ND	9.9	<0.2	<500	<2,500	<2,500	15.8	1,470	<1	---	---
	12-Mar-08	a	N	13,500	12,500	---	ND	ND	12.5	<0.5	<500	<2,500	<2,500	<10	1,390	<1	---	---
	19-Mar-08	a	N	14,800	14,300	---	ND	ND	12.4	<0.5	<500	<2,500	---	<10	1,370	<1	---	---
	26-Mar-08	a	N	14,600	14,100	---	ND	ND	12.4	<0.5	<500	<2,500	<2,500	<10	1,320	<1	---	---
	02-Apr-08	a	N	13,900	14,400	---	ND	ND	---	---	<500	<2,500	---	---	1,430	<1	---	---
	16-Apr-08	a	N	14,900	15,400	---	ND	ND	---	---	<500	<2,500	---	---	1,350	<1	---	---
	29-Apr-08	a	N	11,000	10,600	---	ND	ND	12.9	<1	<500	<500	<500	<10	1,400	<1	---	---
	14-May-08	a	N	10,600	10,700	---	ND	ND	---	---	<500	<500	---	---	1,340	<1	---	---
	28-May-08	a	N	12,000	11,700	---	ND	ND	12.9	<2.5	<500	<500	<500	<10	1,330	<10	---	---
	11-Jun-08	a	N	13,600	12,300	---	ND	ND	---	---	<500	<500	---	---	1,400	<2	---	---
	11-Jun-08	a	FD	14,500	12,200	---	0.29	ND	---	---	<500	<500	---	---	1,380	<2	---	---
	25-Jun-08	a	N	10,500	9,680	---	ND	ND	13.6	<2.5	<500	<500	<500	<10	1,330	<5	---	---
	24-Jul-08	a	N	10,900	9,920	---	ND	ND	13.1	<2.5	<500	<500	<500	<10	1,320	11.9	---	---
	20-Aug-08	a	N	13,000 J	14,900	---	0.02	ND	10.7	<2.5	<500	<500	<500	<10	1,320	1.15	---	---
	20-Aug-08	a	FD	7,090 J	14,800	---	---	---	10.8	<2.5	<500	<500	<500	<10	1,310	1.17	---	---
	17-Sep-08		N	12,100	14,000	---	ND	ND	11.4	<2.5	<500	<2,500	<2,500	<10	1,440	<1	---	---
	15-Oct-08		N	9,920	9,650	---	ND	ND	14.6	<1	<500	<2,500	<2,500	<10	1,440	<2	---	---
	12-Nov-08		N	13,500	13,400	---	ND	ND	12.5	<2.5	<500	<2,500	<2,500	<10	1,380	1.82	---	---
	05-Feb-09	a	N	15,300	13,400	---	ND	ND	14.0 UB	<0.5	335	527	<5	8.12	1,800	<2.5	74.4	14.0 J
	15-May-09		N	13,800	13,800	---	ND	ND	12.0	<0.5	400	459 J	1.05	10.2	1,400	<0.5	84.5	<1
	05-Aug-09		N	12,300	11,600	---	ND	ND	11.0	---	---	974	<1	---	1,400	<2.5	64.3	<1
	28-Oct-09		**N**	**14,000**	**14,200**	---	**ND**	**ND**	**11.0**	---	---	**1,640**	**<1**	---	**1,400**	**<2.5**	**84.1**	**<1 UJ**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
MW-11	17-Jul-07	a	N	321	314	339	---	---	8.4	<0.1	<500	<500	<5	<10	251	1.06	11.3 [1]	6.12 [1]
	24-Jan-08	a	N	321	310	---	---	---	8.7	<0.1	<500	<500	<500	<10	241	<1	---	---
	04-Mar-08	a	N	299	290	---	ND	---	9.7	<0.1	<500	<500	<500	<10	236	<1	---	---
	11-Mar-08	a	N	289	288	---	ND	ND	8.9	<0.1	<500	<500	<500	<10	240	<1	---	---
	11-Mar-08	a	FD	286	285	---	ND	ND	9.0	<0.1	<500	<500	<500	<10	248	<1	---	---
	19-Mar-08	a	N	340	332	---	ND	ND	9.3	<0.1	<500	<2,500	---	<10	231	<1	---	---
	27-Mar-08	a	N	331	308	---	0.04	ND	8.9	<0.1	<500	<500	<500	<10	238	<1	---	---
	01-Apr-08	a	N	316	306	---	0.03	ND	---	---	<500	<500	---	---	237	<1	---	---
	15-Apr-08	a	N	311	319	---	ND	ND	---	---	<500	<500	---	---	222	<1	---	---
	28-Apr-08	a	N	284	266	---	ND	ND	8.6	<0.1	<500	<500	<500	<10	226	<1	---	---
	13-May-08	a	N	280	281	---	ND	ND	---	---	<500	<500	---	---	229	<1	---	---
	27-May-08	a	N	286	238	---	ND	ND	8.6	<0.5	<500	<500	<500	<10	220	<1	---	---
	10-Jun-08	a	N	275	265	---	ND	ND	---	---	---	<500	---	---	227	<1	---	---
	24-Jun-08	a	N	286	244	---	0.02	ND	8.7	<0.5	<500	<500	<500	<10	226	<1	---	---
	22-Jul-08	a	N	296	256	---	ND	ND	8.6	<0.5	<500	<500	<500	<10	220	<1	---	---
	21-Aug-08	a	N	281	240	---	ND	ND	8.3	<0.5	<500	<500	<500	<10	223	<1	---	---
	16-Sep-08		N	262	256	---	ND	ND	8.5	<0.5	<500	<500	<500	<10	227	<1	---	---
	14-Oct-08		N	264	312	---	ND	ND	8.4	<0.5	<500	<500	<500	<10	217	<1	---	---
	11-Nov-08		N	305	303	---	ND	ND	8.6	<0.5	<500	<500	<500	<10	266	<1	---	---
	03-Feb-09	a	N	299	336	---	0.02	ND	9.8	<0.1	<100	<100	<1	<1	290	0.58	9.31	8.99
	14-May-09		N	234	268	---	3.43	ND	8.7	<0.1	714 J	<100	2.78	19.1	200	5.5 J	9.96	8.56

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MW-24A	18-Jul-07	a	N	2,480	2,550	2,600	---	---	18.3	<0.1	<500	<500	<5	<10	372	3.82	47.9 [1]	3.36 [1]
	24-Jan-08	a	N	2,620	2,570	---	---	---	18.5	<0.1	<500	<500	<500	<10	380	3.79	39.6	<5
	06-Mar-08	a	N	3,890	4,190	---	ND	ND	13.5	<1	<500	<500	<500	401	1,210	367	28.7	58.2
	12-Mar-08	a	N	1,650	2,510	---	8.55	458	<10	<2	<500	<2,500	<2,500	417	1,170	1,160	---	---
	19-Mar-08	a	N	1.6	5.76	---	1,320	296	<2.5	<0.5	<500	<2,500	---	1,280	854	2,460	---	---
	26-Mar-08	a	N	10.6	12.90	---	9,450	776	<5	<1	1,030	<2,500	<2,500	2,380	347	4,890	---	---
	01-Apr-08	a	N	<1	5.46	---	10,650	1,994	---	---	2,080	<2,500	---	---	129	12,900	---	---
	17-Apr-08	a	N	15.7	9.79	---	191	496	---	---	1,820	<2,500	---	---	46.1	3,690	<25	<25
	30-Apr-08	a	N	<1	7.18	---	21.5	38.8	<5	<1	670	<500	1,320	1,360	624	1,160	---	---
	30-Apr-08	a	FD	<1	8.19	---	21.5	53	<5	<1	680	<500	1,330	1,350	624	1,160	---	---
	15-May-08	a	N	<0.2	5.04	---	41.0	42.8	---	---	1,520	853	---	---	831	1,650	11.6	33.8
	15-May-08	a	FD	<0.2	4.88	---	42.0	39	---	---	1,540	861	---	---	821	1,660	---	---
	27-May-08	a	N	<2.1	5.42	---	14.4	70.6	<1	<2.5	2,160	1,560	3,550	3,740	21	1,350	---	---
	12-Jun-08	a	N	2.3	4.56	---	21.2	65.2	---	---	2,440	671	---	---	267	1,130	---	---
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	---
	26-Jun-08	a	N	<0.2	26.00	---	2.41	2.98	5.4	<2.5	1,890	758	1,550	1,630	1,110	42.6	---	---
	01-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	<400	---	---
	24-Jul-08	a	N	<1.0	39.10	---	2.74	4.08	4.2	<2.5	2,370	527	647	653	1,230	<1	21.2	32.2
	24-Jul-08	a	FD	<1.0	43.40	---	2.55	4.66	3.2	<2.5	2,350	560	672	768	1,190	12.1	---	---
	19-Aug-08	a	N	1.5 J	1.46	---	5.38	73.0	<1	<1	548	<500	1,430	1,670	982	9.4	<5	<5
	16-Sep-08		N	<0.2	4.38	---	2.62	41.6	<1	<1	<500	<500	1,510	1,720	16	800.0	<5	<5
	16-Oct-08		N	5.8	6.72	---	1.61	0.7	<0.5	<1	2,380	519	1,100	1,330	868	89.5	5.16	13.3
	13-Nov-08		N	<0.2	9.10	---	1.57	3.8	<0.5	<1	2,010	<2,500	<2,500	1,140 J	644	51.6	<25	<25
	13-Nov-08		FD	<0.2	7.19	---	1.48	2.8	<2.5	<2.5	3,490	<2,500	<2,500	1,020 J	690	79.7	---	---
	03-Feb-09	a	N	<0.2	4.30	---	4.48	32.6	<0.5	<0.5	2,410	156	964	863	1,200	4.0	1.17	4.33 J
	14-May-09		N	<1.0	1.30	---	12.7	66.6	<0.5	<0.5	1,120	363 J	750	750	680	5.3	3.35	2.75
	03-Aug-09	a	N	<0.2	<1	---	15.5	56.4	<0.2	---	---	2,130	3,260	---	520	6.3	<5	<5
	27-Oct-09		**N**	**<0.2**	**1.18**	---	**22.7**	**66.6**	**<0.2**	---	---	**649**	**1,010**	---	**200**	**3.7**	**<1**	**<1 UJ**

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
MW-24B	18-Jul-07	a	N	5,540	6,020	5,680	---	---	12.1	<0.1	<500	<500	22.7	25.1	1,060	<1	59.8 [1]	10.9 [1]
	24-Jan-08	a	N	4,870	4,760	---	---	---	11.3	<0.5	<500	<1,000	<1,000	20.3	1,050	<1	---	---
	06-Mar-08	a	N	4,510	4,110	---	ND	ND	11.2	<0.2	<500	<500	<500	15.4	1,030	<1	---	---
	12-Mar-08	a	N	4,530	4,310	---	ND	ND	12	<0.2	<500	<2,500	<2,500	12.9	996	<1	---	---
	19-Mar-08	a	N	4,690	4,470	---	ND	ND	12.6	<0.5	<500	<2,500	---	15.7	1,010	<1	---	---
	26-Mar-08	a	N	4,160	4,220	---	ND	ND	12	<0.5	<500	<2,500	<2,500	13.6	1,020	<1	---	---
	03-Apr-08	a	N	4,310	4,240	---	0.15	ND	---	---	<500	<2,500	---	15	1,040	<1	---	---
	17-Apr-08	a	N	4,180	4,260	---	0.02	ND	---	---	<500	<2,500	---	---	1,120	<1	---	---
	30-Apr-08	a	N	3,400	3,790	---	ND	ND	9.96	<0.2	<500	<500	<500	14.2	1,050	4.42	---	---
	15-May-08	a	N	3,580	3,780	---	ND	ND	---	---	<500	<500	---	---	1,050	<1	---	---
	28-May-08	a	N	3,620	3,530	---	0.07	ND	31.0	<1	<500	<500	<500	<10	1,180	1.02	---	---
	12-Jun-08	a	N	3,690	3,730	---	ND	ND	---	---	<500	<500	---	---	1,080	<1	---	---
	26-Jun-08	a	N	3,720	3,280	---	0.03	ND	12.5	<2.5	<500	<500	<500	14.7	995	<1	---	---
	24-Jul-08	a	N	3,180	2,690	---	ND	ND	12.2	<5	<500	<500	<500	13.5	1,010	1.03	---	---
	19-Aug-08	a	N	3,200	2,730	---	ND	ND	11.9	<1	<500	<500	<500	11.3	1,020	1.21	---	---
	17-Sep-08	a	N	2,680	2,820	---	ND	ND	11.8	<2.5	<500	<2,500	<2,500	19.5	1,070	1.09	---	---
	16-Oct-08		N	2,700	2,640	---	ND	ND	13.0	<2.5	<500	<2,500	<2,500	13.4	1,060	<1	---	---
	16-Oct-08		FD	2,560	2,610	---	ND	ND	13.0	<2.5	<500	<2,500	<2,500	13.9	1,060	<1	---	---
	13-Nov-08		N	2,470	2,540	---	ND	ND	13.2	<2.5	<500	<2,500	<2,500	17.4	1,120	2.56	---	---
	04-Feb-09	a	N	2,480	2,210	---	ND	ND	<13.0 UB	<0.2	<100	246	17.1	17.9	1,300	3.10	55.4	<1 UJ
	14-May-09		N	2,300	2,800	---	ND	ND	10.0	<0.5	<100	<100	17.1	18.3	990	<0.5	62.7	<1
MW-38S	17-Jul-07	a	N	911	920	948	---	---	10.5	<0.1	1,910	<500	<5	234	465	1.07	65.3 [1]	7.15 [1]
	23-Jan-08	a	N	899	885	---	---	---	10.7	<0.1	<500	<500	<500	<10	366	<1	71.1	5.49
	04-Mar-08	a	N	900	912	---	ND	ND	11.5	<0.1	<500	<500	<500	14.7	399	<1	---	---
	11-Mar-08	a	N	948	942	---	ND	ND	11.2	<0.1	<500	<500	<500	12.6	429	<1	---	---
	20-Mar-08	a	N	993	1,040	---	0.05	0.05	10.9	<0.1	<500	<2,500	---	<10	404	<1	---	---
	26-Mar-08	a	N	958	984	---	ND	ND	10.9	<0.1	<500	<2,500	<2,500	<10	404	<1	---	---
	01-Apr-08	a	N	999	852	---	0.08	ND	---	---	<500	<500	---	---	419	<1	---	---
	15-Apr-08	a	N	995	987	---	ND	ND	---	---	<500	<500	---	---	396	<1	---	---
	28-Apr-08	a	N	1,020	956	---	0.17	ND	10.7	<0.1	<500	<500	<500	<10	414	<1	---	---
	13-May-08	a	N	1,000	977	---	ND	ND	---	---	<500	<500	---	---	404	<1	---	---
	27-May-08	a	N	984	895	---	ND	ND	10.7	<0.5	<500	<500	<500	<10	399	<1	---	---
	10-Jun-08	a	N	992	959	---	ND	ND	---	---	1,140	<500	---	---	410	<1	---	---
	24-Jun-08	a	N	1,040	942	---	0.02	ND	10.4	<0.5	<500	<500	<500	<10	396	<1	66.4	5.33
	22-Jul-08	a	N	1,020	945	---	ND	ND	10.1	<0.5	<500	<500	<500	<10	390	<1	70.7	5.49
	20-Aug-08	a	N	1,020	1,020	---	0.02	ND	9.9	<0.5	<500	<500	<500	<10	371	<1	70.5	5.40
	16-Sep-08		N	987	999	---	ND	ND	9.9	<0.5	<500	<500	<500	<10	391	<1	70.3	5.39
	14-Oct-08		N	1,100	1,090	---	ND	ND	9.6	0.60	<500	<500	<500	<10	383	<1	69.9	5.15
	11-Nov-08		N	1,050	1,000	---	0.13	ND	10.1	<0.5	566	<500	<500	45.5	381	<1	72.0	5.35
	03-Feb-09	a	N	1,140	1,080	---	ND	ND	11.0	<0.1	425	269	10.4	15.5	490	0.97	67.9	7.96 J
	12-May-09		N	1,040	912	---	ND	ND	9.7 J	<0.1	36,500	106	6.59	582	320	0.80	75.3	6.43
	03-Aug-09	a	N	949	855	---	ND	ND	9.6	---	---	<100	5.99	---	340	0.89 UB	64.9	5.88 UB
	27-Oct-09		**N**	**1,040**	**927**	**---**	**ND**	**ND**	**9.3**	**---**	**---**	**108**	**<5.84 UB**	**---**	**310**	**0.67**	**67.1**	**6.59 J**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
MW-38D	17-Jul-07	a	N	104	72.1	66.2	---	---	0.70	<0.5	<500	<500	10.4	20.4	724	<1	77.9 [1]	<1 [1]
	23-Jan-08	a	N	58.8	67.7	---	---	---	<2.5	<0.5	<500	<10,000	<10,000	<10	723	<1	75.7	<5
	04-Mar-08	a	N	49.8	47	---	ND	ND	0.56	<0.5	<500	<500	<500	<10	735	<1	---	---
	11-Mar-08	a	N	50.4	53.8	---	ND	ND	0.58	<0.5	<500	<2,500	<2,500	<10	734	<1	---	---
	20-Mar-08	a	N	49.6	50.7	---	ND	ND	<2.5	<0.5	<500	<2,500	---	13	724	<1	---	---
	20-Mar-08	a	FD	51	50.9	---	ND	ND	<2.5	<0.5	<500	<2,500	---	11.9	711	<1	---	---
	26-Mar-08	a	N	48.7	50.1	---	ND	ND	<1	<0.5	<500	<2,500	<2,500	12.5	723	<1	---	---
	01-Apr-08	a	N	45.6	42.4	---	ND	ND	---	---	<500	<500	---	---	746	<1	---	---
	01-Apr-08	a	FD	47.6	41.8	---	0.02	ND	---	---	<500	<500	---	---	746	<1	---	---
	15-Apr-08	a	N	43.8	45.8	---	ND	ND	---	---	<500	<500	---	---	738	<1	---	---
	15-Apr-08	a	FD	46.1	45.8	---	0.04	ND	---	---	<500	<500	---	---	748	<1	---	---
	28-Apr-08	a	N	48	46.2	---	ND	ND	0.54	<0.5	<500	<2,500	<2,500	16.6	734	<1	---	---
	13-May-08	a	N	53	50.1	---	ND	ND	---	---	<500	<500	---	---	743	<1	---	---
	27-May-08	a	N	53	48.3	---	ND	ND	0.59	<5	<500	<500	<500	12.7	748	<1	---	---
	10-Jun-08	a	N	50.9	47.7	---	0.05	ND	---	---	<500	<500	---	---	741	<1	---	---
	24-Jun-08	a	N	55.5	48.3	---	ND	ND	0.57	<0.5	<500	<500	<500	13.3	737	<1	77.6	<5
	22-Jul-08	a	N	56.3	52.3	---	ND	ND	<0.5	<5	<500	<500	<500	<10	734	<1	80.3	<5
	20-Aug-08	a	N	54.1	47.2	---	ND	ND	<2.5	<2.5	<500	<500	6,950	<10	721	<1	---	---
	16-Sep-08		N	48.8	52.5	---	ND	ND	<0.5	<2.5	<500	<500	<500	<10	763	<1	75.9	<5
	16-Sep-08		FD	50.5	57.0	---	ND	ND	0.54	<2.5	<500	<2,500	<2,500	<10	760	<1	75.8	<25
	14-Oct-08		N	71.7	70.2	---	ND	ND	0.68	<2.5	<500	<2,500	<2,500	<10	672	<1	81.4	<25
	11-Nov-08		N	55.8	53.4	---	ND	ND	0.77	<2.5	<500	<500	<500	<10	655	<1	72.2	<5
	03-Feb-09	a	N	45.4	52.4	---	0.02	ND	<0.5	<0.5	<100	<100	4.16	5.95	940	<0.5	70.4	<1 UJ
	12-May-09		N	44.7	44.7	---	ND	ND	<1.0	<1.0	<100	<100	4.33	5.18	780	<0.5	85.6	<1
	12-May-09		FD	43.0	40.6	---	ND	ND	<1.0	<1.0	<100	<100	4.08	5.00	780	<0.5	85.0	<1
	03-Aug-09	a	N	51.5	44.5	---	ND	ND	0.75	---	---	713 J	<5	---	720	<0.5	77.4	8.98 UB
	03-Aug-09	a	FD	52.8	56.2	---	---	---	<0.5	---	---	737 J	<5	---	710	<0.5	78.4	12
	27-Oct-09		**N**	**54.9**	**46.1**	---	**ND**	**ND**	**<1**	---	---	**888**	**<3.13 UB**	---	**760**	**<0.5**	**78.7**	**<1 UJ**

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PTR-1	19-Jul-07	a	N	538	713	1,240	---	---	18.4	<0.1	6,010	<500	92.2	119	983	<1	51.6 [1]	54.0 [1]
	25-Jan-08	a	N	904	991	---	---	---	20.4	<0.1	2,920	<500	<500	25.8	742	3.82	---	---
	06-Mar-08	a	N	356	334	---	333,750	ND	<500	<100	<500	<2,500	<2,500	1,070	1,460	11,200	---	---
	11-Mar-08	a	N	945	846	---	2,070	ND	11.4	<1	<500	<2,500	<2,500	633	671	29,700	---	---
	20-Mar-08	a	N	76.8	125	---	30,375	ND	<50	<10	540	<2,500	---	437	440	63,400	---	---
	27-Mar-08	a	N	<1	<5	---	8,700	ND	<20	<4	1,660	<2,500	<2,500	867	122	122,000	---	---
	01-Apr-08	a	N	<1	<5	---	12,525	ND	---	---	2,160	<2,500	---	---	356	2,890	---	---
	16-Apr-08	a	N	20.2	99.2	---	84	ND	---	---	750	<2,500	---	---	386	37,200	---	---
	28-Apr-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	208,000	---	---
	29-Apr-08	a	N	<0.2	93.9	---	1,320	ND	5.9	<1	<500	<500	5,350	5,890	359	205,000	---	---
	15-May-08	a	N	<2.1	170	---	364	ND	---	---	524	<500	---	---	428	2,360	---	---
	29-May-08	a	N	<2	3.1	---	24	ND	1.5	<0.5	2,670	<500	708	919	520	27,900	---	---
	12-Jun-08	a	N	<2	1.8	---	31.8	---	---	---	2,310	1,040	---	---	644	80.30	---	---
	19-Jun-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	107	---	---
	26-Jun-08	a	N	<0.2	5.2	---	26.0	ND	5.3	6.04	718	<500	1,050	1,200	658	28.20	---	---
	01-Jul-08		N	---	---	---	---	---	---	---	---	---	---	---	---	12.30	---	---
	24-Jul-08	a	N	<1.0	49.3	---	29.6	ND	3.5	7.44	998	<500	1,770	2,200	586	18.70	---	---
	19-Aug-08	a	N	<0.2 UJ	30.9	---	8.33	ND	2.0	0.72	5,210	<500	507	623	659	968.0	---	---
	18-Sep-08		N	1.2	96.0	---	4.66	ND	9.3	0.71	8,970	<500	<500	519	731	6.46	---	---
	16-Oct-08		N	0.3	16.5	---	4.75	ND	11.1	<1	15,400	<500	<500	322	713	3.45	---	---
	13-Nov-08		N	0.4	16.0	---	12.1	ND	<0.5	<0.5	7,530 J	<500	528	764 J	161	12,400	---	---
	04-Feb-09	a	N	<0.2	<1	---	8.03	ND	0.7	<0.5	6,550	4,250	12,800	14,000	280	740	2.99	3.78 J
	14-May-09		N	<0.2	1.1	---	13.4	ND	<1.5	<0.2	18,300 J	18,100 J	4,330	4,180	210	310	1.74	<1

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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
PTR-2	18-Jul-07	a	N	3,190	3,380	4,020	---	---	25.8	<0.1	3,720	<500	68.7	73.6	1,200	1.63	26.0 [1]	82.8 [1]
	25-Jan-08	a	N	4,240	4,310	---	---	---	32.8	<0.1	6,920	<1,000	<1,000	29.4	1,280	6.35	---	---
	06-Mar-08	a	N	4,960	5,120	---	4,118	ND	29.1	<0.2	<500	<2,500	<2,500	<10	1,220	675	---	---
	11-Mar-08	a	N	5,120	5,150	---	0	0.16	29.6	<0.2	<500	<500	<500	<10	1,280	1,060	---	---
	20-Mar-08	a	N	3,170	3,160	---	2,228	96,400	<250	<50	<500	<2,500	---	55.1	514	83,000	---	---
	27-Mar-08	a	N	1,800	1,720	---	1,403	39,000	<500	<100	<500	<2,500	<2,500	131	<500	117,000	---	---
	01-Apr-08	a	N	4,190	4,370	---	848	81.80	---	---	<500	<2,500	---	---	1,190	3,090	---	---
	15-Apr-08	a	N	2,030	2,080	---	20	39.00	---	---	<500	<2,500	---	---	762	31,900	---	---
	28-Apr-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	220,000	---	---
	29-Apr-08	a	N	4,900	4,870	---	3.49	21.4	26.9	<0.2	<500	<500	<500	95.3	1,250	206,000	---	---
	15-May-08	a	N	4,790	4,840	---	0.86	8.88	---	---	<500	<500	---	---	1,240	8.38	---	---
	28-May-08	a	N	3,870	3,920	---	0.33	17.0	10.7	<1	<500	<500	<500	183	1,010	25,200	---	---
	10-Jun-08	a	N	4,350	4,970	---	0.36	8.58	---	---	<500	<500	---	---	1,200	201	---	---
	19-Jun-08		N	---	---	---	---	---	---	---	---	---	---	---	---	39	---	---
	26-Jun-08	a	N	4,570	4,240	---	1.06	1.54	26.1	<2.5	<500	<500	<500	31.2	1,160	<20	---	---
	01-Jul-08	a	N	---	---	---	---	---	---	---	---	---	---	---	---	<10	---	---
	24-Jul-08	a	N	4,620	4,420	---	2.02	1.41	24.4	<2.5	<500	<500	<500	18.6	1,160	54	---	---
	19-Aug-08	a	N	1,620 J	1,900	---	ND	4.90	<0.5	<1	2,370	<5,000	<5,000	79.8	782	29,100	---	---
	18-Sep-08		N	719	2,070	---	0.87	3.44	8.9	0.83	1,110	<500	<500	145	654	47,400	---	---
	16-Oct-08		N	3,900	3,780	---	1.19	0.38	19.7	<2.5	<500	<2,500	<2,500	49.3	1,180	2,690	---	---
	13-Nov-08		N	3,900	4,220	---	0.11	0.60	14.9	5.25	<500	<2,500	<2,500	43.4 J	1,080	3.74	---	---
	05-Feb-09	a	N	1,670	1,600	---	1.42	0.47	14.0	<0.2	594 J	167	557	534	1,300	0.56	39.9	22.9 J
	13-May-09		N	2,330	2,320	---	0.15	0.22	9.5	<0.5	1,200	125	379	448	1,000	0.69 J	35.1	5.18

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
Needles, California
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
Equipment Balnks	17-Jul-07	a	EB	<0.2	<1	<1	---	---	<0.5	<0.1	<500	<500	<5	<10	<0.5	<1	---	---
	22-Jan-08	a	EB	<0.2	<1	---	---	---	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	05-Mar-08	a	EB	<0.2	1.7	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	0.63	<1	---	---
	11-Mar-08	a	EB	<0.2	<1	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	0.69	<1	---	---
	18-Mar-08	a	EB	<1	<1	---	ND	ND	<0.5	<0.1	<500	<500	---	<10	<0.5	<1	---	---
	25-Mar-08	a	EB	<42	3.31	---	0.02	ND	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	03-Apr-08	a	EB	<0.2	<1	---	ND	ND	---	---	<500	<500	---	<10	<0.5	<1	---	---
	15-Apr-08	a	EB	<0.2	<1	---	ND	ND	---	---	<500	<500	---	---	<0.5	1.4	---	---
	28-Apr-08	a	EB	<0.2	<1	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	13-May-08	a	EB	<0.2	<1	---	ND	ND	---	---	<500	<500	---	---	<0.5	<1	---	---
	28-May-08	a	EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	10-Jun-08	a	EB	<0.2	<1	---	---	---	---	---	<500	<500	---	---	<0.5	<1	---	---
	19-Jun-08		EB	---	---	---	---	---	---	---	---	---	---	---	---	<1	---	---
	24-Jun-08	a	EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	01-Jul-08		EB	---	---	---	---	---	---	---	---	---	---	---	---	<1	---	---
	22-Jul-08	a	EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	19-Aug-08	a	EB	<0.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-08	a	EB	---	<1	---	ND	ND	1.13	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	16-Sep-08		EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	14-Oct-08		EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	11-Nov-08		EB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	03-Feb-09		EB	<0.2	<1	---	ND	ND	<0.1	<0.1	<100	<100	<1	<1	1.1	<0.5	---	---
	14-May-09		EB	<0.2	<1	---	ND	ND	0.6	<0.1	<100	<100	<1	<5	2.2	2.8	<1	<1
	03-Aug-09		EB	0.24	<1	---	---	---	<0.1	---	---	<100	<1	---	1.6	<0.5	<1	<1
	29-Oct-09		EB	<0.2	<1	---	ND	ND	<0.1	---	---	<100	<1	---	1.2	<0.5	<1	<1

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)
Field Blanks	17-Jul-07	a	FB	<0.2	<1	<1	---	---	<0.5	<0.1	<500	<500	<5	<10	<0.5	<1	---	---
	22-Jan-08	a	FB	<0.2	<1	---	---	---	<0.5	<0.1	<500	<500	<500	<10	36.4	<1	---	---
	05-Mar-08	a	FB	<0.2	<1	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	0.63	<1	---	---
	11-Mar-08	a	FB	<0.2	1.15	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	18-Mar-08	a	FB	<0.2	<1	---	ND	ND	<0.5	<0.1	<500	<500	---	<10	<0.5	<1	---	---
	25-Mar-08	a	FB	<0.2	<1	---	0.02	ND	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	03-Apr-08	a	FB	<0.2	<1	---	0.03	ND	---	---	<500	<500	---	<10	<0.5	<1	---	---
	15-Apr-08	a	FB	<0.2	<1	---	ND	ND	---	---	<500	<500	---	---	<0.5	<1	---	---
	28-Apr-08	a	FB	<0.2	<1	---	ND	ND	<0.5	<0.1	<500	<500	<500	<10	<0.5	<1	---	---
	13-May-08	a	FB	<0.2	<1	---	ND	ND	---	---	<500	<500	---	---	<0.5	<1	---	---
	28-May-08	a	FB	<0.2	---	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	10-Jun-08	a	FB	---	<1	---	---	---	---	---	<500	<500	---	---	<0.5	<1	---	---
	19-Jun-08		FB	---	---	---	---	---	---	---	---	---	---	---	---	<1	---	---
	24-Jun-08	a	FB	<0.2	<1	1	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	01-Jul-08		FB	---	---	---	---	---	---	---	---	---	---	---	---	<1	---	---
	22-Jul-08	a	FB	<0.2	<1	---	0.34	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	19-Aug-08	a	FB	<.02	<1	---	0.024	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	1.03	---	---
	16-Sep-08		FB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	14-Oct-08		FB	<0.2	<1	---	ND	ND	<0.5	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	11-Nov-08		FB	<0.2	<1	---	ND	ND	0.517	<0.5	<500	<500	<500	<10	<0.5	<1	---	---
	04-Feb-09		FB	<0.2	<1	---	0.02	ND	3.300	<0.5	<100	<100	<1	<5	<5	<0.5	---	---
	12-May-09		FB	<0.2	<1	---	ND	ND	<0.1	<0.1	<100	<100	<1	<5	2.0	<0.5	<1	<1
	03-Aug-09		FB	0.22	<1	---	---	---	<0.1	---	---	<100	<1	---	1.7	0.68	<1	1
	29-Oct-09		FB	<0.2	<1	---	0.03	ND	<0.1	---	---	<100	<1	---	3.1	<0.5	<1	<1

Table 3
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PG&E Topock
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Location Name	Sample Date	Notes	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Total Chromium (µg/L)	Fluorescein (ppb dye)	Rhodamine (ppb dye)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Total Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)

Notes:
Most recent data indicated in **BOLD**

a	Samples were diluted in the laboratory
Dissolved	Samples were field filtered with a 0.45 micron filter.
ft bgs	Feet below ground surface
mg/L	Milligrams per liter
µg/L	Micrograms per liter
<	Symbol indicates not detected at or above laboratory detection limit as noted
J	Reported value is estimated
N	Normal
ND	Non-detect
EB	Equipment blank
FB	Field blank
FD	Field duplicate
Nitrate-N	Nitrate as Nitrogen
Nitrite-N	Nitrite as Nitrogen
UB	The analyte was not detected, but the analyte was found in the associated blank.
UJ	The analyte was not detected above reporting limit. However, the reporting limit is approximate and may be inaccurate or imprecise.
---	Not analyzed/Not available
*	PTR-1 Screen: 125-160 and 175-220 ft bgs. PTR-2 Screen: 118-158 and 173-218 ft bgs.
**	Sample IDs were transcribed in the field. Data here are presented with the appropriate ID.

Starting with the February 2009 results, Calscience Laboratories was used for analysis, not EMAX laboratories.

[1]	Molybdenum and selenium results are Total, not Dissolved

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PT-7S	18-Jul-07	a	N	159,000	---	<5	9.65	14,500	999,000	125	<5	1,250	<0.5	<2	---
	23-Jan-08	a	N	259,000	42,400	<25	---	13,600	942,000	135	---	1,060	<0.5	<2	---
	06-Mar-08	a	N	147,000	30,000	<5	---	12,300	931,000	153	---	1,170	<0.5	<2	---
	13-Mar-08	a	N	141,000	28,100	<25	---	11,900	844,000	153	---	1,110	<0.5	<2	---
	18-Mar-08	a	N	179,000	30,100	---	---	12,900	885,000	160	<5	1,230	<0.5	<2	---
	25-Mar-08	a	N	160,000	30,600	<25	---	12,900	903,000	153	---	1,240	<0.5	<2	---
	02-Apr-08	a	N	163,000	34,900	---	---	13,400	982,000	135	<5	---	---	<2	---
	17-Apr-08	a	N	172,000	35,400	---	---	13,900	1,010,000	140	<5	---	---	<2	---
	29-Apr-08	a **	N	141,000	30,300	<5	---	12,800	897,000	170	<5	---	<0.5	<2	---
	15-May-08		N	140,000	28,900	---	---	12,300	873,000	175	<5	---	---	<2	---
	29-May-08	a	N	166,000	34,000	<5	---	13,600	1,010,000	145	---	1,270	<0.5	<2	---
	11-Jun-08	a	N	170,000	37,000	---	---	13,600	1,110,000	128	<5	---	---	<2	---
	24-Jun-08	a	N	139,000	27,100	<5	---	12,100	872,000	158	---	1,150	<0.5	<2	---
	23-Jul-08	a	N	154,000	36,200	<5	---	13,200	96,700	173	---	1,310	<0.5	<2	---
	21-Aug-08	a	N	221,000	42,800	5.61	---	15,400	1,330,000	580	---	1,310	<1	4.00	---
	18-Sep-08		N	149,000	31,400	<5	---	12,900	983,000	130	---	1,260	<0.5	<2	---
	15-Oct-08		N	151,000	33,100	12.1	---	11,900	918,000	352	---	1,420	<0.5	<2	---
	12-Nov-08		N	158,000	33,600	8.0	---	13,100	1,020,000	211	---	1,340	<0.5	<2	---
	05-Feb-09		N	153,000	40,400	5.3	---	14,000	1,220,000	162	---	1,500	<0.1	<0.05	---
	15-May-09	a	N	161,000	32,700 /J	3.2	---	12,300	975,000	144	---	1,400	<0.20	<0.05	---
	04-Aug-09		N	---	---	2.1	---	---	---	156	---	---	---	---	1.4
	29-Oct-09		**N**	---	---	**1.89**	---	---	---	**157**	---	---	---	---	**1.2**
PT-7M	19-Jul-07	a	N	419,000	---	<5	7.01	23,900	1,350,000	97.5	<5	1,920	<0.5	<2	---
	24-Jan-08	a	N	434,000	58,100	<10	---	24,600	1,460,000	80.0	---	2,180	<0.5	<2	---
	06-Mar-08	a	N	236,000	32,200	10.1	---	19,200	1,170,000	138	---	1,520	<0.5	<2	---
	06-Mar-08	a	FD	236,000	32,500	10.8	---	19,200	1,170,000	145	<5	1,490	<0.5	<2	---
	13-Mar-08	a	N	275,000	37,500	53	---	18,600	1,150,000	360	---	1,530	<0.5	<2	---
	18-Mar-08	a	N	273,000	37,900	---	---	17,300	1,140,000	650	<5	1,570	<5	8.00	---
	25-Mar-08	a	N	333,000	42,400	<25	---	18,000	1,170,000	920	---	1,560	<2.5	<2	---
	02-Apr-08	a	N	340,000	47,500	---	---	17,200	1,210,000	1,010	<5	---	---	8.00	---
	17-Apr-08	a	N	457,000	59,500	---	---	19,500	1,310,000	1,380	<5	---	---	<2	---
	29-Apr-08	a**	N	503,000	62,400	16.3	---	19,400	1,220,000	1,460	<5	---	<10	<2	---
	14-May-08		N	614,000	75,200	---	---	20,300	1,230,000	1,930	<5	---	---	<2	---
	29-May-08	a	N	697,000	71,200	28.6	---	19,900	1,180,000	1,720	---	1,090	<10	<2	---
	11-Jun-08	a	N	769,000	87,900	---	---	20,800	1,220,000	1,400	<5	---	---	<2	---
	25-Jun-08	a	N	874,000	81,100	35.4	---	20,800	1,110,000	1,800	---	1,110	<2.5	<2	---
	23-Jul-08	a	N	1,030,000	97,700	29.7	---	20,200	984,000	1,980	---	863	<2.5	<2	---
	21-Aug-08	a	N	1,380,000	133,000	31.4	---	22,900	1,290,000	2,780	---	1,020	<2.5	8.00	---
	18-Sep-08		N	994,000	82,600	46.9	---	20,600	1,100,000	2,160	---	1,080	<1	<2	---
	15-Oct-08		N	849,000	80,200	46.7	---	21,200	1,090,000	2,040	---	1,280	<2.5	<2	---
	12-Nov-08		N	225,000	52,800	54.8	---	16,800	1,020,000	1,010	---	1,230	<1	<2	---
	15-May-09	a	N	181,000	28,000	18.5	---	14,000	1,050,000	1,170	---	1,100	<0.20	0.25	---
	04-Aug-09		N	---	---	12.1	---	---	---	1,460	---	---	---	---	1.1
	29-Oct-09		**N**	**---**	**---**	**8.62**	**---**	**---**	**---**	**2,180**	**---**	**---**	**---**	**---**	**0.78**

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PT-7D	18-Jul-07	a	N	321,000	---	8	8.12	38,600	3,630,000	52.5	<5	5,490	<0.5	<2	---
	24-Jan-08	a	N	339,000	9,350	<10	---	39,100	3,890,000	47.5	---	5,540	<1	<2	---
	06-Mar-08	a	N	153,000	4,530	18.8	---	25,200	2,660,000	85.0	---	3,480	<0.5	<2	---
	13-Mar-08	a	N	141,000	<5000	<25	---	23,400	2,460,000	150	---	3,540	<0.5	<2	---
	18-Mar-08	a	N	174,000	5,650	---	---	24,100	2,620,000	280	<5	3,690	<1	10.4	---
	25-Mar-08	a	N	217,000	6,970	97.4	---	25,400	2,940,000	360	---	3,980	<1	17.6	---
	02-Apr-08	a	N	210,000	7,980	---	---	25,500	3,030,000	340	<5	---	---	6.80	---
	17-Apr-08	a	N	178,000	5,700	---	---	19,800	2,340,000	840	<5	---	---	20.8	---
	29-Apr-08	a	N	155,000	4,780	41.9	---	18,100	2,130,000	805	<5	---	<10	4.40	---
	15-May-08		N	188,000	6,370	---	---	19,300	2,110,000	920	<5	---	---	5.60	---
	29-May-08	a	N	215,000	6,640	27.7	---	20,400	2,280,000	1,040	---	2,670	<10	7.20	---
	11-Jun-08	a	N	286,000	7,090	---	---	19,300	2,170,000	1,330	<5	---	---	<2	---
	24-Jun-08	a	N	257,000	6,700	17.5	---	21,400	2,110,000	1,370	---	2,030	<10	5.60	---
	23-Jul-08	a	N	400,000	11,000	23.2	---	19,800	1,940,000	1,640	---	1,480	<5	<2	---
	21-Aug-08	a	N	472,000	14,300	33.0	---	21,200	2,270,000	2,080	---	1,480	<2.5	40.0	---
	18-Sep-08		N	433,000	11,400	23.3	---	21,600	198,000	1,960	---	1,460	<1	<2	---
	15-Oct-08		N	320,000	11,000	31.6	---	20,300	1,780,000	1,490	---	1,650	<1	6.40	---
	12-Nov-08		N	236,000	10,700	46.6	---	20,000	1,700,000	1,380	---	1,560	<2.5	26.0	---
	15-May-09	a	N	96,900	8,630	<0.5	---	18,300	3,150,000	922	---	4,400	<0.50	1.6	---
	04-Aug-09		N	---	---	24.1	---	---	---	2,190	---	---	---	---	2.1
	28-Oct-09		**N**	**---**	**---**	**<0.5**	**---**	**---**	**---**	**1,000**	**---**	**---**	**---**	**---**	**1.7**
PT-8S	16-Jul-07	a	N	132,000	---	<5	5.13	12,500	955,000	125	<5	1,190	<0.5	<2	---
	23-Jan-08	a	N	141,000	30,000	<25	---	12,600	1,040,000	128	---	1,220	<0.5	2.00	---
	05-Mar-08	a	N	120,000	26,000	<5	---	11,400	1,060,000	158	---	1,100	<0.5	<2	---
	13-Mar-08	a	N	114,000	23,900	<25	---	11,100	934,000	215	---	1,110	<0.5	<2	---
	18-Mar-08	a	N	97,500	21,500	---	---	10,600	894,000	225	<5	1,010	<0.5	<2	---
	25-Mar-08	a	N	101,000	21,300	<25	---	10,600	876,000	230	---	1,070	<0.5	<2	---
	02-Apr-08	a	N	110,000	25,200	---	---	11,400	965,000	200	<5	---	---	<2	---
	16-Apr-08	a	N	125,000	26,700	---	---	11,700	1,010,000	205	<5	---	---	<2	---
	29-Apr-08	a	N	160,000	35,500	10.4	---	13,000	1,130,000	283	<5	---	<0.5	<2	---
	14-May-08		N	148,000	34,100	---	---	12,300	1,140,000	323	<5	---	---	<2	---
	28-May-08	a	N	155,000	33,300	25.6	---	11,200	1,220,000	550	---	1,760	<0.5	2.00	---
	28-May-08	a	FD	155,000	33,500	26.1	---	11,300	1,210,000	520	---	1,770	<0.5	<2	---
	11-Jun-08	a	N	402,000	72,100	---	---	15,600	1,840,000	950	<5	---	---	<2	---
	25-Jun-08	a	N	502,000	77,100	18.6	---	17,400	1,940,000	1,370	---	2,440	<1	<2	---
	23-Jul-08	a	N	459,000	84,800	21.4	---	16,200	1,910,000	1,150	---	2,660	<5	<2	---
	20-Aug-08	a	N	358,000	62,500	27.9	---	14,500	1,780,000	1,000	---	2,640	<1	40.0	---
	17-Sep-08		N	264,000	58,600	30.7	---	14,500	1,750,000	830	---	2,580	<1	<2	---
	15-Oct-08		N	251,000	57,500	27.2	---	13,900	1,700,000	1,180	---	2,550	<1	<2	---
	12-Nov-08		N	212,000	49,200	43.8	---	14,200	1,740,000	914	---	2,510	<1	2.00	---
	04-Feb-09	a	N	178,000	48,700	17.8	---	11,700	1,300,000	754	---	2,400	<0.50	<0.050	---
	13-May-09	a	N	321,000	67,000	13.6	---	10,800	1,150,000	624	---	1,800	<0.20	0.30	---
	04-Aug-09		N	---	---	8.68	---	---	---	502	---	---	---	---	2.8
	28-Oct-09		**N**	**---**	**---**	**1.79**	**---**	**---**	**---**	**359**	**---**	**---**	**---**	**---**	**0.5**

Table 4
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PG&E Topock
Needles, California
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PT-8M	18-Jul-07	a	N	353,000	---	<5	1.53	22,200	1,130,000	103	<5	1,510	<0.5 /J	<2	---
	23-Jan-08	a	N	403,000	41,800	<25	---	24,100	1,230,000	100	---	1,700	<0.5	4.00	---
	05-Mar-08	a	N	422,000	42,200	<5	---	24,000	1,350,000	108	---	1,650	<0.5	<2	---
	13-Mar-08	a	N	364,000	44,100	<25	---	22,300	1,130,000	120	---	1,400	<0.5	<2	---
	19-Mar-08	a	N	362,000	43,000	---	---	22,400	1,120,000	123	<5	1,400	<0.5	<2	---
	25-Mar-08	a	N	376,000	41,500	<25	---	22,200	1,110,000	130	---	1,570	<0.5	4.00	---
	02-Apr-08	a	N	367,000	45,400	---	---	22,900	1,160,000	130	<5	---	---	<2	---
	16-Apr-08	a	N	392,000	45,100	---	---	23,200	1,190,000	125	<5	---	---	<2	---
	29-Apr-08	a	N	356,000	43,900	<5	---	22,000	1,070,000	145	<5	---	<1	<2	---
	14-May-08		N	350,000	42,900	---	---	21,800	1,040,000	135	<5	---	---	<2	---
	28-May-08	a	N	321,000	6,750	7.0	---	34,000	3,200,000	50	---	4,820	<1	<2	---
	11-Jun-08	a	N	381,000	48,900	---	---	21,400	1,160,000	110	<5	---	---	<2	---
	25-Jun-08	a	N	362,000	42,600	<5	---	21,200	1,040,000	113	---	1,360	<0.5	<2	---
	25-Jun-08	a	FD	366,000	42,600	<5	---	20,900	1,050,000	108	---	1,390	<1	<2	---
	23-Jul-08	a	N	356,000	49,300	<5	---	20,100	1,020,000	115	---	1,300	<1	<2	---
	20-Aug-08	a	N	364,000	43,900	<5	---	20,000	1,050,000	155	---	1,510	<0.5	80.0	---
	17-Sep-08		N	371,000	47,400	<5	---	21,800	1,120,000	180	---	1,650	<0.5	<2	---
	15-Oct-08		N	357,000	45,000	<5	---	20,400	978,000	168	---	1,480	<1	<2	---
	12-Nov-08		N	338,000	44,500	<5	---	20,400	990,000	258	---	1,400	<0.5	<2	---
	04-Feb-09	a	N	366,000	51,700	6.3	---	21,100	1,180,000	314	---	2,000	<0.50	<0.050	---
	13-May-09	a	N	599,000	71,000	2.1	---	19,600	1,040,000	360	---	1,700	<0.20	<0.050	---
	04-Aug-09		N	---	---	0.723	---	---	---	382	---	---	---	---	0.62
	28-Oct-09		**N**	**---**	**---**	**8.33**	**---**	**---**	**---**	**447**	**---**	**---**	**---**	**---**	**2.7**

Table 4
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PG&E Topock
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PT-8D	16-Jul-07	a	N	281,000	---	7.07	9.00	35,100	3,300,000	45.0	<5	5,360	<0.5	<2	---
	23-Jan-08	a	N	325,000	11,800	<50	---	35,200	3,420,000	50.0	---	5,190	<1	<2	---
	05-Mar-08	a	N	322,000	10,000	<25	---	37,700	3,850,000	50.0	---	5,240	<0.5	<2	---
	13-Mar-08	a	N	284,000	9,560	<25	---	32,900	3,340,000	55.0	---	5,090	<2.5	<2	---
	18-Mar-08	a	N	292,000	9,470	---	---	33,900	3,480,000	48.0	<5	5,480	<2.5	<2	---
	25-Mar-08	a	N	306,000	10,200	<25	---	34,300	3,550,000	50.0	---	5,010	<0.5	<2	---
	02-Apr-08	a	N	298,000	10,700	---	---	33,800	3,550,000	52.5	<5	---	---	<2	---
	16-Apr-08	a	N	312,000	9,020	---	---	36,000	3,840,000	50.0	<5	---	---	<2	---
	29-Apr-08	a	N	292,000	9,830	7.73	---	33,500	3,290,000	60.0	<5	---	<1	<2	---
	14-May-08		N	281,000	13,300	---	---	32,000	2,820,000	87.5	<5	---	---	<2	---
	28-May-08	a	N	267,000	9,020	6.81	---	32,100	3,050,000	57.5	---	4,530	<1	<2	---
	11-Jun-08	a	N	288,000	11,100	---	---	32,200	3,390,000	55.0	<5	---	---	<2	---
	25-Jun-08	a	N	280,000	12,100	11.6	---	30,600	2,960,000	143	---	4,200	<0.5	<2	---
	23-Jul-08	a	N	264,000	11,000	8.92	---	30,700	3,080,000	60.0	---	4,390	<1	<2	---
	20-Aug-08	a	N	284,000	10,500	7.19	---	31,400	3,220,000	46.3	---	4,870	<1	40.0	---
	17-Sep-08		N	286,000	10,000	<25	---	34,000	3,250,000	47.5	---	4,730	<1	<2	---
	15-Oct-08		N	333,000	24,200	<25	---	31,300	2,530,000	197	---	4,140	<0.5	<2	---
	12-Nov-08		N	312,000	17,400	<25	---	33,600	3,020,000	85.9	---	4,250	<0.5	<2	---
	04-Feb-09	a	N	332,000	14,400	<3.39	---	32,900	2,780,000	56.0	---	5,200	<1.0	0.50	---
	04-Feb-09	a	FD	327,000	13,400	<0.5	---	32,400	2,890,000	55.0	---	5,400	1.4	0.50	---
	13-May-09	a	N	656,000	17,700	<0.5	---	34,100	3,090,000	50.0	---	5,400	<0.50	0.10	---
	04-Aug-09		N	---	---	<0.5	---	---	---	60.0	---	---	---	---	3.6
	28-Oct-09		**N**	**---**	**---**	**<0.5**	**---**	**---**	**---**	**50.0**	**---**	**---**	**---**	**---**	**3.2**
	28-Oct-09		**FD**	**---**	**---**	**<0.5**	**---**	**---**	**---**	**48.0**	**---**	**---**	**---**	**---**	**3.3**

Table 4
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PT-9S	17-Jul-07	a	N	108,000	---	<5	5.36	11,800	820,000	155	<5	895	<0.5	<2	---
	22-Jan-08	a	N	107,000	21,100	5.6	---	9,140	848,000	205	---	924	<0.5	<2	---
	05-Mar-08	a	N	120,000	24,500	5.2	---	9,990	962,000	168	---	977	<0.5	<2	---
	12-Mar-08	a	N	87,500	17,800	5.5	---	8,270	836,000	190	---	916	<0.5	<2	---
	19-Mar-08	a	N	115,000	23,100	---	---	9,930	884,000	163	<5	889	<0.5	<2	---
	26-Mar-08	a	N	116,000	23,000	<25	---	9,370	843,000	175	---	977	<0.5	<2	---
	02-Apr-08	a	N	118,000	25,100	---	---	9,570	871,000	178	<5	---	---	<2	---
	16-Apr-08	a	N	126,000	25,100	---	---	9,980	891,000	170	<5	---	---	<2	---
	29-Apr-08	a	N	113,000	24,900	5.3	---	9,590	837,000	185	<5	---	<0.5	<2	---
	14-May-08		N	101,000	21,000	---	---	8,940	821,000	168	<5	---	---	<2	---
	28-May-08	a	N	111,000	22,000	<5	---	9,420	825,000	158	---	917	<0.5	<2	---
	11-Jun-08	a	N	107,000	23,500	---	---	9,150	867,000	160	<5	---	---	<2	---
	25-Jun-08	a	N	102,000	20,000	<5	---	8,910	820,000	163	---	908	<0.5	<2	---
	24-Jul-08	a	N	105,000	22,600	5.1	---	9,070	855,000	165	---	890	<0.5	<2	---
	20-Aug-08	a	N	99,200	21,100	5.1	---	9,050	844,000	160	---	922	<0.5	320	---
	17-Sep-08		N	114,000	23,500	<5	---	9,930	920,000	155	---	989	<0.5	<2	---
	15-Oct-08		N	103,000	21,400	5.2	---	9,180	849,000	188	---	1,090	<0.5	<2	---
	12-Nov-08		N	127,000	27,100	13.2	---	9,840	993,000	427	---	1,290	<0.5	<2	---
	05-Feb-09	a	N	141,000	33,500	14.7	---	10,100	1,070,000	316	---	1,400	<0.1	0.20	---
	14-May-09	a	N	151,000	31,100 /J	9.8	---	10,300	955,000	476	---	1,200	<0.20	<0.050	---
	05-Aug-09		N	---	---	9.8	---	---	---	490	---	---	---	---	3.0
	29-Oct-09		**N**	**---**	**---**	**8.9**	**---**	**---**	**---**	**565**	**---**	**---**	**---**	**---**	**3.1**

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PT-9M	17-Jul-07	a	N	485,000	---	<5	1.40	30,200	1,030,000	97.5	<5	1,400	<0.5	<2	---
	17-Jul-07	a	FD	476,000	---	<5	1.42	29,800	1,020,000	100	<5	1,400	<0.5	<2	---
	22-Jan-08	a	N	525,000	22,700	<5	---	29,800	1,140,000	97.5	---	1,640	<0.5	<2	---
	05-Mar-08	a	N	553,000	25,100	<5	---	32,100	1,220,000	100	---	1,650	<0.5	<2	---
	12-Mar-08	a	N	483,000	22,800	<5	---	30,700	1,140,000	113	---	1,520	<0.5	<2	---
	19-Mar-08	a	N	517,000	26,400	---	---	32,100	1,190,000	97.5	<5	1,510	<0.5	<2	---
	26-Mar-08	a	N	526,000	26,200	<25	---	31,900	1,160,000	100	---	1,610	<0.5	<2	---
	26-Mar-08	a	FD	543,000	26,400	<25	---	33,200	1,190,000	103	---	1,600	<0.5	<2	---
	02-Apr-08	a	N	513,000	27,700	---	---	31,800	1,150,000	105	<5	---	---	<2	---
	16-Apr-08	a	N	556,000	28,000	---	---	32,900	1,220,000	105	<5	---	---	<2	---
	29-Apr-08	a	N	475,000	23,900	<5	---	30,900	1,100,000	120	<5	---	<1	<2	---
	14-May-08		N	496,000	26,100	---	---	33,500	1,130,000	120	<5	---	---	<2	---
	28-May-08	a	N	479,000	22,800	<5	---	29,800	1,070,000	108	---	1,530	<0.5	<2	---
	11-Jun-08	a	N	492,000	25,900	---	---	31,200	1,150,000	97.5	<5	---	---	<2	---
	25-Jun-08	a	N	452,000	21,800	<5	---	29,900	1,090,000	103	---	1,380	<1	<2	---
	24-Jul-08	a	N	426,000	22,700	<5	---	26,600	1,050,000	108	---	1,240	<0.5	<2	---
	20-Aug-08	a	N	488,000	23,500	<5	---	28,900	1,100,000	97.5	---	1,530	<0.5	40.0	---
	17-Sep-08		N	504,000	26,100	<25	---	32,300	1,110,000	92.5	---	1,660	<0.5	<2	---
	15-Oct-08		N	431,000	22,300	<5	---	27,600	1,010,000	105	---	1,450	<1	<2	---
	12-Nov-08		N	468,000	24,700	<25	---	30,700	1,090,000	100	---	1,420	<0.5	<2	---
	05-Feb-09	a	N	507,000	32,300	11.3	---	30,400	1,310,000	114	---	2,000	<0.2	<0.05	---
	14-May-09	a	N	571,000	23,200 /J	3.7	---	30,800	1,080,000	86.0	---	1,800	<0.20	<0.050	---
	05-Aug-09		N	---	---	0.934	---	---	---	92.0	---	---	---	---	0.92
	29-Oct-09		**N**	---	---	**3.72**	---	---	---	**93.0**	---	---	---	---	**0.81**

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PT-9D	17-Jul-07	a	N	368,000	---	6.3	6.11	34,200	2,840,000	52.5	<5	4,350	<1	<2	---
	22-Jan-08	a	N	399,000	8,380	<50	---	35,500	3,230,000	50.0	---	4,790	<1	<2	---
	22-Jan-08	a	FD	404,000	9,160	<50	---	35,400	3,260,000	55.0	---	4,940	<1	<2	---
	05-Mar-08	a	N	438,000	9,240	<25	---	37,000	3,540,000	41.0	---	4,890	<0.5	<2	---
	12-Mar-08	a	N	407,000	10,100	<25	---	35,000	3,210,000	52.5	---	4,920	<2.5	<2	---
	19-Mar-08	a	N	432,000	10,400	---	---	36,800	3,320,000	42.0	<5	4,650	<1	<2	---
	26-Mar-08	a	N	436,000	10,100	<25	---	36,700	3,300,000	52.5	---	4,810	<1	12.0	---
	02-Apr-08	a	N	419,000	10,400	---	---	36,000	3,320,000	50.0	<5	---	---	<2	---
	16-Apr-08	a	N	445,000	10,300	---	---	36,600	3,440,000	55.0	<5	---	---	<2	---
	29-Apr-08	a	N	431,000	11,900	7.3	---	35,500	2,940,000	57.5	<5	---	<5	<2	---
	14-May-08		N	408,000	12,400	---	---	35,800	2,750,000	65.0	<5	---	---	<2	---
	28-May-08	a	N	421,000	11,200	6.8	---	35,100	2,800,000	55	---	4,320	<1	<2	---
	11-Jun-08	a	N	460,000	12,800	---	---	37,300	3,270,000	47.5	<5	---	---	<2	---
	11-Jun-08	a	FD	466,000	13,200	---	---	37,100	3,340,000	47.5	<5	---	---	<2	---
	25-Jun-08	a	N	439,000	12,500	7.4	---	35,000	2,830,000	52.5	---	4,050	<1	<2	---
	24-Jul-08	a	N	452,000	15,200	6.5	---	33,600	2,910,000	53.8	---	4,090	<2.5	8.00	---
	20-Aug-08	a	N	451,000	11,900	7.3	---	36,700	3,250,000	47.5	---	4,810	<2.5	40.0	---
	20-Aug-08	a	FD	451,000	12,000	7.2	---	36,200	3,280,000	47.5	---	4,820	<2.5	160	---
	17-Sep-08		N	431,000	11,200	<25	---	36,900	3,250,000	47.5	---	4,880	<2.5	<2	---
	15-Oct-08		N	458,000	18,400	<25	---	36,300	2,640,000	55.5	---	3,990	<1	<2	---
	12-Nov-08		N	523,000	17,000	<25	---	40,300	3,110,000	47.9	---	4,680	<2.5	<2	---
	05-Feb-09	a	N	441,000	13,700	11.8	---	36,700	3,560,000	44.0	---	5,700	<0.5	<0.05	---
	15-May-09	a	N	455,000	7,880 /J	<0.5	---	24,800	3,160,000	52.0	---	5,200	<0.50	<0.050	---
	05-Aug-09		N	---	---	<0.5	---	---	---	49.0	---	---	---	---	3.4
	28-Oct-09		**N**	**---**	**---**	**<0.5**	**---**	**---**	**---**	**47.0**	**---**	**---**	**---**	**---**	**3.6**
MW-11	17-Jul-07	a	N	125,000	---	<5	1.54	8,330	280,000	87.5	<5	470	<0.5	<2	---
	24-Jan-08	a	N	122,000	16,100	<5	---	8,160	280,000	103	---	442	<0.5	<2	---
	04-Mar-08	a	N	123,000	17,700	<5	---	8,300	302,000	92.5	---	434	<0.5	<2	---
	11-Mar-08	a	N	116,000	16,100	<5	---	7,990	278,000	110	---	439	<0.5	<2	---
	11-Mar-08	a	FD	120,000	16,700	<5	---	8,160	296,000	105	---	453	<0.5	<2	---
	19-Mar-08	a	N	125,000	17,400	---	---	8,800	302,000	103	<5	427	<0.5	<2	---
	27-Mar-08	a	N	124,000	15,900	<5	---	8,480	295,000	110	---	467	<0.5	<2	---
	01-Apr-08		N	118,000	15,800	---	---	8,340	283,000	103	<5	---	---	<2	---
	15-Apr-08		N	122,000	16,400	---	---	8,260	299,000	108	<5	---	---	4.00	---
	28-Apr-08		N	116,000	16,100	<5	---	8,230	276,000	140	<5	---	<0.5	<2	---
	13-May-08		N	120,000	16,800	---	---	8,290	289,000	113	<5	---	---	2.40	---
	27-May-08	a	N	117,000	16,100	<5	---	8,220	272,000	100	---	466	<0.5	<2	---
	10-Jun-08		N	119,000	17,600	---	---	8,230	282,000	90.0	<5	---	---	<2	---
	24-Jun-08	a	N	120,000	16,700	<5	---	8,560	284,000	90.0	---	477	<0.5	<2	---
	22-Jul-08	a	N	114,000	17,900	<5	---	8,120	275,000	92.5	---	473	<0.5	<2	---
	21-Aug-08	a	N	116,000	19,000	<5	---	8,450	300,000	92.5	---	465	<0.5	<2	---
	16-Sep-08		N	114,000	16,500	<5	---	8,360	268,000	87.5	---	474	<0.5	<2	---
	14-Oct-08		N	120,000	16,300	<5	---	8,140	278,000	94.3	---	459	<0.5	<2	---
	11-Nov-08		N	116,000	15,100	<5	---	8,210	280,000	91.5	---	551	<0.5	<2	---
	03-Feb-09	a	N	113,000	16,600	2.6	---	7,790	277,000	96.0	---	510	<0.10	<0.050	---
	14-May-09	a	N	116,000	17,500 /J	2.2	---	7,690	296,000	90.0	---	520	<0.10	<0.050	---

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
MW-24A	18-Jul-07	a	N	42,000	---	5.4	5.58	5,610	565,000	310	<5	410	<0.5	<2	---
	24-Jan-08	a	N	46,300	8,660	5.1	---	5,860	585,000	365	---	452	<0.5	<2	---
	06-Mar-08	a	N	367,000	46,000	8.0	---	19,900	1,840,000	118	---	2,450	<5	<2	---
	12-Mar-08	a	N	387,000	39,900	<25	---	22,700	1,680,000	198	---	2,680	<10	<2	---
	19-Mar-08	a	N	407,000	46,200	---	---	21,200	1,710,000	423	<5	2,370	<2.5	<2	---
	26-Mar-08	a	N	491,000	50,500	82.8	---	18,900	1,690,000	970	---	2,380	<5	4.80	---
	01-Apr-08	a	N	423,000	47,700	---	---	18,100	1,620,000	1,020	<5	---	---	<2	---
	17-Apr-08	a	N	517,000	43,400	---	---	23,100	2,030,000	1,110	<5	---	---	10.4	---
	30-Apr-08	a	N	432,000	37,200	72.2	---	24,700	1,860,000	590	<5	---	<5	<2	---
	30-Apr-08	a	FD	437,000	35,800	70.4	---	23,700	1,860,000	570	<5	---	<5	<2	---
	15-May-08		N	494,000	59,900	---	---	24,000	1,750,000	450	<5	---	---	<2	---
	15-May-08		FD	502,000	59,100	---	---	24,800	1,780,000	480	<5	---	---	<2	---
	27-May-08	a	N	493,000	42,200	9.8	---	24,300	1,870,000	880	---	2,790	<1	11.2	---
	12-Jun-08	a	N	521,000	45,900	---	---	25,300	1,960,000	970	<5	---	---	4.00	---
	26-Jun-08	a	N	398,000	29,700	23.7	---	23,700	1,920,000	153	---	2,780	<0.5	<2	---
	24-Jul-08	a	N	384,000	27,800	24.5	---	24,000	1,980,000	115	---	2,730	<1	6.40	---
	24-Jul-08	a	FD	397,000	28,300	25.7	---	24,300	2,020,000	118	---	2,670	<1	<2	---
	19-Aug-08	a	N	376,000	34,500	21.0	---	22,400	1,800,000	288	---	2,690	<1	2.00	---
	16-Sep-08		N	355,000	29,100	8.1	---	23,100	1,930,000	670	---	2,720	<1	117	---
	16-Oct-08		N	353,000	30,400	25.9	---	24,300	1,940,000	353	---	2,870	<0.5	22.0	---
	13-Nov-08		N	348,000	26,500	<25.0	---	26,500	1,980,000	340	---	2,800	<0.5	102	---
	13-Nov-08		FD	349,000	27,400	<25	---	26,000	2,010,000	310	---	2,800	<2.5	94.4	---
	03-Feb-09	a	N	322,000	28,500	10.9	---	24,700	2,140,000	334	---	3,400	<0.50	8.1	---
	14-May-09	a	N	302,000	23,200 /J	12.0	---	19,800	1,880,000	330	---	2,600	<0.50	2.5	---
	03-Aug-09		N	---	---	7.45	---	---	---	504	---	---	---	---	2.3
	27-Oct-09		**N**	**---**	**---**	**3.19**	**---**	**---**	**---**	**576**	**---**	**---**	**---**	**---**	**3.1**

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
MW-24B	18-Jul-07	a	N	329,000	---	7.1	7.08	34,500	3,270,000	50.0	<5	4,820	<0.5	<2	---
	24-Jan-08	a	N	341,000	8,050	<10	---	36,400	3,470,000	50.0	---	5,270	<1	2.00	---
	06-Mar-08	a	N	338,000	7,970	8.8	---	37,200	3,430,000	42.0	---	5,160	<1	<2	---
	12-Mar-08	a	N	332,000	7,610	<25	---	34,800	3,290,000	52.5	---	5,870	<1	<2	---
	19-Mar-08	a	N	351,000	8,410	---	---	37,100	3,650,000	44.0	<5	5,120	<0.5	<2	---
	26-Mar-08	a	N	358,000	8,240	<25	---	37,200	3,580,000	42.0	---	5,150	<0.5	<2	---
	03-Apr-08	a	N	345,000	8,130	---	---	36,200	3,470,000	44.0	<5	---	---	3.20	---
	17-Apr-08	a	N	345,000	8,280	---	---	36,700	3,530,000	50.0	<5	---	---	<2	---
	30-Apr-08	a	N	304,000	7,020	6.8	---	68,200	3,420,000	57.5	<5	---	<1	<2	---
	15-May-08		N	338,000	8,130	---	---	37,100	3,350,000	55.0	<5	---	---	<2	---
	28-May-08	a	N	360,000	38,900	<5	---	20,800	1,050,000	118	---	1,420	<1	<2	---
	12-Jun-08	a	N	336,000	7,570	---	---	34,800	3,340,000	45.0	<5	---	---	<2	---
	26-Jun-08	a	N	326,000	6,960	8.3	---	35,400	3,300,000	46.3	---	4,950	<1	<2	---
	24-Jul-08	a	N	323,400	7,730	7.4	---	33,000	3,420,000	46.3	---	4,860	<2.5	3.20	---
	19-Aug-08	a	N	296,000	7,150	7.6	---	31,900	3,210,000	46.3	---	4,910	<1	2.00	---
	17-Sep-08		N	308,000	7,770	<25	---	34,900	3,260,000	45.0	---	4,950	<0.5	<2	---
	16-Oct-08		N	307,000	7,990	<25	---	34,700	3,130,000	47.6	---	4,870	<0.5	<2	---
	16-Oct-08		FD	310,000	7,880	<25	---	34,700	3,190,000	47.8	---	4,880	<0.5	<2	---
	13-Nov-08		N	302,000	7,600	<25	---	35,000	3,380,000	46	---	5,260	<0.5	<2	---
	04-Feb-09	a	N	310,000	7,200 /J	3.6	---	34,100	3,060,000	48.0	---	4,000	1	<0.050	---
	14-May-09	a	N	333,000	6,990 /J	<0.5	---	23,900	3,190,000	42.0	---	5,100	<0.50	<0.050	---
MW-38S	17-Jul-07	a	N	84,200	---	<5	6.10	8,710	627,000	175	<5	680	<0.5	<2	---
	23-Jan-08	a	N	63,900	12,200	<5	---	7,400	546,000	175	---	546	<0.5	<2	---
	04-Mar-08	a	N	67,600	13,300	<5	---	7,910	607,000	185	---	534	<0.5	<2	---
	11-Mar-08	a	N	66,100	13,300	<5	---	7,920	586,000	175	---	571	<0.5	<2	---
	20-Mar-08	a	N	70,900	13,400	---	---	8,190	593,000	200	200	---	<0.5	<2	---
	26-Mar-08	a	N	71,000	13,500	<25	---	8,160	583,000	183	---	583	<0.5	<2	---
	01-Apr-08	a	N	60,500	11,600	---	---	7,010	57,500	290	<5	---	---	<2	---
	15-Apr-08	a	N	67,100	13,000	---	---	7,710	590,000	190	<5	---	---	<2	---
	28-Apr-08	a	N	67,000	13,000	<5	---	8,030	575,000	200	<5	---	<0.5	<2	---
	13-May-08		N	63,400	12,700	---	---	7,780	571,000	185	<5	---	---	<2	---
	27-May-08	a	N	62,600	12,200	<5	---	7,420	540,000	193	---	551	<0.5	<2	---
	10-Jun-08	a	N	63,000	12,400	---	---	7,670	620,000	180	<5	---	---	<2	---
	24-Jun-08	a	N	65,700	12,200	<5	---	7,690	570,000	185	---	533	<0.5	<2	---
	22-Jul-08	a	N	59,700	12,600	<5	---	7,270	534,000	183	---	523	<0.5	<2	---
	20-Aug-08	a	N	56,400	11,200	<5	---	7,160	540,000	175	---	487	<0.5	160	---
	16-Sep-08		N	54,200	10,900	<5	---	7,150	560,000	160	---	496	<0.5	<2	---
	14-Oct-08		N	53,700	10,400	<5	---	6,840	535,000	189	---	467	<0.5	<2	---
	11-Nov-08		N	53,000	9,220	<5	---	6,930	516,000	182	---	471	<0.5	<2	---
	03-Feb-09	a	N	58,400	9,600	5.9	---	8,570	488,000	187	---	530	<0.10	<0.050	---
	12-May-09	a	N	66,700	7,510	5.8	---	10,700	412,000	208	---	390	<0.10	0.050	---
	03-Aug-09		N	---	---	5.55	---	---	---	178	---	---	---	---	5.8
	27-Oct-09		**N**			**5.11**				**228**					**6.0**

Table 4
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PG&E Topock
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
MW-38D	17-Jul-07	a	N	352,000	---	7.9	7.49	45,600	4,710,000	35.0	<5	7,240	<0.5	<2	---
	23-Jan-08	a	N	353,000	<20000	<100	---	43,100	4,560,000	40.0	---	7,690	<2.5	<2	---
	04-Mar-08	a	N	343,000	7,150	8.6	---	44,500	5,070,000	31.0	---	7,390	<0.5	<2	---
	11-Mar-08	a	N	363,000	7,580	<25	---	47,000	4,970,000	32.0	---	7,710	<0.5	<2	---
	20-Mar-08	a	N	361,000	7,720	---	---	44,900	5,020,000	32.0	32.0	---	<2.5	<2	---
	20-Mar-08	a	FD	359,000	7,720	---	---	45,100	4,920,000	33.0	33.0	---	<2.5	<2	---
	26-Mar-08	a	N	362,000	7,580	<25	---	44,700	4,940,000	31.0	---	7,830	<1	<2	---
	01-Apr-08	a	N	353,000	7,040	---	---	46,100	4,870,000	31.0	<5	---	---	<2	---
	01-Apr-08	a	FD	335,000	6,680	---	---	44,000	4,900,000	32.0	<5	---	---	<2	---
	15-Apr-08	a	N	38,500	7,440	---	---	45,200	5,010,000	31.0	<5	---	---	<2	---
	15-Apr-08	a	FD	405,000	7,500	---	---	46,300	5,330,000	32.0	<5	---	---	<2	---
	28-Apr-08	a	N	346,000	7,700	<25	---	43,700	4,740,000	32.0	<5	---	<0.5	<2	---
	13-May-08		N	360,000	7,020	---	---	46,400	4,690,000	36.0	<5	---	---	2.00	---
	27-May-08	a	N	337,000	6,670	7.7	---	44,500	4,600,000	32.0	---	7,580	<0.5	<2	---
	10-Jun-08	a	N	352,000	6,960	---	---	44,900	4,860,000	32.5	<5	---	---	<2	---
	24-Jun-08	a	N	377,000	6,610	9.0	---	45,200	5,000,000	32.5	---	7,420	<0.5	<2	---
	22-Jul-08	a	N	369,000	7,300	8.5	---	45,100	4,900,000	32.5	---	7,490	<0.5	<2	---
	20-Aug-08	a	N	364,000	6,950	8.9	---	43,200	3,200,000	31.3	---	7,230	<2.5	80.0	---
	16-Sep-08		N	367,000	7,240	8.6	---	44,700	4,870,000	32.0	---	7,390	<0.5	<2	---
	16-Sep-08		FD	339,000	7,750	<25	---	44,400	4,910,000	33.0	---	7,430	<0.5	<2	---
	14-Oct-08		N	361,000	8,180	<25	---	45,100	5,080,000	33.3	---	7,360	<0.5	<2	---
	11-Nov-08		N	365,000	6,670	8.1	---	42,400	487,000	32.4	---	7,210	<0.5	<2	---
	03-Feb-09	a	N	388,000	8,450	<0.5	---	48,300	5,320,000	33.0	---	8,500	<0.50	<0.050	---
	12-May-09	a	N	355,000	3,380	<0.5	---	41,800	3,620,000	31.0	---	7,000	<1.0	<0.050	---
	12-May-09	a	FD	348,000	3,600	<0.5	---	41,400	3,710,000	32.0	---	7,000	<1.0	<0.050	---
	03-Aug-09	a	N	---	---	7.77	---	---	---	28.0	---	---	---	---	3.9
	03-Aug-09	a	FD	---	---	7.42	---	---	---	30.0	---	---	---	---	3.9
	27-Oct-09		**N**	---	---	**<0.5**	---	---	---	**36.0**	---	---	---	---	**3.7**

Table 4
Summary of Secondary Analytical Parameters
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Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Calcium µg/L	Dissolved Magnesium µg/L	Dissolved Arsenic µg/L	Total Arsenic µg/L	Dissolved Potassium µg/L	Dissolved Sodium µg/L	Alkalinity bicarbonate mg/L	Alkalinity carbonate mg/L	Chloride mg/L	Orthophosphate mg/L	Sulfide mg/L	Fluoride mg/L
PTR-1	19-Jul-07	a	N	254,000	---	<5	1.94	21,500	1,500,000	97.5	<5	1,940	<0.5	<2	---
	25-Jan-08	a	N	206,000	37,500	<5	---	16,400	1,190,000	123	---	1,610	<0.5	<2	---
	06-Mar-08	a	N	171,000	36,500	<25	---	12,800	882,000	208	---	1,360	<500	<2	---
	11-Mar-08	a	N	166,000	36,100	<25	---	13,000	872,000	158	---	1,190	<5	<2	---
	20-Mar-08	a	N	155,000	32,800	---	---	11,500	758,000	203	203	---	<50	<2	---
	27-Mar-08	a	N	112,000	21,600	<25	---	6,680	461,000	185	---	608	<20	3.20	---
	01-Apr-08	a	N	254,000	47,500	---	---	15,600	1,050,000	600	<5	---	---	<2	---
	16-Apr-08	a	N	175,000	40,900	---	---	12,500	833,000	138	<5	---	---	<2	---
	29-Apr-08	a	N	170,000	35,100	13.4	---	11,300	767,000	298	<5	---	<5	4.80	---
	15-May-08		N	188,000	37,800	---	---	11,800	818,000	300	<5	---	---	3.60	---
	29-May-08	a	N	157,000	35,700	<5	---	13,800	856,000	183	---	1,190	<0.5	4.00	---
	12-Jun-08	a	N	171,000	38,900	---	---	14,200	965,000	148	<5	---	---	<2	---
	26-Jun-08	a	N	173,000	36,100	7.5	---	13,600	942,000	150	---	1,290	<0.5	<2	---
	24-Jul-08	a	N	163,000	37,700	<5	---	12,300	916,000	160	---	1,180	<0.5	16.0	---
	19-Aug-08	a	N	170,000	37,500	6.0	---	14,200	979,000	140	---	1,330	<0.5	320	---
	18-Sep-08		N	182,000	40,200	8.5	---	15,000	1,040,000	115	---	1,450	<0.5	<2	---
	16-Oct-08		N	176,000	40,600	<5	---	16,300	992,000	106	---	1,440	<0.5	2.00	---
	13-Nov-08		N	209,000	32,300	<5.00	---	11,900	686,000	330	---	967	<0.5	<2	---
	04-Feb-09	a	N	323,000	53,800 /J	2.9	---	12,500	925,000	592	---	1,300	2	0.30	---
	14-May-09	a	N	227,000	56,600 /J	1.4	---	11,700	936,000	764	---	1,000	<0.20	<0.050	---
PTR-2	18-Jul-07	a	N	335,000	---	<5	1.99	23,200	1,610,000	92.5	<5	2,200	<0.5	<2	---
	25-Jan-08	a	N	427,000	34,400	<10	---	25,000	1,450,000	103	---	2,060	<0.5	2.00	---
	06-Mar-08	a	N	407,000	29,200	<25	---	26,800	1,780,000	92.5	---	2,460	<1	<2	---
	11-Mar-08	a	N	393,000	27,200	<5	---	26,300	1,770,000	92.5	---	2,470	<0.5	<2	---
	20-Mar-08	a	N	151,000	18,000	---	---	17,300	1,220,000	148	148	---	<250	<2	---
	27-Mar-08	a	N	88,500	13,000	<25	---	11,100	830,000	120	---	1,090	<500	<2	---
	01-Apr-08	a	N	404,000	28,900	---	---	28,500	2,120,000	145	<5	---	---	<2	---
	15-Apr-08	a	N	241,000	23,900	---	---	13,900	919,000	143	<5	---	---	<2	---
	29-Apr-08	a	N	410,000	25,300	5.6	---	26,200	1,920,000	120	<5	---	<1	<2	---
	15-May-08		N	396,000	26,900	---	---	28,800	1,970,000	105	<5	---	---	<2	---
	28-May-08	a	N	302,000	19,700	7.7	---	22,800	1,730,000	82.5	---	2,620	<1	<2	---
	10-Jun-08	a	N	397,000	25,200	---	---	26,200	203,000	95.0	<5	---	---	<2	---
	26-Jun-08	a	N	397,000	24,000	<5	---	26,700	1,910,000	82.5	---	2,650	<1	<2	---
	24-Jul-08	a	N	396,000	26,400	<5	---	25,900	1,960,000	95.0	---	2,660	<2.5	4.00	---
	19-Aug-08	a	N	254,000	26,100	<25	---	17,800	1,050,000	125	---	1,580	<0.5	80.0	---
	18-Sep-08		N	281,000	23,400	7.8	---	21,000	1,520,000	75.0	---	1,380	<0.5	<2	---
	16-Oct-08		N	354,000	26,600	<25	---	26,100	1,740,000	86.9	---	2,630	<0.5	<2	---
	13-Nov-08		N	364,000	22,700	<25	---	28,300	2,060,000	92.5	---	2,770	<1	<2	---
	05-Feb-09	a	N	330,000	24,800	2.5	---	27,800	2,370,000	94.0	---	3,700	<0.2	<0.05	---
	13-May-09	a	N	684,000	37,000	<0.5	---	26,100	1,940,000	60.0	---	4,300	<0.50	<0.050	---

Table 4
Summary of Secondary Analytical Parameters
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Location Name:	Sample Date:	Notes	Sample Type:	**Dissolved Calcium µg/L**	**Dissolved Magnesium µg/L**	**Dissolved Arsenic µg/L**	**Total Arsenic µg/L**	**Dissolved Potassium µg/L**	**Dissolved Sodium µg/L**	**Alkalinity bicarbonate mg/L**	**Alkalinity carbonate mg/L**	**Chloride mg/L**	**Orthophosphate mg/L**	**Sulfide mg/L**	**Fluoride mg/L**

Notes:
Most recent data indicated in **BOLD**

a	Samples were diluted in the laboratory
ft bgs	Feet below ground surface
mg/L	Milligrams per liter
µg/L	Micrograms per liter
<	Symbol indicates not detected at or above laboratory detection limit as noted.
EB	Equipment blank
FB	Field blank
FD	Field duplicate
J	Reported value is estimated.
N	Normal
NA	Not applicable
Dissolved	Samples were field filtered with a 0.45 micron filter.
---	Not analyzed/not sampled
*	PTR-1 Screen: 125-160 and 175-220 ft bgs. PTR-2 Screen: 118-158 and 173-218 ft bgs.

Starting with the February 2009 results, Calscience Laboratories was used for analysis, not EMAX laboratories

Table 5
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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
PT-07S	PT-7S-0910	Gary Clift	10/29/2009	9:48	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	11/3/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang
PT-07M	PT-7M-0910	Gary Clift	10/29/2009	8:40	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
PT-07D	PT-7D-0910	Gary Clift	10/28/2009	16:00	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	11/3/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang
PT-08S	PT-8S-0910	Gary Clift	10/28/2009	10:28	Calscience	4500FC	Fluoride	11/10/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/29/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

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Summary of Monitoring Information
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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
PT-08M	PT-8M-0910	Gary Clift	10/28/2009	11:45	Calscience	4500FC	Fluoride	11/10/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/29/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang
PT-08D	PT-8D-0910	Gary Clift	10/28/2009	9:24	Calscience	4500FC	Fluoride	11/10/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/29/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
	PT-8D-091028D	Gary Clift	10/28/2009	9:24	Calscience	4500FC	Fluoride	11/10/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/29/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang
PT-09S	PT-9S-0910	Gary Clift	10/29/2009	11:49	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	11/3/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
PT-09M	PT-9M-0910	Gary Clift	10/29/2009	12:39	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	11/7/2009	92
					Calscience	E300	Sulfate	11/7/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	11/2/2009	Daniel Kang
PT-09D	PT-9D-0910	Gary Clift	10/28/2009	14:33	Calscience	4500FC	Fluoride	11/10/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/29/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	11/2/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
MW-24A	MW-24A-0910	Gary Clift	10/27/2009	14:47	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/28/2009	92
					Calscience	E300	Sulfate	10/28/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/2/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/28/2009	Daniel Kang
MW-38S	MW-38S-0910	Gary Clift	10/27/2009	12:52	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/28/2009	92
					Calscience	E300	Sulfate	10/28/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/2/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/28/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
MW-38D	MW-38D-0910	Gary Clift	10/27/2009	11:21	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/29/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/28/2009	92
					Calscience	E300	Sulfate	10/28/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/2/2009	688
					Calscience	SM5310C	Total Organic Carbon	10/30/2009	92
					Truesdail	SW6020	Chromium	10/28/2009	Daniel Kang
EB-Upland Wells	EB-1-091029	Gary Clift	10/29/2009	11:21	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

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Location	Sample ID	Sampler	Sample Date	Sample Time	Laboratory	Test Method	Analyte	Analysis Date	Analyst Name/ Analyst ID #
FB-Upland Wells	FB-1-091029	Gary Clift	10/29/2009	11:21	Calscience	4500FC	Fluoride	11/2/2009	650
					Calscience	E200.8	Arsenic	11/5/2009	43
					Calscience	E200.8	Barium	11/5/2009	43
					Calscience	E200.8	Iron-Dissolved	11/5/2009	43
					Calscience	E200.8	Manganese	11/5/2009	43
					Calscience	E200.8	Molybdenum	11/5/2009	43
					Calscience	E200.8	Selenium	11/5/2009	43
					Truesdail	E218.6	Chromium, hexavalent	10/30/2009	Sonya Bersudsky
					Calscience	E300	Nitrate-n	10/30/2009	92
					Calscience	E300	Sulfate	10/30/2009	92
					Ozark	OHM In-house Method	Fluorescein-clc	11/4/2009	Margaret Ridinger
					Ozark	OHM In-house Method	Rhodamine-clc	11/4/2009	Margaret Ridinger
					Calscience	SM2320B	Alkalinity bicarbonate	11/4/2009	688
					Calscience	SM5310C	Total Organic Carbon	11/2/2009	92
					Truesdail	SW6020	Chromium	10/30/2009	Daniel Kang

Table 6
Summary of Supplementary Metals
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

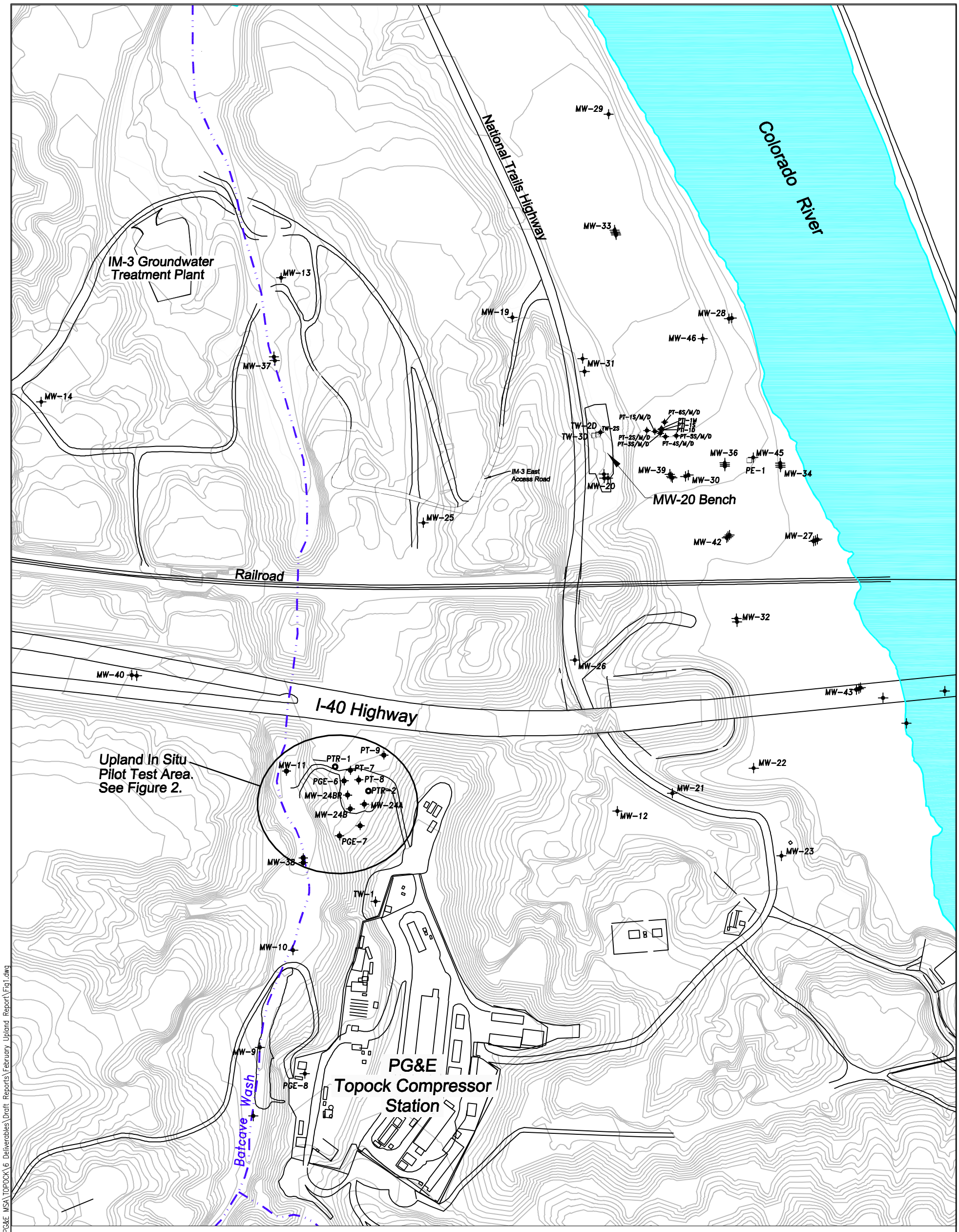
Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Antimony µg/L	Total Antimony µg/L	Dissolved Barium µg/L	Total Barium µg/L	Dissolved Cadmium µg/L	Total Cadmium µg/L	Dissolved Cobalt µg/L	Total Cobalt µg/L	Dissolved Lead µg/L	Total Lead µg/L	Dissolved Silver µg/L	Total Silver µg/L	Dissolved Thallium µg/L	Total Thallium µg/L	Dissolved Vanadium µg/L	Total Vanadium µg/L
PT-07S	18-Jul-07		N	---	<1	---	156	---	<1	---	21.5	---	28.6	---	<1	---	<1	---	51.5
	04-Aug-09		N	<1	---	45.1	---	<1	---	<1	---	<1	---	<1	---	<1	---	5.48	---
	29-Oct-09		**N**	---	---	**43.7**	---	---	---	---	---	---	---	---	---	---	---	---	---
PT-07M	19-Jul-07		N	---	<1	---	94.8	---	<1	---	12.4	---	18.6	---	<1	---	<1	---	30.1
	04-Aug-09		N	<1	---	869	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	29-Oct-09		**N**	---	---	**1,140**	---	---	---	---	---	---	---	---	---	---	---	---	---
PT-07D	18-Jul-07		N	---	<1	---	96.5	---	<1	---	<1	---	<1	---	<1	---	<1	---	5.47
	04-Aug-09		N	<1	---	2,800	---	<1	---	<1	---	<1	---	<1	---	<1	---	1.07	---
	28-Oct-09		**N**	---	---	**512**	---	---	---	---	---	---	---	---	---	---	---	---	---
PT-08S	16-Jul-07		N	---	<1	---	86.9	---	<1	---	5.18	---	7.75	---	<1	---	<1	---	22.3
	04-Aug-09		N	<1	---	393	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	28-Oct-09		**N**	**---**	**---**	**82.4**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
PT-08M	18-Jul-07		N	---	<1	---	33.7	---	<1	---	<1	---	<1	---	<1	---	<1	---	5.73
	04-Aug-09		N	<1	---	78.7	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	28-Oct-09		**N**	**---**	**---**	**327**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
PT-08D	16-Jul-07		N	---	<1	---	105	---	<1	---	6.03	---	9.13	---	<1	---	<1	---	13.1
	04-Aug-09		N	<1	---	45.4	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	28-Oct-09		**N**	**---**	**---**	**48.3**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	28-Oct-09		**FD**	**---**	**---**	**44.3**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
PT-09S	17-Jul-07		N	---	<1	---	67.2	---	<1	---	2.86	---	2.57	---	<1	---	<1	---	20.0
	05-Aug-09		N	<1	---	128	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	29-Oct-09		**N**	---	---	**122**	---	---	---	---	---	---	---	---	---	---	---	---	---
PT-09M	17-Jul-07		N	---	<1	---	46.8	---	<1	---	1.09	---	<1	---	<1	---	<1	---	5.92
	17-Jul-07		FD	---	<1	---	48.1	---	<1	---	1.00	---	<1	---	<1	---	<1	---	6.28
	05-Aug-09		N	<1	---	34.2	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	29-Oct-09		**N**	---	---	**32.1**	---	---	---	---	---	---	---	---	---	---	---	---	---
PT-09D	17-Jul-07		N	---	<1	---	79.5	---	<1	---	<1	---	<1	---	<1	---	<1	---	3.95
	05-Aug-09		N	<1	---	34.8	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
	28-Oct-09		**N**	**---**	**---**	**34.4**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW-11	17-Jul-07		N	---	<1	---	43.1	---	<1	---	<1	---	2.48	---	<1	---	<1	---	9.16
MW-24A	18-Jul-07		N	---	<1	---	26.1	---	<1	---	<1	---	1.10	---	<1	---	<1	---	30.6
	03-Aug-09	a	N	<5	---	183 D	---	<5	---	<5	---	<5	---	<5	---	<5	---	<5	---
	27-Oct-09		**N**	**---**	**---**	**229**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW-24B	18-Jul-07		N	---	<1	---	38.9	---	<1	---	<1	---	<1	---	<1	---	<1	---	7.20

Table 6
Summary of Supplementary Metals
PG&E Topock
Needles, California
Fourth Quarter 2009 Monitoring Report for the Upland Reductive Zone In-Situ Pilot Test

Location Name:	Sample Date:	Notes	Sample Type:	Dissolved Antimony µg/L	Total Antimony µg/L	Dissolved Barium µg/L	Total Barium µg/L	Dissolved Cadmium µg/L	Total Cadmium µg/L	Dissolved Cobalt µg/L	Total Cobalt µg/L	Dissolved Lead µg/L	Total Lead µg/L	Dissolved Silver µg/L	Total Silver µg/L	Dissolved Thallium µg/L	Total Thallium µg/L	Dissolved Vanadium µg/L	Total Vanadium µg/L
MW-38S	17-Jul-07		N	---	1.74	---	40.7	---	1.20	---	3.19	---	2.39	---	1.38	---	1.47	---	26.2
	03-Aug-09		N	<1	---	27.1	---	<1	---	<1	---	<1	---	<1	---	<1	---	17.5	---
	27-Oct-09		**N**	---	---	**24.4**	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-38D	17-Jul-07		N	---	<1	---	45.7	---	<1	---	<1	---	<1	---	<1	---	1.46	---	6.92
	03-Aug-09	a	N	<5	---	47.6	---	<5	---	<5	---	<5	---	<5	---	<5	---	<5	---
	03-Aug-09	a	FD	<5	---	47.7	---	<5	---	<5	---	<5	---	<5	---	<5	---	<5	---
	27-Oct-09		**N**	---	---	**39.5**	---	---	---	---	---	---	---	---	---	---	---	---	---
PTR-01	19-Jul-07		N	---	<1	---	72.7	---	<1	---	1.10	---	<1	---	<1	---	<1	---	4.67
PTR-02	18-Jul-07		N	---	<1	---	39.7	---	<1	---	<1	---	<1	---	<1	---	<1	---	4.24
EB	17-Jul-07		EB	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1
	03-Aug-09		EB	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---
FB	17-Jul-07		FB	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1
	03-Aug-09		FB	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---	<1	---

Notes:
Most recent data indicated in **BOLD**

a	Samples were diluted in the laboratory
µg/L	Micrograms per liter
<	Symbol indicates not detected at or above laboratory detection limit as noted.
EB	Equipment blank
FB	Field blank
FD	Field duplicate
J	Reported value is estimated.
N	Normal
NA	Not applicable
Dissolved	Samples were field filtered with a 0.45 micron filter.
---	Not analyzed/not sampled



Legend

- *Monitoring Well Locations*
- *Extraction Well Locations*
- *Injection Well Locations*
- *Recirculation Well Locations*

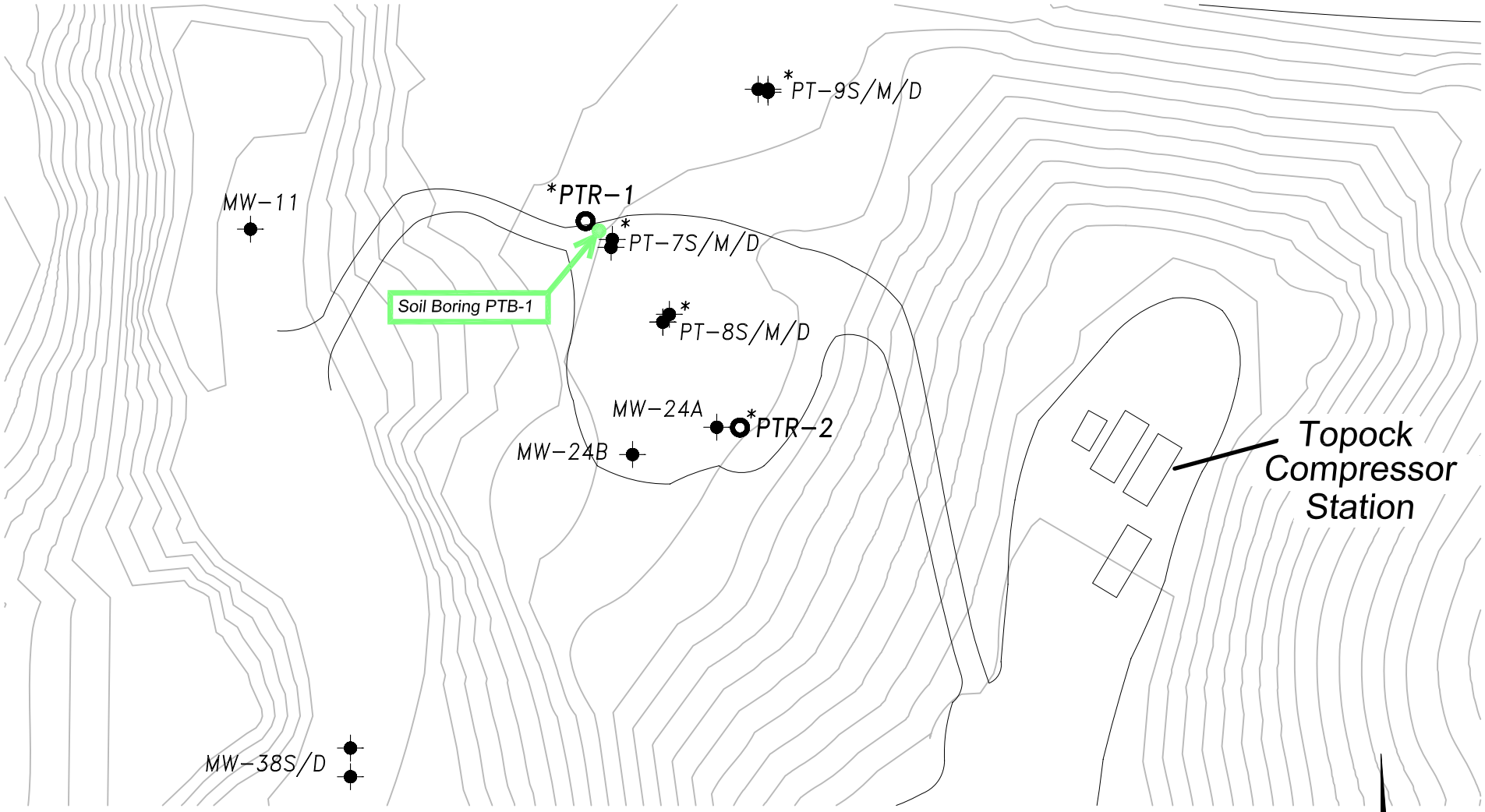
N

0 FEET 300

SCALE

Project Director: L. KELLOGG	Area Manager: J. PETERS	ARCADIS, Inc. 1050 Marina Way South Richmond, CA 94804 Tel: 510-233-3200 Fax: 510-233-3204 www.arcadis-us.com	**SITE PLAN** PG&E TOPOCK FACILITY NEEDLES, CALIFORNIA
Task Manager: J. ELY	Technical Review: J. GILLOW		
Drawing Date: 4 MAR 08	Drawn By: M. CHIU		Project Number: RC000689.0001 Figure: 1

Acad Version : R17.0s (LMS Tech)
User Name : mchiu
Date\Time : Wed, 05 Mar 2008 - 2:44pm
Path\Name : G:\Projects- Active\PG&E MSA\TOPOCK\6 Deliverables\Draft Reports\February Upland Report\Fig1.dwg



Legend

- Monitoring Well Locations
- Recirculation Well Locations
- S/M/D — Shallow/Middle/Deep

* Soil recoverered prior to start of pilot test, during well installation.

Project Director: L. KELLOGG	Area Manager: J. PETERS
Task Manager: J. LUTRICK	Technical Review: M. GENTILE
Drawing Date: 30 OCT 09	Drawn By: M. CHIU

ARCADIS
ARCADIS, Inc.
1050 Marina Way South
Richmond, CA 94804
Tel: 510-233-3200 Fax: 510-233-3204
www.arcadis-us.com

UPLAND ISPT AREA
PG&E TOPOCK FACILITY
NEEDLES, CALIFORNIA

Project Number: RC000689.0004

Figure: 2

Date\Time : Fri, 30 Oct 2009 - 10:08am
Path\Name : P:\AProject\PG&E - Topock\ACAD\COLOC-0388.dwg
Acad Version : R17.0s (LMS Tech)
User Name : MHoefer

A'
SOUTH

A
NORTH

PTR-2
(ELEVATION APPROXIMATE
RESURVEY IN PROGRESS)

(PROJECTED)
MW-24A

(PROJECTED)
PT-8S/M/D
(562.59')

PT-7S/M/D
(560.42')

PTR-1
(ELEVATION APPROXIMATE
RESURVEY IN PROGRESS)

ELEVATION, FEET BELOW GROUND SURFACE

0
20
40
60
80
100
120
140
160
180
200
220
240

2,480
<0.2
3.7

1,750
<0.2
1.7

3,960
884
1.7

6,540
1,760
<0.5

1,200
770
3.1

2,320
<0.2
950

7,260
<0.2
5

BEDROCK
TD=223'

TD=225'

BEDROCK
TD=225'

BEDROCK
TD=230'

TD=225'

0
20
40
60
80
100
120
140

DISTANCE (FEET)

LEGEND:

GENERALLY FINE GRAINED, LOWER PERMEABILITY

GENERALLY COARSER GRAINED, HIGHER PERMEABILITY

SOIL CLASSIFICATION:

GW = WELL GRADED GRAVEL
SW = WELL GRADED SAND
SP = POORLY GRADED SAND
SM = SILTY SAND
SC = CLAYEY SAND
ML = SILT
CL = CLAY

0 20 40
VERTICAL SCALE IN FEET

0 20 40
HORIZONTAL SCALE IN FEET

MW-24A — WELL ID

WATER TABLE SURFACE (DASHED WHERE INFERRED)

CONCEPTUAL GROUNDWATER RECIRCULATION PATTERN
BASED ON DATA THROUGH OCTOBER 2009

WELL SCREEN

2,480 — PRE-TEST HEXAVALENT CHROMUIM (Cr[VI] CONCENTRATIONS IN ug/L)
<0.2 — RECENT HEXAVALENT CHROMUIM (Cr[VI] CONCENTRATIONS IN ug/L)
3.7 — RECENT TOTAL DISSOLVED CARBON CONCENTRATIONS IN mg/L

TD=225' — TOTAL DEPTH

COCRS-0398.DWG

Area Manager	J. Peters
Project Manager	L. Kellogg
Task Manager	J. Lutrick
Technical Review	M. Gertile

ARCADIS
ARCADIS, Inc.
630 Plaza Drive, Suite 200
Highlands Ranch, Colorado 80129
Tel: 720.344.3500 Fax: 720.344.3535
www.arcadis-us.com

CROSS SECTION A'-A
PG&E TOPOCK FACILITY
NEEDLES, CALIFORNIA

Project Number	RC000689.0007
Drawing Date	12/23/2009
Figure	3

ARCADIS

Appendix A

Communications

Pacific Gas and Electric Company

Yvonne Meeks
Manager

Environmental Remediation
Gas T&D Department

Mailing Address
4325 South Higuera Sreet
San Luis Obispo, CA 93401
Location
6588 Ontario Road
San Luis Obispo, CA 93405
Tel: (805) 234-2257
Email: yjm1@pge.com

May 29, 2008

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

Subject: Board Order R7-2007-0015
PG&E Topock Compressor Station, Needles, California
Upland In-Situ Pilot Test
Changes in Pilot Test Operations

Dear Mr. Purdue:

As we discussed yesterday, PG&E is submitting this letter is to notify the Regional Water Quality Control Board (RWQCB) that PG&E would like to temporarily discontinue injection of reagent for the Upland In-Situ Pilot Test (ISPT) operating under Board Order No. R7-2007-0015. Currently, the concentration of total dissolved carbon (TOC) within the aquifer is sufficient to sustain a viable in-situ reactive zone (IRZ). The plan is to withhold treatment discharge (reagent dosing via the recirculation wells) for approximately one month to monitor the recirculation systems ability to distribute the TOC sufficiently through the recirculation cell. There will be no change in the recirculation rate - the system will continue to circulate water during this time period.

To evaluate the TOC distribution, PG&E is recommending that weekly sampling of TOC be collected from eight wells: PT-7M, PT-7D, PT-8S, PT-8M, PT-8D, MW-24A, PTR-1, and PTR-2 during the one month evaluation period. After the evaluation period, PG&E will identify a path forward to continue the dosing of the Upland ISPT, potentially at a reduced rate, or will discuss other options with the RWQCB. All supplemental data collected and the plan for continued dosing the Upland ISPT will be communicated to the RWQCB.

From an engineering perspective, because of the continual evaluation inherent in any pilot test, the optimal approach to the Upland ISPT was anticipated to be conducted in a semi-continuous manner, with breaks as needed to assess progress or fine-tune approaches. PG&E discussed this type of phasing with the RWQCB during the preparation of the Waste Discharge Requirement (WDR), e.g. as described in Finding II.A.1, the pilot test "...is expected to take up to six months and will be conducted within a nine-month calendar period".

Based on our review of the Waste Discharge Requirements, it does not appear as though the proposed actions fall under the Effluent Limitations and Discharge Specifications IV.A.5 that states, "Any changes in the type of amount of treatment chemicals added to the process water, duration of the pilot test, or other specific design elements as described in this Board Order shall be made with prior written approval of the Regional Water Board's Executive Officer." or Provision V.A.1.e that states, "Prior to modifications in this facility, which would results in material change in the quality or quantity of wastewater treated or discharged, or any material change in the location of discharge, the Discharger shall report all pertinent information in writing to the RWQCB and obtain revised requirements before modifications are implemented."

We understand however that you will determine if the proposal to temporarily discontinue discharge, and subsequent restart requires a simple notification to the RWQCB or if the permit requires that Board or Executive Officer approval is necessary. If such approval is necessary, please consider this letter our request for approval.

We have a scheduled ethanol delivery on June 2nd that we may be able to reschedule if we are allowed to cease the dosing operation per the information provided above. We appreciate your timely consideration of this letter.

If you have any questions regarding this information, please call me at (805) 234-2257.

Sincerely,

Yvonne Meeks
Topock Project Manager

cc: Cliff Raley, Water Board
Tom Vandenberg, Water Board
Aaron Yue, DTSC

California Regional Water Quality Control Board
Colorado River Basin Region

Linda S. Adams
Secretary for
Environmental Protection

73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
(760) 346-7491 • Fax (760) 341-6820
http://www.waterboards.ca.gov/coloradoriver

Arnold Schwarzenegger
Governor

May 29, 2008

Yvonne J. Meeks, Project Manager
Pacific Gas & Electric Company
4325 S. Higuera Street
San Luis Obispo, CA 93401

SUBJECT: APPROVAL OF A CESSATION IN THE REAGENT INJECTION PROCESS, WASTE DISCHARGE REQUIREMENTS BOARD ORDER NO. R7-2007-0015 (WDRs), PG&E TOPOCK COMPRESSOR STATION

We received your letter, dated May 29, 2008 (Letter), requesting approval to temporarily discontinue reagent injections while continuing to pump and monitor recirculation wells associated with the Upland In-situ Pilot Test (Upland ISPT) at the subject facility. You explain the reason for your request by stating: "Currently, the concentration of total dissolved carbon (TOC) within the aquifer is sufficient to sustain a viable in-situ reactive zone (IRZ)." You explain further that PG&E would like "to withhold treatment discharge for approximately one month to monitor the recirculation systems ability to distribute the TOC sufficiently through the recirculation cell." You add that no change in the recirculation rate will occur during this time period. Also, you indicate that to evaluate the TOC distribution, weekly sampling of TOC will be conducted from eight specified monitoring wells. Following this one-month evaluation period, you state that PG&E would continue the dosing of the Upland ISPT, potentially at a reduced rate, or would discuss other options with the Colorado River Basin Regional Water Quality Control Board (Board), and that the monitoring data and continued dosing plans would be communicated to the Board.

The latter part of your letter discusses your view that the proposed temporary cessation of reagent injection appears to be the type of testing approach to the Upland ISPT that was anticipated to be conducted in a semi-continuous manner, with breaks as needed to assess progress or fine-tune approaches. You point out that this type of phasing was discussed with Board staff during the drafting of the subject Board Order, as reflected in Finding II.A.1, which provides that the Upland ISPT "is expected to take up to six months and will be conducted within a nine-month calendar period." Based on this Finding, you conclude that the proposed temporary cessation and subsequent "fine-tuning" for determining the optimal dosing rate for the reagent injections do not appear to fall under Effluent Limitations and Discharge Specifications IV.A.5 to require

formal written approval by the Regional Board's Executive Officer.[1] In the event that the Executive Officer does not share this conclusion, you requested that your letter be considered a request for the Executive Officer's approval.

I have concluded that the temporary cessation of reagent injection for one month in a testing protocol that envisions that the injection portion of the pilot test would take up to six months and be conducted within a nine-month calendar period (Finding II.A.1) is a significant enough delay to be considered a "change[ ] in the amount of treatment chemicals added to the process water" or, at a minimum, a "change[ ] in ... other specific design elements as described in [the Board Order]." (Specification IV.A.5.) Thus, the proposed temporary cessation of reagent injection is subject to Specification IV.A.5. As such, my written approval is required. Accordingly, I have treated your letter as requesting that approval, which is hereby granted.

As for the "fine-tuning" of the dosing rate, which is proposed to occur upon restart of the reagent injection process, I agree that the starts/stops and breaks involved for this fine-tuning work are of a short-term nature and thus, would not rise to the level of specific design element changes that would require my written approval. Therefore, with respect to the fine-tuning phase of the Upland ISPT, your notice regarding this phase of the work is sufficient.

Please keep in mind, however, that it is necessary that you keep the Regional Board and the Department of Toxic Substances Control staff apprised, at the earliest practicable time, of all design and operational parameters involved in the Upland ISPT.

The subject Board Order remains in full effect and is not modified by this letter. If you have any questions, or require additional information regarding this matter, please call Cliff Raley at (760) 776-8962.

Cliff Raley for

ROBERT PERDUE
Executive Officer

CR/tab

[1] Specification IV.A.5 states: "Any changes in the type or amount of treatment chemicals added to the process water, duration of the pilot test, or other specific design elements as described in this Board Order shall be made with prior written approval of the Regional Water Board's Executive Officer."

cc: Curt Russell, Onsite Project Manager, PG&E Topock
Julie Eakins, PE, CH2M HILL,
Lisa Kellogg, PE, ARCADIS, Inc.,
Aaron Yue, Project Manager, DTSC

File: WDID No. 7B 36 2186 001, PG&E Topock Compressor Station,
Board Order No. R7-2007-0015

-----Original Message-----
From: Meeks, Yvonne J [mailto:YJM1@pge.com]
Sent: Monday, August 04, 2008 4:12 PM
To: Robert Perdue; Cliff Raley; Tom Vandenberg
Cc: Gilbert, David; Doss, Robert; Jayo, Juan (Law); Kellogg, Lisa; Robert Lucas
Subject: PGE Uplands ISPT Reagent Dosing

Robert and all -- Per the attached letter from the RWQCB, we are providing this notice that PG&E intends to re-start ethanol dosing in uplands pilot study well PTR-2 at a rate of between 15 and 45 gallons per day (a reduction from the 100 gallons per day specified in the WDR).

As you recall, with your approval, we temporarily discontinued reagent injection in both injection wells in late May. At that time, we proposed to evaluate the data results and make a recommendation for the restarting reagent dosing. PG&E has evaluated the recent monitoring data and intends to begin recirculation with ethanol dosing in PTR-2 within the next week. PG&E will continue to review the data and plans to make a recommendation regarding dosing in PTR-1 at the end of August.

We will continue to keep the RWQCB informed. Let me know if you have any questions.

Yvonne Meeks

From: Meeks, Yvonne J [mailto:YJM1@pge.com]
Sent: Thursday, October 23, 2008 4:07 PM
To: Robert Perdue; Tom Vandenberg; Cliff Raley
Cc: Gilbert, David; Doss, Robert; Robert Lucas; Ayue@dtsc.ca.gov; Christopher Guerre
Subject: Topock - Notification request to the RWQCB regarding Uplands dosing

Robert --

In accordance with the attached letter from the RWQCB, we are providing this notice that tomorrow, October 24, PG&E intends to increase the ethanol dosing in uplands pilot study wells , PTR-1 and PTR-2 , to a rate of 100 gallons per day for each well. We are essentially going back to the injection rate as was originally specified in Board Order No. R7-2007-0015. You will recall that we had decreased the rate back in August to 15-45 gallons per day.

Looking ahead, weplan to complete the ethanol dosing on November 6, the final day per the WDR permit. After that we will just be recirculating groundwater until December 3rd , also consistent with the WDR. Since these timeframes are consistent with the timeframes in the WDR permit, these completion activities didn't require notification, but I thought you might like to know that we are finishing up another (successful) pilot test.

Let me know if you have any questions, Yvonne

Preston, Kelli Jo

From: Meeks, Yvonne J [YJM1@pge.com]
Sent: Monday, November 24, 2008 8:57 PM
To: Robert Perdue; Tom Vandenberg; Cliff Raley
Cc: Aaron Yue; Kellogg, Lisa; Sullivan, Kevin M; Doss, Robert; Gilbert, David
Subject: Notification regarding PG&E Topock Uplands pilot test
Attachments: Appendix A-Communications.pdf

Robert --

In accordance with the attached letter from the RWQCB, we are providing this notice that PG&E intends to modify the flow pattern in uplands pilot study well PTR-2 to perform a hydraulic extraction test. PTR-1 will be brought off-line and the recirculation pattern in PTR-2 will be reversed. This reversal will be allowed to run for 4-6 hours to evaluate the extraction capacity of the well. Once the 4-6 hour test is complete, the downhole equipment will be removed. As specified within Board Order No. R7-2007-0015, the pilot will be concluded on December 3rd, after 9 months of operation.

Let me me know if you have any questions regarding this email or any other aspect of the uplands test.

Yvonne Meeks

Pacific Gas and Electric Company

Yvonne Meeks
Manager

Environmental Remediation
Gas T&D Department

Mailing Address
4325 South Higuera Sreet
San Luis Obispo, CA 93401
Location
6588 Ontario Road
San Luis Obispo, CA 93405
Tel: (805) 234-2257
Email: yjm1@pge.com

March 20, 2009

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

Subject: Request to Rescind the Waste Discharge Requirements under Board Order R7-2007-0015
PG&E Topock Compressor Station, Needles, California

Dear Mr. Perdue:

Pacific Gas and Electric Company (PG&E) is requesting to rescind the Waste Discharge Requirements (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (Water Board) under Board Order R7-2007-0015 related to the PG&E Topock Compressor Station upland reductive zone in situ pilot test.

Reagent injections were completed in November 2008 followed by monitoring events as required in the Monitoring and Reporting Program (MRP) Attachment C. The in situ pilot test was deemed to be complete in December 2008 and the *Upland Reductive Zone In-Situ Pilot Test, Final Completion Report* was submitted on March 3, 2009. Since March 3, 2009, activity has consisted solely of quarterly sampling of sixteen upland pilot study wells. No additional injections are planned in this area. Therefore, it is PG&E's understanding that the WDR need not be renewed, and instead rescinded.

If you have any questions regarding this report, please call me at (805) 234-2257.

Sincerely,

Yvonne Meeks
Topock Project Manager

cc: Cliff Raley, Water Board
Aaron Yue, DTSC

ARCADIS

Appendix B

Calibration Logs for Field Monitoring Instruments

ARCADIS

MULTIPARAMETER INSTRUMENT CALIBRATION RECORD

Project No.: RC000689.0007.00002 Location: TOPOCK, CA

Instrument: YSI 556 Serial Number: 05C1520 AK

Date	Calibrated by	Parameter	Standards Used	Calibrated Achieved (Y/N)	Remarks
10/29/09	CT	7.11	7.0	Y	
↓	↓	4.01	4.0	↓	
		9.85	10.0		
		3908	COND 3.9		
		247.8	ORP 249.0		
		81.4 %	DO 82%		

ARCADIS

Appendix C

Groundwater Sampling Logs

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: PT- 7S
Date: 10- 29 -09 Sampled By: Blainetech
Weather: COOL / PARTLY CLOUDY Recorded By: CI
Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 150
Depth to Water: 105.68
Water Column: 44.32
Gallons/Foot: 0.16
Gallons in Well: 7.1

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer
Screen Interval: From: 130' To: 150'
Pump Intake Setting: ~140
Volumes to be Purged: 3
Total Volume Purged: 21.3
Pump on: 0925 Off: 0955

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37 $3^1/_2$" = 0.50 4" = 0.65 6" = 1.46

Cr+6 (1560) — .774 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate (GPM)	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
0925	0	1	0		438	0.4	6.94	5743	28.76	0.23	
0930	5	1	~~3~~5		76	44.2	7.00	565~~5~~	30.04	0.17	
0935	10	1	10		30	52.1	7.04	5656	30.17	0.15	
0940	15	1	15		17	52.3	7.07	5685	30.21	0.14	
0947	~~13~~ 22	1	22		15	52.1	7.08	5682	30.19	0.14	

Observations During Sampling

Well Condition: GOOD
Color: NONE / CLEAR
Odor: NONE

Purge Water Disposal: TANK
Turbidity(qualitative): CLEAR
Other (OVA, HNU,etc.): —

Sample ID: PT-7S-0910 **Sample Date & Time:** 10/29/09 @ 0948
Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number:	RC000689.0007.	Task:	00002	Well ID:	PT-7M
Date:	10- 29 -09	Sampled By:	Blainetech		
Weather:	COOL/ PARTLY CLOUDY	Recorded By:	CI		
		Coded Duplicate No.:	—		

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

"Pressure"

Casing Material:	PVC	Purge Technique (circle one):	Low-Flow / Remove 3 Well Volumes / Bail Dry
Casing Diameter:	2"	Purge Equipment (circle one):	Submersible / Centrifugal / Bladder / Peristaltic / Bailer
Total Depth:	185'	Screen Interval: From:	165' To: 185'
Depth to Water:	105.77	Pump Intake Setting:	—
Water Column:	79.23	Volumes to be Purged:	3
Gallons/Foot:	0.16	Total Volume Purged:	38.1
Gallons in Well:	12.7	Pump on: 0820	Off: 0849

CR+6 (1560) .051 mg/L

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3 1/2" = 0.50; 4" = 0.65; 6" = 1.46

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate (GPM)	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
0825	5	3	15	/	25	-93.0	7.12	6712	20.30	1.88	
0830	10	3	30	/	266	-171.4	7.20	7534	23.70	0.93	
0835	15	3	45	/	127	-168.2	7.17	7689	23.05	1.02	

Observations During Sampling

Well Condition:	GOOD	Purge Water Disposal:	TANK
Color:	DARK/GREEN	Turbidity(qualitative):	HIGH
Odor:	YES STRONG	Other (OVA, HNU,etc.):	—

Sample ID: PT-7M-0910 **Sample Date & Time:** 10/29/09 @ 0846

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number:	RC000689.0007.	Task:	00002	Well ID:	PT-7D
Date:	10- 29 -09	Sampled By:	Blainetech		
Weather:	COOL / WINDY	Recorded By:	CI		
		Coded Duplicate No.:	—		

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Casing Material:	PVC	Purge Technique (circle one):	Low-Flow	Remove 3 Well Volumes	Bail Dry
Casing Diameter:	2"	Purge Equipment (circle one):	Submersible	Centrifugal	Bladder Peristaltic Bailer
Total Depth:	217'	Screen Interval: From:	197'	To:	217'
Depth to Water:	105.62	Pump Intake Setting:			
Water Column:	111.38	Volumes to be Purged:	3		
Gallons/Foot:	~~17.9~~ 0.16	Total Volume Purged:	53.5		
Gallons in Well:	17.9	Pump on:	1545	Off:	1600

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3½" = 0.50; 4" = 0.65; 6" = 1.46

Cr+6 (1560) .017 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1550	5				19	-54.4	7.41	15193	24.39	0.75	
1555	10				22	-52.3	7.37	15264	24.60	0.91	
1600	15				16	-53.5	7.36	15207	~~24.50~~	1.07	

Observations During Sampling

Well Condition:	GOOD	Purge Water Disposal:	TANK
Color:	LIGHT GREEN	Turbidity(qualitative):	CLEAR
Odor:	STRONG	Other (OVA, HNU,etc.):	—

Sample ID: ~~PT-7D~~ PT-7D-0910 **Sample Date & Time:** 10/29/09 @ 1600

Samples Analyzed For: See the COC

*GRAB w/ BAILER *

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: ~~PT-8S~~ PT-8M

Date: 10- 28 -09 Sampled By: Blainetech

Weather: WINDY / COOL Recorded By: CE

Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: ~~147'~~ 182

Depth to Water: 106.42

Water Column: 75.58

Gallons/Foot: 0.16

Gallons in Well: 12.1

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: ~~127'~~ 162' To: ~~147'~~ 182'

Pump Intake Setting:

Volumes to be Purged: 3

Total Volume Purged: 36.3

Pump on: 1107 Off: 1152

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3½" = 0.50; 4" = 0.65; 6" = 1.46

CF76 (1560) = 782 MG/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1107	0	1	0	106.68	22	-59.7	6.98	8004	28.61	0.27	
~~1113~~ 1113	6	1	6	106.68	40	-42.0	6.80	7566	29.87	0.27	
1119	12	1	12	106.68	17	-14.0	6.75	7433	30.23	0.21	
1125	18	1	18	106.68	11	-1.8	6.75	7315	30.24	0.17	
1131	24	1	24	106.68	7	11.6	6.75	7301	30.33	0.15	
1137	30	1	30	106.68	6	19.2	6.79	7281	30.45	0.14	
1144	37	1	37	106.68	7	21.4	6.79	7272	30.48	0.14	

Observations During Sampling

Well Condition: GOOD

Color: PINK

Odor: NONE

Purge Water Disposal: TANK

Turbidity(qualitative): CLEAR

Other (OVA, HNU,etc.): —

Sample ID: PT-8M-0910 **Sample Date & Time:** 10/28/09 @ 1145

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: PT-8M 5

Date: 10- 28 -09 Sampled By: Blainetech

Weather: SUNNY/COOL Recorded By: CE

Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	05U520 AK
Serial #:	—	Y/SI 556

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: ~~182'~~ 147'

Depth to Water: 106.50

Water Column: 75.5

Gallons/Foot: 0.16

Gallons in Well: 12.08

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: ~~162'~~ 127' To: ~~182'~~ 147'

Pump Intake Setting:

Volumes to be Purged: 3

Total Volume Purged: 36.3

Pump on: 0950 Off: 1035

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3 1/2" = 0.50; 4" = 0.65; 6" = 1.46

CR76 (1560) .004 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate (GPM)	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
0950	0	1	0	106.68	147	-126.5	7.20	6239	28.25	0.24	
0956	6	1	6	106.68	15	-178.3	7.15	6252	30.05	0.29	
1002	12	1	12	106.68	14	-190.2	7.14	6190	29.88	0.26	
1008	18	1	18	106.68	8	-193.7	7.13	6155	29.87	0.26	
1014	24	1	24	106.68	6	-194.1	7.12	6110	29.88	0.21	
1020	30	1	30	106.68	4	-194.5	7.12	6164	29.94	0.18	
1027	37	1	37	106.68	3	-194.4	7.12	6069	29.59	0.16	

Observations During Sampling

Well Condition: GOOD

Color: NONE/CLEAR

Odor: SLIGHT

Purge Water Disposal: TANK

Turbidity(qualitative): CLEAR

Other (OVA, HNU,etc.): —

Sample ID: PT-8M-0910 **Sample Date & Time:** 10/28/09 @ 1028

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number:	RC000689.0007.	Task:	00002	Well ID:	PT-8D
Date:	10- 28 -09	Sampled By:	Blainetech		
Weather:	SUNNY / COOL	Recorded By:	CE		
		Coded Duplicate No.:	DUP-1-0910		

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Purge Technique (circle one): Low-Flow (Remove 3 Well Volumes) Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Casing Material:	PVC	Screen Interval: From:	190' To: 210'
Casing Diameter:	2"	Pump Intake Setting:	~200
Total Depth:	210'	Volumes to be Purged:	3 CASING
Depth to Water:	91.04 need to switch KJP 12/1/09	Total Volume Purged:	57.2
Water Column:	118.96	Pump on: 0853	Off: 0932
Gallons/Foot:	0.16		
Gallons in Well:	19.1		

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3 1/2" = 0.50; 4" = 0.65; 6" = 1.46

CrT6 (1560) 2.00 MG/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
0853	0	2	0	106.86	24	-255.4	7.45	17362	28.22	0.50	
0858	5	2	10	106.86	4	-227.1	7.99	17875	30.17	0.31	
0903	10	2	20	106.86	2	-176.3	8.04	16925	30.32	0.31	
0908	15	2	30	106.86	2	-160.0	8.03	16396	30.32	0.33	
0913	20	2	40	106.86	2	-154.4	8.02	16149	30.44	0.33	
0918	25	2	50	106.86	2	-157.7	8.00	15970	30.47	0.31	
0923	30	2	60	106.86	2	-154.5	7.99	15852	30.47	0.30	

Observations During Sampling

Well Condition:	GOOD	Purge Water Disposal:	TANK
Color:	LIGHT GREEN	Turbidity(qualitative):	CLEAR
Odor:	~~NONE~~ (SLIGHT)	Other (OVA, HNU,etc.):	—

Sample ID: PT-8D-0910 **Sample Date & Time:** 10/28/09 @ 0924

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number:	RC000689.0007.	Task:	00002	Well ID:	PT-9S
Date:	10- 29 -09	Sampled By:	Blainetech		
Weather:	WINDY / SUNNY	Recorded By:	CT		
		Coded Duplicate No.:	—		

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520AK

Purging Information

Casing Material:	PVC
Casing Diameter:	2"
Total Depth:	147'
Depth to Water:	163.58
Water Column:	43.42
Gallons/Foot:	.16
Gallons in Well:	7.0

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer (WATERRA)

Screen Interval: From: 128' To: 147'

Pump Intake Setting:

Volumes to be Purged: 3

Total Volume Purged: 21.0

Pump on: 11:25 Off: 11:55

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; $3^1/_2$" = 0.50; 4" = 0.65; 6" = 1.46

CrT+6 (1560) .62 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1127	0	1	0		15	79.4	7.33	5293	26.75	1.46	
1130	3	1	3		25	37.5	7.42	5476	27.02	3.06	
1134	7	1	7		16	13.6	7.48	5191	27.31	4.03	
1137	10	1	10		13	7.7	7.47	5361	27.07	4.90	
1141	14	1	14		12	9.5	7.47	5544	27.40	4.28	
1144	17	1	17		13	9.0	7.49	5489	27.24	4.38	
1148	21	1	21		12	8.6	7.49	5446	27.23	4.30	

Observations During Sampling

Well Condition:	GOOD	Purge Water Disposal:	TANK
Color:	LIGHT GREEN	Turbidity(qualitative):	CLEAR
Odor:	NONE	Other (OVA, HNU,etc.):	—

Sample ID: PT-9S-0910 **Sample Date & Time:** 10/29/09 @ 1149

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: PT- 9M

Date: 10- 29 -09 Sampled By: Blainetech

Weather: windy Recorded By: CE

Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 182'

Depth to Water: 103.66

Water Column: 78.34

Gallons/Foot: 0.16

Gallons in Well: 12.6

Screen Interval: From: 162' To: 182'

Pump Intake Setting: ~ 172'

Volumes to be Purged: 3 CASING

Total Volume Purged: 37.7

Pump on: 1219 Off: 1245

Well Casing Volumes (gal/ft): 2" = 0.16 3" = 0.37 $3^1/_2$" = 0.50 4" = 0.65 6" = 1.46

CrT+6 (1560) 2.94 MG/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1219	0	2	0	103.93	>1000	74.9	7.17	8422	29.44	2.47	
1222	3	2	6	103.93	82	72.7	7.18	8383	29.66	2.66	
1225	6	2	14	103.93	71	72.0	7.18	8313	29.74	2.82	
1229	10	2	20	103.93	19	71.8	7.17	8252	29.87	2.89	
1232	13	2	26	103.93	13	70.7	7.15	8243	29.93	2.90	
1235	16	2	32	103.93	10	69.2	7.15	8229	29.89	2.91	
1238	19	2	38	103.93	8	68.6	7.15	8225	29.95	2.91	

Observations During Sampling

Well Condition: GOOD

Color: SLIGHTLY GREENISH

Odor: NONE

Purge Water Disposal: TANK

Turbidity(qualitative): CLEAR

Other (OVA, HNU,etc.): —

Sample ID: PT-9M-0910 **Sample Date & Time:** 10/29/09 @ 1239

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: PT-9D

Date: 10- 28 -09 Sampled By: Blainetech

Weather: WINDY / COOL Recorded By: CE

Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 210'

Depth to Water: 103.50

Water Column: ~~0.16~~ 106.5

Gallons/Foot: 0.16

Gallons in Well: 17.04

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: 190' To: 210'

Pump Intake Setting: ~200

Volumes to be Purged: 3 CASING

Total Volume Purged: 51.2

Pump on: 1406 Off: 1440

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3 1/2" = 0.50; 4" = 0.65; 6" = 1.46

CR6 (1560) 15.76 ug/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1406	0	2	0	103.97	956	76.1	7.69	15735	28.96	1.06	
1411	5	2	10	103.97	20	46.5	7.97	17311	30.06	1.28	
1416	10	2	20	103.97	14	41.8	7.95	17101	30.14	1.23	
1421	15	2	30	103.97	9	37.3	7.93	16913	30.22	1.19	
1426	20	2	40	103.97	6	33.2	7.91	16784	30.21	1.16	
1432	26	2	52	103.97	5	31.1	7.90	16692	30.26	1.13	

Observations During Sampling

Well Condition: GOOD

Color: GREEN

Odor: NONE

Purge Water Disposal: TANK

Turbidity(qualitative): CLEAR

Other (OVA, HNU,etc.): —

Sample ID: PT-9D-0910 **Sample Date & Time:** 10/28/09 @ 1433

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: MW-24A
Date: 10- 27 -09 Sampled By: Blainetech
Weather: WARM / WINDY Recorded By: CE
Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	05C1520AK
Serial #:	—	YSI 556

Purging Information

Casing Material: PVC
Casing Diameter: 4"
Total Depth: 124'
Depth to Water: 111.10
Water Column: 12.9
Gallons/Foot: x 0.65
Gallons in Well: 8.4

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer
Screen Interval: From: 104' 124'
Pump Intake Setting: [redacted] ~ 114
Volumes to be Purged: 3 CASING
Total Volume Purged: 25.2
Pump on: 1416 Off: 1455

Well Casing Volumes (gal/ft): 2" = 0.16 3" = 0.37 3 1/2" = 0.50 4" = 0.65 6" = 1.46

CR+6 (1560) .003 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate (GPM)	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1416	0	1	0	112.74	25	-123.7	7.25	8254	29.43	0.63	
1421	5	1	5	112.84	16	-177.6	7.36	6904	30.65	0.21	
1426	10	1	10	112.74	11	-190.9	7.40	6342	30.78	0.18	
1431	15	1	15	112.77	10	-196.8	7.41	6051	30.81	0.16	
1436	20	1	20	112.67	9	-200.8	7.41	6000	30.85	0.17	
1441	25	1	25	112.76	8	-203.9	7.40	6033	30.92	0.17	
1446	30	1	30	112.70	8	-206.0	7.41	6001	30.91	0.17	

Observations During Sampling

Well Condition: GOOD
Color: PINK
Odor: NONE

Purge Water Disposal: TANK
Turbidity(qualitative): CLEAR
Other (OVA, HNU,etc.): —

Sample ID: MW-24A-0910 **Sample Date & Time:** 10/27/09 @ 1447
Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: MW-38S
Date: 10- 27 -09 Sampled By: Blainetech
Weather: WARM Recorded By: CI
Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520AK

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 95.3'
Depth to Water: 69.95
Water Column: 25.35
Gallons/Foot: .16
Gallons in Well: 4.1

Purge Technique (circle one): Low-Flow (Remove 3 Well Volumes) Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer
Screen Interval: From: 75' 95'
Pump Intake Setting: ~85
Volumes to be Purged: 3 CASING
Total Volume Purged: 12.2
Pump on: 1237 Off: 1300

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

Cr+6 (1560) .98 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1237	0	1	0		77	+110.4	7.87	2504	28.11	1.09	
1239	2	1	2		24	89.4	7.82	2318	28.03	0.93	
1241	4	1	4		11	86.5	7.75	2319	28.36	0.78	
1243	6	1	6		9	89.3	7.76	2315	27.76	0.82	
1245	8	1	8		7	88.7	7.75	2310	27.83	0.74	
1247	10	1	10		5	87.4	7.75	2306	27.77	0.81	
1249	12	1	12		4	87.7	7.76	2311	27.74	0.79	
1251	14	1	14		4	88.9	7.74	2307	27.78	0.80	

Observations During Sampling

Well Condition: BROKEN HINGE
Color: CLEAR/NONE
Odor: NONE

Purge Water Disposal: TANK
Turbidity(qualitative): —
Other (OVA, HNU, etc.):

Sample ID: MW-38S-0910 **Sample Date & Time:** 10/27/09 @ 1252
Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0007. Task: 00002 Well ID: MW-38D

Date: 10- 27 -09 Sampled By: Blainetech

Weather: WARM Recorded By: CR

Coded Duplicate No.: —

Instrument Identification

	PID	Water Quality Meter(s)
Model	—	YSI 556
Serial #:	—	05C1520 AK

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 188.3'

Depth to Water: 69.79

Water Column: 118.51

Gallons/Foot: .16

Gallons in Well: 19.0

Purge Technique (circle one): Low-Flow (Remove 3 Well Volumes) Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: 166.3' 188.3'

Pump Intake Setting: ~177

Volumes to be Purged: 3 CASING

Total Volume Purged: 56.9

Pump on: 1100 Off: 1130

Well Casing Volumes (gal/ft): (2" = 0.16) 3" = 0.37; 3½" = 0.50; 4" = 0.65; 6" = 1.46

CrVI (1560) .061 mg/L

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ( )	Volume Purged ( )	DTW (ft btoc)	Turbidity (NTUs) (CE) 145	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
1100	0	3	0	70.95	~~70.95~~	44.0	7.87	22154	29.22	0.75	
1103	3	3	9	70.95	25	27.7	7.87	22072	29.92	0.28	
1107	7	3	20	70.95	17	18.9	7.87	22109	29.77	0.28	
1110	10	3	30	70.95	15	15.2	7.87	22107	30.06	0.27	
1113	13	3	40	70.95	10	13.4	7.87	22110	30.12	0.28	
1117	17	3	50	70.95	7	10.4	7.87	22115	30.15	0.29	
1120	20	3	60	70.95	6	10.1	7.87	22123	30.17	0.28	

Observations During Sampling

Well Condition: GOOD

Color: NONE

Odor: NONE

Purge Water Disposal: TANK

Turbidity(qualitative): —

Other (OVA, HNU,etc.):

Sample ID: MW-38D-0910 **Sample Date & Time:** 11/27/09 @ 1121

Samples Analyzed For: See the COC

Appendix D

Analytical Reports and Chain-of-Custody Documentation
(on Compact Disc)