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Company**

Yvonne Meeks

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January 5, 2009

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

Subject: Groundwater and Surface Water Monitoring Report, Third Quarter 2008
PG&E Topock Compressor Station, Needles, California

Dear Mr. Yue:

Enclosed is the Groundwater and Surface Water Monitoring Report, Third Quarter 2008 for the Pacific Gas And Electric Company (PG&E) Topock Compressor Station. This report provides results for the quarterly monitoring event conducted from September 29 through October 10, 2008 at 90 groundwater monitoring wells, as well as results from monthly sampling events performed in July, August, and September 2008. This report also presents results for the shoreline and in-channel Colorado River sampling conducted during September and October 2008.

In addition, this report presents a summary of water level data collected at MW-23 and surrounding wells during the third quarter 2008, and metals samples collected to support the background study at monitoring wells MW-16 and MW-17.

If you have any questions on the groundwater and surface water monitoring report, please call me at (805) 234-2257.

Sincerely,

A handwritten signature in blue ink that reads "Yvonne Meeks".

Enclosure

cc: Chris Guerre/DTSC
Karen Baker/DTSC
Susan Young/CA-SLC
Nancy Garcia/AZ-SLD

Groundwater and Surface Water Monitoring Report, Third Quarter 2008, PG&E Topock Compressor Station, Needles, California

PREPARED FOR: California Department of Toxic Substances Control
ON BEHALF OF: Pacific Gas and Electric Company
PREPARED BY: CH2M HILL Inc.
DATE: January 5, 2009

This technical memorandum (TM) presents the results of the third quarter 2008 groundwater and surface water monitoring activities conducted at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station near Needles, California. The monitoring activities are conducted as part of PG&E's Groundwater and Surface Water Monitoring Program (GMP) for the Topock site.

Figure 1¹ shows the locations and sampling frequencies of the monitoring wells in the GMP as of October 2008, the location of the PG&E Topock Compressor Station, and other site features. The GMP schedule includes 90 groundwater monitoring wells and four shoreline and eighteen in-channel Colorado River surface water sampling locations. For background and description of the current groundwater and surface water sampling, analyses, and monitoring program, refer to PG&E's *Groundwater and Surface Water Monitoring Report, Fourth Quarter 2007 and Annual Summary, PG&E Topock Compressor Station*, dated March 28, 2008.

Monitoring Summary

The Annual GMP Sampling Event was conducted during third quarter 2008 (October) and is addressed in this TM:

- The third quarter GMP monitoring event was conducted from September 29 through October 10 2008, and included sampling 90 groundwater monitoring wells for hexavalent chromium [Cr(VI)], total chromium [Cr(T)], specific conductance, and field pH. During this GMP event, 15 selected wells were also sampled for California Code of Regulations (CCR) Title 22 metals analyses.
- As stated in the Groundwater Background Study, Steps 3 and 4: Final Report of Results (CH2M HILL, 2008), monitoring wells MW-16 and MW-17 were sampled in 2008 on a semiannual basis to monitor for any trends in natural trace metal concentrations. These wells were sampled as part of the third quarter sampling event, and the data is included as Attachment 1.

¹ Figures can be found at the end of this TM.

- Quarterly river sampling was conducted on September 17 and 18, 2008. Samples were collected from four shoreline and 18 in-channel surface water locations. Former location C-R-22 was relocated to the western-most pier of the former Red Rock Bridge and renamed C-R-22A (Figure 1). Samples were analyzed for Cr(VI), Cr(T), specific conductance, and pH. With the September river sampling event, unfiltered samples were also collected in addition to the normal field-filtered procedures. These unfiltered surface water analyses from the September event and upcoming December and January river sampling will provide an unfiltered data set that may be used for risk assessment purposes. The unfiltered samples were collected at shoreline locations and shallow in-channel locations. Due to a detection of 0.23 µg/L at "pond" location R-23, the filtered surface water locations were re-sampled on October 23 and 24, 2008. No Cr(VI) or Cr(T) were detected during the October re-sampling event.
- Monthly groundwater sampling events were conducted from July 7 through 8, August 19 through 20, and September 3 through 4, and included sampling five monitoring wells (MW-34-80, MW-34-100, MW-44-115, MW-44-125, and MW-46-175) for Cr(VI) and Cr(T).
- Monthly groundwater sampling of the Arizona monitoring wells (MW-54, MW-55, and MW-56 clusters) occurred on July 9, August 18-19, September 3-4, and October 1-2, 2008. The October sampling event was the last monthly sampling of these wells.

During the August 2, 2007, Technical Workgroup meeting, DTSC requested long-term transducer monitoring at MW-23 and the surrounding area. The groundwater elevation data from MW-23 and adjacent monitoring wells surrounding MW-23 are presented as Attachment 2 to this report.

Monitoring Activities and Results

The groundwater and surface water monitoring data presented in Tables 1, 2, and 3 include the results from the first, second, and third quarters 2008. Table 4 includes data from October 2007 through October 2008. Data from the 2007 Annual Monitoring is included as Attachment 3.

GMP Groundwater Monitoring

Figure 1 shows the locations of the GMP monitoring wells sampled during the reporting period. The analytical results for Cr(VI), Cr(T), specific conductance, and field pH in groundwater samples collected from GMP wells during January 2008 through October 2008 are presented in Table 1. Groundwater sampling forms and chain-of-custody forms are included in Attachment 4.

Figures 2 through 4 present the October 2008 Cr(VI) results for wells monitoring the shallow, mid-depth, and deep intervals of the alluvial aquifer, respectively. Cr (VI) concentrations in Monitoring wells MW-47-055, MW-40D, and MW-50-095 are reported as non-detect at an elevated reporting limit due to equipment blank detections. Historically, results from these wells have been greater than 32 µg/L. Therefore, they are shown as within the 32 µg/L plume contour despite being reported as non-detect. Overall, the third quarter 2008 chromium results are in the range of concentrations observed during the prior 2007 and 2008 sampling events. In the third quarter 2008, the maximum detected Cr(VI) and

Cr(T) concentrations were 8,990 µg/L and 11,700 µg/L respectively at MW-20-130. Most wells exhibit either stable or decreasing concentrations of Cr(VI) and Cr(T). Refer to PG&E's *Topock Quarterly Performance Monitoring Report and Evaluation, January through October*, dated December 22, 2008, for the recent concentration trends observed in wells in the area of active interim measure pumping. A review and discussion of the 2008 groundwater sampling results and concentration trends will be included in the annual GMP report.

The Arizona monitoring well samples from October were analyzed for hexavalent chromium (Cr(VI)) and dissolved chromium (total) (Cr(T)). Emax and Truesdail Laboratories analytical results showed no detection of hexavalent chromium in the Arizona monitoring wells except for MW-55-120, which showed a detection of 0.402 µg/L, consistent with analytical results from September monthly sampling. Dissolved chromium (total) was detected by Emax Laboratory in three of eight wells: MW-54-140 at 1.36 µg/L, MW-54-195 at 1.27 µg/L, and MW-55-120 at 1.13 µg/L. Split samples sent to Truesdail Laboratories for wells MW-54-140 and MW-54-195 showed no detection of dissolved chromium (total) at the reporting limit.

The Park Moabi water supply wells were sampled on October 3, 2008. Results are presented in Table 1. Park Moabi 3 had Cr(VI) and Cr(T) detections of 8.75 µg/L and 8.35 µg/L respectively. Park Moabi 4 had Cr(VI) and Cr(T) detections of 20.6 µg/L and 18.5 µg/L. These detections are consistent with historical results and with results of background well sampling; the Cr(T) detections remained well below the California drinking water standard of 50 µg/L.

GMP Surface Water Monitoring

Figure 1 shows the locations of the shoreline and in-channel surface water monitoring stations. Beginning in September 2008, the number of shoreline sampling locations was reduced from ten to four locations. Locations R-19, R-23, R-28 and RRB are posted on Figure 2. Table 2 presents the sampling results of chromium and other analytes from surface water monitoring events (including in-channel locations and shoreline stations) performed from January through October 2008. There was a Cr(VI) detection of 0.23 µg/L at the shoreline "pond" location R-23 during the September quarterly river monitoring event. All surface water locations were re-sampled on October 23-24, 2008. No Cr(VI) or Cr(T) was detected during the October re-sampling event.

Unfiltered surface water samples were collected with the September river sampling event, for the purpose of creating an unfiltered data set for possible risk assessment use. Shallow in-channel locations and shoreline locations were sampled. New sampling stations C-TM-1 and C-TM-2 were established for this unfiltered sampling effort. Unfiltered sampling locations were not re-sampled in October. Results from unfiltered surface water sampling are presented in Table 3. Location C-R27-S had a Cr(T) detection of 1.04 µg/L, below the Cr(T) level in California and Federal Safe Drinking water act (50 µg/L and 100 µg/L, respectively). All other locations were ND for Cr(VI) and Cr(T). The corresponding field-filtered sample from location C-R27-S was ND for Cr(VI) and Cr(T) as well.

Title 22 Metals Groundwater Analyses

Table 4 presents the CCR Title 22 metals results for the GMP monitoring wells sampled October 2007 through October 2008. In addition to Cr(T), the trace metals detected during the October 2008 groundwater sampling were antimony, arsenic, barium, cobalt, copper, molybdenum, nickel, selenium, vanadium, and zinc. Excluding Cr(T), antimony (MW-20-70), arsenic (wells MW-12, MW-22, MW-24A, MW-32-35 and MW-43-25), and selenium (TW-1), the dissolved concentrations of the trace metals detected during the October 2008 sampling are below their respective California drinking water standards.

Data Validation and Completeness

The laboratory analytical data from the Annual GMP Sampling Event (third quarter 2008) were independently reviewed by project chemists to assess data quality and to identify deviations from analytical requirements.

During data validation, anomalous metals data were identified by the project chemists when comparing against historical data. As specified in the Project QAPP, corrective action was initiated and confirmation analysis was requested.

The results of the confirmation analysis were consistent with the historical data. Final results were reported from the confirmation analyses (all metals analysis were performed by Truesdail Laboratories). Upon resolution of this issue, completeness objectives were met for all method and analyte combinations. No additional analytical deficiencies were identified in the third quarter 2008 monitoring data. Additional detail is provided in the data validation reports, which are kept in the project file and are available upon request.

Schedule for Fourth Quarter 2008 GMP Activities

The following GMP activities are scheduled for the fourth quarter 2008 monitoring period:

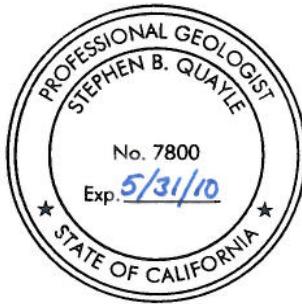
- The November monthly groundwater sampling event (five wells) was conducted on November 6 through 7, 2008.
- Quarterly surface water sampling at four shoreline and nine in-channel locations was conducted on December 8 through 12, 2008. This included another round of unfiltered surface water sample collection.

The results of the quarterly groundwater and surface water monitoring events and the monthly sampling events will be reported in the Fourth Quarter 2008 GMP Monitoring Report, which will be submitted approximately 12 weeks after the December 2008 sampling event.

Certification

This report was prepared by CH2M HILL under the supervision of the professional whose seal and signature appears herein in accordance with currently accepted professional practices. No warranty, expressed or implied, is made.

Stephen B. Quayle
Stephen B. Quayle
Professional Geologist, PG No. 7800



Report Reviewed by:

Jay Piper
Jay Piper
CH2M HILL Project Manager

Tables

TABLE 1

Groundwater Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-9	10/06/2008	282	280	3,300	7.20
MW-10	03/11/2008	478	473	2,990	7.53
	10/06/2008	462	483	3,100	7.40
MW-12	03/10/2008	2,760	2,860	5,270	8.44
	05/05/2008	2,580	2,800	6,200	8.19
	10/07/2008	2,680	3,000	6,400	8.13
	10/07/2008 FD	2,580	2,990	6,400	---
MW-13	10/02/2008	23.2	23.0	1,900	7.00
MW-14	10/03/2008	27.9 J	29.1	1,500	7.57
MW-16	10/03/2008	9.15	6.51	---	7.85
MW-17	10/02/2008	7.93	6.92	---	7.40
MW-18	03/11/2008	30.2	27.7	1,230	7.57
	03/11/2008 FD	30.0	27.2	1,320	---
	10/02/2008	25.5	26.4	1,300	6.92
MW-19	10/07/2008	682	786	2,500	7.31
MW-20-70	03/12/2008	2,580	2,260	2,880	7.53
	10/07/2008	2,010	2,070	3,200	7.44
MW-20-100	03/12/2008	9,690	7,910	3,420	7.39
	10/08/2008	6,770	8,140	3,500	7.23
MW-20-130	03/12/2008	13,300	11,300	12,200	7.42
	10/08/2008	8,990	11,700	12,000	7.29
MW-21	03/11/2008	ND (1.0)	1.80	12,900	7.00
	05/06/2008	ND (1.0)	3.01	13,000	6.76
	10/02/2008	ND (1.0)	ND (1.0)	15,000	6.66
MW-22	03/11/2008	ND (1.0)	ND (1.0)	27,200	6.66
	10/03/2008	ND (0.2)	ND (1.0)	29,000	6.68
MW-23	01/21/2008	ND (1.0)	3.40	---	---
	01/22/2008	2.10	36.5	---	---
	01/23/2008	34.3	40.0	---	---
	03/10/2008	ND (20)	24.3	15,700	---
	03/11/2008	43.7	39.6	---	7.30
	05/06/2008	22.2	22.0	17,000	7.00
	05/06/2008 FD	23.2	23.0	17,000	---
	10/01/2008	8.03	8.50	16,000	6.75
MW-24BR	03/11/2008	7.10	7.46	14,000	8.10
	05/08/2008	ND (1.0)	2.40	15,000	---
	10/02/2008	ND (0.2)	ND (1.0)	14,000	8.41
MW-25	10/07/2008	544	618	1,300	7.27
	10/07/2008 FD	552	572	1,300	---
MW-26	03/12/2008	2,980	2,560	3,570	7.50
	03/12/2008 FD	2,720	2,640	3,570	---
	10/08/2008	2,560	2,410	3,800	7.18
MW-27-20	10/03/2008	ND (0.2)	ND (1.0)	1,100	7.64

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-27-60	10/03/2008	0.32	ND (1.0)	4,300	7.54
MW-27-85	03/10/2008	ND (1.0)	ND (1.0)	15,900	7.26
	05/06/2008	ND (1.0)	ND (1.0)	17,000	6.95
	10/03/2008	ND (0.2)	1.72	16,000	7.07
MW-28-25	10/08/2008	ND (0.2)	ND (1.0)	1,300	7.68
MW-28-90	03/13/2008	ND (0.2)	ND (1.0)	7,420	7.15
	05/07/2008	ND (0.2)	ND (1.0)	7,600	7.34
	10/08/2008	ND (0.2)	ND (1.0)	7,600	7.65
MW-29	03/12/2008	ND (1.0)	ND (1.0)	3,840	6.84
	09/30/2008	0.38 J	1.68	2,800	7.55
MW-31-60	10/06/2008	534	498	3,400	7.30
MW-31-135	10/06/2008	ND (8.6)	20.3	11,000	7.52
MW-32-20	03/10/2008	ND (2.1)	ND (1.0)	38,800	6.65
	10/03/2008	ND (0.2)	ND (1.0)	60,000	6.68
MW-32-35	10/03/2008	ND (0.2)	ND (1.0)	22,000	6.94
MW-33-40	03/12/2008	ND (0.2)	ND (1.0)	5,380	7.76
	05/05/2008	ND (0.2)	ND (1.0)	5,100	8.31
	10/06/2008	ND (1.0)	1.08	10,000	7.69
MW-33-90	03/12/2008	23.7	22.5	10,300	7.22
	05/05/2008	21.1	20.2	10,000	7.48
	10/06/2008	21.1	19.2	11,000	7.43
MW-33-150	03/12/2008	7.87	8.06	16,300	7.29
	05/06/2008	8.83	9.21	16,000	7.62
	10/06/2008	8.84	9.07	17,000	7.54
	10/06/2008 FD	8.91	7.86	17,000	---
MW-33-210	03/12/2008	11.7	11.5	18,900	7.13
	05/05/2008	10.6	9.93	18,000	7.15
	10/06/2008	12.4	11.7	18,000	7.33
MW-34-55	10/07/2008	ND (0.2)	ND (1.0)	1,200	7.54
MW-34-80	01/16/2008	ND (1.0)	ND (1.0)	---	7.27
	01/16/2008 FD	ND (1.0)	1.20	---	---
	02/13/2008	ND (0.2)	ND (1.0)	---	7.26
	03/12/2008	ND (0.2)	10.9	8,590	7.07
	04/08/2008	ND (1.0)	ND (1.0)	---	7.83
	05/06/2008	ND (0.2)	ND (1.0)	8,730	7.12
	06/04/2008	ND (1.0)	ND (1.0)	---	7.57
	07/08/2008	ND (1.0)	ND (1.0)	---	7.75
	08/20/2008	ND (0.2)	ND (1.0)	---	7.27
	09/03/2008	ND (1.0)	ND (1.0)	---	7.36
	10/07/2008	ND (0.2)	1.52	8,700	7.32
MW-34-100	01/16/2008	564	648	---	7.69
	02/13/2008	492	560	---	7.68
	03/12/2008	358	338	17,100	7.45
	04/08/2008	280	276	---	8.11

TABLE 1

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-34-100	04/08/2008	292	274	---	---
	05/06/2008	234	228	17,000	7.32
	05/06/2008	238	228	17,000	---
	06/04/2008	268	323	---	7.41
	07/08/2008	250	266	---	7.61
	07/08/2008	257	268	---	---
	08/20/2008	283	287	---	7.45
	08/20/2008	250	253	---	---
	09/03/2008	294	308	---	7.59
	10/07/2008	272	245	17,000	7.35
	10/07/2008	286 J	242	17,000	---
MW-35-60	03/11/2008	35.8	35.4	6,450	7.36
	10/07/2008	24.3	26.8	7,700	7.15
	10/07/2008	26.5	27.7	7,700	---
MW-35-135	10/07/2008	32.0	32.8	10,000	7.58
MW-36-70	10/03/2008	ND (0.2)	ND (1.0)	1,400	7.83
MW-36-90	03/11/2008	0.71	1.46	2,880	7.42
	03/11/2008	0.703	1.24	2,780	---
	10/03/2008	0.61	1.46	1,800	7.67
MW-36-100	03/11/2008	146	145	14,200	6.72
	10/07/2008	88.4	89.0	13,000	7.04
MW-37D	03/13/2008	695	742	14,800	7.72
	10/06/2008	451	542	15,000	7.49
MW-37S	10/03/2008	7.59	8.74	5,000	7.58
	10/03/2008	7.68 J	7.80	5,000	---
MW-39-50	10/01/2008	ND (0.2)	ND (1.0)	2,700	7.76
MW-39-60	10/01/2008	ND (0.2)	ND (1.0)	3,500	7.62
MW-39-70	10/01/2008	ND (0.2)	ND (1.0)	5,200	7.42
MW-39-80	03/14/2008	34.8	28.6	12,600	6.95
	10/01/2008	7.58	8.05	12,000	6.97
MW-39-100	03/14/2008	1,150	1,290	19,900	6.67
	10/01/2008	706	613	19,000	6.72
MW-40D	03/13/2008	115	108	15,300	7.49
	10/06/2008	ND (100)	102	16,000	7.30
MW-41D	03/12/2008	2.08	2.98	20,800	7.65
	10/03/2008	ND (0.2)	ND (1.0)	19,000	7.67
MW-41M	10/03/2008	10.2	11.4	15,000	7.39
MW-41S	03/12/2008	19.1	18.3	4,820	7.78
	10/03/2008	19.3	18.8	5,000	7.77
	10/03/2008	19.4 J	19.9	5,000	---
MW-42-55	03/11/2008	ND (1.0)	ND (1.0)	15,400	6.71
	05/06/2008	ND (1.0)	ND (1.0)	14,000	7.14
	10/03/2008	ND (0.2)	ND (1.0)	13,000	7.20
MW-42-65	03/11/2008	ND (1.0)	ND (1.0)	17,200	6.72

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-42-65	05/06/2008	ND (1.0)	ND (1.0)	15,000	6.91
	10/03/2008	ND (0.2) J	1.09	14,000	6.91
MW-43-25	10/02/2008	ND (0.2)	ND (1.0)	1,400	7.49
MW-43-75	10/02/2008	ND (0.2)	ND (1.0)	14,000	7.63
MW-43-90	10/02/2008	ND (0.2)	ND (1.0)	18,000	6.92
MW-44-70	03/11/2008	ND (0.2)	ND (1.0)	4,490	7.07
	05/07/2008	ND (0.2)	ND (1.0)	4,200	7.53
	10/07/2008	ND (0.2)	ND (1.0)	3,700	7.65
MW-44-115	01/14/2008	746	652	---	7.64
	02/14/2008	744	668	---	7.59
	02/14/2008 FD	735	706	---	---
	03/11/2008	742	596	14,000	7.47
	04/07/2008	685	689	---	8.03
	05/08/2008	620	590	13,000	7.90
	06/02/2008	564	542	---	7.66
	07/07/2008	493	478	---	7.98
	08/19/2008	498 J	555	---	7.82
	09/02/2008	488	489	---	11.9
	10/07/2008	456	502	13,000	8.03
	10/07/2008 FD	527 J	466	13,000	---
MW-44-125	01/14/2008	338	344	---	7.82
	02/14/2008	326	324	---	7.61
	03/14/2008	338	291	12,000	7.63
	04/07/2008	318	326	---	7.90
	05/08/2008	253	342	12,000	7.63
	06/24/2008	293	339	---	7.92
	07/07/2008	281	291	---	8.03
	08/19/2008	294	297	---	7.60
	10/07/2008	55.9	64.5	10,000	7.75
MW-46-175	01/14/2008	51.5	133	---	8.21
	02/13/2008	125	136	---	8.39
	03/13/2008	99.8	92.8	16,400	8.09
	04/07/2008	95.6	100	---	8.66
	05/07/2008	77.9	74.7	17,000	8.43
	06/02/2008	74.2	86.8	---	8.17
	06/02/2008 FD	73.6	87.0	---	---
	07/08/2008	75.3	83.4	---	8.29
	08/20/2008	98.2	91.4	---	8.25
	09/03/2008	100	112	---	8.37
	09/03/2008 FD	103	102	---	---
	10/08/2008	105	87.2	17,000	8.77
MW-46-205	03/13/2008	5.21	5.20	20,100	8.17
	05/07/2008	4.52	4.25	19,000	8.38
	10/08/2008	ND (4.9)	4.32	19,000	8.66
MW-47-55	02/14/2008	37.1	39.0	---	7.43
	02/14/2008 FD	37.2	39.4	---	---

TABLE 1

Groundwater Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-47-55	03/14/2008	53.7	46.1	3,570	7.52
	03/14/2008 FD	48.4	42.6	3,590	---
	05/07/2008	34.8	32.7	4,100	7.65
	10/08/2008	ND (49)	50.3	4,200	8.26
MW-47-115	03/14/2008	18.0	16.5	12,400	7.59
	05/07/2008	18.2	18.3	13,000	7.76
	10/08/2008	ND (15)	15.6	13,000	8.22
MW-48	03/11/2008	ND (2.3)	2.93	18,800	7.21
	05/07/2008	ND (1.0)	1.40	17,000	7.00
	10/01/2008	ND (1.0)	ND (1.0)	17,000	6.83
MW-49-135	03/13/2008	ND (1.0)	1.43	13,400	7.64
	10/06/2008	ND (0.2)	1.59	14,000	7.68
MW-49-275	03/13/2008	ND (1.0)	1.27	23,400	7.84
	09/30/2008	ND (1.0)	ND (1.0)	25,000	8.21
MW-49-365	03/13/2008	ND (1.0)	ND (1.0)	35,700	7.79
	10/06/2008	ND (1.0)	ND (1.0)	44,000	7.78
MW-50-095	03/12/2008	150	160	4,680	7.77
	03/12/2008 FD	148	160	5,020	---
	05/07/2008	154	187	5,100	7.66
	05/07/2008 FD	164	192	5,200	---
	10/06/2008	ND (89)	87.7	5,200	7.67
MW-50-200	03/12/2008	10,900	11,800	20,500	7.51
	05/08/2008	10,500	11,000	19,000	7.67
	10/07/2008	7,390	8,890	19,000	7.61
MW-51	03/11/2008	4,940	4,590	12,300	7.39
	10/08/2008	4,160	4,600	11,000	7.27
MW-52D	03/13/2008	ND (1.0)	ND (1.0)	20,800	7.76
	05/07/2008	ND (1.0)	ND (1.0)	---	7.99
	10/01/2008	ND (1.0)	ND (1.0)	19,000	7.78
MW-52M	03/13/2008	ND (1.0)	ND (1.0)	16,400	7.60
	05/07/2008	ND (1.0)	ND (1.0)	16,000	8.09
	10/01/2008	ND (1.0)	ND (1.0)	16,000	7.26
MW-52S	03/13/2008	ND (1.0)	ND (1.0)	11,000	7.37
	05/07/2008	ND (1.0)	ND (1.0)	11,000	7.70
	10/01/2008	ND (1.0)	ND (1.0)	11,000	7.19
MW-53D	03/13/2008	ND (1.0)	ND (1.0)	25,500	8.55
	05/07/2008	ND (1.0)	ND (1.0)	27,000	8.44
	10/01/2008	ND (1.0)	ND (1.0)	27,000	8.37
MW-53M	03/13/2008	ND (1.0)	ND (1.0)	17,400	8.37
	05/07/2008	ND (1.0)	ND (1.0)	18,000	8.34
	10/01/2008	ND (1.0)	ND (1.0)	18,000	8.06
MW-54-85	04/15/2008	ND (0.2)	ND (1.0)	---	7.67
	06/03/2008	ND (0.2)	ND (1.0)	---	7.45
	07/09/2008	ND (0.2)	ND (1.0)	---	7.39
	08/19/2008	ND (0.2)	ND (1.0)	---	7.35

TABLE 1

Groundwater Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
MW-54-85	09/04/2008	ND (0.2)	ND (1.0)	---	7.25
	10/01/2008	ND (0.2)	ND (1.0)	---	---
MW-54-140	04/14/2008	ND (0.2)	ND (1.0)	---	7.66
	06/03/2008	ND (0.2)	ND (1.0)	---	7.70
	07/09/2008	ND (1.0)	ND (1.0)	---	7.72
	08/19/2008	ND (1.0)	ND (1.0)	---	7.73
	09/04/2008	ND (1.0)	ND (1.0)	---	7.76
	10/01/2008	ND (0.2)	1.36	---	---
MW-54-140-TLI	10/01/2008	ND (1.0)	ND (1.0)	---	---
MW-54-195	04/14/2008	ND (1.0)	ND (1.0)	---	8.18
	06/03/2008	ND (1.0)	ND (1.0)	---	8.22
	07/09/2008	ND (1.0)	ND (1.0)	---	8.09
	08/19/2008	ND (1.0)	ND (1.0)	---	7.94
	09/04/2008	ND (1.0)	ND (1.0)	---	7.45
	10/01/2008	ND (1.0)	1.27	---	---
MW-54-195-TLI	10/01/2008	ND (1.0) J	ND (1.0)	---	---
MW-55-45	04/15/2008	ND (0.2)	ND (1.0)	---	8.08
	06/03/2008	ND (0.2)	ND (1.0)	---	7.66
	07/08/2008	ND (1.0)	ND (1.0)	---	7.77
	08/18/2008	ND (0.2)	ND (1.0)	---	7.54
	09/03/2008	ND (0.2)	ND (1.0)	---	7.40
	10/02/2008	ND (0.2)	ND (1.0)	---	---
MW-55-120	04/15/2008	ND (0.2)	ND (1.0)	---	8.10
	06/03/2008	ND (0.2)	ND (1.0)	---	7.91
	07/08/2008	ND (0.2)	ND (1.0)	---	7.90
	08/18/2008	ND (0.2)	ND (1.0)	---	7.86
	09/03/2008	0.614	1.17	---	7.61
MW-55-120-TLI	09/03/2008	0.60 J	ND (1.0)	---	---
MW-55-120	10/02/2008	0.402	1.13	---	---
MW-56D	04/29/2008	ND (1.0)	ND (5.0)	---	8.00
	06/04/2008	ND (1.0)	ND (1.0)	---	7.91
	07/09/2008	ND (5.0)	ND (1.0)	---	7.92
	08/18/2008	ND (1.0)	ND (1.0)	---	7.75
	09/03/2008	ND (1.0)	ND (1.0)	---	7.45
	10/02/2008	ND (2.0)	ND (1.0)	---	---
MW-56M	04/29/2008	ND (0.2)	ND (1.0)	---	7.38
	06/04/2008	ND (0.2)	ND (1.0)	---	7.56
	07/09/2008	ND (1.0)	ND (1.0)	---	7.53
	08/18/2008	ND (1.0)	ND (1.0)	---	7.38
	09/03/2008	ND (1.0)	ND (1.0)	---	7.58
	10/02/2008	ND (0.2)	ND (1.0)	---	---
MW-56S	04/29/2008	ND (0.2)	ND (1.0)	---	7.39
	06/04/2008	ND (0.2)	ND (1.0)	---	7.95
	07/09/2008	ND (0.2)	ND (1.0)	---	7.29
	08/18/2008	ND (0.2)	ND (1.0)	---	7.36
	09/03/2008	ND (0.2)	ND (1.0)	---	6.78
	10/02/2008	ND (0.2)	ND (1.0)	---	---

TABLE 1

Groundwater Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Field pH
PE-1	01/03/2008	48.4	56.9	6,590	7.63 J ^
	02/06/2008	42.8	44.1	6,510	7.54 J ^
	03/05/2008	39.5	40.8	6,380	7.60 J ^
	04/02/2008	29.0	37.1	6,460	7.66 J ^
	05/08/2008	26.4	29.3	6,580	7.69 J ^
	06/04/2008	16.0	33.4	6,320	7.63 J ^
	07/02/2008	25.7	28.7	6,060	7.59 J ^
	08/06/2008	28.2	27.4	6,050	7.65 J ^
	09/04/2008	29.7	28.0	6,040	7.52 J ^
	10/01/2008	27.6	27.5	5,680	7.67 J ^
PGE-7BR	03/12/2008	ND (1.0)	1.02	17,300	9.24
	05/08/2008	ND (1.0)	ND (1.0)	18,200	8.61
	10/07/2008	ND (0.2)	ND (1.0)	16,700	9.48
Park Moabi-3	10/02/2008	8.74	8.35 UF	1,400	7.42
Park Moabi-4	10/02/2008	20.6	18.5 UF	1,700	7.44
TW-2D	10/03/2008	561	644	9,400	7.22
TW-2S	10/03/2008	860	748	2,700	7.43
TW-3D	01/03/2008	1,830	2,210	8,390	7.37 J ^
	02/06/2008	1,760	1,600	8,490	7.31 J ^
	03/05/2008	1,810	1,740	8,320	7.36 J ^
	04/02/2008	1,550	2,010	8,580	7.39 J ^
	05/08/2008	1,540	1,740	8,690	7.69 J ^
	06/04/2008	1,460	1,700	8,440	7.35 J ^
	07/02/2008	1,460	1,780	8,270	7.30 J ^
	08/06/2008	1,440	1,450	8,350	7.26 J ^
	09/04/2008	1,490	1,380	8,460	7.27 J ^
	10/01/2008	1,460	1,300	7,820	7.37 J ^
TW-4	03/14/2008	27.4	28.4	19,900	7.65
	05/08/2008	22.6	23.2	19,000	7.47
	10/02/2008	19.9	17.5	19,000	7.51
	10/02/2008 FD	19.0	20.5	19,000	---
TW-5	10/02/2008	9.76	8.89	12,000	7.62

TABLE 1

Groundwater Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Notes:

µg/L micrograms per liter
µS/cm microSiemens per centimeter
ND not detected at listed reporting limit
J concentration or reporting limit estimated by laboratory or data validation
(--) not collected or not available
FD field duplicate sample
^ Analytical pH results, Method SM4500-HB
UF Unfiltered

Hexavalent chromium analytical methods: SM3500 (reporting limit 10 µg/L), EPA 218.6 (reporting limit 0.2 µg/L for undiluted samples).

Other analytical methods: dissolved total chromium (Methods SW 6020A), specific conductance (EPA 120.1).

Wells TW-3D and PE-1 are active extraction wells for the IM hydraulic containment system.

TABLE 2

Surface Water Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Location	Sample Date	Hexavalent Chromium ($\mu\text{g}/\text{L}$)	Dissolved Total Chromium ($\mu\text{g}/\text{L}$)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Lab pH
In-channel Locations					
C-CON-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-CON-M	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-CON-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-CON-S	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-CON-M	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-CON-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-CON-D	04/01/2008	ND (0.2)	ND (1.0)	994	8.39 J
C-CON-S	04/02/2008	ND (0.2)	ND (1.0)	997	8.32 J
C-CON-M	04/02/2008	ND (0.2)	ND (1.0)	994	8.34 J
C-CON-S	06/18/2008	ND (0.2)	ND (1.0)	967	8.45 J
C-CON-M	06/18/2008	ND (0.2)	ND (1.0)	1040	8.47 J
C-CON-D	06/18/2008	ND (0.2)	ND (1.0)	1060	8.46 J
C-CON-S	09/17/2008	ND (0.2)	ND (1.0)	957	8.22 J
C-CON-D	09/17/2008	ND (0.2)	ND (1.0)	960	8.21 J
C-CON-S	10/23/2008	ND (0.2)	ND (1.0)	942	8.36 J
C-CON-D	10/23/2008	ND (0.2)	ND (1.0)	946	8.26 J
C-I-3-S	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-M	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-D	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-S	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-M	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-I-3-S	04/01/2008	ND (0.2)	ND (1.0)	987	8.32 J
C-I-3-M	04/01/2008	ND (0.2)	ND (1.0)	988	8.27 J
C-I-3-D	04/01/2008	ND (0.2)	ND (1.0)	984	8.40 J
C-I-3-S	06/17/2008	ND (0.2)	ND (1.0)	977	8.43 J
C-I-3-M	06/17/2008	ND (0.2)	ND (1.0)	974	8.42 J
C-I-3-D	06/17/2008	ND (0.2)	ND (1.0)	973	8.41 J
C-I-3-S	09/17/2008	ND (0.2)	ND (1.0)	963	8.23 J
C-I-3-D	09/17/2008	ND (0.2)	ND (1.0)	961	8.28 J
C-I-3-S	10/23/2008	ND (0.2)	ND (1.0)	951	8.42 J
C-I-3-D	10/23/2008	ND (0.2)	ND (1.0)	939	8.44 J
C-MAR-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-MAR-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-MAR-S	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-MAR-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-MAR-D	04/01/2008	ND (0.2)	ND (1.0)	1010	8.05 J

TABLE 2

Surface Water Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Total Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
C-MAR-S	04/02/2008	ND (0.2)	ND (1.0)	1000	8.23 J
C-MAR-M	04/02/2008	ND (0.2)	ND (1.0)	1000	8.14 J
C-MAR-S	06/17/2008	ND (0.2)	ND (1.0)	1030	7.82 J
C-MAR-D	06/17/2008	ND (0.2)	ND (1.0)	978	7.85 J
C-MAR-S	09/18/2008	ND (0.2)	ND (1.0)	942	8.28 J
C-MAR-D	09/18/2008	ND (0.2)	ND (1.0)	934	8.13 J
C-MAR-S	10/23/2008	ND (0.2)	ND (1.0)	972	8.25 J
C-MAR-D	10/23/2008	ND (0.2)	ND (1.0)	967	8.34 J
C-NR1-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-M	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-S	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-M	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-D	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR1-D	04/01/2008	ND (0.2)	ND (1.0)	983	8.42 J
C-NR1-S	04/02/2008	ND (0.2)	ND (1.0)	995	8.25 J
C-NR1-M	04/02/2008	ND (0.2)	ND (1.0)	999	8.33 J
C-NR1-S	06/18/2008	ND (0.2)	ND (1.0)	975	8.45 J
C-NR1-M	06/18/2008	ND (0.2)	ND (1.0)	1050	8.47 J
C-NR1-D	06/18/2008	ND (0.2)	ND (1.0)	1040	8.44 J
C-NR1-S	09/18/2008	ND (0.2)	ND (1.0)	957	8.22 J
C-NR1-D	09/18/2008	ND (0.2)	ND (1.0)	952	8.20 J
C-NR1-S	10/23/2008	ND (0.2)	ND (1.0)	947	8.39 J
C-NR1-D	10/23/2008	ND (0.2)	ND (1.0)	952	8.43 J
C-NR3-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-M	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-S	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-M	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-D	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR3-D	04/01/2008	ND (0.2)	ND (1.0)	991	8.38 J
C-NR3-S	04/02/2008	ND (0.2)	ND (1.0)	998	8.29 J
C-NR3-M	04/02/2008	ND (0.2)	ND (1.0)	995	8.27 J
C-NR3-S	06/18/2008	ND (0.2)	ND (1.0)	1060	8.35 J
C-NR3-M	06/18/2008	ND (0.2)	ND (1.0)	1070	8.34 J
C-NR3-D	06/18/2008	ND (0.2)	ND (1.0)	1070	8.26 J
C-NR3-S	09/18/2008	ND (0.2)	ND (1.0)	954	8.25 J
C-NR3-D	09/18/2008	ND (0.2)	ND (1.0)	962	8.24 J

TABLE 2

Surface Water Sampling Results, January through October 2008
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Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Total Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
C-NR3-S	10/23/2008	ND (0.2)	ND (1.0)	950	8.38 J
C-NR3-D	10/23/2008	ND (0.2)	ND (1.0)	953	8.41 J
C-NR4-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-M	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-S	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-M	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-D	02/13/2008	ND (0.2)	ND (1.0)	---	---
C-NR4-D	04/01/2008	ND (0.2)	ND (1.0)	985	8.40 J
C-NR4-S	04/02/2008	ND (0.2)	ND (1.0)	987	8.31 J
C-NR4-M	04/02/2008	ND (0.2)	ND (1.0)	1010	8.30 J
C-NR4-S	06/18/2008	ND (0.2)	ND (1.0)	1040	8.34 J
C-NR4-M	06/18/2008	ND (0.2)	ND (1.0)	1060	8.35 J
C-NR4-D	06/18/2008	ND (0.2)	ND (1.0)	987	8.33 J
C-NR4-S	09/18/2008	ND (0.2)	ND (1.0)	950	8.20 J
C-NR4-D	09/18/2008	ND (0.2)	ND (1.0)	959	8.18 J
C-NR4-S	10/23/2008	ND (0.2)	ND (1.0)	951	8.36 J
C-NR4-D	10/23/2008	ND (0.2)	ND (1.0)	954	8.27 J
C-R22-S	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-R22-M	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-R22-D	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-R22-S	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-R22-M	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-R22-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-R22-D	04/01/2008	ND (0.2)	ND (1.0)	991	8.42 J
C-R22-S	04/02/2008	ND (0.2)	ND (1.0)	995	8.38 J
C-R22-M	04/02/2008	ND (0.2)	ND (1.0)	992	8.25 J
C-R22-S	06/17/2008	ND (0.2)	ND (1.0)	1070	8.37 J
C-R22-M	06/17/2008	ND (0.2)	ND (1.0)	1070	8.37 J
C-R22-D	06/17/2008	ND (0.2)	ND (1.0)	1080	8.36 J
C-R22A-S	09/18/2008	ND (0.2)	ND (1.0)	956	8.25 J
C-R22A-D	09/18/2008	ND (0.2)	ND (1.0)	959	8.23 J
C-R22A-S	10/23/2008	ND (0.2)	ND (1.0)	951	8.42 J
C-R22A-D	10/23/2008	ND (0.2)	ND (1.0)	949	8.34 J
C-R27-S	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-R27-M	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-R27-D	01/17/2008	ND (0.2)	ND (1.0)	---	---
C-R27-S	02/12/2008	ND (0.2)	ND (1.0)	---	---

TABLE 2

Surface Water Sampling Results, January through October 2008
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Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Total Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
C-R27-M	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-R27-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-R27-D	04/01/2008	ND (0.2)	ND (1.0)	987	8.41 J
C-R27-S	04/02/2008	ND (0.2)	ND (1.0)	996	8.32 J
C-R27-M	04/02/2008	ND (0.2)	ND (1.0)	999	8.38 J
C-R27-S	06/17/2008	ND (0.2)	ND (1.0)	976	8.33 J
C-R27-M	06/17/2008	ND (0.2)	ND (1.0)	962	8.31 J
C-R27-D	06/17/2008	ND (0.2)	ND (1.0)	979	8.34 J
C-R27-S	09/17/2008	ND (0.2)	ND (1.0)	958	8.24 J
C-R27-D	09/17/2008	ND (0.2)	ND (1.0)	954	8.25 J
C-R27-S	10/23/2008	ND (0.2)	ND (1.0)	949	8.44 J
C-R27-D	10/23/2008	ND (0.2)	ND (1.0)	940	8.43 J
C-TAZ-S	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-M	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-D	01/16/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-S	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-M	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-D	02/12/2008	ND (0.2)	ND (1.0)	---	---
C-TAZ-S	04/01/2008	ND (0.2)	ND (1.0)	986	8.34 J
C-TAZ-M	04/01/2008	ND (0.2)	ND (1.0)	982	8.36 J
C-TAZ-D	04/01/2008	ND (0.2)	ND (1.0)	988	8.38 J
C-TAZ-S	06/17/2008	ND (0.2)	ND (1.0)	1080	8.45 J
C-TAZ-M	06/17/2008	ND (0.2)	ND (1.0)	1090	8.43 J
C-TAZ-D	06/17/2008	ND (0.2)	ND (1.0)	1100	8.41 J
C-TAZ-S	09/17/2008	ND (0.2)	ND (1.0)	956	8.27 J
C-TAZ-D	09/17/2008	ND (0.2)	ND (1.0)	959	8.20 J
C-TAZ-S	10/23/2008	ND (0.2)	ND (1.0)	951	8.49 J
C-TAZ-D	10/23/2008	ND (0.2)	ND (1.0)	948	8.50 J
C-TM-1	09/18/2008	ND (0.2)	ND (1.0)	---	---
C-TM-2	09/18/2008	ND (0.2)	ND (1.0)	---	---
Shoreline Samples					
CON	01/17/2008	ND (0.2)	ND (1.0)	---	---
CON	02/12/2008	ND (0.2)	ND (1.0)	---	---
CON	04/02/2008	ND (0.2)	ND (1.0)	997	8.33 J
CON	06/18/2008	ND (0.2)	ND (1.0)	1030	8.48 J
I-3	01/16/2008	ND (0.2)	ND (1.0)	---	---
I-3	02/12/2008	ND (0.2)	ND (1.0)	---	---
I-3	04/02/2008	ND (0.2)	ND (1.0)	990	8.42 J

TABLE 2

Surface Water Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Total Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
I-3	06/17/2008	ND (0.2)	ND (1.0)	1070	8.37 J
NR-1	01/17/2008	ND (0.2)	ND (1.0)	---	---
NR-1	02/13/2008	ND (0.2)	ND (1.0)	---	---
NR-1	04/02/2008	ND (0.2)	ND (1.0)	993	8.31 J
NR-1	06/18/2008	ND (0.2)	ND (1.0)	1060	8.43 J
NR-2	01/17/2008	ND (0.2)	ND (1.0)	---	---
NR-2	02/13/2008	ND (0.2)	ND (1.0)	---	---
NR-2	04/02/2008	ND (0.2)	ND (1.0)	992	8.30 J
NR-2	06/18/2008	ND (0.2)	ND (1.0)	977	8.37 J
NR-3	01/17/2008	ND (0.2)	ND (1.0)	---	---
NR-3	02/13/2008	ND (0.2)	ND (1.0)	---	---
NR-3	04/02/2008	ND (0.2)	ND (1.0)	1010	8.28 J
NR-3	06/18/2008	ND (0.2)	ND (1.0)	975	8.36 J
R-19	09/18/2008	ND (0.2)	ND (1.0)	955	8.27 J
R-19	10/24/2008	ND (0.2)	ND (1.0)	949	8.45 J
R-22	01/16/2008	ND (0.2)	ND (1.0)	---	---
R-22	02/12/2008	ND (0.2)	ND (1.0)	---	---
R-22	04/02/2008	ND (0.2)	ND (1.0)	1000	8.41 J
R-22	06/17/2008	ND (0.2) J	ND (1.0)	978	8.32 J
R-23	01/24/2008	ND (0.2)	ND (1.0)	---	---
R-23	02/14/2008	ND (0.2)	ND (1.0)	---	---
R-23	04/03/2008	ND (0.2)	ND (1.0)	1030	7.69 J
R-23	06/17/2008	ND (0.2)	ND (1.0)	1120	7.56 J
R-23	09/18/2008	0.23	ND (1.0)	981	8.29 J
R-23	10/24/2008	ND (0.2)	ND (1.0)	961	7.94 J
R-27	01/16/2008	ND (0.2)	ND (1.0)	---	---
R-27	02/12/2008	ND (0.2)	ND (1.0)	---	---
R-27	04/02/2008	ND (0.2)	ND (1.0)	983	8.36 J
R-27	06/17/2008	ND (0.2)	ND (1.0)	978	8.39 J
R-28	01/16/2008	ND (0.2)	ND (1.0)	---	---
R-28	02/12/2008	ND (0.2)	ND (1.0)	---	---
R-28	04/02/2008	ND (0.2)	ND (1.0)	998	8.32 J
R-28	06/18/2008	ND (0.2)	ND (1.0)	992	8.46 J
R-28	09/17/2008	ND (0.2)	ND (1.0)	950	8.30 J
R-28	10/24/2008	ND (0.2)	ND (1.0)	948	8.40 J
RRB	01/16/2008	ND (0.2)	ND (1.0)	---	---
RRB	02/12/2008	ND (0.2)	ND (1.0)	---	---

TABLE 2

Surface Water Sampling Results, January through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

Location	Sample Date	Hexavalent Chromium (µg/L)	Dissolved Total Chromium (µg/L)	Specific Conductance (µS/cm)	Lab pH
RRB	04/02/2008	ND (0.2)	ND (1.0)	1000	8.27 J
RRB	06/18/2008	ND (0.2)	ND (1.0)	1040	8.27 J
RRB	09/18/2008	ND (0.2)	ND (1.0)	957	8.21 J
RRB	10/24/2008	ND (0.2)	ND (1.0)	988	8.16 J

Notes:

µg/L micrograms per liter

ND not detected at listed reporting limit

J concentration or reporting limit estimated by laboratory or data validation

(--) data not collected or not available

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

Other analytical methods: dissolved total chromium (Method SW 6020A), specific conductance (EPA 120.1), pH (EPA 150.1).

The first quarter river monitoring event was performed in April 2008 to coincide with drilling activities on the river floodplain.

TABLE 3

Unfiltered Hexavalent and Total Chromium Results, Risk Assessment Data Collection, September 2008 River Monitoring Event
PG&E Topock Groundwater and Surface Water Monitoring Program

Location	Sample Date	Hexavalent Chromium (µg/L)	Chromium, Total (µg/L)
In-channel Locations			
C-CON-S	09/17/2008	ND (10)	ND (1.0)
C-I-3-S	09/17/2008	ND (10)	ND (1.0)
C-MAR-S	09/18/2008	ND (10)	ND (1.0)
C-NR1-S	09/18/2008	ND (10)	ND (1.0)
C-NR3-S	09/18/2008	ND (10)	ND (1.0)
C-NR4-S	09/18/2008	ND (10)	ND (1.0)
C-R22A-S	09/18/2008	ND (10)	ND (1.0)
C-R27-S	09/17/2008	ND (10)	1.04
C-TAZ-S	09/17/2008	ND (10)	ND (1.0)
C-TM-1	09/18/2008	ND (10)	ND (1.0)
C-TM-2	09/18/2008	ND (10)	ND (1.0)
Shoreline Samples			
R-19	09/18/2008	ND (10)	ND (1.0)
R-23	09/18/2008	ND (10)	ND (1.0)
R-28	09/17/2008	ND (10)	ND (1.0)
RRB	09/18/2008	ND (10)	ND (1.0)

Notes:

µg/L micrograms per liter
ND not detected at listed reporting limit
--- data not collected or not available

Analytical methods: unfiltered chromium, total (Method SW 6020A), unfiltered hexavalent chromium (SW 3500)

TABLE 4

Title 22 Metals Results, October 2007 through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

California MCL:		6	10 ^	1,000	4	5	NE	50	1,000*	15	2	NE	100	50	100*	2	NE	5,000*
Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-10	10/02/2007	3.30	ND (2.0)	45.0	ND (1.0)	ND (1.0)	ND (3.0)	1,050	8.40	ND (5.0)	ND (0.2)	80.0	ND (5.0)	---	ND (3.0)	ND (2.0)	28.0	ND (10)
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	473	ND (10)	ND (2.0)	ND (0.2)	68.3	ND (20)	5.17	ND (5.0)	ND (1.0)	29.8	ND (20)
	10/06/2008	ND (10)	6.32	48.5	ND (1.0)	ND (3.0)	ND (5.0)	483	ND (5.0)	ND (10)	ND (0.2)	81.1	ND (10)	ND (10)	ND (5.0)	ND (1.0)	28.7	20.0
MW-12	10/04/2007	13.0	50.0	76.0	ND (3.0)	ND (3.0)	ND (3.0)	2,700	ND (5.0)	6.70	ND (0.2)	21.0	ND (5.0)	---	ND (3.0)	ND (15)	17.0	ND (10)
	FD 10/04/2007	13.0	52.0	80.0	ND (3.0)	ND (3.0)	ND (3.0)	2,800	ND (5.0)	ND (5.0)	ND (0.2)	22.0	ND (5.0)	---	ND (3.0)	ND (15)	18.0	ND (10)
	12/13/2007	ND (3.0)	75.4	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,930	ND (10)	ND (2.0)	ND (0.2)	19.3	ND (20)	8.00	ND (5.0)	ND (1.0)	34.1	ND (20)
	03/10/2008	ND (3.0)	66.1	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,860	ND (10)	ND (2.0)	ND (0.2)	19.6	ND (20)	6.59	ND (5.0)	ND (1.0)	26.3	22.1
	05/05/2008	ND (3.0)	62.0	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	2,800	ND (10)	ND (5.0)	ND (0.2)	19.0	ND (20)	6.02	ND (5.0)	ND (10)	17.0	34.4
	10/07/2008	ND (10)	50.1 J	73.2	ND (1.0)	ND (3.0)	ND (5.0)	3,000	ND (5.0)	ND (10)	ND (0.2)	15.9	ND (10)	ND (10)	ND (5.0)	ND (1.0)	20.4	ND (10)
MW-20-70	FD 10/07/2008	ND (10)	39.0 J	74.8	ND (1.0)	ND (3.0)	ND (5.0)	2,990	ND (5.0)	ND (10)	ND (0.2)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (1.0)	14.4	ND (10)
	10/11/2007	8.80	ND (10)	33.0	ND (3.0)	ND (3.0)	ND (3.0)	2,140	ND (5.0)	ND (5.0)	ND (0.2)	26.0	ND (5.0)	---	ND (3.0)	ND (15)	3.40	ND (10)
MW-21	12/11/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (1.0)	ND (10)	ND (2.0)	ND (0.2)	38.2	ND (20)	16.2	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	1.80	ND (10)	ND (2.0)	ND (0.2)	39.6	ND (20)	38.0	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	05/06/2008	ND (5.0)	ND (5.4)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	3.01	ND (10)	ND (5.0)	ND (0.2)	52.0	ND (20)	12.0	ND (5.0)	ND (1.0)	6.20	ND (20)
	10/02/2008	ND (10)	4.47	37.5	ND (1.0)	ND (3.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	ND (0.2)	64.5	25.7	ND (10)	ND (5.0)	ND (1.0)	ND (5.0)	55.0
MW-22	12/17/2007	ND (3.0)	11.7	ND (300)	ND (1.0)	ND (2.0)	5.00	1.50	ND (10)	ND (2.0)	ND (0.2)	31.6	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/11/2008	ND (3.0)	5.51	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (1.0)	22.6	ND (2.0)	ND (0.2)	36.4	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	07/29/2008	ND (3.0)	13.8	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (1.0)	ND (10)	ND (2.0)	0.40 J	48.2	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	10/03/2008	ND (10)	8.05	69.1	ND (2.0)	ND (3.0)	ND (5.0)	6.12	ND (1.0)	ND (5.0)	ND (0.2)	43.0	ND (10)	ND (10)	ND (5.0)	ND (2.0)	ND (5.0)	23.7
MW-23	12/11/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	40.1	ND (10)	ND (2.0)	ND (0.2)	ND (5.0)	ND (20)	6.10	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/10/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	24.3	ND (10)	ND (2.0)	ND (0.2)	6.01	ND (20)	5.44	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	39.6	ND (10)	4.26	ND (0.2)	ND (5.0)	ND (20)	6.14	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	05/06/2008	ND (5.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	22.0	ND (10)	ND (5.0)	ND (0.2)	15.0	ND (20)	10.9	ND (5.0)	ND (2.0)	ND (5.0)	21.0
	FD 05/06/2008	ND (5.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	23.0	ND (10)	ND (5.0)	ND (0.2)	14.0	ND (20)	7.68	ND (5.0)	ND (1.0)	ND (5.0)	23.0
	10/01/2008	ND (10)	ND (1.0)	80.0	ND (1.0)	ND (3.0)	ND (5.0)	8.50	5.89	ND (10)	ND (0.2)	11.7	ND (10)	ND (10)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)
MW-24A	12/12/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	3,300	ND (10)	ND (2.0)	ND (0.2)	39.7	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	27.3	ND (20)
	03/12/2008	ND (3.0)	10.8	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,000	ND (10)	ND (2.0)	ND (0.2)	29.6	ND (20)	50.7	ND (5.0)	ND (1.0)	7.18	ND (20)
	05/08/2008	ND (5.0)	33.6	944	ND (1.0)	ND (2.0)	ND (5.0)	10.0	ND (10)	ND (5.0)	ND (0.2)	11.0	ND (20)	5.29	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	10/16/2008	ND (10)	13.0	306	ND (1.0)	ND (3.0)	ND (5.0)	6.02	ND (5.0)	ND (10)	ND (0.2)	ND (10)	ND (10)	18.0	ND (5.0)	ND (1.0)	ND (5.0)	29.0
MW-26	12/11/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,980	ND (10)	ND (2.0)	ND (0.2)	34.0	ND (20)	14.4	ND (5.0)	ND (1.0)	5.90	ND (20)
	03/12/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,560	ND (10)	ND (2.0)	ND (0.2)	28.8	ND (20)	14.8	ND (5.0)	ND (1.0)	6.14	21.3
	FD 03/12/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,640	ND (10)	ND (2.0)	ND (0.2)	27.7	ND (20)	13.3	ND (5.0)	ND (1.0)	5.88	ND (20)
	05/05/2008	ND (3.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	2,600	ND (10)	ND (5.0)	ND (0.2)	43.0	ND (20)	16.8	ND (5.0)	ND (1.0)	ND (5.0)	37.3
	10/08/2008	ND (10)	1.26	42.0	ND (1.0)	ND (3.0)	ND (5.0)	2,410	ND (5.0)	ND (10)	ND (0.2)	25.7	ND (10)	18.8	ND (5.0)	ND (1.0)	6.36	30.2
MW-32-35	12/10/2007	ND (3.0)	19.3	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (2.0)	ND (10)	ND (2.0)	ND (0.2)	17.2	ND (20)	ND (5.0)	ND (50)	ND (2.0)	ND (5.0)	ND (200)
	03/10/2008	ND (3.0)	23.1	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (1.0)	ND (10)	ND (2.0)	ND (

TABLE 4

Title 22 Metals Results, October 2007 through October 2008
PG&E Topock Groundwater and Surface Water Monitoring Program

California MCL:		6	10 ^	1,000	4	5	NE	50	1,000*	15	2	NE	100	50	100*	2	NE	5,000*
Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-44-115	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	596	ND (10)	ND (2.0)	ND (0.2)	85.6	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	6.54	ND (20)
	05/08/2008	ND (5.0)	6.93	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	590	ND (10)	ND (5.0)	ND (0.2)	83.0	ND (20)	ND (5.0)	ND (5.0)	ND (2.0)	6.50	38.3
	10/07/2008	ND (10)	3.40	25.8	ND (1.0)	ND (3.0)	ND (5.0)	502	ND (5.0)	ND (10)	ND (0.2)	66.7 J	ND (10)	ND (10)	ND (5.0)	ND (1.0)	7.61	ND (10)
	FD 10/07/2008	ND (10)	5.27	24.1	ND (1.0)	ND (3.0)	ND (5.0)	466	ND (5.0)	ND (10)	ND (0.2)	86.2 J	ND (10)	ND (10)	ND (5.0)	ND (1.0)	5.97	ND (10)
MW-48	12/14/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	1.10	ND (10)	ND (2.0)	ND (0.2)	13.6	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	17.3	ND (20)
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2.93	ND (10)	ND (2.0)	ND (0.2)	14.3	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	7.52	ND (20)
	05/07/2008	ND (5.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	1.40	ND (10)	ND (5.0)	ND (0.2)	19.0	ND (20)	5.24	ND (5.0)	ND (2.0)	ND (5.0)	ND (20)
	10/01/2008	ND (10)	2.53	84.6	ND (2.0)	ND (3.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	ND (0.2)	16.1	ND (10)	ND (10)	ND (5.0)	ND (1.0)	ND (5.0)	26.1
MW-50-200	12/11/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	9,340	ND (10)	ND (2.0)	ND (0.2)	44.3	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/12/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	11,800	ND (10)	ND (2.0)	ND (0.2)	40.4	ND (20)	6.21	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	05/08/2008	ND (3.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	11,000	ND (10)	ND (5.0)	ND (0.2)	54.0	ND (20)	10.2	ND (5.0)	ND (2.0)	ND (5.0)	31.7
	10/07/2008	ND (10)	1.79	39.4	ND (2.0)	ND (3.0)	ND (5.0)	8,890	6.02	ND (10)	ND (0.2)	28.2	ND (10)	ND (10)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)
MW-51	12/11/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	4,460	ND (10)	ND (2.0)	ND (0.2)	37.6	ND (20)	18.2	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	4,590	ND (10)	ND (2.0)	ND (0.2)	33.6	ND (20)	11.5	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	05/08/2008	ND (3.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	4,600	ND (10)	5.80	ND (0.2)	40.0	ND (20)	16.4	ND (5.0)	ND (2.0)	ND (5.0)	34.4
	10/08/2008	ND (10)	3.68	38.8	ND (1.0)	ND (3.0)	ND (5.0)	4,600	ND (5.0)	ND (10)	ND (0.2)	37.5	ND (10)	18.1	ND (5.0)	ND (1.0)	ND (5.0)	43.0
PGE-7BR	03/12/2008	ND (3.0)	ND (5.0)	ND (300)	2.84	ND (2.0)	5.16	1.02	13.0	ND (2.0)	ND (0.2)	6.94	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	341
	05/08/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	ND (1.0)	ND (10)	ND (2.0)	ND (0.2)	22.6	ND (20)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (20)
	10/07/2008	ND (10)	ND (1.0)	27.1	ND (1.0)	ND (3.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)	ND (0.2)	39.1	ND (10)	ND (10)	ND (5.0)	ND (1.0)	ND (5.0)	ND (10)
TW-1	12/12/2007	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	4,090	ND (10)	ND (2.0)	ND (0.2)	16.1	ND (20)	129	ND (5.0)	ND (1.0)	7.90	84.8
	03/11/2008	ND (3.0)	ND (5.0)	ND (300)	ND (1.0)	ND (2.0)	ND (5.0)	2,450	ND (10)	ND (2.0)	ND (0.2)	13.4	ND (20)	55.3	12.2	ND (1.0)	7.35	88.1
	05/08/2008	ND (3.0)	ND (5.0)	ND (500)	ND (1.0)	ND (2.0)	ND (5.0)	3,900	ND (10)	5.10	ND (0.2)	22.0	ND (20)	87.8	ND (5.0)	ND (2.0)	ND (5.0)	110
	10/08/2008	ND (10)	0.53	33.3	ND (1.0)	ND (3.0)	ND (5.0)	2,320	ND (5.0)	ND (10)	ND (0.2)	ND (10)	ND (10)	70.5	ND (5.0)	ND (1.0)	5.53	54.4

Notes:

ND not detected at listed reporting limit

FD field duplicate sample

^ U.S. Environmental Protection Agency (USEPA) MCL as of January 23, 2006

NE not established

* Secondary USEPA MCL

Title 22 metals are the metals listed in California Code of Regulations, Title 22, Section 66261.24(a)(2)(A).

The maximum contaminant levels (MCLs) listed, in micrograms per liter ($\mu\text{g/L}$), are the California primary drinking water standards, except where noted.

The USEPA MCL for arsenic was lowered to 10 $\mu\text{g/L}$ in January 2006. The California MCL of 50 $\mu\text{g/L}$ is currently under review. California Division of Drinking Water and Environmental Management is proceeding with the regulatory and adoption process.

During the March 10, 2008 purge of monitoring well MW-23, the well did not purge dry as it typically does. An additional sample was collected on March 11 after the well recharged as normal.

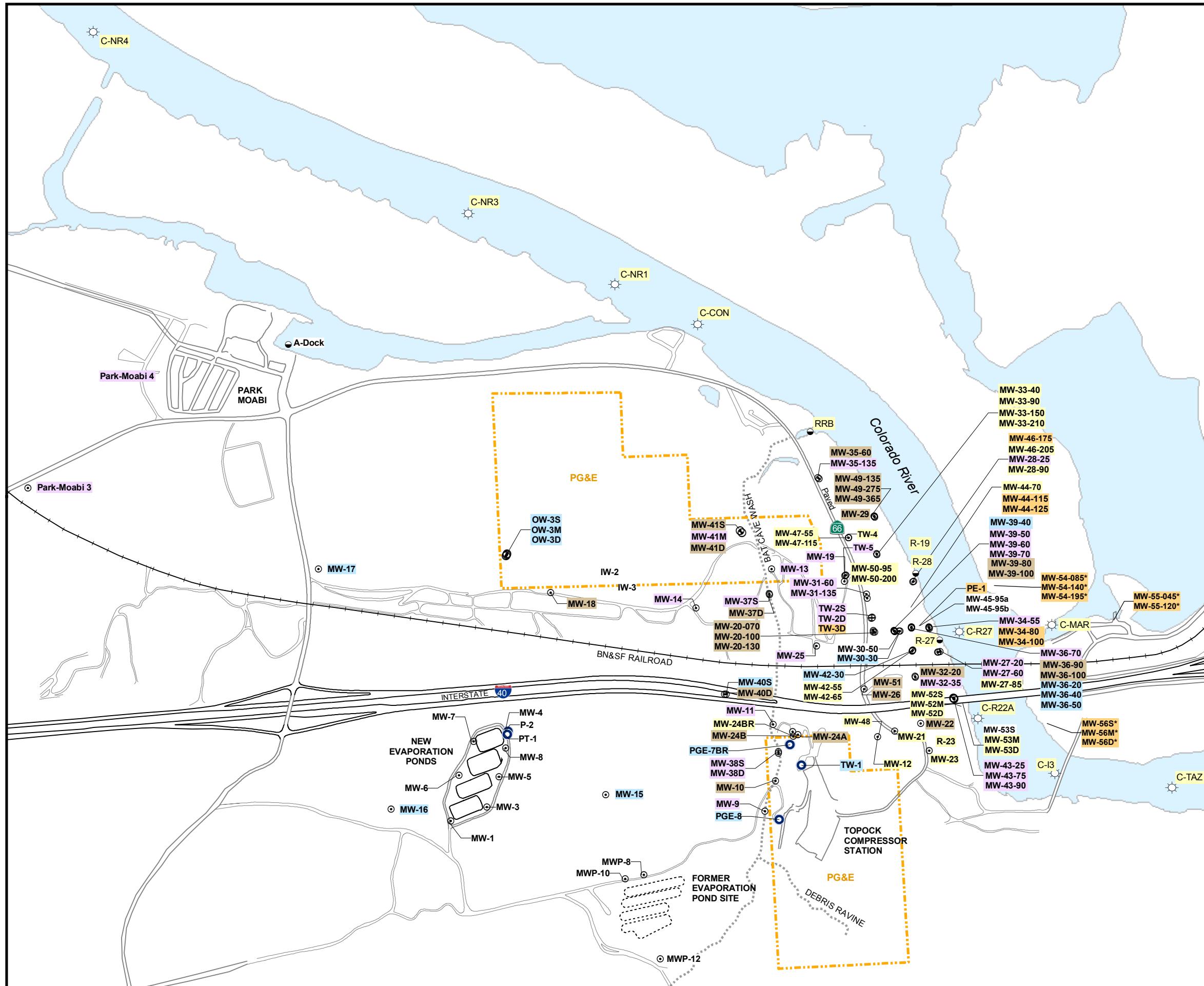
All results are dissolved metals concentrations in $\mu\text{g/L}$ from field-filtered samples.

Metals analyzed by Methods SW6020A and SW7470A.

Analytes detected above MCL are in bold.

Monitoring well MW-22 was sampled in July rather than May 2008.

Figures



Sampling Frequency for Groundwater and Surface Water Monitoring Program (GMP) - October 2008

- MW-17 Biennial Sampling
- MW-9 Annual Sampling
- MW-22 Semi-Annual Sampling
- MW-12 Quarterly Sampling
- MW-34-100 Monthly Sampling

*Final monthly sampling October 2008. Quarterly sampling begins December 2008.

Note: Shoreline and river channel locations are sampled monthly during periods of low river stage (typically November - January). Otherwise they are sampled quarterly.

FIGURE 1
MONITORING LOCATIONS AND SAMPLING FREQUENCY FOR GMP OCTOBER 2008
GROUNDWATER AND SURFACE WATER MONITORING PROGRAM PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

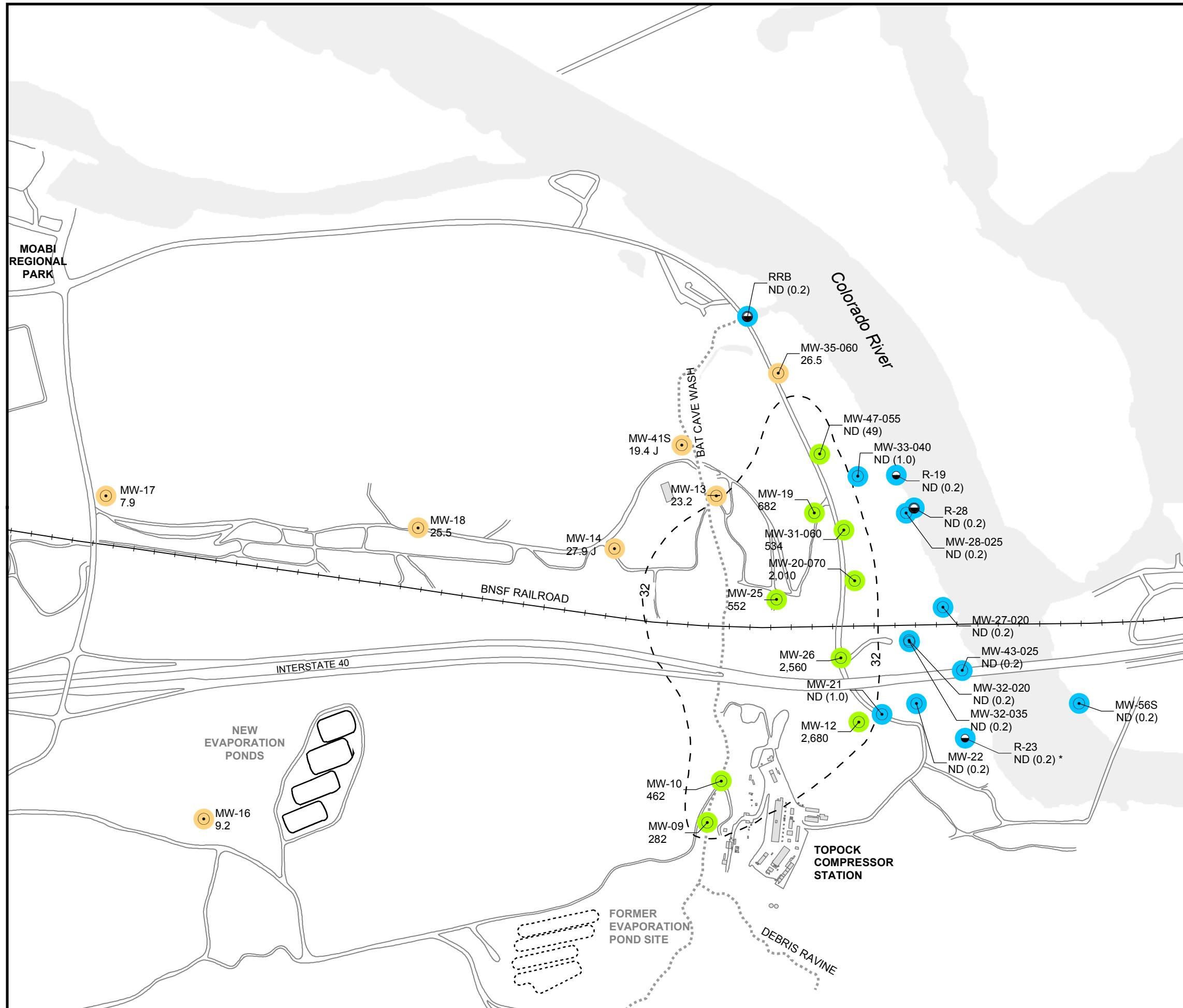
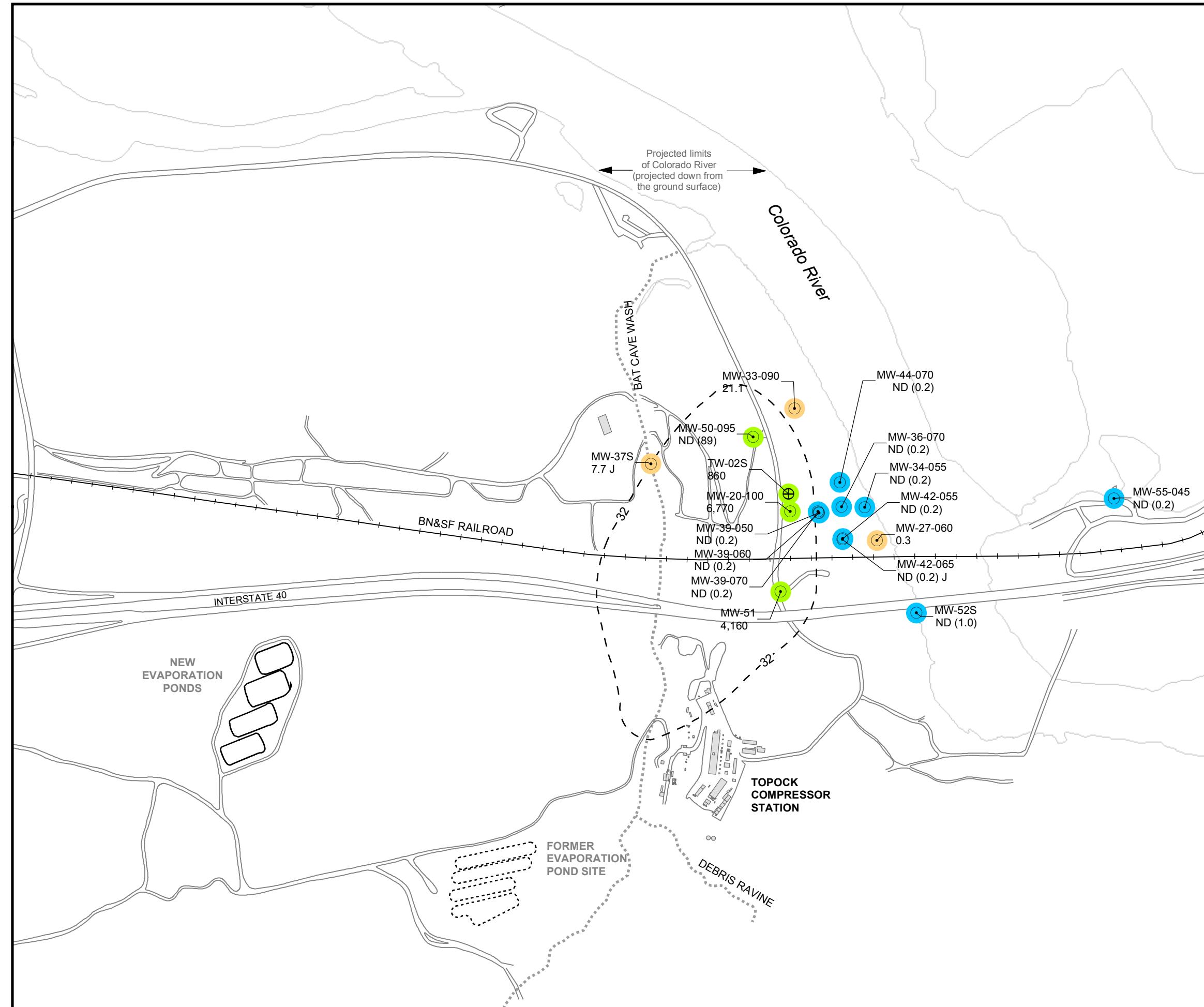


FIGURE 2
Cr(VI) SAMPLING RESULTS
SHALLOW WELLS IN ALLUVIAL AQUIFER
AND SHORELINE SURFACE WELL LOCATIONS
3RD QUARTER 2008 MONITORING
GROUNDWATER AND SURFACE WATER
MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



LEGEND

- ⊕ Extraction Well
- Monitoring, Test, or Supply Well

Results for October 2008 Monitoring Event

6.48 Concentration of hexavalent chromium [Cr(VI)] in micrograms per liter ($\mu\text{g/L}$)

Results shown are maximum concentrations in primary and duplicate samples from wells completed in **Mid-Depth zone** of Alluvial Aquifer.

ND (0.2) Cr(VI) not detected at listed reporting limit

Cr(VI) Concentrations in Groundwater Samples October 2008 Monitoring Event

- Not detected at analytical reporting limit
- Concentration between reporting limit and 32 $\mu\text{g/L}$
- Concentration greater than 32 $\mu\text{g/L}$

Approximate outline of monitoring wells with Cr(VI) concentrations $\geq 32 \mu\text{g/L}$ (California drinking water standard for Total Chromium)

Notes:
See Attachment 2 for additional sampling data and prior results for wells that were not sampled in Third Quarter reporting period.

The 32 $\mu\text{g/L}$ Cr(VI) outline for the Mid-Depth zone represents the maximum extent of Cr(VI) in this interval of the aquifer, incorporating sampling results from shallow and deep wells.

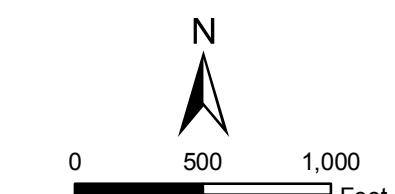


FIGURE 3
Cr(VI) SAMPLING RESULTS
MID-DEPTH WELLS IN ALLUVIAL AQUIFER
3RD QUARTER 2008 MONITORING
GROUNDWATER AND SURFACE WATER
MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

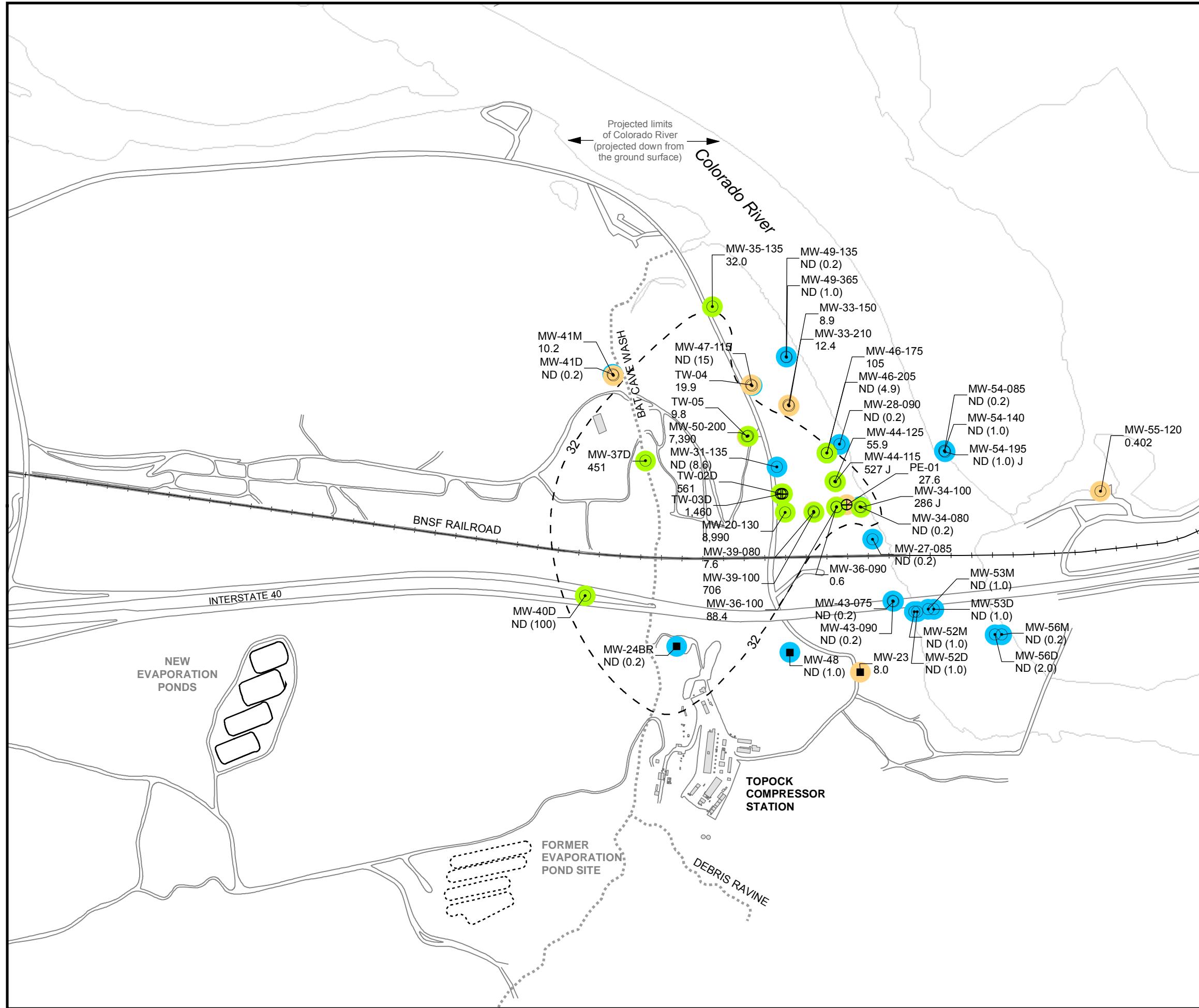


FIGURE 4
Cr(VI) SAMPLING RESULTS
DEEP WELLS IN ALLUVIAL AQUIFER
3RD QUARTER 2008 MONITORING

GROUNDWATER AND SURFACE WATER
MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Attachment 1
Background Study Metals Results,
MW-16 and MW-17

Attachment 1

MW-16 and MW-17 Background Study Supplemental Sampling Metals Results
PG&E Topock Groundwater and Surface Water Monitoring Program

Analyte	Units	MW-16 5/6/2008	MW-16 10/3/2008	MW-17 5/5/2008	MW-17 10/2/2008
Aluminum, dissolved	µg/L	ND (50)	ND (50)	ND (50)	ND (50)
Antimony, dissolved	µg/L	ND (5.0)	ND (10)	ND (5.0)	ND (10)
Arsenic, dissolved	µg/L	ND (5.0)	8.77	ND (5.0)	0.64 J
Barium, dissolved	µg/L	ND (500)	36.9	ND (500)	17.1
Beryllium, dissolved	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Boron, dissolved	µg/L	0.30	0.288	0.24	ND (0.2)
Cadmium, dissolved	µg/L	ND (2.0)	ND (3.0)	ND (2.0)	ND (3.0)
Calcium, dissolved	µg/L	142	23.9	99.0	76.3
Chromium, dissolved	µg/L	24.1	6.51	12.0	6.92
Cobalt, dissolved	µg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Copper, dissolved	µg/L	ND (10)	7.74	ND (10)	ND (5.0)
Iron, dissolved	µg/L	ND (0.5)	8.04 J	ND (0.5)	0.116
Lead, dissolved	µg/L	ND (5.0)	ND (10)	ND (5.0)	ND (10)
Magnesium, dissolved	µg/L	36.8	4.82	14.0	19.1
Manganese, dissolved	µg/L	ND (0.5)	ND (0.01)	ND (0.5)	ND (0.01)
Mercury, dissolved	µg/L	ND (0.2)	ND (0.2) J	ND (0.2)	ND (0.2)
Molybdenum, dissolved	µg/L	16.0	ND (10)	21.0	17.7
Nickel, dissolved	µg/L	ND (20)	ND (10)	ND (20)	ND (10)
Selenium, dissolved	µg/L	ND (5.0)	ND (10)	11.9	12.6
Silver, dissolved	µg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Sodium, dissolved	µg/L	---	---	---	227
Thallium, dissolved	µg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium, dissolved	µg/L	12.0	29.2	ND (5.0)	ND (5.0)
Zinc, dissolved	µg/L	ND (20)	ND (10)	ND (20)	75.4

Notes:

ND parameter not detected at the listed reporting limit (listed in the adjacent parenthesis)

µg/L micrograms per liter

J concentration or reporting limit estimated by laboratory or data validation

(-) not collected or not available

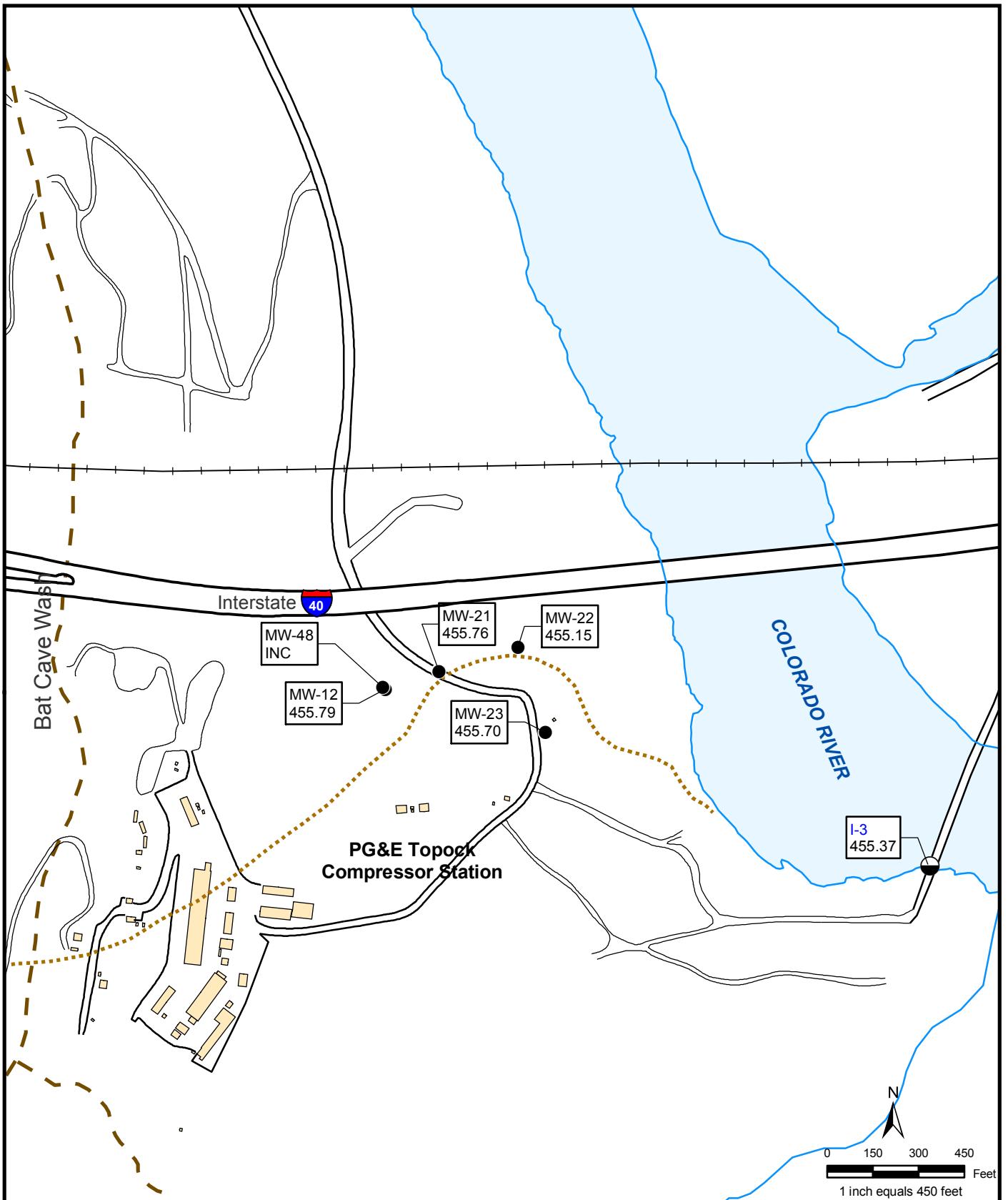
Attachment 2
Water Levels from Selected Wells in the Vicinity
of Bedrock Well MW-23

Water Levels from Selected Wells in the Vicinity of Bedrock Well MW-23

During the August 2, 2007, Technical Workgroup meeting, DTSC requested long-term transducer monitoring at MW-23 and the surrounding area.

This attachment includes a summary of water level data from selected wells in the vicinity of MW-23. Figures 1 through 13 presents maps showing monthly average groundwater elevations for September 2007 through September 2008. Figure 14 presents a hydrograph of water levels along with the river level for the entire period from September 2007 through September 2008. The drawdown in water levels in March and May 2008 for MW-21 and MW-23 are from well purging and recovery.

The average groundwater elevations for well MW-48 are not shown on Figures 1 through 4 and 13 because the water levels in this well were affected by several episodes of pumping in conjunction with groundwater sample collection for bedrock aquifer testing during this time period. Historically, water levels in MW-48 require about two weeks to recover after the well is pumped and, therefore, most of the data from MW-48 during this period were not representative of ambient water levels. PG&E will continue water level monitoring in this group of wells as directed by DTSC.

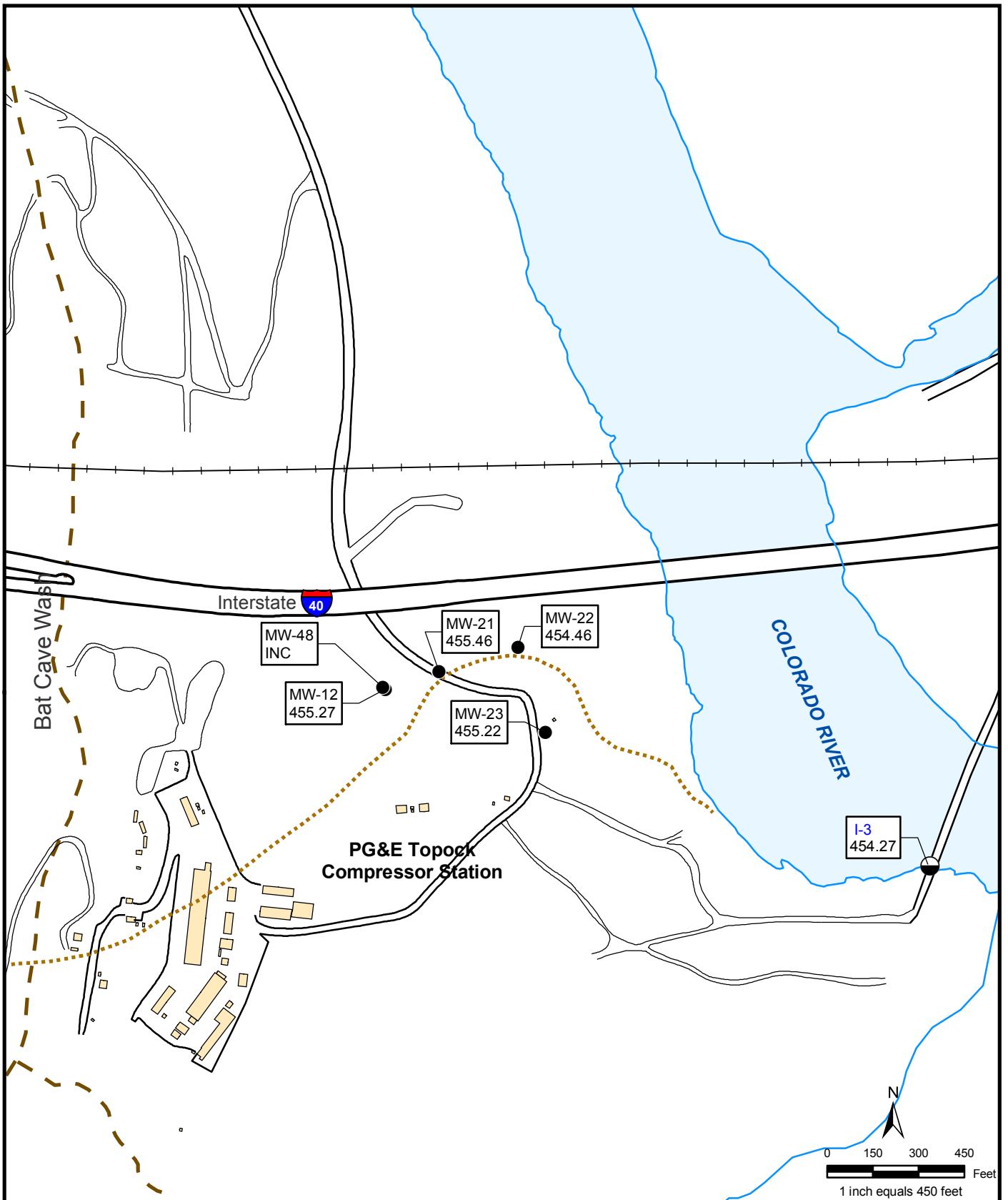


- | | | |
|--------------------------|--|--|
| ● MW-22
455.85 | Average Groundwater Elevation
at Monitoring Station (ft AMSL) | ● Monitoring Well |
| ● I-3
455.13 | River Elevation (ft AMSL)
Interpolated Average | ● River Station |
| — | Approximate Bedrock
Contact at 455 ft AMSL | |
| | | INC Data incomplete or unavailable
over reporting period |

FIGURE 1
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
SEPTEMBER 2007

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

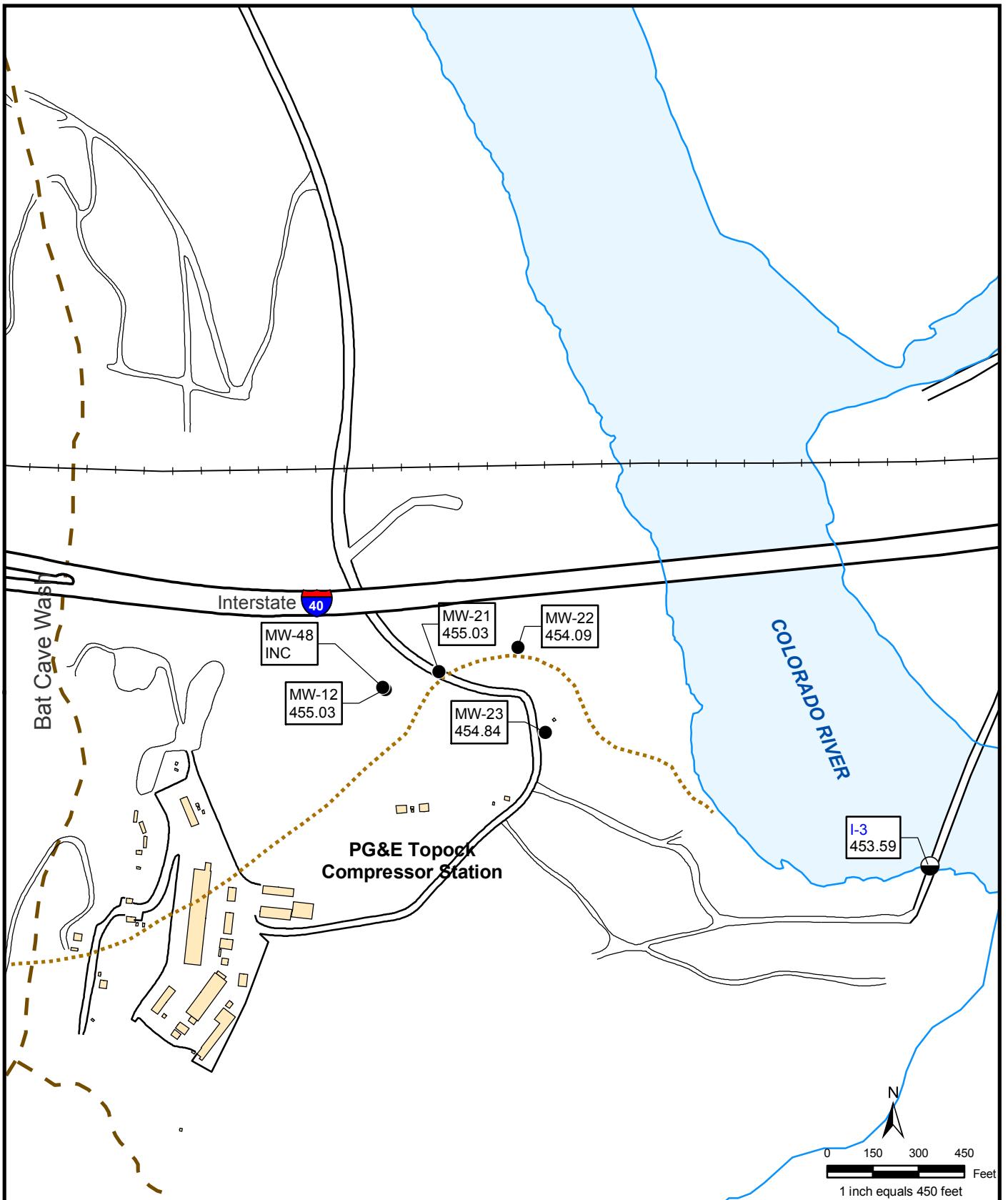


- **MW-22**
455.85 Average Groundwater Elevation
at Monitoring Station (ft AMSL)
- **I-3**
455.13 River Elevation (ft AMSL)
Interpolated Average
- Monitoring Well
- River Station
- Approximate Bedrock
Contact at 455 ft AMSL
- INC** Data incomplete or unavailable
over reporting period

FIGURE 2
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS

OCTOBER 2007
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



● MW-22 Average Groundwater Elevation at Monitoring Station (ft AMSL) 455.85

● I-3 River Elevation (ft AMSL) Interpolated Average 455.13

— Approximate Bedrock Contact at 455 ft AMSL

● Monitoring Well
 ● River Station
 INC Data incomplete or unavailable over reporting period

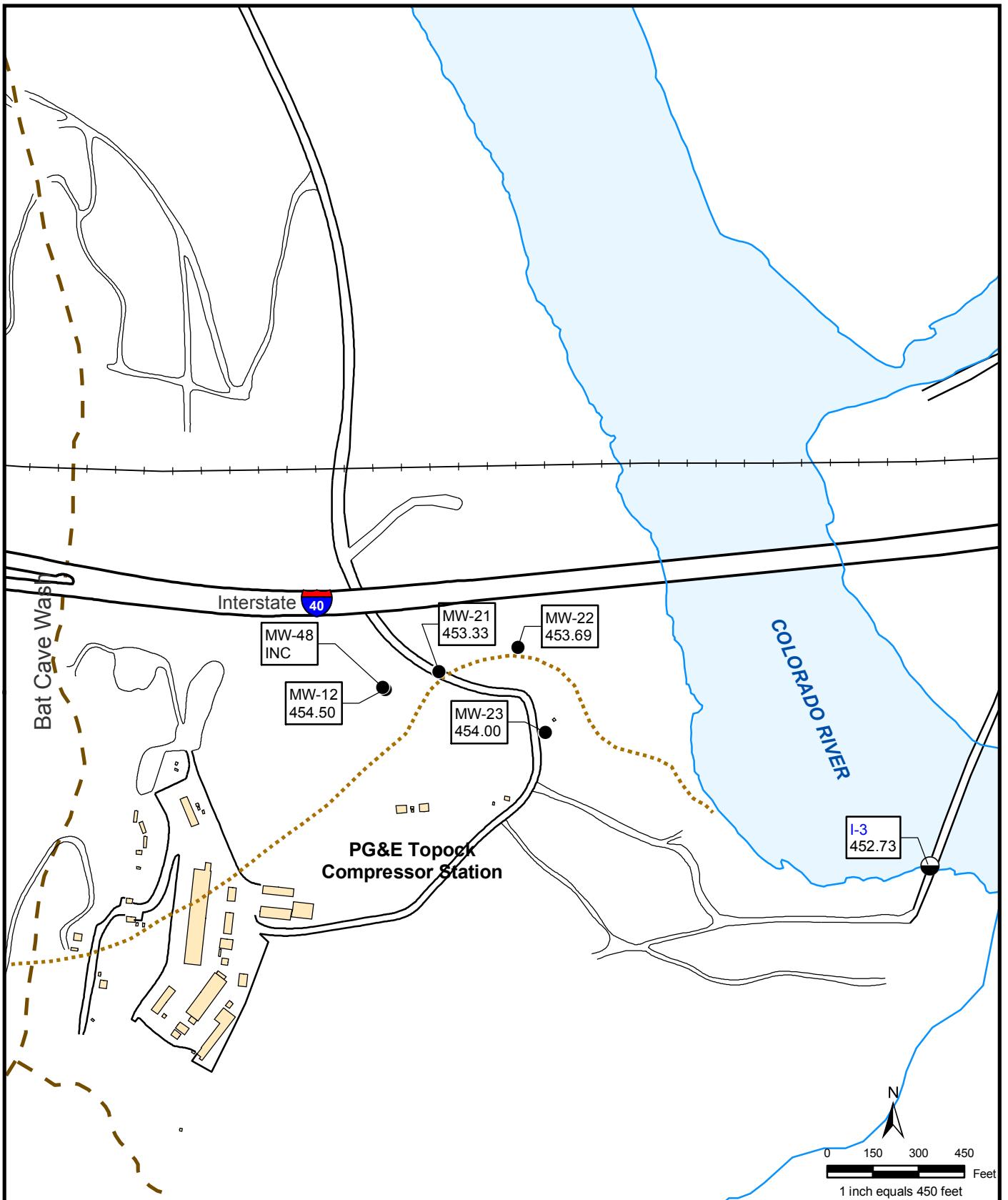
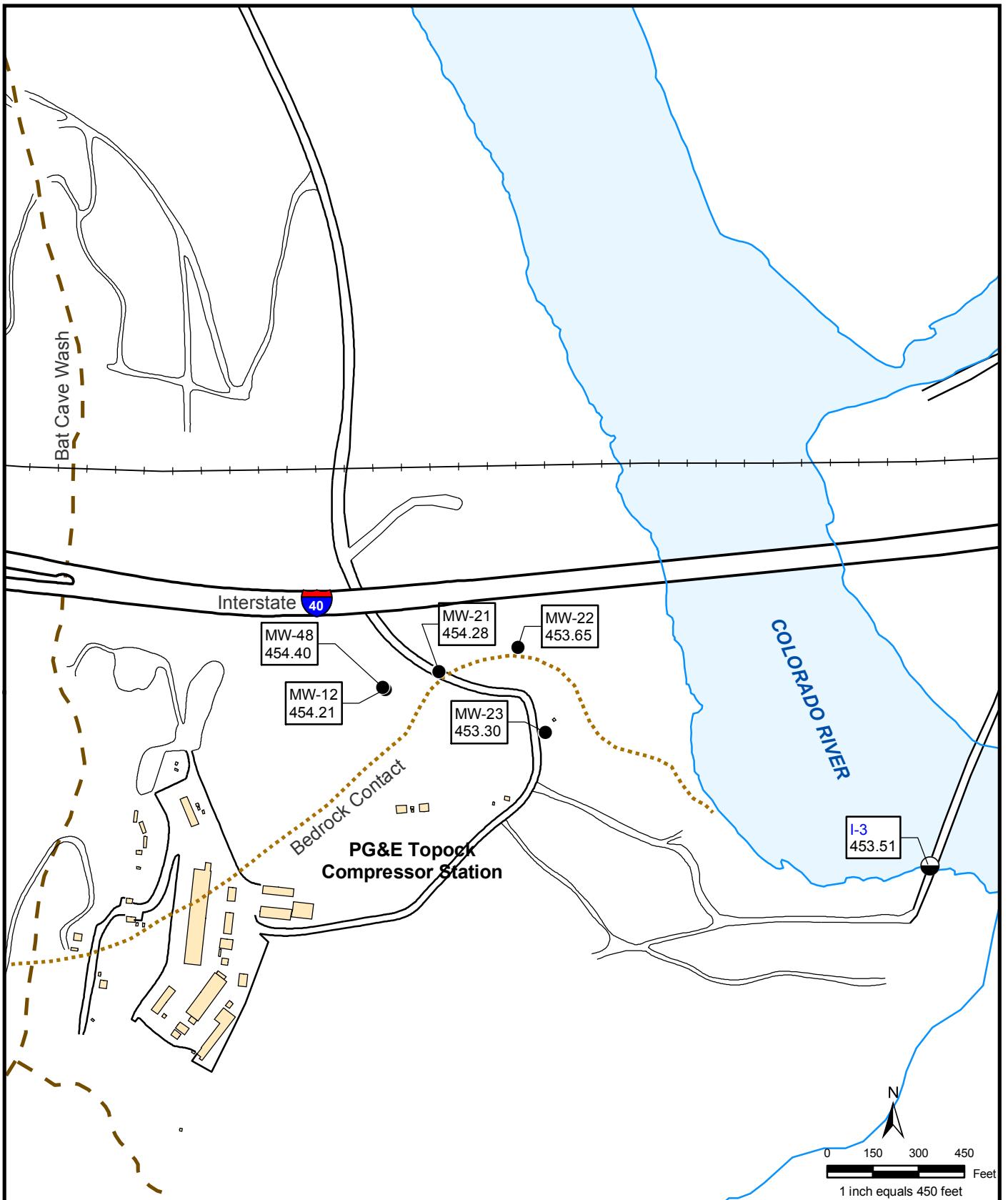


FIGURE 4
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
DECEMBER 2007

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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● MW-22 Average Groundwater Elevation
453.65 at Monitoring Station (ft AMSL)

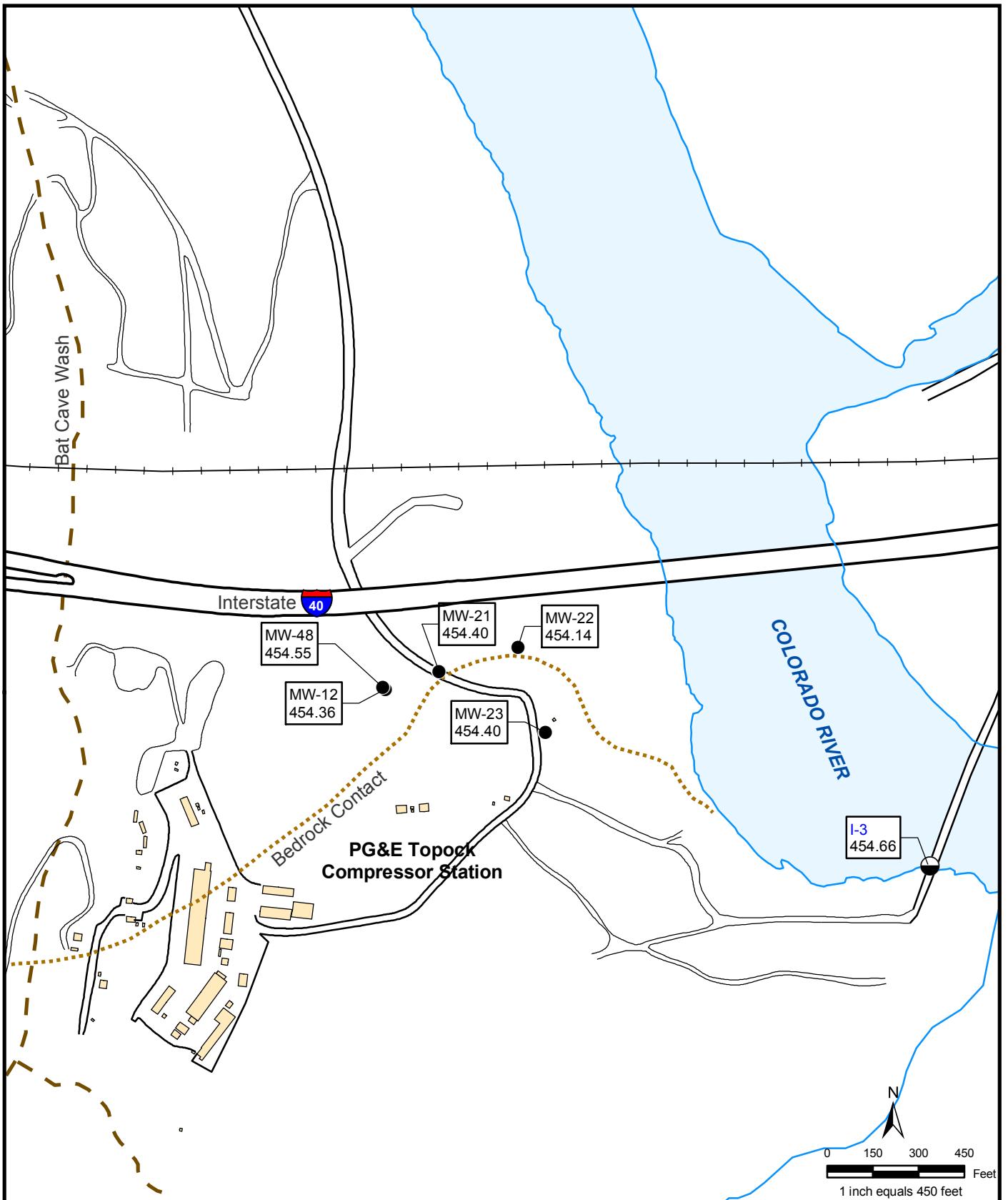
● Monitoring Well
River Station

● I-3 River Elevation (ft AMSL)
453.51 Interpolated Average

INC Data incomplete or unavailable
over reporting period

— Approximate Bedrock
Contact at 455 ft AMSL

FIGURE 5
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
JANUARY 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



● MW-22 Average Groundwater Elevation
454.14 at Monitoring Station (ft AMSL)

● Monitoring Well
River Station

● I-3
454.66 River Elevation (ft AMSL)
Interpolated Average

INC Data incomplete or unavailable
over reporting period

— Approximate Bedrock
Contact at 455 ft AMSL

FIGURE 6
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
FEBRUARY 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

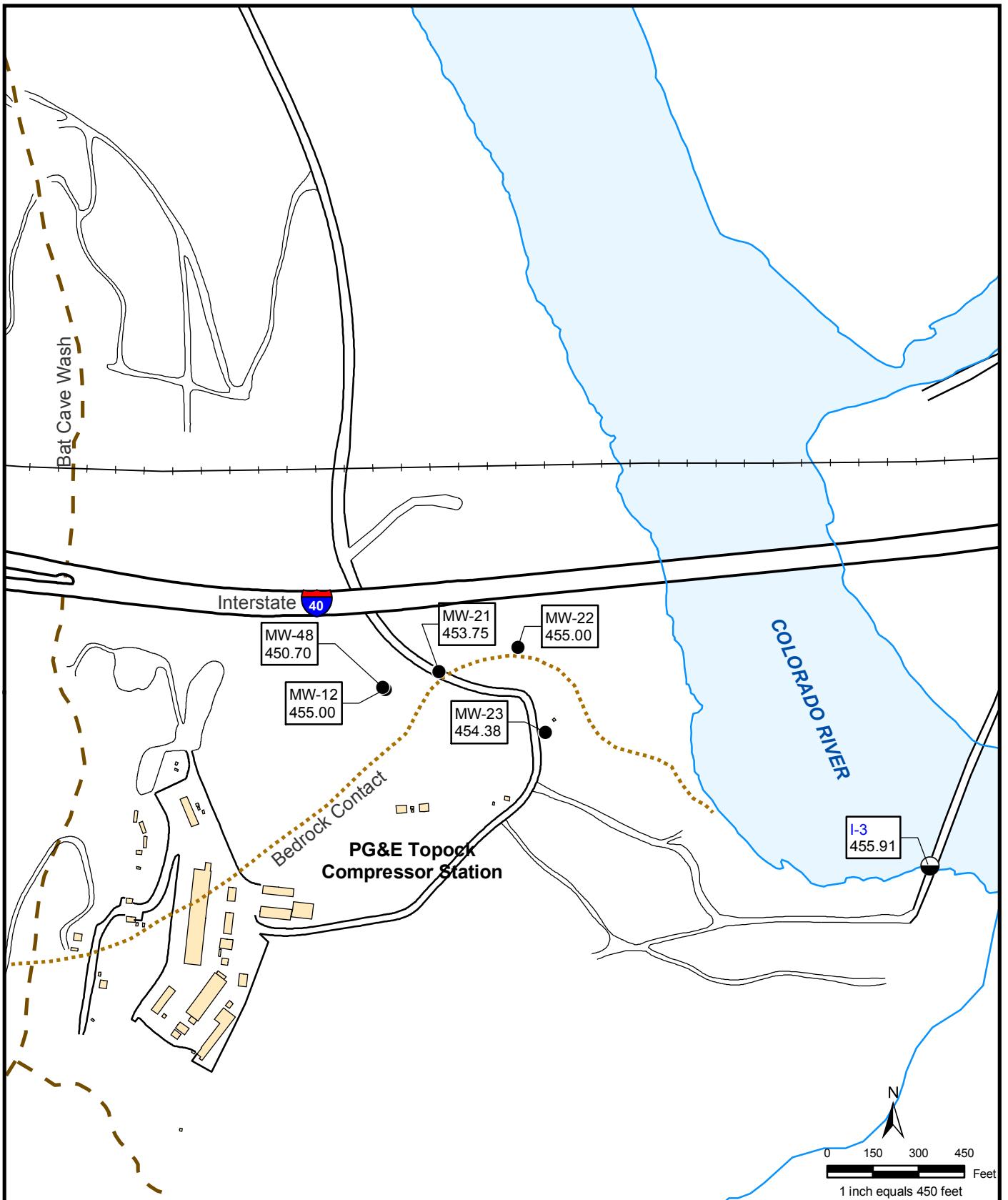
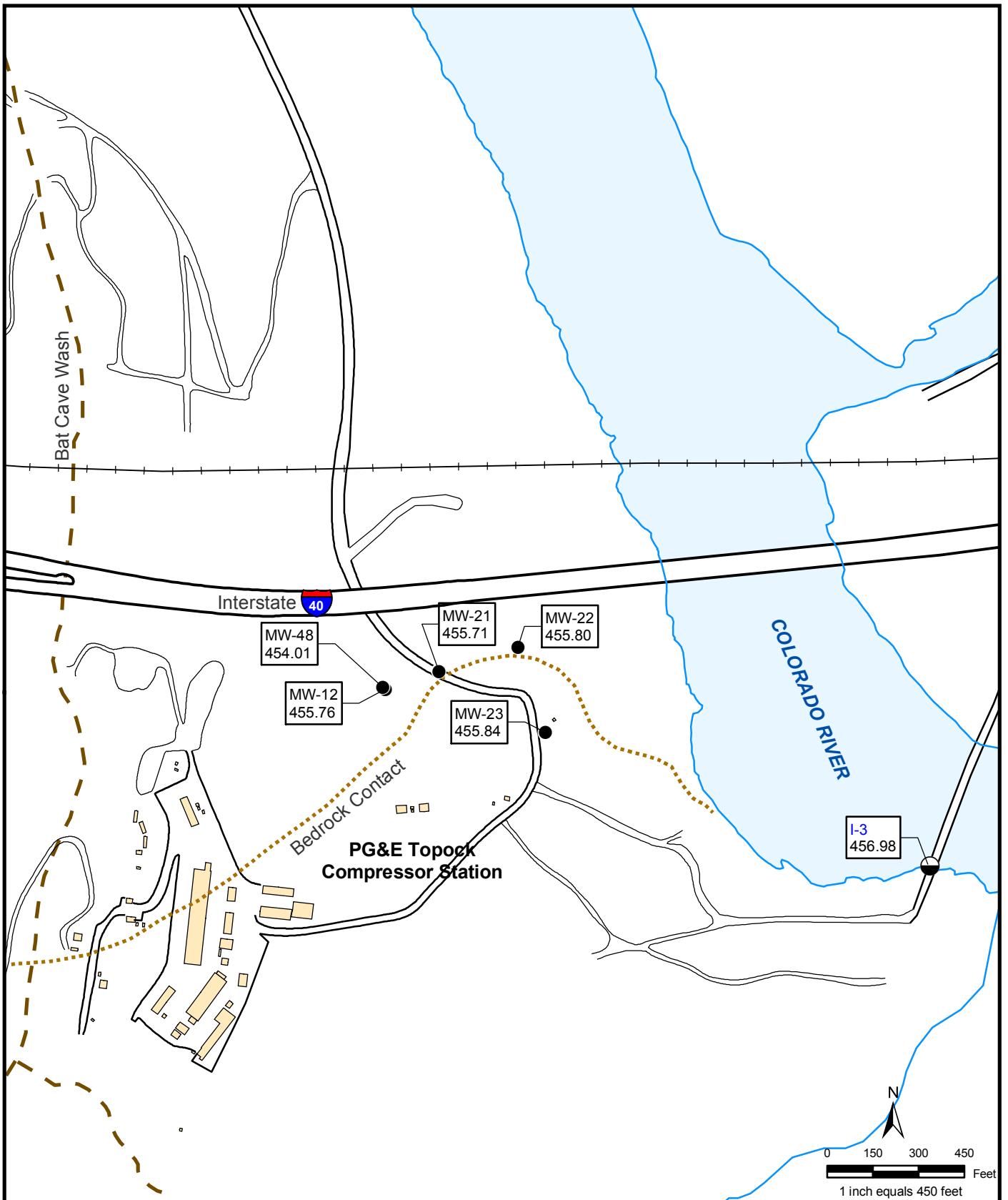


FIGURE 7
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
MARCH 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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● MW-22 Average Groundwater Elevation
453.65 at Monitoring Station (ft AMSL)

● Monitoring Well
River Station

● I-3 River Elevation (ft AMSL)
456.98 Interpolated Average

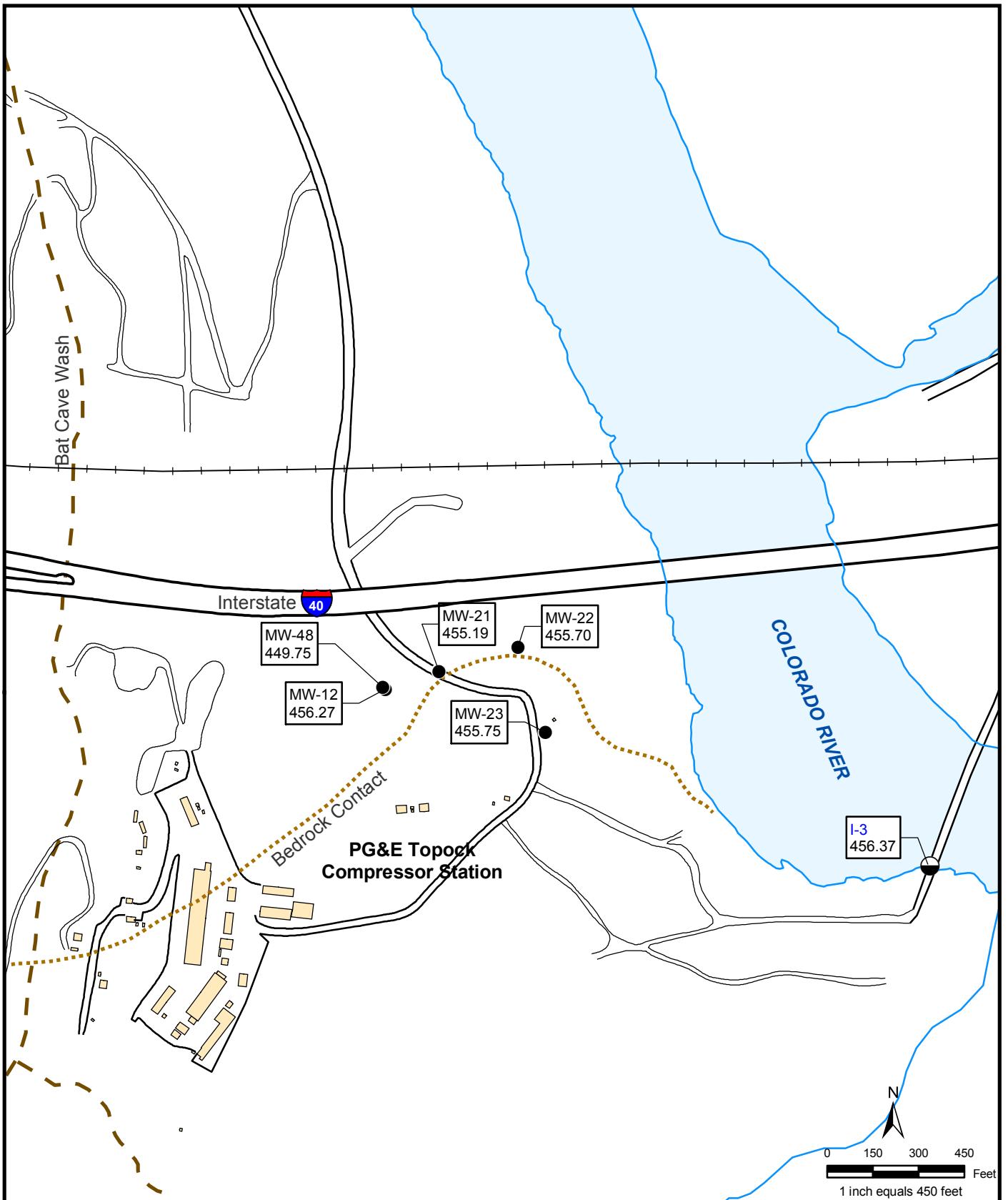
● INC Data incomplete or unavailable
over reporting period

— Bedrock Contact at 455 ft AMSL

FIGURE 8
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS

APRIL 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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● **MW-22** Average Groundwater Elevation at Monitoring Station (ft AMSL)
454.14

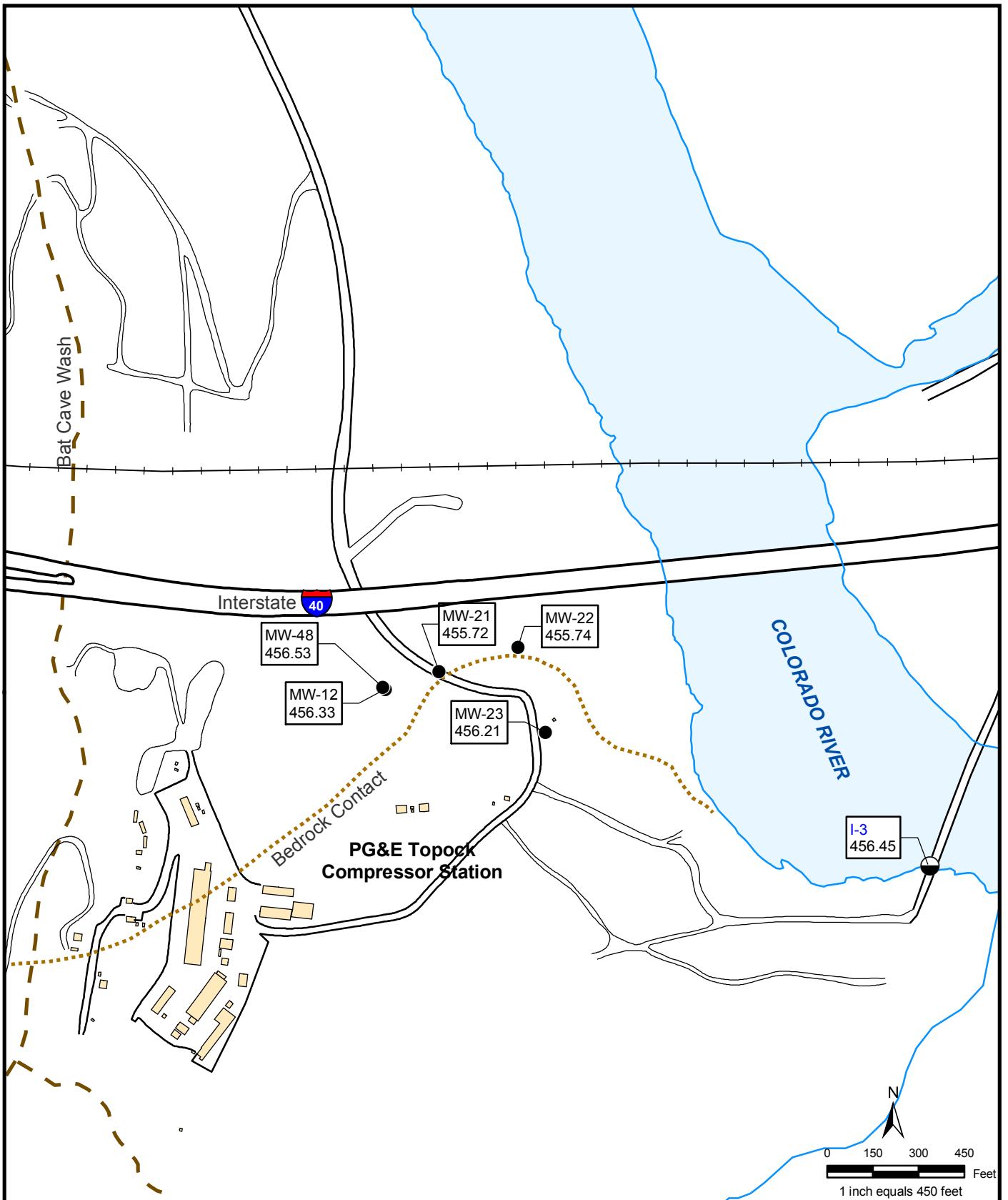
● Monitoring Well
River Station

● **I-3** River Elevation (ft AMSL)
454.66 Interpolated Average

● Approximate Bedrock Contact at 455 ft AMSL

INC Data incomplete or unavailable over reporting period

FIGURE 9
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
MAY 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



● **MW-22** Average Groundwater Elevation at Monitoring Station (ft AMSL)
455.00

● Monitoring Well
River Station

● **I-3** River Elevation (ft AMSL)
455.91 Interpolated Average

● INC Data incomplete or unavailable over reporting period

Approximate Bedrock Contact at 455 ft AMSL

FIGURE 10
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS
JUNE 2008

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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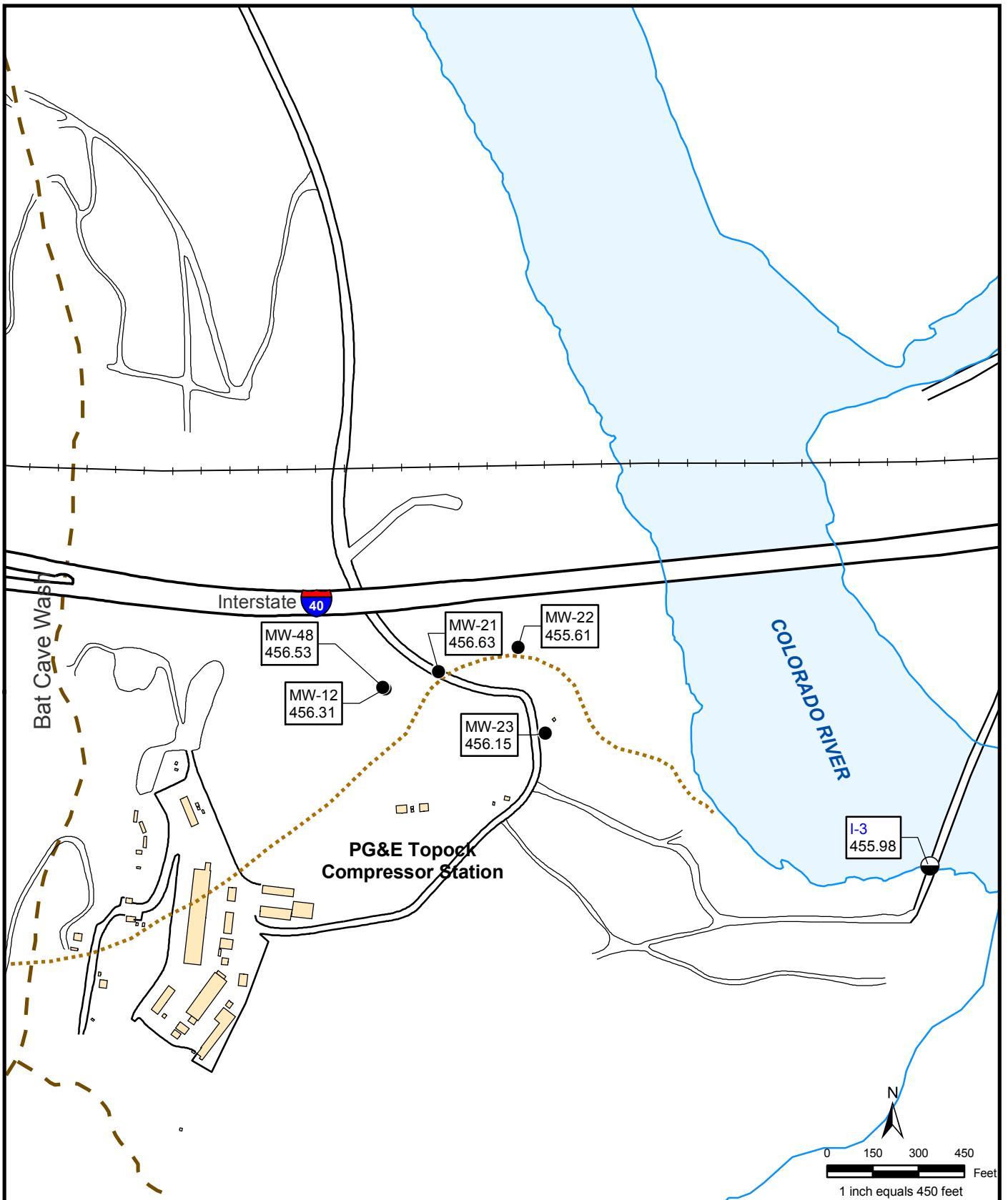


FIGURE 11
**AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS**

JULY 2008
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

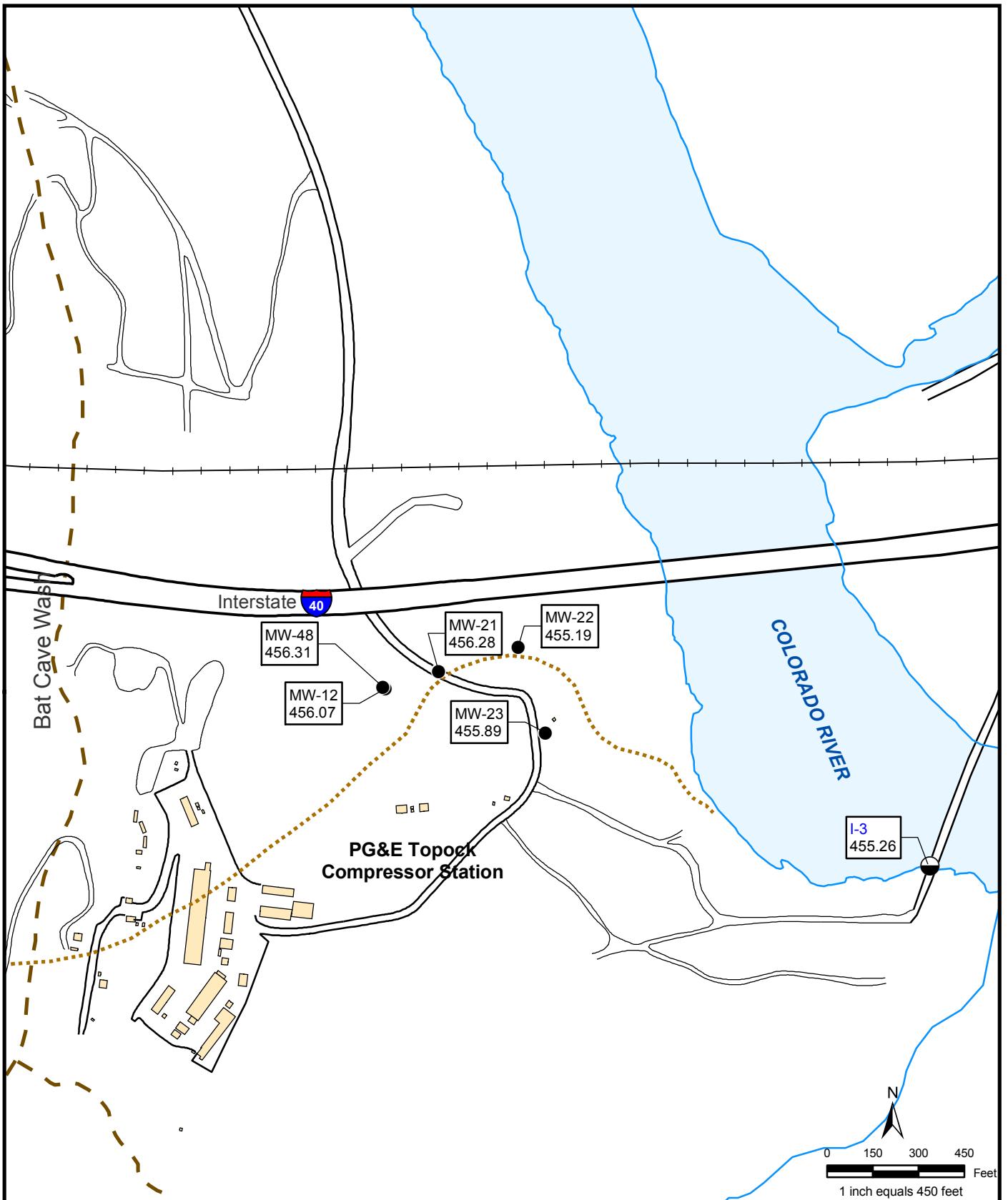


FIGURE 12
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS

AUGUST 2008

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

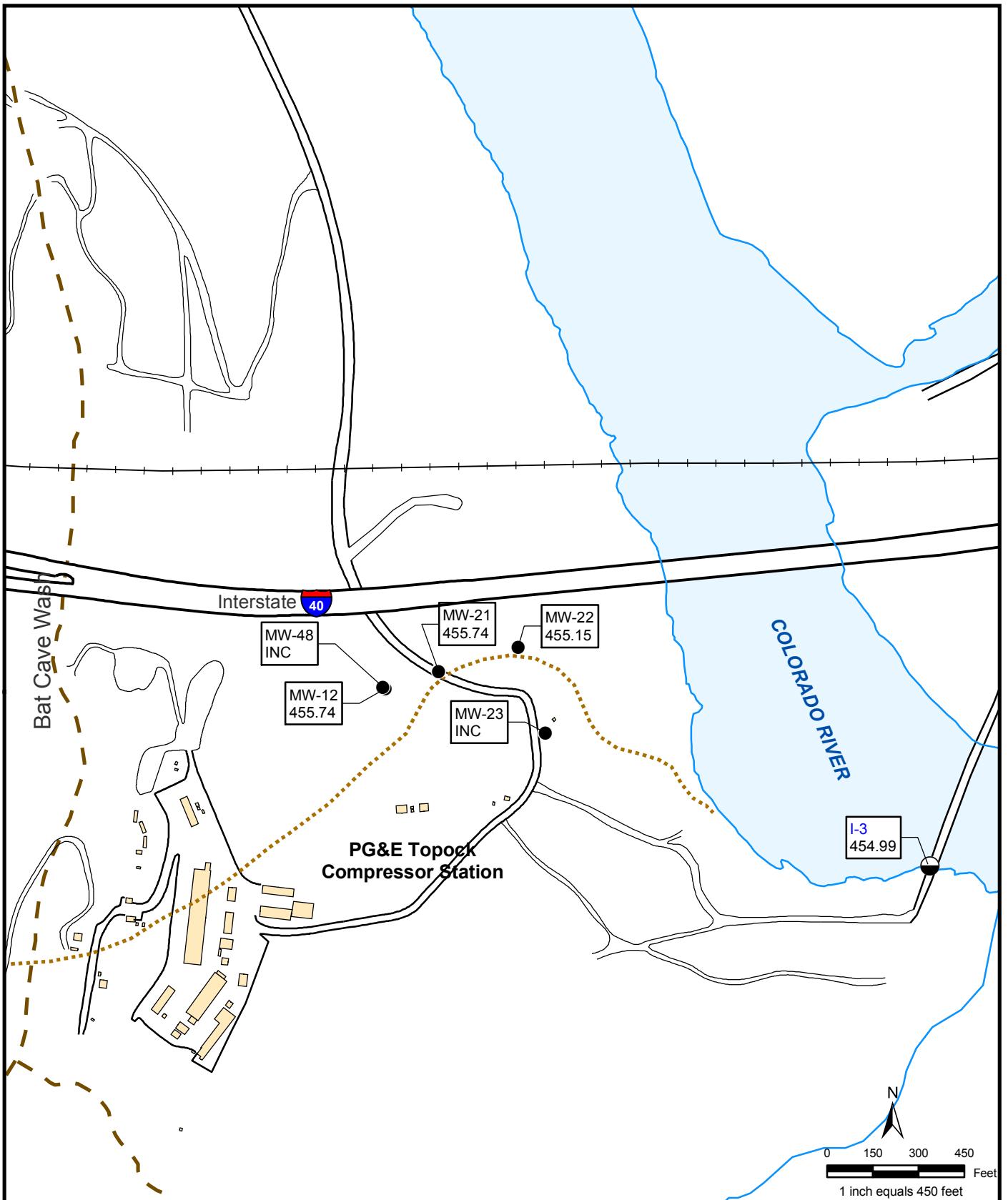


FIGURE 13
AVERAGE GROUNDWATER ELEVATIONS
AT MW-23 AND ADJACENT WELLS

SEPTEMBER 2008

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

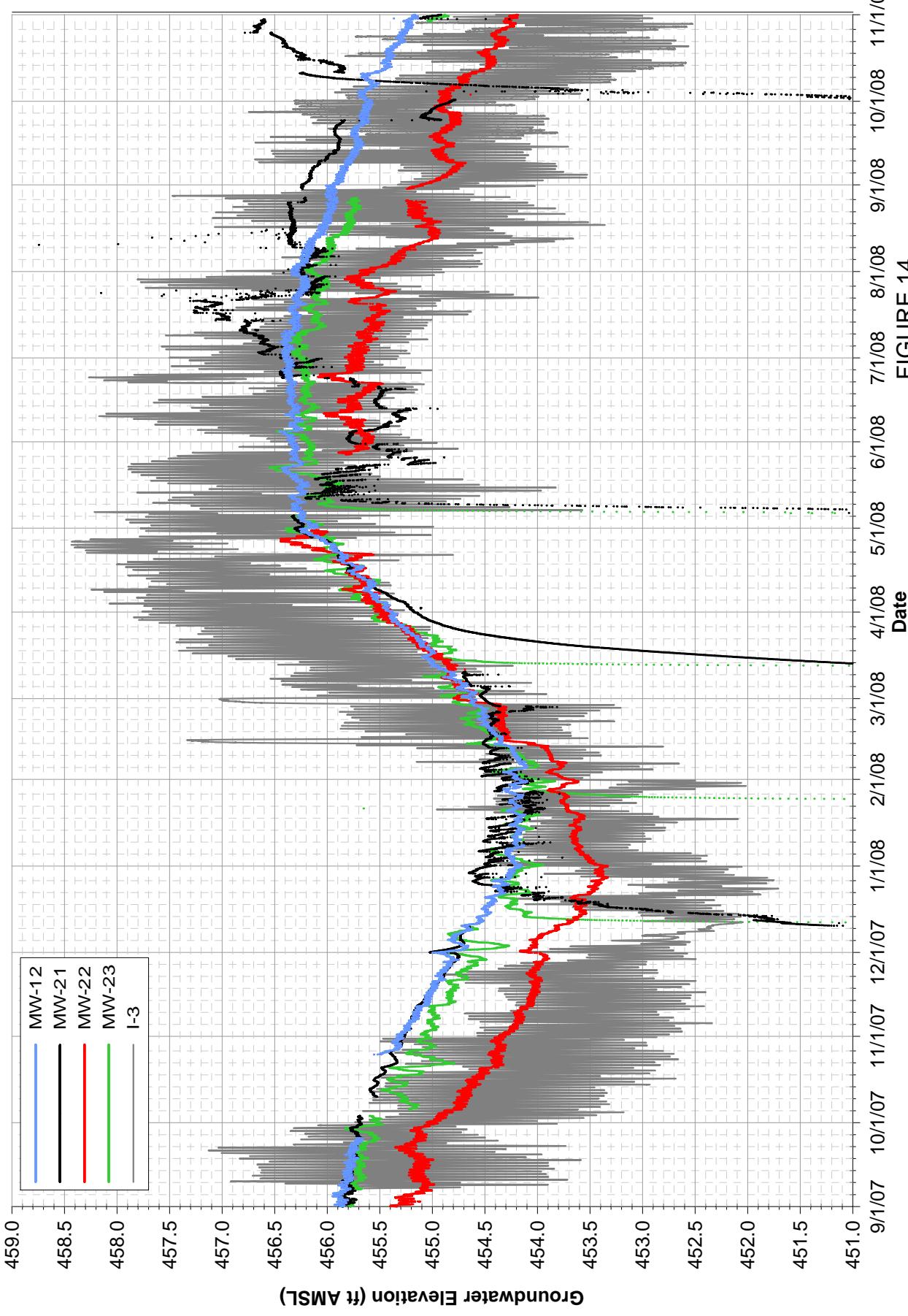


FIGURE 14
MW-23 AND ADJACENT WELLS
HYDROGRAPHS AND RIVER LEVELS
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Notes:
Data subject to review.

Attachment 3

**Groundwater COPC Sampling Results, January
through December 2007**

ATTACHMENT 3

Groundwater COPC Sampling Results, January through December 2007
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-9	10/04/2007	304	304	2,810	7.52 J
MW-10	03/06/2007	1,640	1,700	2,760	7.67
	05/03/2007	1,230	1,440	2,840	7.58 J
	10/02/2007	1,010	1,050	2,700	7.74 J
MW-12	03/06/2007	2,630	2,440	4,820	8.41
	05/03/2007	2,620	2,880	5,220	8.40 J
	10/04/2007	2,830	2,700	5,560	8.41 J
	10/04/2007 FD	2,970	2,800	5,540	8.47 J
	12/13/2007	2,530	2,930	5,170	---
MW-13	03/05/2007	23	25	1,860	7.66
	10/02/2007	22	24	1,860	7.67 J
MW-14	03/12/2007	13	13	1,450	7.75
	10/02/2007	27	31	1,410	7.86 J
MW-15	10/02/2007	12	13	1,450	7.89 J
MW-16	10/02/2007	9	10	1,040	8.12 J
MW-17	10/03/2007	7	7	1,710	---
MW-18	03/12/2007	36	36	1,200	7.69
	03/12/2007 FD	36	34	1,200	7.73
	10/02/2007	28	28	1,250	7.78 J
MW-19	03/06/2007	1,040	1,030	2,240	7.69
	05/02/2007	836	777	2,310	7.70 J
	10/05/2007	1,390	1,510	2,200	7.33 J
MW-20-70	03/14/2007	2,820	2,720	2,850	7.62
	05/03/2007	2,790	3,050	2,750	7.62 J
	10/11/2007	2,400	2,140	2,800	7.66 J
MW-20-100	03/14/2007	9,470	9,270	3,590	7.63
	05/03/2007	10,100	9,820	3,560	7.56 J
	05/03/2007 FD	10,000	10,500	3,590	7.54 J
	10/10/2007	9,000	10,700	3,390	7.61 J
MW-20-130	03/08/2007	12,800	11,900	12,600	7.59
	03/08/2007 FD	14,400	12,100	12,800	7.57
	05/03/2007	13,400	16,200	12,700	7.58 J
	05/03/2007 FD	13,500	14,800	12,800	7.53 J
	10/05/2007	12,200	13,000	11,600	7.55 J
MW-21	03/09/2007	ND (1.0)	ND (1.0) LF	11,100	7.26
	05/01/2007	ND (1.0)	1	12,200	7.23 J
	10/04/2007	ND (5.0)	ND (1.0)	14,100	7.21 J
	12/11/2007	ND (1.0)	ND (1.0)	13,700	---
MW-22	03/08/2007	ND (1.0)	ND (1.0)	27,700	7.02
	10/10/2007	ND (1.0)	ND (1.0)	23,700	6.93 J
MW-23	03/06/2007	1,020	1,020	10,200	7.75
	05/02/2007	13	11	17,100	7.38
	10/04/2007	19	22	15,800	7.50 J
	12/11/2007	40	40	16,400	---

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-24A	03/06/2007	3,540	3,600	3,190	7.69
MW-24B	03/05/2007	5,980	6,100	14,900	7.92
MW-24BR	03/06/2007	ND (1.0)	ND (1.0)	14,200	8.26
	05/03/2007	ND (1.0)	ND (1.0) LF	14,000	8.29 J
	10/04/2007	ND (1.0)	ND (1.0)	13,500	8.72 J
	12/14/2007	ND (1.0)	3	13,000	---
MW-25	03/06/2007	945	951	1,330	7.59
	10/02/2007	895	805	1,190	7.62 J
	10/02/2007 FD	933	884	1,210	7.69 J
MW-26	03/12/2007	3,440	3,540	3,580	7.57
	10/02/2007	3,510	3,740	3,490	7.58 J
MW-27-20	10/02/2007	ND (0.2)	2	1,120	7.73 J
MW-27-60	10/02/2007	ND (0.2)	ND (1.0)	7,400	7.51 J
MW-27-85	01/10/2007	ND (1.0)	4	---	---
	02/06/2007	ND (1.0)	ND (1.0)	---	---
	03/07/2007	ND (0.2)	ND (1.0)	18,100	7.31
	04/03/2007	ND (1.0)	ND (1.0)	---	---
	05/01/2007	ND (1.0)	1	18,500	7.21 J
	06/13/2007	ND (1.0)	ND (1.0)	---	---
	07/11/2007	ND (1.0)	ND (1.0)	---	---
	08/08/2007	ND (1.0)	ND (1.0)	---	---
	08/08/2007 FD	ND (1.0)	ND (1.0)	---	---
	09/05/2007	ND (1.0)	ND (1.0)	---	---
	10/02/2007	ND (1.0)	ND (1.0)	16,300	7.24 J
	12/11/2007	ND (1.0)	ND (1.0)	17,800	---
MW-28-25	10/04/2007	ND (1.0)	ND (1.0)	1,220	7.52 J
MW-28-90	03/08/2007	ND (1.0)	ND (1.0)	7,450	7.56
	05/04/2007	ND (0.2)	ND (1.0)	7,560	7.49 J
	10/04/2007	ND (1.0)	ND (1.0)	7,020	7.42 J
	12/14/2007	ND (0.2)	ND (1.0)	7,290	---
MW-29	10/04/2007	ND (1.0)	ND (1.0)	2,630	7.46 J
MW-30-30	10/08/2007	ND (1.0)	ND (1.0) LF	35,800	7.14 J
MW-31-60	03/12/2007	626	638	2,730	7.69
	10/04/2007	726 J	669	2,840	7.60 J
MW-31-135	03/08/2007	51	55	9,980	7.91
	03/08/2007 FD	52	54	9,970	7.93
	10/01/2007	33	29	9,750	7.91 J
MW-32-20	03/06/2007	ND (2.0)	ND (1.0)	37,200	6.85
	04/30/2007	ND (2.0)	ND (1.0)	27,500	6.86 J
	10/01/2007	ND (2.0)	ND (1.0)	47,700	6.79 J
MW-32-35	03/06/2007	ND (1.0)	ND (1.0)	17,300	7.22
	04/30/2007	ND (1.0)	ND (1.0)	19,400	7.07 J
	10/01/2007	ND (1.0)	1	18,700	7.12 J
MW-33-40	03/06/2007	ND (0.2)	ND (1.0)	4,960	8.31

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-33-40	05/02/2007	ND (0.2)	ND (1.0)	4,500	8.38 J
	10/05/2007	ND (0.2)	1	6,260	8.14 J
	12/12/2007	0.40	4	7,890	---
MW-33-90	03/12/2007	17	18	9,750	7.53
	05/02/2007	19	17	9,980	7.56 J
	10/05/2007	18	19	9,540	7.27 J
	12/13/2007	21	23	9,730	---
	12/13/2007 FD	21	21	9,710	---
MW-33-150	03/06/2007	7	7	15,900	7.67
	05/02/2007	7	6	16,000	7.61 J
	10/09/2007	9	8	15,600	7.71 J
	10/09/2007 FD	9	8	15,500	7.70 J
	12/12/2007	9	10	16,700	---
MW-33-210	03/05/2007	11	11	18,900	7.45
	05/02/2007	9	9	18,800	7.46 J
	10/05/2007	12	12	17,500	7.30 J
	12/12/2007	13	14	17,600	---
MW-34-55	10/03/2007	ND (0.2)	ND (1.0)	1,160	---
MW-34-80	01/09/2007	ND (1.0)	3	---	---
	02/05/2007	ND (1.0)	ND (1.0)	---	---
	03/05/2007	ND (1.0)	ND (1.0)	10,000	7.33
	04/02/2007	ND (0.2)	ND (1.0)	---	---
	04/30/2007	ND (1.0)	1	10,000	7.40 J
	06/13/2007	ND (1.0)	ND (1.0)	---	---
	07/11/2007	ND (1.0)	ND (1.0)	---	---
	08/08/2007	ND (1.0)	ND (1.0)	---	---
	09/06/2007	ND (1.0)	ND (1.0)	---	---
	10/03/2007	ND (0.2)	ND (1.0)	8,790	---
	11/12/2007	ND (1.0)	ND (1.0)	---	---
	12/13/2007	ND (1.0)	ND (1.0)	7,750	---
MW-34-100	01/09/2007	797	830	---	---
	01/24/2007	832	817	---	---
	02/05/2007	780	646	---	---
	02/05/2007 FD	764	634	---	---
	02/21/2007	804	895	---	---
	03/07/2007	806	788	16,400	7.76
	03/21/2007	724	642	---	---
	04/02/2007	749	786	---	---
	04/02/2007 FD	720	800	---	---
	04/18/2007	687	641	---	---
	04/30/2007	626	500	16,500	7.60 J
	04/30/2007 FD	632	572	16,300	7.68 J
	05/16/2007	588	573	---	---
	05/30/2007	597	656	---	---
	06/13/2007	609	644	---	---
	06/13/2007 FD	608	633	---	---
	06/27/2007	574	536	---	---

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-34-100	07/12/2007	557	520	---	---
	07/12/2007 FD	558	521	---	---
	07/25/2007	560	627	---	---
	08/08/2007	596	670	---	---
	08/22/2007	550	490	---	---
	09/06/2007	551	581	---	---
	09/06/2007 FD	546	516	---	---
	09/19/2007	501	603	---	---
	10/03/2007	521	609 J	16,000	---
	10/03/2007 FD	513	424 J	16,100	---
	11/13/2007	590	598	---	---
	12/13/2007	567	591	16,400	---
	12/13/2007 FD	614	610	15,400	---
MW-35-60	03/08/2007	31	35	6,750	7.53
	03/08/2007 FD	31	33	6,740	7.50
	10/01/2007	25	21	7,160	7.51 J
	10/01/2007 FD	25	21	7,270	7.47 J
MW-35-135	03/08/2007	32	39	9,820	7.76
	05/04/2007	27	26	10,800	7.62 J
	05/04/2007 FD	28	25	10,500	7.65 J
	10/01/2007	32	29	9,150	7.83 J
MW-36-20	10/03/2007	ND (1.0)	ND (1.0)	23,500	---
MW-36-40	10/03/2007	ND (1.0)	ND (1.0)	8,390	---
MW-36-50	10/10/2007	ND (0.2)	2	3,360	7.88 J
MW-36-70	03/07/2007	ND (0.2)	ND (1.0)	2,780	7.93
	05/01/2007	ND (0.2)	ND (1.0)	2,210	8.02 J
	10/09/2007	ND (0.2)	ND (1.0)	1,520	8.29 J
MW-36-90	01/10/2007	6	10	---	---
	02/05/2007	5	5	---	---
	03/07/2007	3	4	7,060	7.54
	04/03/2007	3	3	---	---
	05/02/2007	2	2	6,080	7.54 J
	05/02/2007 FD	2	2	6,170	7.43 J
	06/12/2007	3	3	---	---
	07/12/2007	3	3	---	---
	08/07/2007	3	4	---	---
	09/06/2007	3	4	---	---
	10/09/2007	3	3	3,210	7.84 J
MW-36-100	01/10/2007	571	554	---	---
	02/05/2007	538	474	---	---
	03/08/2007	436	454	14,100	7.33
	04/02/2007	366	378	---	---
	05/02/2007	297	348	13,500	7.25 J
	06/14/2007	181	192	---	---
	07/12/2007	180	219	---	---
	08/07/2007	159 J	187	---	---

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-36-100	09/06/2007	157	184	---	---
	10/10/2007	228	196	12,500	7.27 J
MW-37D	03/07/2007	1,420	1,310	14,700	7.84
	05/03/2007	1,350	1,260	14,400	7.56 J
	10/04/2007	834	794	13,600	7.78 J
MW-37S	03/07/2007	8	9	4,640	7.86
	10/04/2007	8	8	4,470	7.89 J
	10/04/2007 FD	8	7	4,530	7.91 J
MW-39-40	03/05/2007	ND (1.0)	ND (1.0)	9,480	7.43
	05/03/2007	ND (1.0) J	ND (1.0)	9,490	7.26 J
	10/08/2007	ND (1.0)	ND (1.0)	10,800	7.18 J
MW-39-50	10/08/2007	ND (0.2)	ND (1.0)	3,660	7.98 J
MW-39-60	10/08/2007	ND (0.2)	ND (1.0)	4,550	7.72 J
MW-39-70	03/05/2007	35	37	8,250	7.31
	05/03/2007	10 R	10	6,920	7.42 J
	06/07/2007	5	4 LF	---	---
	10/08/2007	6	6	5,420	7.56 J
MW-39-80	01/10/2007	302	292	---	---
	02/08/2007	286	247	---	---
	03/05/2007	151	144	13,300	7.10
	04/04/2007	112	126	---	---
	05/03/2007	156	146	12,400	7.27 J
	06/12/2007	84	73	---	---
	07/12/2007	63	56	---	---
	08/08/2007	43	45	---	---
	09/06/2007	65	66	---	---
	10/08/2007	59	48	11,800	7.24 J
MW-39-100	01/10/2007	2,930	2,560	---	---
	02/08/2007	2,880	2,400	---	---
	03/12/2007	2,850	2,770	18,700	7.20
	04/04/2007	3,190	2,990	---	---
	05/03/2007	2,670	2,920	18,600	7.20 J
	06/13/2007	2,530	2,730	---	---
	07/12/2007	2,020	2,430	---	---
	08/07/2007	1,830	1,780	---	---
	09/07/2007	1,660	1,690	---	---
	10/10/2007	1,660	1,840	18,600	7.07 J
MW-40D	03/09/2007	104	92	15,300	7.68
	05/04/2007	78	80	15,300	7.60 J
	10/04/2007	112	104	14,600	7.44 J
MW-40S	10/04/2007	6	7	2,040	7.80 J
MW-41D	03/07/2007	ND (1.0)	ND (1.0)	20,800	7.86
	03/07/2007 FD	ND (1.0)	ND (1.0)	20,700	7.84
	10/03/2007	ND (1.0)	1	20,000	---
MW-41M	03/08/2007	10	12 LF	14,500	7.76

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-41M	10/03/2007	11	9	14,100	---
MW-41S	03/08/2007	20	21	4,710	7.96
	10/03/2007	20	18	4,650	---
	10/03/2007 FD	20	18	4,580	---
MW-42-30	03/07/2007	ND (0.2)	ND (1.0)	13,300	7.38
	10/04/2007	ND (1.0)	ND (1.0)	20,600	7.17 J
MW-42-55	03/07/2007	ND (0.2)	ND (1.0)	15,000	7.35
	03/07/2007 FD	ND (0.2)	ND (1.0)	15,200	7.35
	05/01/2007	ND (1.0)	ND (1.0)	15,400	7.33 J
	10/04/2007	ND (1.0)	ND (1.0)	13,900	7.30 J
	12/11/2007	ND (1.0)	ND (1.0)	14,600	---
MW-42-65	03/07/2007	ND (0.2)	ND (1.0)	17,500	7.06
	05/01/2007	ND (1.0)	ND (1.0)	16,300	7.10 J
	10/03/2007	ND (1.0)	ND (1.0)	14,400	---
	12/11/2007	ND (1.0)	ND (1.0)	15,900	---
MW-43-25	03/06/2007	ND (0.2)	ND (1.0)	1,250	7.55
	10/02/2007	ND (1.0)	ND (1.0)	1,210	7.46 J
MW-43-75	03/06/2007	ND (1.0)	ND (1.0)	13,800	7.47
	04/30/2007	ND (1.0)	ND (1.0)	13,600	7.46 J
	10/02/2007	ND (1.0)	ND (1.0)	13,400	7.53 J
MW-43-90	03/06/2007	ND (1.0)	ND (1.0)	19,700	6.99
	04/30/2007	ND (1.0)	ND (1.0)	19,800	6.99 J
	10/02/2007	ND (1.0)	ND (1.0)	18,200	6.93 J
MW-44-70	03/09/2007	ND (1.0)	ND (1.0)	6,320	7.50
	05/03/2007	ND (0.2)	ND (1.0)	5,890	7.38 J
	10/04/2007	ND (0.2)	ND (1.0)	4,790	7.65 J
	12/11/2007	ND (0.2)	ND (1.0)	4,430	---
MW-44-115	01/09/2007	1,140	1,260	---	---
	02/06/2007	1,140	1,020	---	---
	03/09/2007	1,210	1,340 LF	13,000	7.79
	03/09/2007 FD	1,200	1,340	13,000	7.81
	04/02/2007	1,210	1,420	---	---
	05/04/2007	1,080	1,190	13,200	7.81 J
	06/14/2007	1,030	1,110	---	---
	07/10/2007	919	1,060	---	---
	08/06/2007	834	924	---	---
	09/05/2007	872	850	---	---
	10/04/2007	763	866	12,300	7.95 J
	10/04/2007 FD	783	830	12,200	7.83 J
	11/13/2007	766	890	---	---
MW-44-125	11/13/2007 FD	767	884	---	---
	12/11/2007	736	766	13,100	---
	01/09/2007	285	285	---	---
MW-44-125	01/09/2007 FD	284	268	---	---
	02/06/2007	213	190	---	---
	03/09/2007	258	287	12,300	7.85

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-44-125	04/03/2007	296	272	---	---
	05/03/2007	254	315	11,700	7.54 J
	05/03/2007 FD	300	309	12,200	7.87 J
	06/14/2007	229	258	---	---
	07/11/2007	252	283	---	---
	08/07/2007	278	251	---	---
	09/04/2007	255	253	---	---
	10/04/2007	314	347	11,900	7.85 J
	11/12/2007	318	330	---	---
	12/11/2007	359	311	13,600	---
MW-45-095a	05/04/2007	169	140	10,100	7.57 J
MW-46-175	01/10/2007	138	133	---	---
	02/08/2007	130	108	---	---
	03/08/2007	153	147	16,200	8.47
	04/03/2007	113	96	---	---
	05/04/2007	86	114	16,100	8.35 J
	06/14/2007	101	109	---	---
	07/13/2007	103	101	---	---
	08/06/2007	94	99	---	---
	09/04/2007	88	95	---	---
	10/05/2007	100	87	15,500	8.45 J
	11/13/2007	104	95	---	---
	12/13/2007	123	128	15,800	---
MW-46-205	03/08/2007	4	5	19,900	8.32
	05/04/2007	4	3	20,400	7.49 J
	10/05/2007	4	5	18,900	8.32 J
	12/14/2007	4	4	19,100	---
MW-47-55	03/06/2007	55	53	3,610	7.70
	05/04/2007	30	32	3,990	7.64 J
	10/04/2007	62	59	3,660	7.79 J
	12/12/2007	152	134	3,720	---
MW-47-115	03/06/2007	11	11	12,500	7.77
	05/04/2007	14	13	12,700	7.68 J
	10/04/2007	12	12	12,200	7.69 J
	12/12/2007	10	11	13,200	---
	12/12/2007 FD	11	11	13,000	---
MW-48	03/07/2007	ND (1.0)	ND (1.0) LF	17,400	7.89
	05/01/2007	ND (1.0)	1	17,900	7.37 J
	10/04/2007	ND (1.0)	ND (1.0)	16,500	7.30 J
	12/14/2007	ND (1.0)	1	16,400	---
MW-49-135	03/09/2007	ND (1.0)	ND (1.0)	13,500	7.67
	05/04/2007	ND (0.2)	ND (1.0)	13,400	7.83 J
	10/10/2007	ND (1.0)	3	12,300	7.81 J
MW-49-275	03/09/2007	ND (1.0)	ND (1.0)	23,700	8.10
	05/04/2007	ND (0.2)	ND (1.0)	23,400	8.05 J
	10/09/2007	ND (1.0)	ND (1.0)	22,200	8.20 J

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Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-49-365	03/09/2007	ND (2.0)	ND (1.0)	36,100	7.98
	05/04/2007	ND (0.2)	ND (1.0)	36,900	7.91 J
	10/09/2007	ND (2.0)	ND (1.0)	34,200	8.08 J
MW-50-095	03/07/2007	274	372	4,770	7.98
	05/02/2007	304	264	4,810	7.87 J
	10/04/2007	217	216	4,660	8.06 J
	12/11/2007	173	163	4,910	---
MW-50-200	03/07/2007	12,300	14,600	20,700	7.92
	04/30/2007	10,900	12,100	20,300	7.83 J
	10/04/2007	9,430	9,780	18,800	7.37 J
	12/11/2007	8,930	9,340	19,400	---
MW-51	03/06/2007	4,690	5,090	10,500	7.56
	05/01/2007	4,670	5,120	11,100	7.52 J
	10/05/2007	4,500	4,340	10,100	7.59 J
MW-52D	03/13/2007	ND (1.0)	ND (1.0)	---	---
	05/01/2007	ND (1.0)	ND (1.0)	---	---
	06/05/2007	ND (1.0)	ND (1.0)	20,700	8.03 J
	07/12/2007	ND (1.0)	ND (1.0)	20,600	7.44 J
	08/08/2007	ND (1.0)	ND (1.0)	20,500	7.96 J
	09/05/2007	ND (1.0)	ND (1.0)	19,200	7.98 J
	10/11/2007	ND (1.0)	ND (1.0)	19,700	8.02 J
	12/17/2007	ND (1.0)	ND (1.0)	19,500	---
MW-52M	03/13/2007	ND (1.0)	ND (1.0)	---	---
	05/01/2007	ND (1.0)	ND (1.0)	---	---
	06/05/2007	ND (1.0)	ND (1.0)	16,100	7.94 J
	07/12/2007	ND (1.0)	ND (1.0)	15,900	7.77 J
	08/08/2007	ND (1.0)	ND (1.0)	16,400	7.94 J
	08/08/2007 FD	ND (1.0)	ND (1.0)	16,100	7.86 J
	09/05/2007	ND (1.0)	ND (1.0)	15,100	7.93 J
	10/11/2007	ND (1.0)	ND (1.0)	15,800	8.01 J
	12/17/2007	ND (1.0)	ND (1.0)	15,400	---
MW-52S	03/13/2007	ND (1.0)	ND (1.0)	---	---
	05/01/2007	ND (1.0)	ND (1.0)	---	---
	06/05/2007	ND (1.0)	ND (1.0)	10,600	7.40 J
	07/12/2007	ND (1.0)	ND (1.0)	11,600	7.48 J
	08/08/2007	ND (1.0)	ND (1.0)	11,600	7.65 J
	09/05/2007	ND (1.0)	ND (1.0)	10,800	7.45 J
	10/11/2007	ND (1.0)	ND (1.0)	11,000	7.50 J
	12/17/2007	ND (1.0)	ND (1.0)	10,700	---
MW-53D	04/03/2007	ND (1.0)	ND (1.0)	---	---
	05/02/2007	ND (1.0)	1	---	---
	06/05/2007	ND (1.0)	ND (1.0)	26,100	8.91 J
	06/05/2007 FD	ND (1.0)	ND (1.0)	23,100	8.85 J
	07/12/2007	ND (1.0)	ND (1.0)	25,500	8.79 J
	08/08/2007	ND (1.0)	ND (1.0)	25,700	8.98 J
	09/05/2007	ND (1.0)	ND (1.0)	23,500	8.56 J

ATTACHMENT 3

Groundwater COPC Sampling Results, January through December 2007
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
MW-53D	09/05/2007	ND (1.0)	ND (1.0)	24,200	8.67 J
	10/11/2007	ND (2.0)	2 J	24,300	8.79 J
	10/11/2007	ND (1.0)	ND (1.0) J	24,800	8.85 J
	12/17/2007	ND (1.0)	ND (1.0)	24,300	---
MW-53M	04/03/2007	ND (1.0)	ND (1.0)	---	---
	05/01/2007	ND (1.0)	ND (1.0)	---	---
	06/05/2007	ND (1.0)	ND (1.0)	14,400	8.71 J
	07/12/2007	ND (1.0)	ND (1.0)	15,400	8.52 J
	08/08/2007	ND (1.0)	ND (1.0)	16,200	8.50 J
	09/05/2007	ND (1.0)	ND (1.0)	15,500	8.48 J
	10/11/2007	ND (1.0)	ND (1.0)	16,900	8.57 J
	12/17/2007	ND (1.0)	ND (1.0)	16,900	---
OW-3D	03/09/2007	3	3	7,680	8.18
	10/03/2007	4	4	7,710	---
OW-3M	03/09/2007	18	17	5,100	8.07
	10/03/2007	17 J	19	4,980	---
OW-3S	03/09/2007	23	22	1,730	7.71
	10/03/2007	22	22	1,690	---
PE-1	12/06/2006	97	86	10,000	7.48
	01/10/2007	89	103	8,410	7.75
	02/06/2007	81	90	8,390	7.49
	03/07/2007	85	91	8,360	7.52
	06/13/2007	52	48	7,650	7.52 J
	07/11/2007	47	40	7,450	7.55 J
	08/08/2007	51	61	7,290	7.59 J
	09/05/2007	49	49	6,590	7.55 J
	10/03/2007	53	45	6,550	7.53 J
	11/13/2007	50	52	6,450	7.62 J
	12/12/2007	47	55	7,120	7.65 J
PGE-7BR	12/19/2007	ND (1.0)	ND (1.0) LF	---	---
PGE-8	08/11/2007	ND (1.0)	ND (1.0)	18,000	8.46 J
Park Moabi-3	05/02/2007	0.90	1 UF	1,890	7.82 J
	10/04/2007	ND (1.0)	ND (1.0) UF	1,920	7.93 J
Park Moabi-4	05/02/2007	ND (0.2)	ND (1.0) UF	1,530	7.99 J
	10/04/2007	21	24 UF	1,720	8.14 J
	11/13/2007	13	22 UF	1,470	8.01 J
TW-1	10/11/2007	4,610	4,220	6,200	7.54 J
TW-2D	10/04/2007	210	228	7,350	7.40 J
TW-2S	10/04/2007	1,250	1,220	2,380	7.93 J
TW-3D	12/06/2006	2,500	2,090	10,000	7.38
	01/10/2007	2,440	2,580	8,670	7.34
	02/06/2007	2,400	2,310	8,610	7.30
	03/07/2007	2,420	2,500	8,740	7.37
	06/13/2007	2,000	2,350	8,670	7.32 J
	07/11/2007	2,000	2,390	8,750	7.37 J

ATTACHMENT 3

Groundwater COPC Sampling Results, January through December 2007
PG&E Topock Groundwater and Surface Water Monitoring Program

Well ID	Sample Date	Hexavalent Chromium ($\mu\text{g/L}$)	Dissolved Total Chromium ($\mu\text{g/L}$)	Specific Conductance ($\mu\text{S/cm}$)	pH
TW-3D	08/08/2007	1,930	1,800	8,660	7.28 J
	09/05/2007	2,260	2,110	7,750	7.28 J
	10/03/2007	2,000	1,860	8,200	7.29 J
	11/13/2007	1,790	1,570	8,080	7.39 J
	12/12/2007	1,800	2,040	8,930	7.44 J
TW-4	03/07/2007	35	31	20,700	7.85
	03/07/2007 FD	36	37	20,800	7.77
	10/03/2007	33	32	19,400	---
	10/03/2007 FD	34	33	19,600	---
	12/12/2007	26	23	19,600	---
TW-5	10/04/2007	7	8	12,200	7.91 J

Notes:

- $\mu\text{g/L}$ micrograms per liter
- $\mu\text{S/cm}$ microSiemens per centimeter
- ND not detected at listed reporting limit
- J concentration or reporting limit estimated by laboratory or data validation
- R result exceeded analytical criteria for precision and accuracy; should not be used for project decision-making
- (--) not collected or not available
- FD field duplicate sample
- LF lab filtered
- UF unfiltered

Hexavalent chromium analysis methods: SW 7196A (reporting limit 10 $\mu\text{g/L}$) and SW 7199 (reporting limit 0.2 $\mu\text{g/L}$ for undiluted samples).

Other analysis methods: dissolved total chromium (Methods SW 6020A and SW 6010B), specific conductance (SW 9050), pH (SW 9040).

Wells TW-3D and PE-1 are active extraction wells for the IM hydraulic containment system.

Monitoring well MW-39-70 was resampled on June 7, 2007 due to the rejected hexavalent chromium sample collected on May 3, 2007.

The March, April and May 2007 results for slant wells MW-52 and MW-53 are from initial groundwater sampling events.

Attachment 4

Groundwater Sampling and Chain-of-Custody

Forms

(Data included on enclosed CD)

Topock Sampling Log

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

Odor: none, sulphur, organic, other

Solids: Trace Small Oil Med Oil Large Oil Particulates Silts Sand

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3	
Job Number	370367.MP.02.GM.04	Date	10/17/08	
Field Team	1	Field Conditions	Sunny/light breeze, 84°F	
Well/Sample Number	MW-12-148	QC Sample ID	MW-90-148	
Purge Start Time	1209	Purge Method	Tarp Pump	
Flow Cell (Y/N)	N	Min. Purge Volume (gal)/(L)	43.5 gal/l	
Water Level	Time	Vol. Purged gallons / liters	pH	
			Conductivity mS/cm	
			Turbidity NTU	
			Diss. Oxygen mg/L	
			Temp. °C	
			Salinity ‰	
			TDS g/L	
			Eh/ORP mv	
			Comments (See description below)	
28.59	1211	6	8.11	
28.61	1214	15	8.12	
28.62	1217	24	8.12	
28.62	1220	33	8.13	
28.62	1223	42	8.11	
28.62	1224	45	8.13	
28.62	1226	51	8.13	
	1231	end purge/pump off		
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	
Did Parameters Stabilize prior to sampling?	Y	Y	Y	
Previous Field measurement (5/5/2008)	8.19	6780	3	
Are measurements consistent with previous?	Y	Y	N	
Sample Time	1221	Sample Location:	pump tubing	
Comments:		well port	spigot	
Initial Depth to Water (ft BTOC):	28.41	Measure Point:	Well TOC	
Field measured confirmation of Well Depth (ft btoc):		Steel Casing	WATER LEVEL METER SERIAL NUMBER:	
WD (Well Depth - from database) ft btoc	(50.400000)		If Transducer	
SWH (Standing Water Height) = WD-Initial Depth	21.98	Initial DTW	Approx. 5 min After Reinstillation	
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (4 in)	(4 in)	Time	Final DTW	
One Casing Volume = D*SWH	14.5	1203	1240	
Three Casing Volumes =	43.5		28.44	

Initial DTW / Before Removal	Initial DTW	Time	Final DTW

Measure Point: Well TOC
Steel Casing

WATER LEVEL METER SERIAL NUMBER:

If Transducer

Initial DTW / Before Removal	Initial DTW	Time	Final DTW

Solids Trace: Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand
Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/21/08								
Field Team	1	Field Conditions	Sunny, 99°F/100°F breeze								
Well/Sample Number	MW-13-148	QC Sample ID	NA								
Purge Start Time	12:25	Purge Method	C Pump								
Flow Cell Y/N		Min. Purge Volume (gal)/(L)	39.94 /Purge Rate (gpm)/(ml/min)								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
32.64	12:26	42	7.05	2.098	31	5.56	28.28			14.4	
32.64	12:29	8	7.13	2.097	9	4.97	28.24			41.2	
32.64	12:32	14	7.08	2.094	7	4.84	28.25			54.0	
32.64	12:35	20	7.06	2.074	7	4.83	28.25			66.3	
32.64	12:38	26	7.05	2.070	8	4.86	28.22			63.8	
32.64	12:41	32	7.00	2.072	4	4.87	28.22			61.7	
32.64	12:45	40	7.00	2.071	5	4.85	28.20			61.9	
	12:49	Pump off									
		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?											
Previous Field measurement (11/15/2007) 7.45											
Are measurements consistent with previous?											
Sample Time	12:47	Sample Location:	pump tubing	✓	well port	spigot	bailer	other			
Comments:											
Initial Depth to Water (ft BTOC):	22.55	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:						
Field measured confirmation of Well Depth (ft btoc):											
WD (Well Depth - from database) ft btoc	(52)										
SWH (Standing Water Height) = WD-Initial Depth	19.45	Initial DTW		Approx. 5 min After Reinstillation							
D (Volume as per diameter) $2^2 = 0.1$, $4^2 = 0.66$	(4 in)	Time	Initial DTW	Time	Final DTW						
One Casing Volume = D ² SWH	12.00										
Three Casing Volumes =	3.85										
Color:	Clear, grey, yellow, brown, black, cloudy, green	Odor:	none, sulphur, organic, other	Solids:	Frace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand						

Topock Sampling Log

Project Name	PGE Topock GMP		Sampling Event	2008-GMP-148-Q3							
Job Number	370367.MP.02.GM.04		Date	10/3/08							
Field Team	1	Field Conditions	<i>Overcast, 78°F, calm</i>								
Well/Sample Number	MW-16-148		QC Sample ID	NA							
Purge Start Time	08:05	Purge Method	<i>Trip Pump</i>	Ded. Pump							
Flow Cell	N	Min. Purge Volume (gal)/(L)	37 gal	Purge Rate (gpm)/(mlpm)	2 gpm						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
200.19	08:07	7	7.88	1.194	52	6.84	28.27	0.59	0.774	148.9	
200.19	08:10	8	7.89	1.191	35	6.79	29.87	0.59	0.774	154.0	
200.28	08:13	14	7.87	1.193	35	6.89	29.98	0.59	0.776	155.0	
200.32	08:16	20	7.86	1.193	41	6.99	29.97	0.59	0.775	155.3	
200.35	08:19	26	7.86	1.193	32	7.02	30.01	0.59	0.775	155.2	
200.35	08:22	32	7.85	1.192	33	7.02	30.03	0.59	0.774	154.8	
200.35	08:25	38	7.85	1.191	31	7.08	30.03	0.58	0.774	154.2	
	08:28	<i>end purge / pump off</i>									
		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?	Y		Y		Y	NA	Y	Y	Y		
Previous Field measurement (5/6/2008)	7.46		2390		1.72	8.51	30.8	1.22		-2.6	
Are measurements consistent with previous?	N		N		N	NA	N			N	
Sample Time	08:27	Sample Location:		pump tubing	spigot	well port		bailer	other		
Comments:											

Initial Depth to Water (ft BTOC):	199.7	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	
Field measured confirmation of Well Depth (ft btoc):		If Transducer				
WD (Well Depth - from database) ft btoc	(218.1499)	Initial DTW / Before Removal				
SWH (Standing Water Height) = WD-Initial Depth	19.45	Approx. 5 min After Reinstillation				
D (Volume as per diameter) 2" = 0.174 ft ² = 0.661" = 0.041 (4 in)		Time	Initial DTW	Final DTW	Time of Removal	
One Casing Volume = D*SWH	12.02				Time of Reinstallation	
Three Casing Volumes =	36.06					
Comments:						

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/21/08								
Field Team	1	Field Conditions	Partly overcast, 100°F, breezy								
Well/Sample Number	MW-17-148	QC Sample ID	NA								
Purge Start Time	1346	Purge Method	Ded. Pump CDPump								
Flow Cell Y/N		Min. Purge Volume (gal)/(L)	42 gal / Purge Rate (gpm)/(mlpm) 7								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mScm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
134.57	1347	7	7.13	1.842	154	6.06	25.99	.93	1,198	130.3	
134.9	21	7.14	1.863	44	1.85	39.86	0.94	1.215	-35.2	Stopped pump waited for water to recharge	
133.00	1356	30	7.40	1.869	31	1.74	29.47	0.94	1,216	-31.7	water to recharge
144.00	1357	37	7.39	1.863	28	1.73	29.29	0.94	1,211	-37.3	
134.23	1358	44	7.40	1.850	16	1.75	29.58	0.93	1,304	-37.4	Stopped pump waited for water to recharge
134.67	1408	Stopped pump on									Due to Dry Recharge/Dry Sample
137.98	1410										Pump off
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	
Previous Field measurement (5/5/2008)	7.52	1960	29	8.87	30.35	0.99					-33.2
Are measurements consistent with previous?	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	
Sample Time	1408	Sample Location:	pump tubing	✓ well port	spigot	—	bailer	—	other	—	Comments: _____
Initial Depth to Water (ft BTOPC):	132.37	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	_____					
Field measured confirmation of Well Depth (ft btoc):	—	If Transducer	KA								
WD (Well Depth - from database) ft btoc	(153.6199	Initial DTW / Before Removal									
SWH (Standing Water Height) = WD-Initial Depth	21.25	Approx. 5 min After Reinstillation									
D (Volume as per diameter) $2^{\prime \prime} = 0.174^{\prime \prime} = 0.66$ (4 in)	(4 in)	Time	Initial DTW	Time	Final DTW	Time of Removal	Time of Reinstallation				
One Casing Volume = D ² SWH	14										Comments: _____
Three Casing Volumes =	42										

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3					
Job Number	370367.MP.02.GM.04	Field Team	1	Field Conditions		Date	10/21/08				
Purge Start Time	14:56	Flow Cell	N	Page	1	of					
Well/Sample Number		MW-18-148		QC Sample ID		NA					
				Purge Method	<u>Gentle Pump</u> <th>Ded. Pump</th> <td>QC Sample Time</td>	Ded. Pump	QC Sample Time				
				Min. Purge Volume (gal)/(L)	<u>37.5gal</u>	Purge Rate (gpm)/(mlpm)	<u>2</u>				
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mScm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
88.23	14:57	2	6.94	1.540	113	7.35	29.72	0.76	0.993	126.6	
88.23	15:00	8	6.90	1.467	59	7.41	29.80	0.73	0.949	132.0	
88.24	15:03	14	6.89	1.426	28	7.44	29.73	0.71	0.925	137.9	
88.25	15:06	20	6.90	1.396	17	7.52	29.60	0.69	0.908	143.0	
88.25	15:09	26	6.91	1.370	14	7.38	29.53	0.69	0.904	147.4	
88.24	15:12	32	6.93	1.382	12	7.40	29.51	0.69	0.900	150.7	
88.24	15:15	38	6.92	1.383	12	7.39	29.48	0.69	0.898	150.4	
	15:19	<u>Pump off</u>									
		+/- 0.1 pH units	+/- 3% pH units	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Previous Field measurement (3/11/2008)		7.57	1370	11	6.57	28.95	0.068			52.9	
Are measurements consistent with previous?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Sample Time	15:17	Sample Location:	pump tubing	<input checked="" type="checkbox"/>	well port	spigot		bailer		other	
Comments:											
Initial Depth to Water (ft BTOPC):	<u>~8.12</u>										
Field measured confirmation of Well Depth (ft btoc):	<u>~8.12</u>										
WD (Well Depth - from database) ft btoc	(106.6800)										
SWH (Standing Water Height) = WD-Initial Depth	<u>18.56</u>										
D (Volume as per diameter) 2" = 0.17 (4" = 0.66) 1"=0.041 (4 in)	<u>12.2</u>										
One Casing Volume = D*SWH	<u>36.6</u>										
Three Casing Volumes =											
Color:	Clear, grey, yellow, brown, black, cloudy, green										
Odor:	none, sulphur, organic, other										

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

Topock Sampling Log

Project Name	PGE Topock GMP																	
Job Number	370367.MP.02.GM.04																	
Field Team	1 Field Conditions <u>Sunny, 96°F, light breeze</u>																	
Well/Sample Number	MW-20-130-148																	
Purge Start Time	<u>1430</u>																	
Flow Cell	<u>Y</u> N																	
QC Sample ID	NA																	
Purge Method	<u>Tripump</u> Pump																	
Min. Purge Volume (gal/L)	<u>167 gals</u>																	
Purge Rate (gpm)/(mL/µm)	<u>5</u>																	
Sampling Event	2008-GMP-148-Q3																	
Date	<u>10/8/08</u>																	
Page	<u>1</u> of _____																	
QC Sample Time																		
Ded. Pump																		
Purge Rate (gpm)/(mL/µm)																		
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)							
<u>52.32</u>	<u>1432</u>	<u>10</u>	<u>7.38</u>	<u>9.166</u>	<u>4</u>	<u>2.20</u>	<u>24.06</u>	<u>5.11</u>	<u>5.970</u>	<u>86.2</u>								
<u>53.45</u>	<u>1438</u>	<u>40</u>	<u>7.38</u>	<u>9.194</u>	<u>2</u>	<u>2.08</u>	<u>29.38</u>	<u>5.11</u>	<u>5.976</u>	<u>91.9</u>								
<u>53.35</u>	<u>1444</u>	<u>70</u>	<u>7.24</u>	<u>9.469</u>	<u>2</u>	<u>0.84</u>	<u>24.41</u>	<u>5.29</u>	<u>6.171</u>	<u>93.0</u>								
<u>53.15</u>	<u>1450</u>	<u>100</u>	<u>7.28</u>	<u>13.22</u>	<u>4</u>	<u>1.67</u>	<u>29.42</u>	<u>7.57</u>	<u>8.607</u>	<u>99.2</u>								
<u>53.21</u>	<u>1456</u>	<u>130</u>	<u>7.24</u>	<u>13.23</u>	<u>2</u>	<u>1.69</u>	<u>29.43</u>	<u>7.57</u>	<u>8.601</u>	<u>98.1</u>								
<u>53.22</u>	<u>1502</u>	<u>160</u>	<u>7.29</u>	<u>13.23</u>	<u>2</u>	<u>1.70</u>	<u>24.41</u>	<u>7.57</u>	<u>8.598</u>	<u>97.4</u>								
<u>53.22</u>	<u>1506</u>	<u>180</u>	<u>7.29</u>	<u>13.22</u>	<u>3</u>	<u>1.70</u>	<u>29.42</u>	<u>7.56</u>	<u>8.595</u>	<u>97.9</u>								
Parameter Stabilization Criteria	<u>+/- 0.1 pH units</u>										<u>+/- 3%</u>	<u>+/- 10% NTU units when >10 NTUs</u>	<u>+/- 0.3 mg/L</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>+/- 10 mV</u>	
Did Parameters Stabilize prior to sampling?	<u>Y</u>										<u>Y</u>	<u>Y</u>	<u>NA</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>		
Previous Field measurement (3/12/2008)	<u>7.42</u>										<u>8850</u>	<u>10</u>	<u>1.75</u>	<u>29.3</u>			<u>101.1</u>	
Are measurements consistent with previous?	<u>N</u>										<u>W</u>	<u>N</u>	<u>Y</u>	<u>NA</u>			<u>Y</u>	
Sample Time	<u>1548</u>	Sample Location:	<u>pump tubing ✓ well port</u>										<u>spigot</u>	<u>bailer</u>	<u>other</u>			
Comments:																		
Initial Depth to Water (ft BTOC):	<u>47.94</u>										Measure Point:	<u>Well TOC</u>	Steel Casing	WATER LEVEL METER SERIAL NUMBER:				
Field measured confirmation of Well Depth (ft bloc):																		
WD (Well Depth - from database) ft bloc	<u>(132.3399</u>										If Transducer	<u>Yes</u>						
SWH (Standing Water Height) = WD-Initial Depth	<u>84.35</u>										Initial DTW / Before Removal							
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (4 in)											Approx. 5 min After Reinstillation							
One Casing Volume = D*D*SWH	<u>55.7</u>										Time	<u>Initial DTW</u>	<u>Final DTW</u>					
Three Casing Volumes =	<u>167.6 gals</u>										<u>1421</u>	<u>47.94</u>	<u>49.8.15</u>	Time of Removal				
Color: clear, grey, yellow, brown, black, cloudy, green														Time of Reinstallation				
Odor: none, sulphur, organic, other																		

Initial Depth to Water (ft BTOC): 47.94
Field measured confirmation of Well Depth (ft bloc):
WD (Well Depth - from database) ft bloc (132.3399
SWH (Standing Water Height) = WD-Initial Depth 84.35
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (4 in)
One Casing Volume = D*D*SWH 55.7
Three Casing Volumes = 167.6 gals
Color: clear, grey, yellow, brown, black, cloudy, green
Odor: none, sulphur, organic, other

Initial DTW / Before Removal
Approx. 5 min After Reinstillation
Time
Initial DTW
Final DTW

If Transducer Yes
Time of Removal 1422
Time of Reinstallation 1511

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	9/10/08 / 10/2/08								
Field Team	1	Field Conditions	95°F, calm								
Well/Sample Number	MW-21-148	QC Sample ID	NA								
Purge Start Time	14:52:1457	Purge Method	Water pump - Dredge Pump								
Flow Cell (Y) / N		Min. Purge Volume (gal)/(L)	16.6								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
S1.16	14:59	15.50	6.55	16.70	15	2.34	33.01			85.5	
S3.40	15:04	3.0	6.67	16.29	14	0.55	30.60			-33.0	
S3.72	15:06	4.0	6.67	16.25	15	0.87	30.86			-20.3	
S3.95	15:08	5.0	6.68	16.25	15	0.78	31.20			-14.2	
S4.60	15:10	6.0	6.68	16.25	14	0.73	30.67			-9.5	
S5.05	15:12	7.0	6.68	16.25	14	0.64	31.18			-3.9	
S5.60	15:14	8.0	6.67	16.21	11	0.60	30.96			4.4	
S6.11	15:16	9.0	6.66	16.22	8	0.56	30.89			11.2	DRY
S6.42	15:17	stop purge / stop pump	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L					
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?											
Previous Field measurement (5/6/2008)	6.76	15080		12		0.68	28.38	0.74			
Are measurements consistent with previous?											
Sample Time		Sample Location:	pump tubing	well port	spigot						
Comments:	Purged DRY - Will Sample 11/2/08			bailer							
Initial Depth to Water (ft BTOP):		1011	50.05	1012	54.55	Measure Point: Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:			
Field measured confirmation of Well Depth (ft btoc):											
WD (Well Depth - from database) ft btoc	(58.45000)										
SWH (Standing Water Height) = WD-Initial Depth		8.4									
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (4 in)											
One Casing Volume = D*SWH	5.5"										
Three Casing Volumes =	16.6										

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP
Job Number	370367.MP02.GM04
Field Team	1

Purge Start Time	0922
Flow Cell	N

Well/Sample Number	MW-22-148
Purge Method	Peristaltic Pump

Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
7.81	0925	0.5	6.52	36.0	23.0	0.00	29.16	229	23	-139	
8.15	0928	1.0	6.54	36.0	25.1	0.00	28.99	230	23	-149	
8.33	0930	1.5	6.63	36.1	22.4	0.00	28.83	230	23	-150	
8.49	0932	2.0	6.63	36.1	19.0	0.00	28.88	230	23	-151	
8.50	0934	2.5	6.64	36.2	19.3	0.00	28.78	231	24	-151	
8.79	0936	3.0	6.66	36.5	27.1	0.00	28.67	233	24	-151	
8.82	0939	3.5	6.67	36.7	30.9	0.00	28.64	234	24	-151	
9.03	0941	4.0	6.68	36.8	32.4	0.00	28.66	235	24	-151	
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L						+/- 10 mV
Did Parameters Stabilize prior to sampling?											
Previous Field measurement	(3/11/2008)	6.66	30750	25	2.29	21.38					-93.5
Are measurements consistent with previous?											

Initial Depth to Water (ft BTOP):	5.40	Sample Location:	pump tubing	well port	spigot	baller	other
Comments:	Well chanduan did not reach stabilization, however, water quality parameters did. Well required to 80% prior to sample.						
Initial Depth to Water (ft BTOP):	5.40	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	12511	

Field measured confirmation of Well Depth (ft btoc):	Initial DTW / Before Removal		Approx. 5 min After Reinstillation		Time of Removal	Final DTW	Time of Reinstallation
	WD (Well Depth - from database) ft btoc	Initial DTW	Time	Final DTW			
SWH (Standing Water Height) = WD-Initial Depth	5.40	5.40			NA	NA	NA
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 6" = 0.041 (2 in) 0.17	1.155	1.155					
One Casing Volume = D*SWH	3.3	3.3					

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

ARCADIS

Groundwater Sampling Form

Project Number:	<u>RC000689.0004.</u>	Task:	<u>00008</u>	Well ID:	<u>MW-24A</u>
Date:	<u>10- 16 -08</u>	Sampled By:	<u>MG</u>		
Weather:	<u>Windy</u>	Recorded By:	<u>J.A</u>		
		Coded Duplicate No.:	<u>-</u>		

Instrument Identification

PID	Water Quality Meter(s)
Model	151556
Serial #:	06F1362 AS

Purging Information

Casing Material:	DUC
Casing Diameter:	4"
Total Depth:	124'
Depth to Water:	111.11
Water Column:	17.46g
Gallons/Foot:	165
Gallons in Well:	58.4

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer Submersible
Screen Interval: From: 104' To: 124'
Pump Intake Setting: 2 gpm
Volumes to be Purged: 3 large volumes
Total Volume Purged: 26 gal
Pump on: 08:35 Off: 09:10

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

Field Parameter Measurements Taken During Purging

Observations During Sampling

Well Condition: Good
Color: Brown
Odor: Strong

Purge Water Disposal: Tank 1c
Turbidity(qualitative): Clear
Other (OVA, HNU,etc.): —

Sample ID: MW-24A
Samples Analyzed For: See the COC

Sample Date & Time: 10-16-08, 0916

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3					
Job Number	370367.MP.02.GM.04	Date	10-1-08					
Field Team	1	Field Conditions	Sunny, Breezy					
Well/Sample Number	MW-24BR-148	QC Sample ID	NA					
Purge Start Time	1517 (10-1) off at 1552	Purge Method	2" (G.F.)					
Flow Cell: Y / N	on (10-1)	Min. Purge Volume (gal)/(L)	220					
Water Level	10-1 (10-2)	Vol. Purged	gallons / liters					
		pH	Conductivity mS/cm					
		Turbidity NTU	Diss. Oxygen mg/L					
		Temp. °C	Salinity %					
		TDS g/L	Eh/ORP mv					
		(See description below)						
138.50	1522 25	8.07	14795 2	0.35	30.42	-	-	-252.8
148.45	1527 50	8.06	14788 3	0.23	30.57	-	-	-287.0
163.50	1532 75	8.08	14775 1	0.21	30.65	-	-	-304.5
177.30	1537 100	8.08	14742 2	0.20	30.78	-	-	-313.3
186.75	1542 125	8.07	14732 1	0.20	30.99	-	-	-315.3
199	1547 150	8.04	14750 1	0.19	31.02	-	-	-320.1
209	1552 175	8.01	14746 1	0.17	31.20	-	-	-320.6
151.5	1456 (10-2) 200	8.05	14888 1	0.84	30.66	-	-	-56.8
170.0	1501 (10-2) 225	8.06	14857 1	0.32	30.62	859	9,679	-93.0
210.0	1506 (10-2) 250	8.01	14876 1	+/- 10% NTU +/- 3% pH units	+/- 0.3 units when >10 NTUs	NA	NA	+/- 10 mV
Parameter Stabilization Criteria								
Did Parameters Stabilize prior to sampling?	Yes	✓	✓	No	NA	—	No	DO + ORP not stable,
Previous Field measurement	(5/7/2008)	7.96	16460	10	0.12	34.78	9.52	well running dry
Are measurements consistent with previous?						NA		go sample collected.
Sample Time	1510	Sample Location:	pump tubing X	well port	spigot	bailer	other	full well volume
Comments:	10-1 (Purge off at 1552 to allow well to recharge). Back on well 10-2 at 1450 Purge off 10-2 at 1515							

Initial Depth to Water (ft BTOC): 10-7.30

Field measured confirmation of Well Depth (ft btoc):

WD (Well Depth - from database) ft btoc (441) 33.77

SWH (Standing Water Height) = WD-Initial Depth 33.77

D (Volume as per diameter) $2^2 = 0.17, 4^2 = 0.36, 1^2 = 0.041$ (4 in) 2.20

One Casing Volume = D²SWH 1450

Three Casing Volumes =

Initial DTW / Before Removal Approx. 5 min After Reinstillation Time of Removal

Measure Point: Well TOC Steel Casing WATER LEVEL METER SERIAL NUMBER: 119.10 (Initial on 10-1) 1520 (Initial on 10-2)

Comments: 119.10 (Initial on 10-2) 1520 (Initial on 10-2)

If Transducer

Initial DTW	Initial DTW	Final DTW	Time of Reinstillation
1505	107.70	(Initial on 10-1)	1515 (10-2)

odor: none, sulphur, organic, other (10-2) Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

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

10-2-08 Daily Equipment Collect 1536 → 1536

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Topock Sampling Log

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3	
Job Number	370367.MP.02.GM.04	Date	10-3-08		Page	1 of 1	
Field Team	1	Field Conditions	PT cloudy 87°		QC Sample Time		
Well/Sample Number		MW-27-085-148		QC Sample ID	NA		
Purge Start Time	11:17	Purge Method	Rot. fl.	Ded. Pump	NO		
Flow Cell:	Y	Min. Purge Volume (gal)/(L)	3.8	Purge Rate (gpm)/(mLpm)	2		
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C
7.39	11:20	6	7.18	16100	1	0.23	18.96
7.39	11:23	12	7.12	16070	2	0.16	19.40
7.39	11:26	18	7.09	16211	1	0.16	20.04
7.39	11:29	24	7.08	16291	1	0.16	20.24
7.39	11:32	30	7.07	16340	1	0.19	20.45
7.39	11:35	36	7.07	16314	1	0.18	20.15
7.39	11:38	42	7.07	16327	1	0.18	20.26
7.39	11:41	48	7.07	16341	1	0.18	20.20
							10.61
							6.6
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3% units	+/- 10% NTU when >10 NTUs	+/- 0.3 mg/L	NA	NA
Did Parameters Stabilize prior to sampling?						NA	NA
Previous Field measurement	(5/6/2008)	6.95	18720	0.46	0.42	20.78	1.113
Are measurements consistent with previous?						NA	15.8
Sample Time	11:43	Sample Location:	E8	pump tubing	well port	spigot	bailer
Comments:	collected at 11:10						

Initial Depth to Water (ft BTOC):	6.55	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	12245
Field measured confirmation of Well Depth (ft btoc):		Approx. 5 min After Removal			If Transducer	
WD (Well Depth - from database) ft btoc	(80)	Initial DTW / Before Removal			Time of Removal	
SWH (Standing Water Height) = WD-Initial Depth	23.45	Initial DTW			Final DTW	
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (2 in)		Time			Time of Reinstalation	
One Casing Volume = D*SWH	12.48	1108	6.55	1152	6.55	Comments:
Three Casing Volumes =	37.45					

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3
Job Number	370367.MP.02.GM.04	Date	10-8-08
Field Team	1	Field Conditions	Surge/Warm 90°
Well/Sample Number	MW-28-025-148	QC Sample ID	NA
Purge Start Time	0922	Purge Method	Red. F1. II
Flow Cell	N	Min. Purge Volume (Gal/L)	5
Water Level	Time	Vol. Purged gallons / liters	pH
			Conductivity mS/cm
12.60	0923	1	7.69
12.60	0924	2	7.68
12.60	0925	3	7.68
12.60	0926	4	7.68
12.60	0927	5	7.68
12.60	0928	6	7.68
12.60	0929	7	7.68
			Turbidity NTU
12.60	0923	1	1252
12.60	0924	2	1249
12.60	0925	3	1249
12.60	0926	4	1247
12.60	0927	5	1246
12.60	0928	6	1245
12.60	0929	7	1245
			Diss. Oxygen mg/L
12.60	0923	1	0.34
12.60	0924	2	0.27
12.60	0925	3	0.19
12.60	0926	4	0.19
12.60	0927	5	0.19
12.60	0928	6	0.19
12.60	0929	7	0.19
			Temp. °C
12.60	0923	1	22.32
12.60	0924	2	22.36
12.60	0925	3	22.38
12.60	0926	4	22.41
12.60	0927	5	22.43
12.60	0928	6	22.44
12.60	0929	7	22.45
			Salinity %
12.60	0923	1	0.62
12.60	0924	2	0.62
12.60	0925	3	0.62
12.60	0926	4	0.62
12.60	0927	5	0.62
12.60	0928	6	0.62
12.60	0929	7	0.62
			TDS g/L
12.60	0923	1	0.813
12.60	0924	2	0.812
12.60	0925	3	0.812
12.60	0926	4	0.811
12.60	0927	5	0.811
12.60	0928	6	0.810
12.60	0929	7	0.810
			Eh/ORP mv
12.60	0923	1	30.8
12.60	0924	2	30.8
12.60	0925	3	30.8
12.60	0926	4	30.8
12.60	0927	5	30.8
12.60	0928	6	30.8
12.60	0929	7	30.8
			Comments (See description below)

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/01/08								
Field Team	1	Field Conditions	Scum, Breezy, 87°F								
Well/Sample Number	MW-31-135-148	QC Sample ID	NA								
Purge Start Time	11:44	Purge Method	Trip Pump								
Flow Cell	① N	Min. Purge Volume (gal)/(L)	4(6.5)								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
44.62	11:46	4	7.35	9.590	21	0.41	29.45	5.35	6.239	133.5	
44.70	11:50	12	7.42	9.603	6	0.26	29.60	5.36	6.243	122.5	
44.70	11:54	20	7.50	10.63	11	0.46	29.65	6.02	6.968	114.9	
44.71	11:58	28	7.54	11.25	7	0.46	29.74	6.36	6.997	108.0	
44.71	12:02	36	7.55	11.24	8	0.45	29.74	6.46	7.013	101.1	
44.72	12:06	44	7.50	11.25	7	0.44	29.81	6.49	7.068	102.7	
44.72	12:10	52	7.52	11.25	7	0.43	29.82	6.51	7.089	103.3	
	12:15	Pump off									
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L		NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y		NA	Y	Y	Y		
Previous Field measurement (11/14/2007)	7.77	10900	5.2	0.5		28.64	0.615			-131.2	
Are measurements consistent with previous?	N	U	Y	Y		NA	N		N		
Sample Time	12:12	Sample Location:	pump tubing ✓	well port	spigot	bailer	other				
Comments:											
Initial Depth to Water (ft BTOC):	44.05		Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:					
Field measured confirmation of Well Depth (ft bloc):			If Transducer								
WD (Well Depth - from database) ft bloc	(135.4499		Initial DTW / Before Removal	Approx. 5 min After Reinstallation		Time of Removal	Final DTW		Time of Reinstallation		
SWH (Standing Water Height) = WD-Initial Depth	91.4		Time	Initial DTW	Time						
D (Volume as per diameter) $2^2 = 0.17$, $4^2 = 0.66$, $1^2 = 0.041$ (2 in)			1136	44.05	1222						
One Casing Volume = D*SWH	15.5										
Three Casing Volumes =	46.5 gal/s										
Color:	clear, grey, yellow, brown, black, cloudy, green										
Odor:	none, sulphur, organic, other										
Solids:	Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand										

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3						
Job Number		370367.MP.02.GM.04		Date		10-3-08						
Field Team		1		Field Conditions		Cloudy, Breezy, 93						
Well/Sample Number		MW-32-020-148		QC Sample ID		NA						
Purge Start Time		12:22		Purge Method		—						
Flow Cell Y/N				Min. Purge Volume (gal)/(L)		Purge Rate (gpm)/(mlpm) 1 GPM						
						QC Sample Time Yes						
						Ded. Pump						
Water Level	Time	Voi. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)	
8.60	12:23	1	6.68	55407	5	0.72	29.29	37.37	36.76	8.4		
8.80	12:24	2	6.67	57464	5	0.33	29.25	38.11	37.30	5.9		
8.80	12:25	3	6.68	56224	60	0.26	29.11	37.36	36.69	-0.5		
8.80	12:26	4	6.68	56456	49	0.24	29.08	37.45	36.73	1.2		
8.60	12:27	5	6.68	56455	45	0.21	29.07	37.36	36.64	-3.4		
8.80	12:28	6	6.68	56284	40	0.17	29.04	37.21	36.57	-5.2		
8.80	12:29	7	6.68	56129	37	0.13	29.02	37.13	36.43	-5.9		
8.80	12:30	8	6.68	55955	37	0.14	29.01	37.00	36.33	6.3		
8.80	12:31	9	6.68	55840	35	0.13	29.03	36.88	36.23	-6.5		
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV		
Did Parameters Stabilize prior to sampling?												
Previous Field measurement	(3/10/2008)	6.65	45930	18	0.25	23.9				-121		
Are measurements consistent with previous?												
Sample Time	12:32	Sample Location:	pump tubing	well port	spigot	bailer	other					
Comments:	Daily TB collected at 12:00 Well specific EB not needed. Dedicated pump											
Initial Depth to Water (ft BTOP):	7.60	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	not removed.						
Field measured confirmation of Well Depth (ft btoc):		Initial DTW / Before Removal		Approx. 5 min After Reinstillation		If Transducer						
WD (Well Depth - from database) ft btoc	(19.60000)	Initial DTW	Initial DTW	Time	Final DTW	Time	Final DTW	Comments:	Time of Removal	Time of Reinstallation		
SWH (Standing Water Height) = WD-Initial Depth	17	12:15	7.60	11:38	7.60							
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (2 in)	2.04											
One Casing Volume = D*SWH												
Three Casing Volumes =	6.12											
Color:	clear, grey, yellow, brown, black, cloudy, green											
Odor:	none, sulphur, organic, other											

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3
Job Number	370367.MP.02.GM.04	Date	10-3-08
Field Team	1	Field Conditions	
Well/Sample Number	MW-32-035-148	QC Sample ID	NA
Purge Start Time	1445	Purge Method	-
Flow Cell:	N	Min. Purge Volume (gal/L)	60
Water Level	Time	Vol. Purged gallons /liters	pH
1447:49	8	7.06	18072
1449:53	16	7.02	19969
1451:57	24	6.94	22779
1453:01	32	6.94	22391
1505:05	40	6.93	22364
1507:09	48	6.93	22337
1511:13	56	6.94	22346
1513:17	64	6.94	22365
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs
Did Parameters Stabilize prior to sampling?			+/- 0.3 mg/L
Previous Field measurement (5/6/2008)	6.85	25580	0.4
Are measurements consistent with previous?			0.12
Sample Time	1519	Sample Location:	pump tubing well port
Comments:			spigot not needed - Dedicated pump
Initial Depth to Water (ft BTOC):	7.33	Measure Point:	Well TOC
Field measured confirmation of Well Depth (ft BTOC):		Steel Casing	WATER LEVEL METER SERIAL NUMBER:
WD (Well Depth - from database) ft btoc	(37.15000		
SWH (Standing Water Height) = WD-Initial Depth	20.92		
D (Volume as per diameter) $2^2 = 0.17, 4^2 = 0.66, 1^2 = 0.041$ (4 in)	(4 in)		
One Casing Volume = D*SWH	19.6		
Three Casing Volumes =	59.0		

If Transducer

Initial DTW / Before Removal	Approx. 5 min After Reinstallation		
Time	Initial DTW	Time	Final DTW
1430	7.33	1526	7.33

Comments: Odor: none, sulphur, organic, other

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

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367 MP.02.GM.04	Date	10 - 6 - 08								
Field Team	1	Field Conditions	Sunny warm 90's (Breezy)								
Well/Sample Number	MW-33-040-148	QC Sample ID	NA								
Purge Start Time	1240	Purge Method	Redi-flo 4	Ded. Pump	No						
Flow Cell: Q / N		Min. Purge Volume (gal)/(L)	5	Purge Rate (gpm) (mlpm)	0.5						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
35.00	1242	1	7.65	12252	126	0.96	27.40	6.96	7.940	97.7	
35.60	1244	2	7.63	12217	130	0.97	28.14	6.91	7.881	124.9	
35.80	1246	3	7.68	11975	135	0.80	28.49	6.71	7.675	123.8	
36.00	1248	4	7.68	11851	130	0.77	28.75	6.49	7.947	121.5	
36.00	1250	5	7.68	11791	130	0.75	28.93	6.31	7.862	119.2	
36.00	1252	6	7.68	11747	130	0.76	29.10	6.17	7.116	118.8	
36.00	1254	7	7.69	11782	129	0.76	29.09	5.98	6.880	117.7	
Parameter Stabilization Criteria	<i>+/- 0.1 pH units</i>			<i>+/- 3%</i>	<i>+/- 10% NTU units when >10 NTUs</i>	<i>+/- 0.3 mg/L</i>		NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	<i>Yes</i>					<i>NA</i>	<i>YEC</i>				
Previous Field measurement (5/5/2008)	8.31	5564	5		3	27.5	0.299			58.6	
Are measurements consistent with previous?						NA					
Sample Time	1255	Sample Location:	<input checked="" type="checkbox"/> pump tubing	<input checked="" type="checkbox"/> well port	<input checked="" type="checkbox"/> spigot	<input checked="" type="checkbox"/> bailer	<input checked="" type="checkbox"/> other				
Comments:	<i>Well Specific EB collected at 1215. Daily EB collected at 1210</i>										
Initial Depth to Water (ft BTOP):	<i>32.35</i>			Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:				
Field measured confirmation of Well Depth (ft btoc):	<i>-</i>										
WD (Well Depth - from database) ft btoc	<i>(41.84000)</i>			Initial DTW / Before Removal	Approx. 5 min After Reinstalation						
SWH (Standing Water Height) = WD-Initial Depth	<i>9.40</i>			Initial DTW	Time	Final DTW					
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041	<i>4.87</i>			1230	<i>3235</i>	<i>1306</i>	<i>35.00</i>				
One Casing Volume = D*SWH	<i>1.61</i>										
Three Casing Volumes =	<i>4.87</i>										

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

Odor: none, sulphur, organic, other

Solids: Trace, Small *Q*, Med *Q*, Large *Qu*, Particulate, Silt, Sand

Topock Sampling Log

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

Odor: none, sulphur, organic, other

Solids: Trace, Small Qu., Med Qu., Large Qu., Particulate, Silt, Sand

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3									
Job Number	370367.MP.02.GM.04	Date	10-6-08									
Field Team	1	Field Conditions	Windy (from NW (5 mph) gusty)									
Purge Start Time	1549	QC Sample ID	MW-96-148									
Flow Cell: Y / N	Y	Purge Method	Regi-Flo HF									
Well/Sample Number	MW-33-150-148	Min. Purge Volume (gal)/(L)	63									
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)	
35.10	1553	12	7.47	15841	1	0.50	26.96	9.20	10.27	-167.0		
35.10	1557	24	7.47	15853	1	0.38	27.29	9.27	10.35	-188.3		
35.10	1601	36	7.52	16260	1	0.20	27.42	9.50	10.59	-196.0		
35.10	1605	48	7.54	16809	3	0.11	27.50	9.85	10.94	-216.1		
35.10	1609	60	7.54	16888	2	0.10	27.52	9.89	10.99	-220.3		
35.10	1613	72	7.54	16991	~	0.11	27.49	9.95	11.05	-223.1		
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV			
Did Parameters Stabilize prior to sampling?	YES -				NA	YES						
Previous Field measurement	(5/6/2008)	7.62	18150	0.38	0.13	27.12	1.079		23.6			
Are measurements consistent with previous?						NA						
Sample Time	1615	Sample Location:	pump tubing	well port	spigot	bailer	other					
Comments:												
Initial Depth to Water (ft BTOC):	33.44	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:							
Field measured confirmation of Well Depth (ft btoc):	-											
WD (Well Depth - from database) ft btoc	(155.3800	Initial DTW	Approx. 5 min After Reinstillation	If Transducer								
SWH (Standing Water Height) = WD-Initial Depth	121.74	Initial DTW	Time	Time of Removal	1546							
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1"= 0.041 (2 in)		Final DTW	Final DTW	1625								
One Casing Volume = D*SWH	20.7	Comments:	Comments:	1630		33,45						
Three Casing Volumes =	62.18											

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10-7-08								
Field Team	1	Field Conditions	Sunny Warm 80°								
Well/Sample Number	MW-34-055-148	QC Sample ID	NA								
Purge Start Time	0837	Purge Method	Dedicated Pump Yes								
Flow Cell: Y / N		Min. Purge Volume (g)/(L)	100								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
6.30	0842	15	7.47	1110	5	0.16	17.88	0.55	0.721	9.2	
6.30	0847	30	7.50	1167	3	0.11	17.98	0.53	0.79	71.5	
6.30	0852	45	7.51	1107	2	0.11	18.00	0.55	0.720	96.7	
6.30	0857	60	7.52	1106	2	0.09	17.99	0.55	0.719	98.0	
6.30	0902	75	7.52	1107	1	0.09	17.99	0.55	0.720	105.9	
6.30	0907	90	7.54	1108	1	0.09	18.00	0.55	0.720	107.5	
6.30	0912	105	7.54	1107	1	0.09	17.99	0.55	0.720	106.4	
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L		NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilized prior to sampling?	YES				→	NA	YES -				
Previous Field measurement	(10/31/2007)	8.22	1116	1	0.4	18.4				-207	
Are measurements consistent with previous?						NA					
Sample Time	0915	Sample Location:	pump tubing	well port	spigot	bailer	bailer	other			
Comments:											
Initial Depth to Water (ft BTOP):	6.10	Measure Point: Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:							
Field measured confirmation of Well Depth (ft btoc):	-	If Transducer									
WD (Well Depth - from database) ft btoc	(56.59999	Initial DTW / Before Removal	Approx. 5 min After Reinstillation	Time of Removal							
SWH (Standing Water Height) = WD-Initial Depth	50.499	Time	Initial DTW	Final DTW	Time of Reinstallation						
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (4 in)	33.32	0810	610	0922	6.20						
One Casing Volume = D*SWH											
Three Casing Volumes =	99.98										
Color:	clear, grey, yellow, brown, black, cloudy, green	Odor:	none, sulphur, organic, other	Solids:	Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand						

Topock Sampling Log

Sampling Event 2008-GMP-148-Q3

Date 10/17/08

Page 1 of 1

Project Name PGE Topock GMP
Job Number 370367.MP.02.GM.04
Field Team 1 Field Conditions Sandy, 800F

Well/Sample Number MW-35-135-148

Purge Start Time 0832

Flow Cell Y/N

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QC Sample ID NA

Purge Method Pump Pump

Ded. Pump

Min. Purge Volume (gal)/(L) 0legals

Purge Rate (gpm)/(mlpm)

390m

(See description below)

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event Date	2008-GMP-148-Q3							
Job Number	370367 MP.02 GM.04	Date	10/21/08							
Field Team	1	Field Conditions	Partly Cloudy, warm							
Well/Sample Number	WW-36-070-148	QC Sample ID	NA							
Purge Start Time	1148	Purge Method	Pump							
Flow Cell	(Y) N <th>Min. Purge Volume (gal)(L)</th> <td>7.14</td>	Min. Purge Volume (gal)(L)	7.14							
Water Level	Time	Vol. Purged gallons / liters	pH							
			Conductivity mS/cm							
			Turbidity NTU							
			Diss. Oxygen mg/L							
			Temp. °C							
			Salinity %							
			TDS g/L							
			Eh/ORP mv							
11.82	1152	1.5	7.75	1.62	3.53	6.00	22.61	6.08	1.1	54
14.84	1156	3.0	7.81	1.62	3.22	6.00	22.00	6.08	1.1	30
14.84	1200	4.5	7.81	1.63	3.24	6.00	22.07	6.08	1.1	14
14.84	1204	6.0	7.84	1.63	3.21	6.00	22.13	6.08	1.1	-1
14.84	1208	7.5	7.85	1.63	3.27	6.00	22.15	6.08	1.1	-19
14.84	1210	8.0	7.83	1.63	3.30	6.00	22.11	6.08	1.1	-24
14.84	1212	8.5	7.83	1.63	6.00	6.00	22.05	6.08	1.11	-29
			+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV
Parameter Stabilization Criteria										
Did Parameters Stabilize prior to sampling?										
Previous Field measurement (10/9/2007)	7.92									
Are measurements consistent with previous?										
Sample Time	1214	Sample Location:	pump tubing	well port	spigot	well port	spigot	well port	bailer	other
Comments:										
Initial Depth to Water (ft BTOPC):	14.66	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:					
Field measured confirmation of Well Depth (ft btoc):										
WD (Well Depth - from database) ft btoc	(72.48000 ~ 14.666)									
SWH (Standing Water Height) = WD-Initial Depth	58.74									
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"=0.041 (1 in)										
One Casing Volume = D'SWH	2.38									
Three Casing Volumes =	7.14									
Color: clear, grey, yellow, brown, black, cloudy, green										
Odor: none, sulphur, organic, other										

Topock Sampling Log

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/04/08								
Field Team	1	Field Conditions	Sunny, 90°F, breezy								
Well/Sample Number	MW-37D-148	QC Sample ID	NA								
Purge Start Time	1257	Purge Method	Tarp Pump								
Flow Cell (Y/N)	N	Min. Purge Volume (gal)/(L)	100								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
31.19	1259	6	7.46	15.70	6	1.73	29.95	9.59	10.75	131.9	
31.19	1303	18	7.49	16.71	3	0.41	29.40	9.75	10.86	116.4	
31.14	1307	30	7.50	16.73	3	0.53	29.69	9.76	10.86	112.7	
31.14	1311	42	7.49	16.73	3	0.59	29.63	9.76	10.86	110.3	
31.14	1315	54	7.49	16.74	2	0.56	29.99	9.76	10.86	108.9	
31.14	1319	66	7.49	16.72	3	0.57	29.98	9.75	10.87	108.0	
31.14	1323	78	7.50	16.68	2	0.57	29.99	9.72	10.84	106.9	
31.13	1327	90	7.49	16.66	2	0.54	29.97	9.70	10.83	106.6	
31.13	1331	102	7.49	16.64	2	0.53	30.05	9.70	10.82	105.8	
Pump Off 1334		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y	Y	NA	Y	Y	Y		
Previous Field measurement (3/13/2008)	7.72	15720	11	0.17	29.9					97.8	
Are measurements consistent with previous?	N	N	N	N	N	NA				Y	
Sample Time	1333	Sample Location:	pump tubing	well port	spigot		bailer	other			
Comments:											
Initial Depth to Water (ft BTOC):	30.93	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:						
Field measured confirmation of Well Depth (ft btoc):	—										
WD (Well Depth - from database) ft btoc	(226.7200	If Transducer									
SWH (Standing Water Height) = WD-Initial Depth	195.77	Initial DTW / Before Removal	Approx. 5 min After Reinstallation								
D (Volume as per diameter) ² * = 0.17, 4" = 0.66, 1" = 0.041 (2 in)		Time	Initial DTW	Time	Final DTW						
One Casing Volume = D*SWH	33.3	1251	30.93	1342	30.88	Comments:					
Three Casing Volumes =	100										
Color:	clear, grey, yellow, brown, black, cloudy, green	Odor:	none, sulphur, organic, other	Solids:	Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand						

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event Date	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date									
Field Team	1	Field Conditions	Hot 95								
Purge Start Time	11:12	QC Sample Time									
Well/Sample Number	MW-39-050-148	QC Sample ID	NA								
Flow Cell: Y / N		Purge Method	PECRISTALIC								
		Min. Purge Volume (gal)/(L)	6								
		Purge Rate (gpm)/(ml.pm)	0.25								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
11:27	1	7.83 2615	2	0.20	24.57	—	—	—	—	-231.5	0.25 G PM
11:31	2	7.79 2674	1	0.17	24.50	—	—	—	—	-228.9	
11:35	3	7.77 2704	1	0.16	24.48	—	—	—	—	-232.0	
11:39	4	7.76 2707	1	0.16	24.47	—	—	—	—	-229.0	
11:43	5	7.76 2704	1	0.17	24.49	—	—	—	—	-233.4	
11:47	6	7.76 2702	1	0.16	24.51	—	—	—	—	-231.6	
Parameter Stabilization Criteria	+/- 0.1 pH units +/- 3% units when >10 NTUs										+/- 10 mV
Did Parameters Stabilize prior to sampling?	Yes										
Previous Field measurement	(10/8/2007) 7.56 3780 1 0 25.7 NA NA NA										
Are measurements consistent with previous?											
Sample Time	11:55	Sample Location:	pump tubing	well port	spigot	bailer	other				
Comments:											
Initial Depth to Water (ft BTOC):	17.70										
Field measured confirmation of Well Depth (ft btoc):											
WD (Well Depth - from database) ft btoc	(54.59999 41.29)										
SWH (Standing Water Height) = WD-Initial Depth	D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (1 in)										
One Casing Volume = D*SWH	1,647 5.1										
Three Casing Volumes =	13.35										
Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:								
If Transducer											
Initial DTW / Before Removal	Approx. 5 min After Reinstillation										
Initial DTW Time	Initial DTW	Time	Final DTW	Time of Removal	Time of Reinstallation						
11:13	13:30	12:02	Sec Electro	11:15	11:57						
Comments:											

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3					
Job Number	370367.MP.02.GM.04 <th>Date</th> <td>10-1-08 <th>Date</th> <td>10-1-08 <th>Page</th> <td>1 of 1</td> </td></td>	Date	10-1-08 <th>Date</th> <td>10-1-08 <th>Page</th> <td>1 of 1</td> </td>	Date	10-1-08 <th>Page</th> <td>1 of 1</td>	Page	1 of 1				
Field Team		Field Conditions									
Well/Sample Number		MW-39-060-148		QC Sample ID	NA	QC Sample Time					
Purge Start Time	10:19	Purge Method	<u>PERISTALTIC</u>	Ded. Pump	7	Purge Rate (gpm)/(mlpm)	0.5				
Flow Cell: Y / N		Min. Purge Volume (gal)(L)		Comments	(See description below)						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	
10:19	10:21	305	7.70	3336	38	0.87	24.94	—	—	-112.9	
10:21	10:23	10	7.67	3437	2	0.58	24.94	—	—	-128.9	
10:25	10:25	15	7.68	3507	2	0.40	24.81	—	—	-156.0	
10:27	10:27	20	7.70	3511	3	0.29	24.72	—	—	-188.5	FLOW RATE 0.25 GPM
10:29	10:30	30	7.67	3508	3	0.25	24.71	—	—	-193.2	
10:35	10:35	40	7.65	3505	2	0.23	24.70	—	—	-199.0	
10:39	10:39	50	7.64	3506	2	0.21	24.68	—	—	-207.2	
10:43	10:43	6.0	7.64	3505	1	0.21	24.65	—	—	-212.8	
10:47	10:51	7.0	7.63	3514	+/-10% NTU	0.19	24.67	NA	NA	-213.0	
		8.0	7.62	3518	2 units when >10 NTUs	0.19	24.68	NA	NA	-214.8	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?		Yes									
Previous Field measurement (10/8/2007)		7.51		5211		1		0.1		25.4	
Are measurements consistent with previous?										-82.9	
Sample Time	Comments:	Sample Location:	pump tubing	well port	spigot	bailer	other				
10:47	10:51	13,40									
Initial Depth to Water (ft BTOC):	13,40		Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:					
Field measured confirmation of Well Depth (ft btoc):											
WD (Well Depth - from database) ft btoc		(66.30000)									
SWH (Standing Water Height) = WD-Initial Depth		52,40									
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (1 in)											
One Casing Volume = D*SWH		16.8									
Three Casing Volumes =		6.7									

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367 MP.02.GM.04	Date	7-10-08								
Field Team	1	Field Conditions	Hot / 05°								
Well/Sample Number	MW-39-070-148	QC Sample ID	NA								
Purge Start Time	1305	Purge Method	<u>PERISTALTIC</u> Dred. Pump								
Flow Cell: Y / N		Min. Purge Volume (gal)/(L)	8								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
1309	1	7.67	2803	1	0.20	24.92	-	-	-	-219.9	
1313	2	7.67	2803	1	0.17	24.75	-	-	-	-254.0	
1317	3	7.44	4616	0.3	0.15	24.74	-	-	-	-257.0	
1321	4	7.43	5070	0.4	0.16	24.76	-	-	-	-275.9	
1325	5	7.42	5163	0.7	0.15	24.76	-	-	-	-277.9	
1329	6	7.42	5202	0.3	0.14	24.77	-	-	-	-273.0	
1333	7	7.42	5209	0.2	0.12	24.76	-	-	-	-280.4	
1337	8	7.42	5190	0	0.13	24.78	-	-	-	-279.4	
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV		
Did Parameters Stabilize prior to sampling?	Yes										
Previous Field measurement (10/8/2007)	7.27	6159	1	0.2	25.3	NA	NA	NA	NA	NA	
Are measurements consistent with previous?											
Sample Time	1340	Sample Location:	pump tubing	well port	spigot	bailer	other				
Comments:											
Initial Depth to Water (ft BTOC):	14.10	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:						
Field measured confirmation of Well Depth (ft btoc):		If Transducer									
WD (Well Depth - from database) ft btoc	(71.69000	Initial DTW / Before Removal									
SWH (Standing Water Height) = WD-Initial Depth		Approx. 5 min After Reinstillation									
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (1 in)		Time	Initial DTW	Time	Final DTW	Time	Final DTW	Time	Final DTW	Time	Final DTW
One Casing Volume = D'SWH	7.08	1300	1410	1350	1412.5	1345	1410	1350	1412.5	1345	1410
Three Casing Volumes =											

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3						
Job Number	370367.MP.02.GM.04	Date	1-10-08						
Field Team	1	Page	1 of 1						
Well/Sample Number	MW-39-080-148	QC Sample ID	NA						
Purge Start Time	12:07	Purge Method	Peristaltic						
Flow Cell	Y / N	Min. Purge Volume (gal)/(L)	9						
Water Level	Time	Vol. Purged gallons / liters	pH						
		mS/cm	Conductivity mS/cm						
		NTU	Turbidity NTU						
		mgl	Diss. Oxygen mg/L						
		°C	Temp. °C						
		g/L	TDS g/L						
		mv	Eh/ORP mv						
12:13	1	7.22	7360	1	0.20	2505	-	-	-263.5
12:17	2	7.20	7348	1	0.17	24.89	-	-	-267.5
12:21	3	7.14	8395	1	0.20	24.99	-	-	-267.1
12:25	4	7.03	10192	1	0.20	25.07	-	-	-258.3
No. 1	5	6.98	11539	1	0.16	25.09	-	-	-263.1
12:33	6	6.98	11826	1	0.14	25.12	-	-	-255.7
12:37	7	6.99	11991	1	0.12	25.13	-	-	-259.7
12:41	8	6.97	12055	1	0.11	25.12	-	-	-256.3
12:45	9	6.97	12105	1	0.11	25.15	-	-	-257.2
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	Yes				NA				
Previous Field measurement (3/14/2008)	6.95	14220	0.5	0.39	24.86			-63.2	
Are measurements consistent with previous?					NA				
Sample Time	12:50	Sample Location:	pump tubing	well port	spigot	bailer	other		
Comments:									

Initial Depth to Water (ft BTOC):	14.00	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	If Transducer
Field measured confirmation of Well Depth (ft btoc):		Initial DTW / Before Removal	Approx. 5 min After Reinstallation			
WD (Well Depth - from database) ft btoc	(82.55000)	Initial DTW	Time	Final DTW	Time of Removal	Time of Reinstallation
SWH (Standing Water Height) = WD-Initial Depth						
D (Volume as per diameter) ² * = 0.17, 4" = 0.66, 1" = 0.041 (1 in)						
One Casing Volume = D*SWH						
Three Casing Volumes =						

Color: clear, grey, yellow, brown, black, cloudy, green
 Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Odor: none, sulphur, organic, other

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3	
Job Number	370367.MP.02.GM.04	Date	10-1-08	
Field Team	1	Field Conditions		
Well/Sample Number	MW-39-100-148	QC Sample ID	NA	
Purge Start Time	0835	Purge Method	2" G.F.	
Flow Cell:	N	Min. Purge Volume (gal)/(L)	53	
Water Level	Time	Vol. Purged gallons /liters	pH	
Water	0838	6	7.419	
Water	0841	12	7.44	
Water	0844	18	7.44	
Water	0847	24	6.78	
Water	0850	30	6.76	
Water	0853	36	6.74	
Water	0856	42	6.74	
Water	0859	48	6.73	
Water	0901	54	6.72	
Parameter Stabilization Criteria	6.73	6.70	6.70	
Did Parameters Stabilize prior to sampling?	Yes	Yes	Yes	
Previous Field measurement (3/14/2008)	6.67	22680	0.2	
Are measurements consistent with previous?				
Sample Time	0915	Sample Location:	i375	
Comments:	Daily E3 1D	pump tubing	well port	
			spigot	
			bailer	
			other	
Initial Depth to Water (ft BTOPC):	1375	Measure Point: Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:
Field measured confirmation of Well Depth (ft btoc):				
WD (Well Depth - from database) ft btoc	(117.7099	If Transducer		
SWH (Standing Water Height) = WD-Initial Depth	103.95	Initial DTW	Approx. 5 min After Reinstallation	
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (2 in)	(2 in)	Time	Initial DTW	Time of Removal
One Casing Volume = D'SWH	17.67		Final DTW	Time of Reinstallation
Three Casing Volumes =	53			

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

Odor: none, sulphur, organic, other

Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Slit, Sand

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/16/08								
Field Team	1	Field Conditions	Sunny, calm, 64°F								
Well/Sample Number	MW-40D-148	QC Sample ID	NA								
Purge Start Time	0806	Purge Method	Top Pump								
Flow Cell	<input checked="" type="checkbox"/> Y	Min. Purge Volume (gal)/(L)	80 gals								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mV	Comments (See description below)
11.12.0806	6	7.21	16.96	5	• 34	30.28	9.90	11.03	205		
11.12.0811	15	7.24	16.96	3	0.28	30.68	9.89	11.02	200.8		
11.12.0815	24	7.25	16.96	3	0.24	31.14	9.88	11.02	194.2		
11.12.0819	33	7.28	17.21	3	0.41	31.47	10.06	11.21	187.6		
11.12.0823	42	7.30	17.23	3	0.45	31.53	10.11	11.26	182.5		
11.12.0827	51	7.31	17.25	3	0.45	31.60	10.13	11.28	178.8		
11.12.0831	75	7.30	17.22	2	0.45	31.64	10.10	11.36	178.9		
11.12.0835	87	7.30	17.26	3	0.45	31.68	10.08	11.24	180.4		
11.12.0838	<i>end purge/pump off</i>										
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV		
Did Parameters Stabilize prior to sampling?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Previous Field measurement (3/13/2008)	7.49	16630	12	0.36	31.4					171.1	
Are measurements consistent with previous?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA					<input checked="" type="checkbox"/>	
Sample Time	0837	Sample Location:	pump tubing	<input checked="" type="checkbox"/>	well port	<input checked="" type="checkbox"/>	spigot	<input checked="" type="checkbox"/>	bailer	<input checked="" type="checkbox"/>	other
Comments:											
Initial Depth to Water (ft BTOPC):	110.55										
Field measured confirmation of Well Depth (ft btoc):	-										
WD (Well Depth - from database) ft btoc	(266)	Initial DTW / Before Removal									
SWH (Standing Water Height) = WD-Initial Depth	155.45	Time	Initial DTW	Approx. 5 min After Reinstillation		Time of Removal					
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (2 in)				Time	Final DTW	Time of Reinstallation					
One Casing Volume = D*SWH	26.4										
Three Casing Volumes =	80 gals										
Color:	<input checked="" type="checkbox"/> clear, grey, yellow, brown, black, cloudy, green										
Odor:	<input checked="" type="checkbox"/> none, sulphur, organic, other										

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3									
Job Number	370367.MP.02.GM.04	Date	<u>10/31/08</u>									
Field Team	1	Field Conditions	<u>Sunny, breezy, 99°F</u>									
Well/Sample Number	MW-41S-148	QC Sample ID	MW-95-148									
Purge Start Time	<u>12:37</u>	Purge Method	<u>Turp. Pump</u>									
Flow Cell Y/N		Ded. Pump										
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)	
24.16	12:38	2	7.79	5.408	5	1.43	28.53	0.67	3.481	78.3		
24.17	12:40	6	7.79	5.330	3	1.29	28.76	2.85	3.464	78.0		
24.16	12:42	10	7.78	5.326	5	1.27	28.82	2.85	3.460	76.8		
24.16	12:44	14	7.78	5.312	4	1.24	28.85	2.84	3.453	75.6		
24.17	12:46	18	7.77	5.305	4	1.24	28.85	2.84	3.445	75.2		
24.17	12:48	22	7.77	5.296	4	1.25	28.86	2.83	3.444	74.7		
	12:54		<u>end purge / start purge</u>									
			+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L						
Parameter Stabilization Criteria												
Did Parameters Stabilize prior to sampling?	Y											
Previous Field measurement (3/12/2008)	7.78	5240										
Are measurements consistent with previous?	Y											
Sample Time	<u>12:51</u>	Sample Location:	pump tubing ✓	well port ✓	spigot	bailer	other					
Comments:												

Initial Depth to Water (ft BTOPC): 29.10

Field measured confirmation of Well Depth (ft btoc): -

WD (Well Depth - from database) ft btoc (61.58000) 37.48

SWH (Standing Water Height) = WD-Initial Depth 37.48

D (Volume as per diameter)²* = 0.17, 4" = 0.66, 1" = 0.041 (2 in) 0.4

One Casing Volume = D*SWH 19.12

Three Casing Volumes = 57.36

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Project Name	PGE Topock GMP			Sampling Event	2008-GMP-148-Q3						
Job Number	370367.MP.02.GM.04			Date	10/31/08						
Field Team	1	Field Conditions <u>Breeze, 88°F</u>			Page	1	of _____				
Well/Sample Number	<u>MW-41M-148</u>			QC Sample ID	NA						
Purge Start Time	<u>1132</u>	Purge Method	<u>Hand Pump</u>	Ded. Pump	QC Sample Time _____						
Flow Cell	<u>10</u> /N	Min. Purge Volume (gal)/(L)	<u>86.5</u> /L	Purge Rate (gpm)/(mlpm)	<u>3</u>						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
24.11	1134	6	7.23	15.67	3	0.52	28.36	9.10	10.17	79.9	
24.13	1139	21	7.31	15.72	4	0.23	28.91	9.13	10.22	71.5	
24.13	1144	36	7.33	15.75	5	0.20	29.16	9.15	10.24	67.7	
24.13	1149	51	7.37	15.95	4	0.22	29.20	9.29	10.39	65.4	
24.12	1154	66	7.35	15.92	4	0.22	29.35	9.24	10.35	63.1	
24.12	1159	81	7.39	15.94	4	0.22	29.41	9.28	10.38	60.7	
24.13	1204	96	7.39	15.95	4	0.22	29.43	9.26	10.37	60.4	
	1208	Pump off									
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>		
Previous Field measurement (12/14/2007)	7.54	14687	0.4	0.23	29	8.48				-1.3	
Are measurements consistent with previous?	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>		
Sample Time	<u>1207</u>	Sample Location:	<u>pump tubing</u>	<u>well port</u>	<u>spigot</u>	<u>bailer</u>	<u>other</u>				
Comments:											

Initial Depth to Water (ft BTOP): 23.98
 Field measured confirmation of Well Depth (ft btoc): 23.98
 WD (Well Depth - from database) ft btoc (192.3999') 168.42
 SWH (Standing Water Height) = WD-Initial Depth 168.42
 D (Volume as per diameter) $2'' = 0.17, 4'' = 0.66, 1'' = 0.041$ (2 in)
 One Casing Volume = D*SWH 28.69
 Three Casing Volumes = 85.09
 Color: clear, grey, yellow, brown, black, cloudy, green

Initial DTW / Before Removal			Approx. 5 min After Reinstillation			If Transducer		
Initial DTW	Initial DTW	Time	Final DTW	Time	Final DTW	Initial DTW	Time of Removal	Time of Reinstallation
1124	23.98		1216		23.92	1124	11/24/08	11/24/08

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/30/08								
Field Team	1	Field Conditions	Overcast, calm, 84°F								
Well/Sample Number	MW-41D-148	QC Sample ID	NA								
Purge Start Time	10:35	Purge Method	Flow Cell Y								
Flow Cell	Y	Min. Purge Volume (gal)/(L)	47								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
24.51	10:37	10	7.67	22.80	15	0.23	28.62	13.67	14.60	-85.2	
24.50	10:42	35	7.70	22.76	5	0.13	29.06	13.66	14.79	-113.6	
24.51	10:47	60	7.71	22.79	3	0.11	29.16	13.68	14.81	-119.9	
24.51	10:52	65	7.71	22.81	3	0.09	29.56	13.68	14.83	-119.2	
24.51	10:57	110	7.71	22.87	3	0.09	29.73	13.74	14.88	-113.3	
24.51	11:02	135	7.67	22.91	3	0.09	29.95	13.78	14.91	-113.8	
24.50	11:07	160	7.67	23.06	3	0.08	29.97	13.78	14.99	-110.2	
	11:11	Pump off									
		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV		
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y	Y	NA	Y	Y	Y		
Previous Field measurement (3/12/2008)	7.65	22380	12	0.1	30.6					64.2	
Are measurements consistent with previous?	Y	N	N	Y	Y	NA				N	
Sample Time	11:10	Sample Location:				✓ well port		spigot	bailer	other	
Comments:											

Initial Depth to Water (ft BTOP):	23.98	Measure Point: Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	
Field measured confirmation of Well Depth (ft btoc):	24				
WD (Well Depth - from database) ft btoc (313)	24	Initial DTW / Before Removal	Approx. 5 min After Reinstallation	If Transducer	Yes
SWH (Standing Water Height) = WD-Initial Depth	23.98	Initial DTW	Time	Time of Removal	10/19
D (Volume as per diameter) ² *= 0.174" = 0.66, 1"=0.041 (2 in)	49	Initial DTW	Final DTW	Time of Reinstallation	11/6
One Casing Volume = D*SWH	49			Comments:	
Three Casing Volumes =	147				
Color:	clear, grey, yellow, brown, black, cloudy, green				

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3		
Job Number	370367.MP.02.GM.04	Date	10-3-08		
Field Team	1	Field Conditions	Worrell cloudy, 03		
Well/Sample Number	MW-42-065-148	QC Sample ID	NA		
Purge Start Time	0855	Purge Method	Red. float II		
Flow Cell/Y	N	Ded. Pump	No		
Time	Vol. Purged gallons / liters	Purge Rate (gpm)/(ml/min)	QC Sample Time		
Water Level		Min. Purge Volume (gal)/(L)			
9.40	0857	6	7.00		
9.40	0859	12	6.93		
9.40	0901	18	6.92		
9.40	0903	24	6.92		
9.40	0905	30	6.91		
9.40	0907	36	6.91		
9.40	0909	42	6.91		
9.40	0911	48	6.91		
			37		
			3		
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3% units when >10 NTUs	+/- 0.3 mg/L		
Did Parameters Stabilize prior to sampling?	Yes		NA		
Previous Field measurement (5/6/2008)	6.91	16680	0.91		
Are measurements consistent with previous?			0.14		
Sample Time	0912	Sample Location:	E8 collected at 0850		
Comments:		pump tubing X well port spigot	bailer other		
Initial Depth to Water (ft BTOP):	8.72	Measure Point:	Well 0850	Steel Casing	WATER LEVEL METER SERIAL NUMBER:
Field measured confirmation of Well Depth (ft btoc):					12245
WD (Well Depth - from database) ft btoc	(80)	Initial DTW	Initial DTW	Approx. 5 min After Reinstillation	If Transducer
SWH (Standing Water Height) = WD-Initial Depth	71.28	Time	Time	Final DTW	0845
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (2 in)	1.1			Time of Removal	0918
One Casing Volume = D*SWH	76.3			Time of Reinstallation	
Three Casing Volumes =				Comments:	
Color: clear, grey, yellow, brown, black, cloudy, green					
Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand					

Odor: none, sulphur, organic, other

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Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3
Job Number	370367.MP.02.GM.04	Date	10-2-08
Field Team	1	Page	1 of 1
Well/Sample Number	MW-43-025-148	QC Sample ID	NA
Purge Start Time	11:38	Purge Method	Deionized Pump
Flow Cell:	0/ N	Min. Purge Volume (gal)/(L)	11
Water Level	Time	Vol. Purged gallons / liters	pH
			Conductivity mS/cm
7.80	11:40	2	7.53
7.80	11:42	4	7.53
7.80	11:44	6	7.52
7.90	11:46	8	7.51
7.80	11:48	10	7.61
7.90	11:50	12	7.50
7.65	11:52	14	7.49
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs
Did Parameters Stabilize prior to sampling?			
Previous Field measurement (5/7/2008)	7.49	1617	9.14
Are measurements consistent with previous?			
Sample Time	Sample Location:	pump tubing	well port
Comments:		spigot	bailer
			other

Initial Depth to Water (ft BTOC):	7.55	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:
Field measured confirmation of Well Depth (ft btoc):	2.7.2				
WD (Well Depth - from database) ft btoc	(27)				
SWH (Standing Water Height) = WD-Initial Depth	19.65				
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (2 in)					
One Casing Volume = D*SWH	7.3				
Three Casing Volumes =	10.02				
Color:	clear, grey, yellow, brown, black, cloudy, green				

12645

If Transducer	Initial DTW / Before Removal	Approx. 5 min After Reinstillation	Time of Removal	Time of Reinstallation
	Time	Initial DTW	Final DTW	
	11:25	7.55	12:15	7.69

Comments:

Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand
 Odor: none, sulphur, organic, other

Topock Sampling Log

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

Odor: none, sulphur, organic, other

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

Topock Sampling Log

Sampling Event 2008-GMP-148-Q3
 Date 10-7-08
 Page 1 of 1

Project Name PGE Topock GMP
 Job Number 370367.MP.02.GM.04
 Field Team 1 Field Conditions Sunny Hot

Well/Sample Number MW-44-125-148

Purge Start Time 1435

Flow Cell N

QC Sample ID NA

Purge Method Red Flo II

Purge Volume (gpm)(L)

Min. Purge Volume (gpm)(L)

Purge Rate (gpm)/(mLpm)

60

1.5

QC Sample Time
 (See description below)

10:41:00

10:41:55

10:42:00

10:42:15

10:42:30

10:42:45

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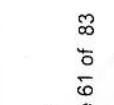
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Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10-8-08								
Field Team	1	Field Conditions	Sunny Breezy 90's								
Well/Sample Number	MW-46-175-148	Page	1 of 1								
Well Sample Time	1105	QC Sample Time	—								
Purge Start Time	Flow Cell 0 N	QC Sample ID	NA								
Purge Method	Dedicated	Ded. Pump	Yes								
Purge Volume (gal/L)	79	Purge Rate (ml/min)	2								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
30.60	11:26:14	14.123	8.70	17415	3	0.10	20.96	10.29	11.32	-203.1	
30.60	11:26:28	19.283	8.77	17414	2	0.10	21.71	10.33	11.38	-201.6	
31.45	11:26:42	4.229	8.77	17587	2	0.07	23.49	10.36	11.42	-206.2	Sw. forced to 39pm
32.16	11:33:59	39.022	8.76	17643	2	0.07	24.00	10.41	11.47	-205.2	Gates at 1130
32.10	11:40:40	8.0	8.77	17640	2	0.07	24.00	10.40	11.47	-206.4	
32.10	11:42:46	8.77	8.77	17622	2	0.07	24.12	10.39	11.45	-206.8	
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV		
Did Parameters Stabilize prior to sampling?					NA						
Previous Field measurement (9/3/2008)	8.37	17770	0	0.13	23.74	1.044					
Are measurements consistent with previous?					NA						
Sample Time	1145	Sample Location:	X	pump tubing	well port	spigot	bailer	other			
Comments:											
Initial Depth to Water (ft BTOP):	28.32	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	PGE 2005 03					
Field measured confirmation of Well Depth (ft btop):	—	If Transducer									
WD (Well Depth - from database) ft btop	(181.8000	Initial DTW / Before Removal	Approx. 5 min After Reinstillation								
SWH (Standing Water Height) = WD-Initial Depth	153.48	Initial DTW	Final DTW								
D (Volume as per diameter) $2^2 = 0.17, 4^2 = 0.66, 1^2 = 0.041$ (2 in)	(2 in)	Time	Time								
One Casing Volume = D*SWH	2.609	1103	28.32	1152	28.35						
Three Casing Volumes =	78.2709										
Color:  grey, yellow, brown, black, cloudy, green		Comments:									

Odor:  sulphur organic, other
Solids:  Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand
^, N.E.

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367-MP.02.GM.04	Date	10-6-08								
Field Team	1	Field Conditions	Sunny warm 87°								
Well/Sample Number	MW-49-365-148	QC Sample ID	NA								
Purge Start Time	1040	Purge Method	Bediflo II								
Flow Cell	N	Ded. Pump	NO								
Water Level	Time <u>every 15 min</u>	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
36.10	1050	30	7.40	37640	2	0.16	25.41	23.84	24.46	-239.9	
36.10	1100	60	7.51	37525	3	0.10	26.17	23.75	24.39	-264.2	
36.20	1110	90	7.64	37350	3	0.10	26.72	23.61	24.27	-283.2	
36.25	1120	120	7.77	37916	3	0.10	27.11	23.94	24.63	-300.8	
36.25	1130	150	7.78	38342	3	0.09	27.16	24.30	24.92	-293.2	
36.25	1140	180	7.78	38435	3	0.09	27.35	24.37	24.98	-295.7	
36.25	1145	195	7.78	38436	3	0.09	27.37	24.37	24.98	-296.4	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?											
Previous Field measurement (3/13/2008)											
Are measurements consistent with previous?											
Sample Time	1148	Sample Location:	pump tubing X well port		spigot	bailer	other	Lost 45 min adding oil to generator			
Comments:											
Initial Depth to Water (ft BTOC):	31.53										
Field measured confirmation of Well Depth (ft btoc):											
WD (Well Depth - from database) ft btoc	(367.3500)										
SWH (Standing Water Height) = WD-Initial Depth	335.82										
D (Volume as per diameter) $2^2 = 0.17$, $4^2 = 0.66$, $1^2 = 0.041$ (2 in)											
One Casing Volume = D*SWH	31.53 * 7.08 = 224.86										
Three Casing Volumes =	171.2										
Color:	clear, grey, yellow, brown, black, cloudy, green										
Odor:	none, sulphur, organic, other										

Initial DTW / Before Removal
Time 0950 Initial DTW 31.53 Approx. 5 min After Reinstalation
Time 1155 Final DTW 31.60 Time of Removal
Comments: Comments: NO/NO Time of Reinstallation

If Transducer	
Initial DTW / Before Removal Time <u>0950</u>	Final DTW <u>31.60</u>

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

Project Name		PGE Topock GMP	Sampling Event		2008-GMP-148-Q3						
Job Number	370367.MP.02.GM.04	Date	10/09/08	Page	1 of 1						
Field Team	1	Field Conditions	Sunny, 75°F, breezy								
Well/Sample Number	MW-50-095-148	QC Sample ID	NA	QC Sample Time							
Purge Start Time	1407	Purge Method	10mp Pump	Ded. Pump							
Flow Cell Y/N		Min. Purge Volume (gal)/(L)	2.8	Purge Rate (gpm)/(mLpm)	29 ppm						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
41.68	1409	4	7.51	7.608	2	3.13	30.71	3.52	4.012	78.3	
41.69	1406	8	7.56	4.725	5	2.67	29.31	2.52	3.084	81.2	
41.70	1409	12	7.64	5.170	7	2.14	29.43	2.82	3.449	86.4	
41.69	1410	16	7.68	5.576	5	1.79	29.48	2.99	3.619	88.4	
41.69	1412	20	7.68	5.581	3	1.76	29.46	2.94	3.620	89.3	
41.69	1414	24	7.66	5.578	3	1.75	29.51	2.98	3.615	90.6	
41.69	1416	28	7.67	5.575	3	1.78	29.54	2.98	3.607	90.9	
	1419	end purge / pump off									
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y	Y	NA	Y	Y	Y		
Previous Field measurement (5/7/2008)	7.66	5630	17	2.34	29.6	0.302				-53	
Are measurements consistent with previous?	Y	Y	N	N	NA	N				N	
Sample Time	1418	Sample Location:	pump tubing	well port	spigot	bailer	other				
Comments:											

Initial Depth to Water (ft BTOPC): 41.38 Measure Point: Well TOC Steel Casing WATER LEVEL METER SERIAL NUMBER: _____

Field measured confirmation of Well Depth (ft btoc): _____

WD (Well Depth - from database) ft btoc	(96.44999	Initial DTW / Before Removal	Approx. 5 min After Reinstillation
SWH (Standing Water Height) = WD-Initial Depth	<u>55.12</u>	Initial DTW	Final DTW
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (2 in)	<u>9.37</u>	Time	Time
One Casing Volume = D*SWH	<u>28.0</u>	1357	41.38
Three Casing Volumes =		1427	41.38

Comments: _____

Odor (none, sulphur, organic, other): clear, grey, yellow, brown, black, cloudy, green

Solids (Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand): None

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/7/08								
Field Team	1	Field Conditions	Sunny, 85°F, 19% relative humidity								
Well/Sample Number	MW-50-200-148	QC Sample ID	NA								
Purge Start Time	1320	Purge Method	Temp Pump								
Flow Cell Y/N	N	Min. Purge Volume (gal)/(L)	82.8 gal								
Water Level	Time	Vol. Purged gallons / liters	pH								
			Conductivity mS/cm								
			Turbidity NTU								
			Diss. Oxygen mg/L								
			Temp. °C								
			Salinity ‰								
			Eh/ORP mv								
			Comments (See description below)								
42.85	1322	6	7.52	20.87	6	2.84	28.88	12.54	13.69	12.3	3
45.38	1326	18	7.42	21.07	6	2.05	29.38	12.55	13.69	114.	8
45.39	1330	30	7.43	21.06	3	2.07	29.28	12.54	13.69	111.	0
45.43	1334	42	7.45	21.04	2	1.99	29.48	12.53	13.68	108.	3
45.48	1338	54	7.55	21.02	3	2.03	29.64	12.53	13.68	105.	5
45.48	1342	66	7.61	21.40	2	2.41	29.78	13.76	13.91	103.	3
45.48	1346	78	7.62	21.40	2	2.44	29.74	13.75	13.90	102.	0
45.48	1350	90	7.61	21.43	2	2.47	29.70	13.78	13.93	100.	9
45.53	Pump off										
			+/- 0.1 pH units	+/- 3% units when >10 NTUs	+/- 10% NTU when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV	
Parameter Stabilization Criteria											
Did Parameters Stabilize prior to sampling?	Y										
Previous Field measurement (5/8/2008)	7.67										
Are measurements consistent with previous?	Y										
Sample Time	1351	Sample Location:	pump tubing	✓	well port	spigot	baller	other			
Comments:											

Initial Depth to Water (ft BTOC): 48.06
 Field measured confirmation of Well Depth (ft btoc): _____
 WD (Well Depth - from database) ft btoc (204.5)
SWH (Standing Water Height) = WD-Initial Depth 158.44
 D (Volume as per diameter) $2^2 = 0.17$, $4^2 = 0.66$, $1^2 = 0.041$ (2 in)
 One Casing Volume = $D^2 \times SWH$ ~~27.3~~ + 9.78 = 37.1
 Three Casing Volumes = 13.3 + 9.78 = 23.1
 Color: clear, grey, yellow, brown, black, cloudy, green
 Odor: none, sulphur, organic, other

Initial DTW / Before Removal	Initial DTW	Measure Point: Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:
If Transducer	Approx. 5 min After Reinstillation	Time	Final DTW	Time of Removal

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3	
Job Number		370367.MP.02.GM.04		Date		10/11/08	
Field Team		1		Field Conditions		Survey, 1/60'	
Well/Sample Number		MW-52M-148		QC Sample ID		NA	
Purge Start Time		1036		Purge Method		Dri. Pump Accel. + Purge	
Flow Cell		Y/N		Min. Purge Volume (gallons)		4.5	
Water Level		Time		Vol. Burged (gallons)/liters		Purge Rate (gpm)/(ml/lpm)	
NA		1042		1		4.17	
NA		1048		2		7.17	
NA		1054		3		7.19	
NA		1100		4		7.22	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
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NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4.5		7.26	
NA		1103		4			

both (ft btoc): N

Measure Point

WATER LEVEL METER SERIAL NUMBER

Well TOC Steel Casin

A19

If Transducer			
Initial DTW / Before Removal		Approx. 5 min After Reinstallation	
Time	Initial DTW	Time	Final DTW
✓A	✓P	✓A	✓A

Comments:

Three Casing Volumes = N/A

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Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367 MP.02.GM.04	Date	10/11/08								
Field Team	1	Field Conditions	Sunny Hot								
Well/Sample Number	MW-53D-148	QC Sample ID	NA								
Purge Start Time	1354	Purge Method	Purge Pump								
Flow Cell	1 / N	Min. Purge Volume (gal/L)	5 . 1	Purge Rate (gpm)/(ml/lpm)	0 . 125						
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
1402	1	7.12	30.4	3.7.18	0.00	22.55	2.06	18	-170		
1410	2	8.01	34.3	3.87	0.00	22.97	2.17	22	-247		
1418	3	8.28	34.1	5.94	0.00	21.23	2.15	22	-265		
1426	4	8.37	34.0	4.41	0.00	21.37	2.15	22	-272		
1434	5	8.38	34.0	3.60	0.00	21.30	2.15	22	-277		
1438	5.5	8.37	34.0	3.24	0.00	21.34	2.14	22	-279		
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUS	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y	Y	NA	NA	Y	Y		
Previous Field measurement (5/7/2008)	8.44	37300	0.5	0	0	21	2.16	NA	NA	-160	
Are measurements consistent with previous?	Y	N	N	Y	Y	NA	Y	NA	NA	other	
Sample Time	1442	Sample Location:	pump tubing	well port	spigot						
Comments:											
Initial Depth to Water (ft BTOC):	NA	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:						
Field measured confirmation of Well Depth (ft btoc):	NA	Initial DTW / Before Removal			If Transducer						
WD (Well Depth - from database) ft btoc	NA	Initial DTW	Approx. 5 min After Removal		Time of Removal						
SWH (Standing Water Height) = WD-Initial Depth	NA	Initial DTW	Final DTW		Time of Reinstallation						
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041	NA	NA	NA								
One Casing Volume = D*SWH	NA	NA	NA								
Three Casing Volumes =	NA										
Color: clear, grey, yellow, brown, black, cloudy, green											
Odor: none, sulphur, organic, other											
Solids: trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand											

Topock Sampling Log

Sampling Event										2008-GMP-148-Q3	
Date										10/11/08	
Page										of	
Well/Sample Number								QC Sample ID		NA	
Purge Start Time								Purge Method		Peristaltic Pump	
Field Team								Ded. Pump tubing		QC Sample Time	
Flow Cell <input checked="" type="checkbox"/> N								Min. Purge Volume (gal)/(L)		5.4	
Purge Rate (gpm)/(mL/min)								TDS g/L		Eh/ORP mV	
Water Level								Salinity %		(See description below)	
Time								Temp. °C		Turbidity NTU	
Vol. Purged gallons / liters								Diss. Oxygen mg/L		Conductivity mS/cm	
pH								3.69		1.92	
1550								23.16		1.55	
1605								1.14		17	
1619								22.72		0.06	
1634								2.55		2.14	
1653								22.70		1.53	
1659								1.57		17	
5.5								22.20		1.57	
5.5								22.15		1.60	
5.5								1.7		17	
5.5								22.08		1.56	
5.5								17		17	
Initial Depth to Water (ft BTOC):								NA		+/- 10 mV	
Field measured confirmation of Well Depth (ft btoc):								+/- 0.3 mg/L		when >10 NTUs	
Parameter Stabilization Criteria								Y		NA	
Did Parameters Stabilize prior to sampling?								Y		NA	
Previous Field measurement (5/7/2008)								8.34		20.3	
Are measurements consistent with previous?								Y		1.72	
Sample Time								1703		Sample Location:	
Comments:								pump tubing		well port	
Initial Depth to Water (ft BTOC):								spigot		other	
Measure Point:								Well TOC		Steel Casing	
WATER LEVEL METER SERIAL NUMBER:								NA		NA	
Field measured confirmation of Well Depth (ft btoc):								NA		NA	
WD (Well Depth - from database) ft btoc								NA		NA	
SWH (Standing Water Height) = WD-Initial Depth								NA		NA	
D (Volume as per diameter) 2" = 0.17, 4"= 0.66, 1"= 0.041								NA		NA	
One Casing Volume = D*SWH								NA		NA	
Comments:								NA		NA	
If Transducer								Initial DTW / Before Removal		Approx. 5 min After Reinstillation	
Time								Initial DTW		Time	
Comments:								NA		Final DTW	
Time of Removal								NA		Time of Reinstallation	
Comments:								NA		NA	
Comments:								NA		NA	

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

Odor: none sulphur organic other

Solids: Trace Small Oil Mud Oil Litter Oil Particulates Silts Sand

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3					
Job Number	370367 MP.02.GM.04 <th>Field Team</th> <td>1</td> <th>Field Conditions</th> <td>Sunny, Calm, 75°F</td> <th>Date</th> <td>10/18/08</td>	Field Team	1	Field Conditions	Sunny, Calm, 75°F	Date	10/18/08				
Well/Sample Number		TW-01-148		QC Sample ID		NA					
Purge Start Time	0853	Purge Method	Min. Purge Volume (gal)/L	Purge Rate (gpm)/(ml/min)	2.32.5 gal/s	Ded. Pump	CD Pump				
Flow Cell	Y	N									
Water Level	Time	Vol Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity ‰	TDS g/L	Eh/ORP mv	Comments (See description below)
-	0855	40	7.07	7.054	3	1.99	28.98	4.01	47.984	85.8	water indicator b.t. st 163'
-	0857	80	7.10	11.33	3	0.49	29.56	6.38	7.328	68.0	no OTW Tanker
-	0859	120	7.08	7.678	3	2.58	29.79	4.10	4.823	79.2	
-	0901	160	7.05	6.871	3	3.21	29.77	3.70	4.421	80.2	
-	0903	200	7.05	6.759	3	3.34	29.71	3.66	4.375	83.2	
-	0905	240	7.05	6.730	3	3.46	29.72	3.66	4.365	85.9	
0908 Purge off											
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Previous Field measurement (5/8/2008)		7.16	7350	0.39	3.57	29.65	4.01			-12.3	
Are measurements consistent with previous?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
Sample Time		0907	Sample Location:	pump tubing	✓	well port	spigot	bailer	other		
Comments:											
Initial Depth to Water (ft BTOC):		164.22		Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:				
Field measured confirmation of Well Depth (ft btoc):		-		If Transducer		NA					
WD (Well Depth - from database) ft btoc		(240.1999)		Initial DTW / Before Removal	Approx. 5 min After Reinstillation						
SWH (Standing Water Height) = WD-Initial Depth		75.98		Time	Time	Final DTW	Time of Removal				
D (Volume as per diameter) $2^2 = 0.17$, $4^2 = 0.66$, $1^2 = 0.041$ (5 in)		1.020					Time of Reinstallation				
One Casing Volume = D*SWH		77.5									
Three Casing Volumes =		232.5 gals									
Color:		clear, grey, yellow, brown, black, cloudy, green									
Odor:		none sulphur, organic, other									

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

Odor: none sulphur, organic, other

Topock Sampling Log

Project Name		PGE Topock GMP		Sampling Event		2008-GMP-148-Q3					
Job Number	370367.MP.02.GM.04 <th>Field Team</th> <td>1</td> <th>Field Conditions</th> <td>In-Side</td> <th>Date</th> <td>10/3/08</td>	Field Team	1	Field Conditions	In-Side	Date	10/3/08				
Well/Sample Number		TW-02S-148		QC Sample ID		NA					
Purge Start Time		1529		Purge Method		Ded. Pump					
Flow Cell		Y/N		Min. Purge Volume (gal)/(L)		Purge Rate (gpm)/(ml/pm)					
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
1529	0	7.45	3.78	3.96	3.94	28.47	0.20	2.5	128		
1532	0.5	7.40	4.46	3.17	3.50	28.87	0.23	2.9	129		
1535	1.0	7.40	4.77	2.24	3.53	28.86	0.25	3.1	130		
1538	1.5	7.41	5.05	2.19	3.41	28.85	0.27	3.3	131		
1541	2	7.41	5.25	2.42	3.36	28.85	0.28	3.5	131		
1544	2.5	7.42	5.40	2.53	3.35	28.85	0.29	3.5	131		
1547	3.0	7.43	5.61	2.78	3.32	28.85	0.30	3.7	133		
1550	3.5	7.44	5.75	2.84	3.34	28.85	0.31	3.7	133		
1553	4.0	7.43	5.85	2.89	3.28	28.85	0.31	3.8	134		
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	<input checked="" type="checkbox"/>	N	N	N	N	NA	NA	NA	NA	N	
Previous Field measurement (12/17/2007)	7.45	3040	0.5	6.51	27.8	0.13	NA	NA	NA	12	
Are measurements consistent with previous?	<input checked="" type="checkbox"/>	N	N	N	NA	NA	NA	NA	NA	N	
Sample Time	1555	Sample Location:	pump tubing	well port	spigot	—	bailer	—	other	—	Comments: _____
Initial Depth to Water (ft BTOC):	<input checked="" type="checkbox"/>		Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:					
Field measured confirmation of Well Depth (ft btoc):	<input checked="" type="checkbox"/>		If Transducer								
WD (Well Depth - from database) ft btoc	(102.0500)	<input checked="" type="checkbox"/>	Initial DTW / Before Removal	Approx. 5 min After Reinstalation		Time of Removal		Time of Reinstalation			
SWH (Standing Water Height) = WD-Initial Depth	<input checked="" type="checkbox"/>	Initial DTW	Time	Final DTW							
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (6 in)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
One Casing Volume = D*SWH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Comments: _____	
Three Casing Volumes =	<input checked="" type="checkbox"/>										
Color: clear, grey, yellow, brown, black, cloudy, green	<input checked="" type="checkbox"/>										Solids: Trace, Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand

Odor: none, sulphur, organic, other

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Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/31/08								
Field Team	1	Field Conditions	Inside								
Well/Sample Number	TW-02D-148	QC Sample ID	NA								
Purge Start Time	1452	Purge Method	<u>ded Purge</u>								
Flow Cell	N	Min. Purge Volume (gal)/(L)	QC Sample Time								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
1452	0	747	15.2	6.17	6.00	27.74	0.89	10	105		
1455	0.75	7.31	15.5	5.75	6.00	27.18	0.91	10	104		
1458	1.5	7.25	15.5	5.02	6.00	27.09	0.91	10	102		
1501	2.25	7.22	15.5	4.96	6.00	27.07	0.91	10	100		
1504	3.0										
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV		
Did Parameters Stabilize prior to sampling?	Y	Y	Y	Y	NA	Y	Y	Y	Y		
Previous Field measurement (12/17/2007)	7.43	9050	6.3	0.19	26.6	0.5					
Are measurements consistent with previous?	Y	Y	N	N	NA	Y	N	N	N		
Sample Time	1202	Sample Location:	pump tubing	well port	spigot	well port	spigot	well	bailey	other	Comments:
Initial Depth to Water (ft BTOC):	NA	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	NA					
Field measured confirmation of Well Depth (ft btoc):	NA	Initial DTW / Before Removal	Approx. 5 min After Reinstillation		if Transducer	NA					
WD (Well Depth - from database) ft btoc	(150)	Initial DTW	Final DTW		Time of Removal	NA					
SWH (Standing Water Height) = WD-Initial Depth	NA	Time	Time		Time of Reinstallation	NA					
D (Volume as per diameter) $2^2 = 0.17$, $4^2 = 0.66$, $1^2 = 0.041$ (6 in)	NA										
One Casing Volume = D*SWH	NA										
Three Casing Volumes =	NA										
Color: clear, grey, yellow, brown, black, cloudy, green, blue	NA										
Solids: trace, small Qu, Med Qu, Large Qu, Particulate, Silt, Sand	NA										
Odor: none, sulphur, organic, other	NA										

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3							
Job Number	370367.MP.02.GM.04	Date	10-2-08							
Field Team	1	Field Conditions	Sunny Warm 85° N							
Well/Sample Number	TW-04-148 0835	QC Sample ID	MW-98-148 reli-flow							
Purge Start Time		Purge Method	No							
Flow Cell N		Min. Purge Volume (gal)/(L)	450							
Water Level	Time	Vol. Purged gallons / liters	pH							
			Conductivity mS/cm							
			Turbidity NTU							
			Diss. Oxygen mg/L							
			Temp. °C							
			Salinity %							
			TDS g/L							
			Eh/ORP mv							
			Comments (See description below)							
30.80	0840	2.5	7.34	20042	1	1.33	28.01	—	—	-15.2
31.50	0855	1.00	7.31	19773	0	1.36	28.24	—	—	3.2
31.55	0915	2.00	7.52	21634	0	0.16	28.86	—	—	-7.3
31.60	0935	3.00	7.52	21312	0	0.11	28.97	—	—	-49.5
31.65	0945	3.50	7.51	21240	0	0.16	29.04	—	—	-77.4
31.70	0950	3.75	7.51	21269	0	0.10	29.05	—	—	-79.6
31.60	0955	4.00	7.51	21251	0	0.09	29.07	—	—	-86.6
31.60	1000	4.25	7.51	21271	0	0.10	29.07	—	—	-91.6
31.60	1005	4.50	7.51	21277	0	0.10	29.07	—	—	-94.2
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?		Yes	—	—	NA	—	—	—	—	
Previous Field measurement (5/8/2008)		7.47	22710	1.6	0.13	29.6	—	—	-107	
Are measurements consistent with previous?		—	—	—	NA	—	—	—	—	
Sample Time	1010	Sample Location:	Collect	pump tubing	well port	spigot	bailer	other		
Comments:										

Initial Depth to Water (ft BTOC): 29.70
 Field measured confirmation of Well Depth (ft btoc): 29.70
 WD (Well Depth - from database) ft btoc (255)
 SWH (Standing Water Height) = VWD-Initial Depth 2.25
 D (Volume as per diameter) $2'' = 0.17, 4'' = 0.66, 1'' = 0.041$
 One Casing Volume = D*SWH 4.689
 Three Casing Volumes = 500.9 446.8

Initial DTW / Before Removal Approx. 5 min After Reinstillation If Transducer
 Time Initial DTW Time Final DTW Time of Removal Time of Reinstallation
08:20 29.30 1015 29.55

Comments: N/N/C

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

Topock Sampling Log

Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3								
Job Number	370367.MP.02.GM.04	Date	10/21/08								
Field Team	1	Field Conditions	Sunny 80°, Windy								
Well/Sample Number	TW-05-148	QC Sample ID	NA								
Purge Start Time	08:12	Purge Method	Temp Pump								
Flow Cell	(Y), N	Min. Purge Volume (gal)/(L)	21 gal/Purge Rate (gpm)/(ml/pm)								
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	Eh/ORP mv	Comments (See description below)
41.22	08:13	3	821	10.39	7	4.36	28.70			20.8	
41.25	08:26	39.42	7.27	10.35	5	3.62	28.99			200.3	
41.27	08:39	81	7.30	10.34	4	3.52	29.19			193.0	
41.30	08:52	120	7.60	11.61	3	0.64	29.27			186.1	
41.30	09:05	159	7.64	11.62	3	0.57	29.30			187.7	
41.32	09:18	198	7.63	11.61	3	0.54	29.33			187.2	
41.35	09:31	237	7.62	11.65	3	0.56	29.34			187.4	
	09:54	<i>End purge / stop pump</i>									
Parameter Stabilization Criteria		+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mV	
Did Parameters Stabilize prior to sampling?	X		X	X		NA				X	
Previous Field measurement (12/13/2007)	7.73	15549	0.34	0.17		29.3				-31	
Are measurements consistent with previous?	X	X	X	X		NA				N	
Sample Time	09:33	Sample Location:	pump tubing	✓ well port	spigot	bailer	other				
Comments:											
Initial Depth to Water (ft BTOC):	41.05	Measure Point:	Well TOC	Steel Casing	WATER LEVEL METER SERIAL NUMBER:	41.05					
Field measured confirmation of Well Depth (ft/btoc):	—										
WD (Well Depth - from database) ft btoc	(152.5)										
SWH (Standing Water Height) = WD-Initial Depth	111.45										
D (Volume as per diameter) 2" = 0.17, 4" = 0.66, 1" = 0.041 (4 in)											
One Casing Volume = D*SWH	73.06										
Three Casing Volumes =	229										
Color (clear/grey, yellow, brown, black, cloudy, green)											

Note
EB=10-02-08
EB=10-02-08 + 0948
QC Sample Time
Purge Rate (gpm) 3

If Transducer NA

Initial DTW / Before Removal

Initial Time	Initial DTW	Approx. 5 min After Reinstalation Time	Final DTW	Time of Removal
				Time of Reinstalation

Comments: Solids (Trace), Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand Odor (none) sulphur, organic, other

WQ Log

Topock Sampling Log										
Project Name	PGE Topock GMP	Sampling Event	2008-GMP-148-Q3							
Job Number	370367.MP.02.GM.04	Date	10/27/08							
Field Team	1	Field Conditions	Partly Cloudy, warm							
Well/Sample Number	PM-03-148	QC Sample ID	NA	Page	1	of	QC Sample Time			
Purge Start Time		Purge Method	Ded. Pump	Min. Purge Volume (gal)/(L)	? ?	Purge Rate (gpm)/(mL/min)	?	Eh/ORP	mv	Comments (See description below)
Water Level	Time	Vol. Purged gallons / liters	pH	Conductivity mS/cm	Turbidity NTU	Diss. Oxygen mg/L	Temp. °C	Salinity %	TDS g/L	
16:57	7.66	1.55	3.38	3.33	36.07	0.07	1.0	31		
17:00	7.34	1.55	3.70	3.00	30.04	0.07	1.0	11		
1703	7.39	1.54	3.95	3.00	30.04	0.07	1.0	-1		
1706	7.39	1.55	3.59	2.99	30.04	0.07	1.0	-13		
1709	7.41	1.55	3.62	2.98	30.04	0.07	1.0	-22		
1712	7.42	1.54	3.48	2.87	30.01	0.07	1.0	-26		
1715	7.42	1.55	3.42	2.93	30.02	0.07	1.0	-30		
Parameter Stabilization Criteria	+/- 0.1 pH units	+/- 3%	+/- 10% NTU units when >10 NTUs	+/- 0.3 mg/L	NA	NA	NA	NA	+/- 10 mv	
Did Parameters Stabilize prior to sampling?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	NA	NA	NA		
Previous Field measurement (12/17/2007)	7.71	1520	1.3	6.28	28.3	0.7	4			
Are measurements consistent with previous?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA	NA	NA	NA			
Sample Time	1717	Sample Location:	pump tubing	well port	spigot	bailer	other	Hose from Hose b to		
Comments:										
Initial Depth to Water (ft BTOC):	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Field measured confirmation of Well Depth (ft btoc):	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
WD (Well Depth - from database) ft btoc (252)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
SWH (Standing Water Height) = WD-Initial Depth	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
D (Volume as per diameter) 2"= 0.17, 4"= 0.66, 1"= 0.041 (8 in)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
One Casing Volume = D*SWH	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Three Casing Volumes =	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Color: clear, grey, yellow, brown, black, cloudy, green										
Odor: none, sulphur, organic, other										
Solids: Trace Small Qu, Med Qu, Large Qu, Particulate, Silt, Sand										

Todock Sampling Log

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

Odor: none, sulphur, organic, other

Valids: Trace



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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

COC Number 9/30/2008-10d-ATL
Turnaround Time 10 Days
Date 9/30/2008 Page 1 OF 1

		Number of Containers							
COMPANY E2	Container:	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	Comments	
PROJECT PG&E Topock	Preservatives:								
ADDRESS 155 Grand Ave Ste 1000	Filtered:	NA	NA	NA					
Oakland, CA 94612	Holding Time:	28	28	28					
PHONE (530) 229-3303	FAX	(530) 339-3303							
P.O. NUM 370367.MP.02.GM.04	TEAM	dmc							
SAMPLERS (SIGNATURE)									
SAMPLE I.D.	DATE	TIME	Matrix						
MW-29-148	9/30/2008	15:00	Water	X	X	X			1
MW-49-275-148	9/30/2008	13:55	Water	X	X	X			1
TOTAL NUMBER OF CONTAINERS								2	

100-1
-2

CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

978898

CCC Number 101/1008-10d-TLJ
Turnaround Time 10 Days
Date 10/1/2008 Page 2 OF

		Number of Containers										Comments	
COMPANY E2		250 ml Poly	250 ml Poly	250 ml Poly	250 ml Poly	250 ml Poly	600 ml Poly	600 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	
PROJECT PG&E Topock		Preservatives: (NH4)2SO4	4°C	Filted: NA	Field	NA	Field	NA	Field	Field	Field	Field	
ADDRESS 155 Grand Ave Ste 1000	Oakland, CA 94612	Holding Time: 28	28	28	28	28	180	180	180	180	180	180	Diss Metals (7470A) Field Filtered
PHONE (530) 229-3303	FAX (530) 339-3303												Diss Metals (8010B) Field Filtered Title 22
P.O. NUM 370387.MP.02.GM.04	TEAM 1												Diss Metals (8010B) Field Filtered Chromium
SAMPLERS (SIGNATURE)													Diss Metals (8010B) Field Filtered Ca,Mg,Na,Fe,Mn
SAMPLE I.D.		DATE	TIME	Matrix									Total Metals (200.7)
10. MW-52S-148		10/1/2008	11:12	Water			X				X	X	
11. MW-53D-148		10/1/2008	14:42	Water			X				X	X	
12. MW-53M-148		10/1/2008	17:03	Water			X				X	X	
13. MW-82-148		10/1/2008	9:25	Water			X				X	X	
14. MW-83-148		10/1/2008	13:30	Water			X						
													TOTAL NUMBER OF CONTAINERS 31

CHAIN OF CUSTODY SIGNATURE RECORD

Printed Name	Signature/Initials	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	SAMPLE CONDITIONS
Printed Name	Signature/Initials	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished) <i>Sp. Min</i>		CH2m Hill	Date/ 10-3-08 / 1515				
Signature (Received) <i>Bob David Dayog</i>		Company/ Agency TL	Date/ 10-7-08 / 1520				
Signature (Relinquished) <i>B. Dayog</i>	Printed Name <i>B. DAYOG</i>	Company/ Agency TL	Date/ 10-5-08 / 1545				
Signature (Received) <i>Shelburne, Jim</i>	Printed Name <i>Shelburne, Jim</i>	Company/ Agency TL	Date/ OCT 03 2008				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

N002208



CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

COC Number 10/1/2008-10d-ATL
Turnaround Time 10 Days
Date 10/1/2008 Page 1 OF 2

COMPANY/E2	Container:	Number of Containers						COMMENTS
		1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	
PROJECT PG&E Topock	Preservatives:							
ADDRESS 155 Grand Ave Ste 1000	Filtered:	NA	NA	NA	NA	NA	NA	
Oakland, CA 94612	Holding Time:	28	28	28	28	28	28	
PHONE (530) 229-3303	FAX (530) 339-3303							
P.O. NUM 370367.MP.02.GM.04	TEAM 1							
SAMPLERS (SIGNATURE)								
SAMPLE I.D.	DATE	TIME	Matrix					
-1 MW-23-148	10/1/2008	13:50	Water	X				
-2 MW-39-050-148	10/1/2008	11:55	Water	X				
-3 MW-39-060-148	10/1/2008	10:56	Water	X				
-4 MW-39-070-148	10/1/2008	13:40	Water	X				
-5 MW-39-080-148	10/1/2008	12:50	Water	X				
-6 MW-39-100-148	10/1/2008	9:15	Water	X				
-7 MW-48-148	10/1/2008	13:02	Water	X				
-8 MW-52D-148	10/1/2008	12:26	Water	X				
-9 MW-52M-148	10/1/2008	11:06	Water	X				
SAMPLE CONDITIONS								
Signature (Relinquished)	Printed Name <u>Susan Beville</u>	Company/ Agency <u>CH2M HILL</u>	Date/ Time <u>10-2-08/ 10:25</u>	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>		<u>2 Dec</u>
Signature (Received)	Printed Name <u>Tim Murphy</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 11:15</u>	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		
Signature (Relinquished)	Printed Name <u>Tim Murphy</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 14:03</u>					SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name <u>MSCARPIN</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 14:03</u>					
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time					
Signature (Received)	Printed Name	Company/ Agency	Date/ Time					

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name <u>Susan Beville</u>	Company/ Agency <u>CH2M HILL</u>	Date/ Time <u>10-2-08/ 10:25</u>	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>		<u>2 Dec</u>
Signature (Received)	Printed Name <u>Tim Murphy</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 11:15</u>	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		
Signature (Relinquished)	Printed Name <u>Tim Murphy</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 14:03</u>					SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name <u>MSCARPIN</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10-2-08/ 14:03</u>					
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time					
Signature (Received)	Printed Name	Company/ Agency	Date/ Time					

N002208

CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

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CHAIN OF CUSTODY SIGNATURE RECORD						SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	
Signature (Received)	Printed Name	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Printed Name	Company/ Agency	Date/ Time				

Rec'd 10/03/08
Lab#: 978699

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CHAIN OF CUSTODY RECORD

[2008-GNP-148-03]

978699

COC Number

Turnaround Time

10 Days

Date 10/2/2008

Page 1 OF 3

Number of Containers							COMMENT
<i>See Sample Conditions of Sample Attached</i>							
COMPANY E2	Container: 250 ml Poly	250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly
PROJECT PG&E Topock	Preservatives: 4N H4O4H, 4N NH4OH, 4N H4OCH, 4N NH4OCH, 4N H4OCH, 4°C			HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C
ADDRESS 155 Grand Ave Ste 1000	Filtered: NA	Field	Field	NA	Field	Field	Field
Oakland, CA 94612	Holding Time: 28	28	28	180	180	180	180
PHONE (630) 229-3303	FAX (530) 339-3303						
P.O. NUM 370367 MP.02.GM.04	TEAM 1						
SAMPLERS (SIGNATURE)							
SAMPLE ID.	DATE	TIME	Matrix				
MW-13-148	10/2/2008	12:47	Water	X			
-1	MW-17-148	10/2/2008	14:08	Water	X		
-2	MW-18-148	10/2/2008	15:17	Water	X		
-3	MW-21-148	10/2/2008	15:47	Water	X		
MW-21-148-EB	10/2/2008	15:47	Water	X			
MW-24BR-148	10/2/2008	15:10	Water	X			
-4	MW-43-025-148	10/2/2008	11:55	Water	X		
MW-43-025-148-EB	10/2/2008	11:55	Water	X			
MW-43-075-148	10/2/2008	14:15	Water	X			
Total Metals (200.7)							
Cr6 (SM3500) Field Filtered							
Cr6 (218.6R) Field Filtered							
Cr6 (218.6) Field Filtered							
Cr6 (218.6)							
Diss Metals (7470A) Field Filtered							
Diss Metals (6010B) Field Filtered Title 22							
Diss Metals (6010B) Field Filtered Chromium							
Diss Metals (6010B) Field Filtered Ca,Mg,Na,Fe,Mn							
Diss Metals (6010B) Field Filtered Ca,Mg,K,Na,B,Fe,Mn							
Diss Metals (6010B) Field Filtered Background Study Suite (see notes)							
COMMENT							
2							
2							
2							
4g -40w3							
1 Hold							
2 D4-1-							
43 -40w3							
4 Hold							
3 p4-3							
SPECIAL REQUIREMENTS:							
SAMPLE CONDITIONS	RECEIVED	COOL	WARM	YES	NO	NO	NO
Signature (Relinquished) <i>Tom Poirier</i>	Printed Name: Susan Bellville	Company/ Agency: CHLM Hill	Date/ Time: 10/13/08 / 15:15				
Signature (Received) <i>Tom Poirier</i>	Printed Name: <i>Tom Poirier</i> /D.O. Agency	Company/ Agency: TLI	Date/ Time: 10/13/08 / 15:20				
Signature (Relinquished) <i>B. Dayag</i>	Printed Name: <i>B. Dayag</i>	Company/ Agency: TLI	Date/ Time: 10/14/08 / 12:00				
Signature (Received) <i>John M. and Heather M. Poirier</i>	Printed Name: <i>John M. and Heather M. Poirier</i>	Company/ Agency: TLI	Date/ Time: 10/14/08 / 12:00				
Signature (Relinquished)	Printed Name:	Company/ Agency:	Date/ Time:				
Signature (Relinquished)	Printed Name:	Company/ Agency:	Date/ Time:				
Signature (Received)	Printed Name:	Company/ Agency:	Date/ Time:				



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-C3]

9788999

COC Number **10/2/2008-10d-TL1**

Turnaround Time **10 Days**

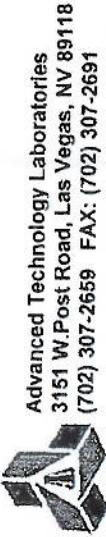
Date **10/2/2008**

Page **2 OF 3**

COMPANY E2	Number of Containers												COMMENT:
	250 ml Poly	250 ml Poly	250 ml Poly	500 ml Poly									
PROJECT PG&E Topock	Preservatives: (NH4)2SO4, (NH4)2CO3, 4NH4OH, 4NH4AOH, 4NH4NOH, 4°C	Field	Field	NA	Field	NA	Field	Field	Field	Field	Field	Field	HNCO, HNO3, 4°C, 2°C
ADDRESS 155 Grand Ave Site 1000	Holding Time: 28	28	28	28	180	180	180	180	180	180	180	180	
Oakland, CA 94612													
PHONE (530) 229-3303	FAX (530) 339-3303												Diss Metals (7470A) Field Filtered
P.O. NUM 370367.MP.02.GM.04	TEAM 1												Diss Metals (6010B) Field Filtered Title 22
SAMPLERS (SIGNATURE)													Diss Metals (6010B) Field Filtered Chromium
													Diss Metals (6010B) Field Filtered Ca,Mg,Na,Fe,Mn
													Diss Metals (6010B) Field Filtered Ca,Mg,K,Na,B,Fe,Mn
													Diss Metals (6010B) Field Filtered Background Study Suite (see notes)
													Total Metals (200.7)
													Cr6 (SM3500) Field Filtered
													Cr6 (218.5R) Field Filtered
													Cr6 (218.6) Field Filtered
													Cr6 (218.6)
SAMPLE ID.	DATE	TIME	MATRIX										
MW-43-090-148	10/2/2008	13:30	Water			X							
MW-43-090-148-EB	10/2/2008	12:50	Water		X								
MW-84-148	10/2/2008	9:48	Water	X									
MW-85-148	10/2/2008	15:30	Water	X									
MW-98-148	10/2/2008	10:40	Water	X				X	X				
MW-03-148	10/2/2008	17:17	Water	X			X		X				
MW-04-148	10/2/2008	18:04	Water	X			X		X				
TW-04-148	10/2/2008	10:10	Water	X					X	X			
TW-05-148	10/2/2008	9:33	Water	X				X	X				

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Steve Wair	Printed Name	Susan Bonville	Company/ Agency	CH2M Hill	Date/ Time	10/3/08 / 1515	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	°F _____
Signature (Received)	B. Dayag	Printed Name	Frances Dayag	Company/ Agency	TCL	Date/ Time	10/2/08 / 1520	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	B. Dayag	Printed Name	B. Dayag	Company/ Agency	TCL	Date/ Time	10-3-08 12:00	SPECIAL REQUIREMENTS:			
Signature (Received)	J. Shelly Mire	Printed Name	Shelly Mire	Company/ Agency	TCL	Date/ Time	10/3/08 / 12:00				
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time					
Signature (Received)		Printed Name		Company/ Agency		Date/ Time					



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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

COC Number 10/2/2008-10d-ATL
Turnaround Time 10 Days
Date 10/2/2008 Page 1 OF 1

COMPANY E2 PROJECT PG&E Topack	Container/ Preservatives:		Number of Containers		COMMENT	
	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C		
ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	Filtered: Holding Time:	NA 28	NA 28	NA 28	1	
PHONE (530) 229-3303 FAX (530) 339-3303	P.O. NUM 370367.MP.02.GM.04 TEAM 1 SAMPLERS (SIGNATURE)	Alkalinity (SM2320B)				
Anions (300) Chloride, Sulfate, Nitrate						
Anions (300) Bromide, Chloride, Sulfate, Nitrate						
TDS (SM2540C)						
Specific Conductance (120.1)						
SAMPLE I.D.	DATE	TIME	Matrix			SAMPLE CONDITIONS
-1 MW-13-148	10/2/2008	12:47	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-2 MW-18-148	10/2/2008	15:17	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-3 MW-21-148	10/2/2008	15:47	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-4 MW-24BR-148	10/2/2008	15:10	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-5 MW-43-025-148	10/2/2008	11:55	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-6 MW-43-075-148	10/2/2008	14:15	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-7 MW-43-090-148	10/2/2008	13:30	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-8 MW-98-148	10/2/2008	10:40	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-9 PM-03-148	10/2/2008	17:17	Water	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
						1
CHAIN OF CUSTODY SIGNATURE RECORD						
Signature (Relinquished) Printed Name	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:		
Signature (Received) Printed Name	Printed Name	Company/ Agency	Date/ Time			
Signature (Relinquished) Printed Name	Printed Name	Company/ Agency	Date/ Time			
Signature (Received) Printed Name	Printed Name	Company/ Agency	Date/ Time			
Signature (Relinquished) Printed Name	Printed Name	Company/ Agency	Date/ Time			
Signature (Received) Printed Name	Printed Name	Company/ Agency	Date/ Time			

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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

[2008-GMP-148-Q3]

NO02215 COC Number 10/2/2008-10d-ATL

COMPANY E2	PROJECT PG&E Topock	ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	PHONE (530) 229-3303 FAX (530) 339-3303	Container: 1 Liter Poly 4°C Preservatives: 1 Liter Poly 4°C Filtered: NA 28	1 Liter Poly 4°C 1 Liter Poly 4°C 1 Liter Poly 4°C Holding Time: NA 28	1 Liter Poly 4°C 1 Liter Poly 4°C 1 Liter Poly 4°C Spec	Bromide TDS Chloro Alka
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SAMPLERS (SIGNATURE)

JOURNAL

TOTAL NUMBER OF CONTAINERS

CHAIN OF CUSTODY SIGNATURE BECOMES

CHAIN OF CUSTODY SIGNATURE RECORD						SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	16°C F
Signature (Received)	Printed Name	Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	SPECIAL REQUIREMENTS:
Signature (Relinquished)	Printed Name	Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Name	Company/ Agency	Date/ Time				

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Rec'd 10/06/08
Lab# 78929

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CHAIN OF CUSTODY RECORD

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Case number 10/31/2008-10d-TLI
Turnaround Time 10 Days
Date 10/31/2008 Page 1 C

[2008-GMP-148-Q3]

[2008-GMP-148-Q3]

COMPANY E2 _____
PROJECT PG&E Topock _____
ADDRESS 155 Grand Ave Ste 1000 _____
Oakland, CA 94612
CONTAINER _____
Preservative: _____
Filtered: _____
Holding Time: _____

PHONE (530) 229-3303 FAX (530) 339-3303
P.O. NUM 370387.MP.02.GM.04 TEAM 1
SAMPLERS (SIGNATURE)

MW-14-148		10/32/2008	9:40	Water
MW-16-148		10/32/2008	8:27	Water
MW-22-148		10/32/2008	9:46	Water

MW-27-020-148-EB	10/31/2008	9:50	Water
MW-27-060-148	10/31/2008	10:52	Water
MW-27-060-148-EB	10/31/2008	10:25	Water

07/31/2008 11:10 Water X

Signature (Relinquished)	<u>Sonu Kaur</u>	Printed Name	<u>Sonu Kaur</u>
Signature (Received)	<u>Jitender Singh</u>	Printed Name	<u>Jitender Singh</u>
Signature (Relinquished)	<u>Jitender Singh</u>	Printed Name	<u>Jitender Singh</u>
Signature (Received)		Printed Name	
Signature (Relinquished)		Printed Name	
Signature (Received)		Printed Name	

SAMPLE CONDITIONS		SPECIAL REQUIREMENTS:	
RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	NO
	CUSTODY SEALED	YES <input type="checkbox"/>	<i>o</i>

~~For Sample Condition
See Form Attached~~

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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

COC Number 10312008-10d-TL
Turnaround Time 10 Days
Date 10/31/2008 Page 2 Of

COMPANY E2
PROJECT PG&E Topock
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
PHONE (530) 229-3303 FAX (530) 339-3303
P.O. NUM 370367.MP.02.GM.04 TEAM 1
SAMPLERS (SIGNATURE)

SAMPLE ID.	DATE	TIME	Matrix	Number of Containers								COMME	
				250 ml Poly	250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	HNO3	HNO3		
MW-32-020-148	10/3/2008	12:32	Water			X		X	X				3 #/2:
MW-32-035-148	10/3/2008	15:19	Water			X		X	X	X			3 A 30
MW-36-070-148	10/3/2008	12:14	Water			X		X	X				3
MW-36-090-148	10/3/2008	11:02	Water	X				X	X				2
MW-37S-148	10/3/2008	13:40	Water	X				X	X				2
MW-41D-148	10/3/2008	11:10	Water	X				X	X				2
MW-41M-148	10/3/2008	12:07	Water	X				X	X				2
MW-41S-148	10/3/2008	12:51	Water	X				X	X				2
MW-42-055-148	10/3/2008	8:30	Water			X		X	X				3

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	WARM	SAMPLE CONDITIONS
7	Susan Brinkley	CH2M HILL	10-6-08 / 15:35				
8	Jane Houlds	CH2M HILL	10-6-08 / 15:35				
9							
10							
11							
12							
13							
14							
15							
16							

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

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

CUSTODY SEALED YES NO

SPECIAL REQUIREMENTS:

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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

CCC Number 103/2008-108-TL1

Tumaround Time 10 Days
Date 10/3/2008 Page 3 OF



COMPANY E2
PROJECT PG&E Topock
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
PHONE (530) 229-3303 FAX (530) 339-3303
P.O. NUM 370367.MP.02.GM.04 TEAM 1
SAMPLERS (SIGNATURE)

SAMPLE ID.	DATE	TIME	Matrix	Number of Containers				COMM
				500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	
MW-42-055-148-EB	10/3/2008	8:10	Water	X				1 <i>Ho</i>
MW-42-065-148	10/3/2008	9:12	Water					2 <i>Ho</i>
MW-42-065-148-EB	10/3/2008	8:50	Water	X				3 <i>Ho</i>
MW-86-148	10/3/2008	8:50	Water	X				1 <i>Upland Team</i>
MW-87-148	10/3/2008	12:00	Water	X				1 <i>Floodplain Team</i>
MW-94-148	10/3/2008	13:41	Water	X				2 <i>Ho</i>
MW-95-148	10/3/2008	12:52	Water	X				2 <i>Ho</i>
MW-02D-148	10/3/2008	15:02	Water			X		2 <i>Ho</i>
MW-02S-148	10/3/2008	15:55	Water			X		2 <i>Ho</i>

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	CCOL	WARM	SPECIAL REQUIREMENTS:
<i>John W.</i>	Susan Beville	CH2M Hill	10/6/08 / 15:35	<i>10/6/08</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<i>Jed</i>	Hipolito	Company/ Agency	10/6/08 ~ 6:00 AM	<i>10/6/08</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CUSTODY SEALED YES <input type="checkbox"/> NO <input type="checkbox"/>
<i>John</i>	Printed Name	Company/ Agency	Date/ Time				
<i>John</i>	Printed Name	Company/ Agency	Date/ Time				



CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

3151 W.Post Road, Las Vegas, NV 89118
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COC Number 10/3/2008-10d-ATL
 Turnaround Time 10 Days
 Date 10/3/2008 Page 1 OF 3

N00022223

COMPANY E2	Container:	Number of Containers						COMMENT
		1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	
PROJECT PG&E Topock	Preservatives:	4°C	4°C	4°C	4°C	4°C	4°C	
ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	Filtered:	NA	NA	NA	NA	NA	NA	1
PHONE (530) 229-3303	Holding Time:	28	28	28	28	28	28	1
P.O. NUM 370367.MP.02.GM.04	TEAM 1							
SAMPLERS (SIGNATURE)								
SAMPLE I.D.		DATE	TIME	Matrix				SAMPLE CONDITIONS
-1 MW-14-148	/	10/3/2008	9:40	Water	X	X	X	RECEIVED <input checked="" type="checkbox"/> COOL <input type="checkbox"/> WARM <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-2 MW-22-148	/	10/3/2008	9:46	Water	X	X	X	5 °C - 15 °F <input checked="" type="checkbox"/>
-3 MW-27-020-148	/	10/3/2008	10:07	Water	X	X	X	
-4 MW-27-060-148	/	10/3/2008	10:52	Water	X	X	X	
MW-27-085-148	/	10/3/2008	11:43	Water	X	X	X	
MW-32-020-148	/	10/3/2008	12:32	Water	X	X	X	
-7 MW-32-035-148	/	10/3/2008	15:19	Water	X	X	X	
-8 MW-36-070-148	/	10/3/2008	12:14	Water	X	X	X	
-9 MW-36-090-148	/	10/3/2008	11:02	Water	X	X	X	
								1
CHAIN OF CUSTODY SIGNATURE RECORD								
Signature (Relinquished)	Printed Name	Susan Beville	Company/ Agency	CH2M Hill	Date/ Time	10-4-08 /		
Signature (Received)	Printed Name	C. Hontz	Company/ Agency	CH2M Hill	Date/ Time	10/4/08 / 10:46		
Signature (Relinquished)	Printed Name	J. Lopez	Company/ Agency	CH2M Hill	Date/ Time	10/4/08 / 10:55		
Signature (Received)	Printed Name	J. Lopez	Company/ Agency	CH2M Hill	Date/ Time	10/4/08 / 10:55		
Signature (Relinquished)	Printed Name	J. Lopez	Company/ Agency	CH2M Hill	Date/ Time	10/4/08 / 10:55		
Signature (Received)	Printed Name	M. Brown	Company/ Agency	CH2M Hill	Date/ Time	10/4/08 / 10:55		

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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

COC Number 1002223 Turnaround Time 10 Days
Date 10/3/2008 Page 2 OF 2

COMPANY/E2	Container	Number of Containers					COMMENT
		1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	
PROJECT PG&E Topock	Preservatives:	NA	NA	NA	NA	NA	
ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	Filtered:	28	28	28	28	28	
PHONE (530) 229-3303	Holding Time:						
P.O. NUM 370367.MP.02.GM.04	TEAM 1						
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	DATE	TIME	Matrix				
-10 MW-37S-148	10/3/2008	13:40	Water	X		X	X
-11 MW-41D-148	10/3/2008	11:10	Water	X		X	X
-12 MW-41M-148	10/3/2008	12:07	Water	X		X	X
-13 MW-41S-148	10/3/2008	12:51	Water	X		X	X
-14 MW-42-055-148	10/3/2008	8:30	Water	X		X	X
-15 MW-42-065-148	10/3/2008	9:12	Water	X		X	X
-16 MW-94-148	10/3/2008	13:41	Water	X		X	X
-17 MW-95-148	10/3/2008	12:52	Water	X		X	X
-18 TW-02D-148	10/3/2008	15:02	Water	X		X	X
							1
CHAIN OF CUSTODY SIGNATURE RECORD							
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	WARM	SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES	NO	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

COMPANY E2

PROJECT PG&E Topock

ADDRESS IEEE Grand Award

Oakland, CA 94612

PHONE (530) 229-3303 FAX (530)

P.P.O. NUM 370367.MP.02.GM.04

SAMPLERS (SIGNATURE)

SAMPLE I.D.

三

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	SAMPLE CONDITIONS		S. O.	°F
			COOL	WARM		
Signature (Received)			<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Signature (Relinquished)	Susan Beville	Company/ Agency CUMMILL	RECEIVED	<input checked="" type="checkbox"/>		
Signature (Received)	C. H. STONE	Company/ Agency CHURCHILL	CUSTODY SEALED	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	"	Company/ Agency U				
Signature (Received)	JAPOLLO	Company/ Agency ATL				
Signature (Relinquished)	JAPOLLO	Company/ Agency ATL				
Signature (Received)	MICHAEL	Company/ Agency ATL				

Rec'd 10/09/08
Lab# 979040

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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

929 040

COC Number 10/6/2008-10d-TLJ
Turnaround Time 10 Days
Date 10/6/2008 Page 1 OF 1

		Number of Containers						Comments
COMPANY E2		250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	2 1 pH = 2
PROJECT PG&E Topock		Preservative: (NH4)2SO4 (NH4)2SO4 4NH4OH, 4NH4OH, 4°C	(NH4)2SO4 (NH4)2SO4 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	3/2
ADDRESS 155 Grand Ave Ste 1000	Oakland, CA 94612	Filtered:	NA	Field	Field	Field	Field	2
PHONE (530) 229-3303	FAX (530) 339-3303	Holding Time:	28	28	180	180	180	2
P.O. NUM 370367 MP 02.GM.04	TEAM Mf							
SAMPLERS (SIGNATURE)								
SAMPLE ID.		DATE	TIME	Matrix				
MW-09-148		10/6/2008	9:56	Water	X	X	C	
MW-10-148		10/6/2008	10:38	Water	X	X	X	
MW-31-060-148		10/6/2008	11:24	Water	X	X	X	
MW-31-135-148		10/6/2008	12:12	Water	X	X	X	
MW-37D-148		10/6/2008	13:33	Water	X	X	X	
MW-40D-148		10/6/2008	8:37	Water	X	X	X	
MW-50-095-148		10/6/2008	14:18	Water	X	X	X	
MW-88-148		10/6/2008	8:43	Water	X			
TOTAL NUMBER OF CONTAINERS								15

**For Sample Conditions
See Form Attached**

SAMPLE CONDITIONS		SAMPLE CONDITIONS	
RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	°F _____
CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
SPECIAL REQUIREMENTS:			
Signature (Relinquished) Barry Collen	Printed Name Barry Collen	Company/ Agency Company/ Agency	Date/ 10-9-08 Time 1:57PM
Signature (Received) B. D. Yang	Printed Name B. D. Yang	Company/ Agency Company/ Agency	Date/ 10-9-08 Time 2:46PM
Signature (Relinquished) B. D. Yang	Printed Name B. D. Yang	Company/ Agency Company/ Agency	Date/ 10-9-08 Time 2:53PM
Signature (Received) K. Shalhout	Printed Name K. Shalhout	Company/ Agency Company/ Agency	Date/ 10/9/08 Time 2:30 PM
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3] 97904 /

10/6/2008-10d-TL

<u>COMPANY E2</u>	<u>PROJECT PG&E Topock</u>	<u>ADDRESS 155 Grand Ave Ste 1000</u>	<u>Oakland, CA 94612</u>	<u>C</u>	<u>C</u>	<u>T</u>	<u>S</u>	<u>S</u>
Container: 250 ml Poly	Preservatives: INH412SD, INH4250, INH440H, 4N-H4OH, 4N-H4OH, 4C	Filtration: NA	Holding Time: 28	250 ml Poly	500 ml Poly	500 ml Poly	HN03, 4C	HN03, 4C

**For Sample Conditions
See Form Attached**

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Dated / / / / Time / : / :	RECEIVED COOL <input type="checkbox"/>	WARM <input type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Dated / / / / Time / : / :	CUSTODY SEALED YES <input type="checkbox"/>	NO <input type="checkbox"/>
SPECIAL REQUIREMENTS:					
Signature (Relinquished)	Printed Name	Company/ Agency	Dated / / / / Time / : / :		
Signature (Received)	Printed Name	Company/ Agency	Dated / / / / Time / : / :		
Signature (Relinquished)	Printed Name	Company/ Agency	Dated / / / / Time / : / :		
Signature (Received)	Printed Name	Company/ Agency	Dated / / / / Time / : / :		

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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

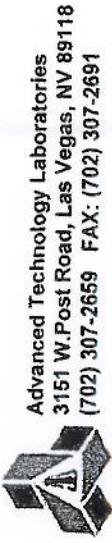
079041

COC Number 10/6/2008-10d-TL1
 Turnaround Time 10 Days
 Date 10/6/2008 Page 2 OF 2

		Number of Containers				
COMPANY/E2	Container	250 ml Poly	250 ml Poly	500 ml Poly	2	20
PROJECT PG&E Tapock	Preservatives:	(NH4)2SO4, 4N-H4OCH, 4N-H4OH, 4°C	(NH4)2SO4, 4N-H4OCH, 4N-H4OH, 4°C	HNO3, 4°C		
ADDRESS 155 Grand Ave Ste 1000	Filtered:	Na Field	Field	Field		
Oakland, CA 94612	Holding Time:	28	26	180	180	
PHONE (530) 229-3303	FAX (530) 339-3303	Diss Metals (6010B) Field Filtered Chromium				
P.O. NUM 370367-MP.02	TEAM dmrc	Diss Metals (6010B) Field Filtered Ca,Mg,Na,Fe,Mn				
SAMPLERS (SIGNATURE)		Cr6 (218.6R) Field Filtered				
SAMPLE I.D.	DATE	TIME	Matrix	X	X	
MW-96-148	10/6/2008	15:30	Water			
						TOTAL NUMBER OF CONTAINERS
						20

CHAIN OF CUSTODY SIGNATURE RECORD

		SAMPLE CONDITIONS				
Signature (Relinquished)	Printed Name <u>Bonny Coffin</u>	Company/ Agency <u>Chalm H.I.</u>	Date <u>10/9/08</u>	Time <u>1515</u>	RECEIVED	COOL <input type="checkbox"/>
Signature (Received)	Printed Name <u>Bonnie Dwyer</u>	Company/ Agency <u>TC</u>	Date <u>10/9/08</u>	Time <u>1600</u>	CUSTODY SEALED	WARM <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
Signature (Relinquished)	Printed Name <u>Benji Dwyer</u>	Company/ Agency <u>TC</u>	Date <u>10/9/08</u>	Time <u>2130</u>	SPECIAL REQUIREMENTS:	
Signature (Received)	Printed Name <u>Shelley Dwyer</u>	Company/ Agency <u>TC</u>	Date <u>10/9/08</u>	Time <u>2130</u>		
Signature (Relinquished)	Printed Name	Company/ Agency	Date	Time		
Signature (Received)	Printed Name	Company/ Agency	Date	Time		



CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

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COC Number
 Turnaround Time
 Date

10/6/2008-10d-ATL
 10 Days
 Page 1 OF 1

COMPANY E2		Container:	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	Number of Containers	Comments
PROJECT PG&E Topock		Preservatives:	4°C	4°C	4°C	4°C	4°C		
ADDRESS	155 Grand Ave Site 1000	Filtered:	NA	NA	NA	NA	NA		
Oakland, CA	94612	Holding Time:	28	28	28	28	28		
PHONE	(530) 229-3303	FAX	(530) 339-3303						
P.O. NUM	370367.MP.02.GM.04	TEAM	RWT						
SAMPLERS (SIGNATURE)									
SAMPLE I.D.		DATE	TIME	Matrix					
MW-09-148		10/6/2008	9:56	Water	X		X	X	
MW-10-148		10/6/2008	10:38	Water	X		X	X	
MW-31-060-148		10/6/2008	11:24	Water	X	X	X	X	
MW-31-135-148		10/6/2008	12:12	Water	X		X	X	
MW-37D-148		10/6/2008	13:33	Water	X		X	X	
MW-40D-148		10/6/2008	8:37	Water	X		X	X	
MW-50-095-148		10/6/2008	14:18	Water	X		X	X	
									TOTAL NUMBER OF CONTAINERS
									7

CHAIN OF CUSTODY SIGNATURE RECORD		SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name <u>Tom Win</u>	RECEIVED	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> 2.3°C <input checked="" type="checkbox"/>
Signature (Received)	Printed Name <u>Don S</u>	CUSTODY SEALED	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Signature (Relinquished)	Printed Name <u>ALBERT</u>		SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name <u>MICHAEL</u>	Date/Time <u>10/7/08 10:41</u>	
Signature (Relinquished)	Printed Name <u>John</u>	Date/Time <u>10/7/08 13:07</u>	
Signature (Received)	Printed Name <u>John</u>	Date/Time <u>10/7/08 13:09</u>	

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CHAIN OF CUSTODY RECORD

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COC Number 10/6/2008-10d-ATL
Turnaround Time 10 Days
Date 10/6/2008 Page 3 OF 10

COMPANY E2		PROJECT PG&E Topock		ADDRESS 155 Grand Ave Ste 1000		Oakland, CA 94612		PHONE (530) 229-3303		FAX (530) 339-3303		P.O. NUM 370367 MP.02.GM.04		TEAM dmc		SAMPLERS (SIGNATURE)		Number of Containers		COMMENTS		
Container:		1 Liter Poly 4°C		1 Liter Poly 4°C		1 Liter Poly 4°C		Preservatives:		NA		NA		Holding Time:		28		28		28		
Alkalinity (SM2320B)																						
Anions (300)		Chloride,Sulfate,Nitrate																				
Specific Conductance (120.1)																						
SAMPLE ID.	DATE	TIME	Matrix																			
MW-33-040-148	10/6/2008	12:55	Water	X	X	X	X															1
MW-33-090-148	10/6/2008	14:13	Water	X	X	X	X															1
MW-33-150-148	10/6/2008	16:15	Water	X	X	X	X															1
MW-33-210-148	10/6/2008	15:25	Water	X	X	X	X															1
MW-49-135-148	10/6/2008	9:30	Water	X	X	X	X															1
MW-49-365-148	10/6/2008	11:48	Water	X	X	X	X															1
MW-96-148	10/6/2008	15:30	Water	X	X	X	X															1
																						TOTAL NUMBER OF CONTAINERS 7

CHAIN OF CUSTODY SIGNATURE RECORD

SAMPLE CONDITIONS					
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>
	Susan Bell	CH2M Hill	10-7-08 / 1040	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	WARM <input type="checkbox"/>
	ATL	ATL	10-7-08 1041	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:	
	ATL	ATL	10-7-08 1307		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time		
	ATL	ATL	10-7-08 1309		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time		



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

9/29/08/5

COC Number 10/7/2008-10d-TL1
 Turnaround Time 10 Days
 Date 10/7/2008 Page 2 OF 2

COMPANY E2		Number of Containers										COMMENTS
		250 ml Poly	250 ml Poly	250 ml Poly	250 ml Poly	500 ml Poly						
PROJECT PG&E Topock		Preservatives: 4%NH4OH, 4%HNO3, 4%NaOH, 4%H4ONa, 4%H4OAc, 4°C		(NH4)2SO4 (NH4)2SO4 (NH4)2SO4 (NH4)2SO4 (NH4)2SO4 4°C		HNO3, 4°C						
ADDRESS 155 Grand Ave Site 1000		Filtered:	NA	Field	Field	Field	Field	Field	Field	Field	Field	
Oakland, CA 94612		Holding Time:	28	28	28	28	180	180	180	180	180	
PHONE (530) 229-3303	FAX (530) 339-3303											
P.O. NUM 370367 MP.02.GM.04	TEAM dmc											
SAMPLERS (SIGNATURE)												
SAMPLE ID.	DATE	TIME	Matrix									
MW-93-148	10/7/2008	9:00	Water		X		X		X		X	
MW-99-148	10/7/2008	13:00	Water		X		X		X		X	

TOTAL NUMBER OF CONTAINERS 23

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquisher)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	
Signature (Received)	Boysie G. Dwyer Signature	B. Dwyer Signature	10/7/2008 10:41:11	Date/ Time	10/7/2008 10:41:11	Date/ Time	
Signature (Relinquished)	Boysie G. Dwyer Signature	B. Dwyer Signature	10/7/2008 10:41:11	Date/ Time	10/7/2008 10:41:11	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

COC Number 107/2008-10d-ATL
Turnaround Time 10 Days
Date 10/7/2008 Page 1 Of 4

COMPANY E2	Container:	Preservatives:	Number of Containers						COMMENT
			1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	1 Liter Poly 4°C	
PROJECT PG&E Topock									
ADDRESS 155 Grand Ave Site 1000									
Oakland, CA 94612									
PHONE (530) 229-3303	FAX (530) 339-3303	P.O. NUM 370367.MP.02.GM.04	TEAM rwt						
SAMPLERS (SIGNATURE)									
SAMPLE I.D.	DATE	TIME	Matrix						
1 MW-12-148	10/7/2008	12:28	Water	x		x	x		1
2 MW-19-148	10/7/2008	10:46	Water	x		x	x		1
3 MW-20-070-148	10/7/2008	11:33	Water	x	x	x	x		1
4 MW-25-148	10/7/2008	9:43	Water	x	x	x	x		1
5 MW-35-060-148	10/7/2008	8:13	Water	x		x	x		1
6 MW-35-135-148	10/7/2008	8:56	Water	x		x	x		1
7 MW-50-200-148	10/7/2008	13:51	Water	x		x	x		1
8 MW-90-148	10/7/2008	12:28	Water	x		x	x		1
9 MW-91-148	10/7/2008	9:44	Water	x	x	x	x		1

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	4.0°C <input checked="" type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

15222022



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CHAIN OF CUSTODY RECORD

[2008-GMP-148-Q3]

COC Number 107/2008-10d-ATL
Turnaround Time 10 Days
Date 10/7/2008

COMPANY E2		Container: 1 Liter Poly		1 Liter Poly		1 Liter Poly		1 Liter Poly		COMMENT:		
PROJECT PG&E Topack		Preservatives:		4°C		4°C		4°C				
ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612		Filtered:	NA	NA	NA	NA	NA	NA	NA			
PHONE (530) 229-3303 FAX (530) 339-3303		Holding Time:	28	28	28	28	28	28	28			
P.O. NUM <u>370367.MP.02.GM.04</u>		TEAM <u>MFT</u>										
SAMPLERS (SIGNATURE)												
SAMPLE I.D.	DATE	TIME	Matrix									
<u>MW-97-148</u>	<u>10/7/2008</u>	<u>8:15</u>	<u>Water</u>	<u>X</u>				<u>X</u>				
TOTAL NUMBER OF CONTAINERS <u>10</u>												

Number of Containers
1

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name <u>Suzan Briville</u>	Company/ Agency <u>CH2M Hill</u>	Date/ Time <u>10/8/08 10:08</u>	RECEIVED <input checked="" type="checkbox"/>	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	REF. <u>10/8/08</u> °F <u>72</u>
Signature (Received)	Printed Name <u>JARZEC</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>10/8/08 10:08</u>	CUSTODY SEALED <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
Signature (Relinquished)	Printed Name <u>JAAZET</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>10/8/08 10:08</u>	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name <u>MUSACONI</u>	Company/ Agency <u>ATL</u>	Date/ Time <u>10/8/08 10:08</u>				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

NOO2251



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CHAIN OF CUSTODY RECORD [2008-GMP-148-Q3]

N002251

COC Number 107/2008-10d-ATL
Turnaround Time 10 Days
Date 10/7/2008 Page 34 OF 42

COMPANY/E2	Container:	Number of Containers						Comments
		1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	
PROJECT PG&E Topock	Preservatives:	4°C	4°C	4°C	4°C	4°C	4°C	
ADDRESS 155 Grand Ave Site 1000 Oakland, CA 94612	Filtered:	NA	NA	NA	NA	NA	NA	
PHONE (530) 229-3303 FAX (530) 339-3303	Holding Time:	28	28	28	28	28	28	
P.O. NUM 370367.MP.02.GM.04	TEAM dmc							
SAMPLERS (SIGNATURE)								
SAMPLE I.D.	DATE	TIME	Matrix				SAMPLE CONDITIONS	
-11 ✓ MW-34-055-148	10/7/2008	9:15	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-12 ✓ MW-34-080-148	10/7/2008	11:38	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-13 ✓ MW-34-100-148	10/7/2008	10:00	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-14 ✓ MW-36-100-148	10/7/2008	12:43	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-15 ✓ MW-44-070-148	10/7/2008	14:20	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-16 ✓ MW-44-115-148	10/7/2008	13:35	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-17 ✓ MW-44-125-148	10/7/2008	15:20	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-18 ✓ MW-93-148	10/7/2008	9:00	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
-19 ✓ MW-99-148	10/7/2008	13:00	Water	X	X	X	COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> NO <input type="checkbox"/>	
SPECIAL REQUIREMENTS:								1
CHAIN OF CUSTODY SIGNATURE RECORD								
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time					
Signature (Received)	Printed Name	Company/ Agency	Date/ Time					
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time					
Signature (Received)	Printed Name	Company/ Agency	Date/ Time					



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979037
CHAIN OF CUSTODY RECORD
[2008-GMP-14B-Q3]

Turnaround Time 10 Days

COC Number 10/8/2008-10d-TL
Date 10/8/2008 Page 1 OF 1

Suzan

*for Sample Conditions
See Form Attached*

COMPANY E2
PROJECT PG&E Topock
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
PHONE (530) 229-3303 FAX (530) 339-3303
P.O. NUM 370367.MP.02.GM.04
SAMPLERS (SIGNATURE)

Container	250 ml Poly	250 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly	500 ml Poly
Preservatives:	(NH4)2SO4 4°C	(NH4)2SO4 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C	HNO3, 4°C
Filtered:	NA	Field	Field	Field	Field	Field
Holding Time:	28	28	180	180	180	180

Diss Metals (7470A) Field Filtered
Diss Metals (6010B) Field Filtered Title 22
Diss Metals (6010B) Field Filtered Chromium
Diss Metals (6010B) Field Filtered Ca,Mg,Na,Fe,Mn
Diss Metals (6010B) Field Filtered Ca,Mg,K,Na,B,Fe,Mn
Cr6 (SM3600) Field Filtered
Cr6 (218.6) Field Filtered
Cr6 (218.6)

SAMPLE I.D.	DATE	TIME	Matrix	1	2	3	4	5	6	7	8	9	10
MW-20-100-148	10/8/2008	14:08	Water	X	X	X							
MW-20-130-148	10/8/2008	15:08	Water		X	X							
MW-26-148	10/8/2008	9:54	Water		X	X	X	X	X	X	X	X	
MW-51-148	10/8/2008	11:05	Water			X	X	X	X	X	X	X	
MW-81-148	10/8/2008	11:17	Water	X									1
MW-01-148	10/8/2008	9:07	Water					X	X				1

TOTAL NUMBER OF CONTAINERS

10

CHAIN OF CUSTODY SIGNATURE RECORD

Printed Name	Company/Agency	Date/Time												
<i>B. DAYC</i>	<i>Dayco</i>	<i>10/8/2008 10:16:00</i>												
<i>Shelly Marie G.</i>	<i>Shelly Marie G.</i>	<i>10/8/2008 10:16:00</i>	<i>Shelly Marie G.</i>	<i>Shelly Marie G.</i>	<i>10/8/2008 10:16:00</i>	<i>Shelly Marie G.</i>	<i>Shelly Marie G.</i>	<i>10/8/2008 10:16:00</i>	<i>Shelly Marie G.</i>	<i>Shelly Marie G.</i>	<i>10/8/2008 10:16:00</i>	<i>Shelly Marie G.</i>	<i>Shelly Marie G.</i>	<i>10/8/2008 10:16:00</i>
<i>Signature (Retained)</i>			<i>Signature (Retained)</i>			<i>Signature (Retained)</i>			<i>Signature (Retained)</i>			<i>Signature (Retained)</i>		
<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>		
<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>		
<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>		
<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>		
<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>		
<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>		
<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>		
<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>			<i>Signature (Relinquished)</i>		
<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>			<i>Signature (Received)</i>		

SAMPLE CONDITIONS

RECEIVED COOL WARM

CUSTODY SEALED YES NO

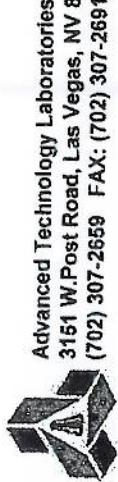
SPECIAL REQUIREMENTS:

pH = 2

pH = 1

pH = 1

pH = 1



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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

[2008-GMP-148-Q3]

COC Number 10/8/2008-10d-ATL
Turnaround Time 10 Days
Date 10/8/2008 Page 1 OF

		Number of Containers					
COMPANY PROJECT	ADDRESS	Containers:	1 Liter Poly 4°C				
		Preservatives:	NA	NA	NA	NA	NA
MW-20-100-148	/						
MW-20-130-148	/		10/8/2008	14:08	Water	X	X
MW-26-148	/		10/8/2008	15:08	Water	X	X
MW-51-148	/		10/8/2008	9:54	Water	X	X
			10/8/2008	11:05	Water	X	X
SAMPLE I.D.		DATE	TIME	Matrix			
MW-20-100-148	/	10/8/2008	14:08	Water	X	X	X
MW-20-130-148	/	10/8/2008	15:08	Water	X	X	X
MW-26-148	/	10/8/2008	9:54	Water	X	X	X
MW-51-148	/	10/8/2008	11:05	Water	X	X	X
SAMPLERS (SIGNATURE)							
P.O. NUM		TEAM IWT					
PHONE		(530) 229-3303 FAX (530) 339-3303					
P.O. NUM		370367.MP.02.GM.04					
SAMPLES (SIGNATURE)							
TOTAL NUMBER OF CONTAINERS		4					

6522001

CHAIN OF CUSTODY SIGNATURE RECORD

		SAMPLE CONDITIONS			
		COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	RECEIVED <input checked="" type="checkbox"/>	3.6°C 3.6°F <input checked="" type="checkbox"/>
Signature (Relinquished)	Printed Name <u>Tom Kelly</u>	Company/ Agency <u>CH2M HILLER</u>	Date/ Time <u>10/9/08 1033</u>	CUSTODY SEALED <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Signature (Received)	Printed Name <u>JATZ CED</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10/9/08 1030</u>	YES <input type="checkbox"/>	
Signature (Relinquished)	Printed Name <u>JATZ CED</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10/9/08 1030</u>		
Signature (Received)	Printed Name <u>Mike Acton</u>	Company/ Agency <u>ATC</u>	Date/ Time <u>10/9/08 1030</u>		
Signature (Relinquished)	Printed Name <u></u>	Company/ Agency <u></u>	Date/ Time <u></u>		
Signature (Received)	Printed Name <u></u>	Company/ Agency <u></u>	Date/ Time <u></u>		
SPECIAL REQUIREMENTS:					



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CHAIN OF CUSTODY RECORD
[2008-GMP-148-Q3]

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COC Number 10/8/2008-10d-ATL
Turnaround Time 10 Days
Date 10/8/2008 Page 1 0

CHAIN OF CUSTODY SIGNATURE RECORD

		SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>
<i>John Kelly</i>	<i>John Kelly</i>	<i>Crown Mfg Co</i>	<i>10/14/08 1032</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	3.6°C °F	
<i>J. A. Kelly</i>	<i>J. A. Kelly</i>	<i>ATC</i>	<i>10/14/08 1036</i>	<input checked="" type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	NO <input type="checkbox"/>	
<i>J. A. Kelly</i>	<i>J. A. Kelly</i>	<i>ATC</i>	<i>10/14/08 1515</i>	<input checked="" type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:	
<i>M. B. Gaskin</i>	<i>M. B. Gaskin</i>	<i>ATC</i>	<i>10/14/08 1516</i>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	<input type="checkbox"/>	
<i>M. B. Gaskin</i>	<i>M. B. Gaskin</i>	<i>ATC</i>	<i>10/14/08 1516</i>	<input type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	<input type="checkbox"/>	
<i>M. B. Gaskin</i>	<i>M. B. Gaskin</i>	<i>ATC</i>	<i>10/14/08 1516</i>	<input type="checkbox"/>	