

C A M B R I A

DA Ro 484

October 29, 2004

Mr. Barney M. Chan
Alameda County Environmental Health Services
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Alameda County
NOV 04 2004

Re: **Third Quarter 2004 Monitoring Report**
Former ARCO Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116



Dear Mr. Chan:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. is submitting this *Third Quarter 2004 Monitoring Report* for the above-referenced site. The report describes the third quarter 2004 activities and results as well as the anticipated fourth quarter 2004 activities.

If you have any questions or comments regarding this report, please call me at (510) 420-3360.

Sincerely,
Cambria Environmental Technology, Inc.

Eugene Pak
Project Manager

Attachments: *Third Quarter 2004 Monitoring Report*

cc: Mr. Bo K. Gin, 342 Lester Avenue, Oakland, California 94606

**Cambria
Environmental
Technology, Inc.**

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

C A M B R I A

Alameda County
NOV 04 2004

THIRD QUARTER 2004 MONITORING REPORT

**Former ARCO Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116**

October 29, 2004



Prepared for:

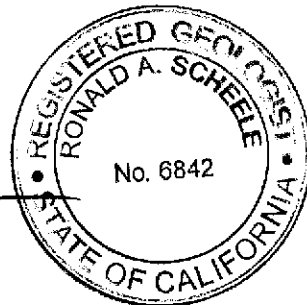
Mr. Bo K. Gin
342 Lester Avenue
Oakland, California 94606

Prepared by:

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608

Written by:

Eugene Pak
Project Manager



Ron Scheele, R.G.
Senior Project Geologist

THIRD QUARTER 2004 MONITORING REPORT

Former ARCO Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116

October 29, 2004

INTRODUCTION



This report describes the third quarter 2004 groundwater monitoring activities performed at the former ARCO Service Station located at 706 Harrison Street, Oakland, California. Groundwater monitoring activities are being conducted at the direction of the Alameda County Environmental Health Services (ACEHS). This report presents a summary of field activities, groundwater flow conditions, and groundwater analytical data. Also included are the projected activities for the fourth quarter 2004.

MONITORING ACTIVITIES

Quarterly monitoring activities at the site are coordinated with Aqua Science Engineers, Inc. (Aqua Science) of Danville, California. Aqua Science has been retained by the owners of the adjacent property to the north (a former Shell service station) to perform monitoring and sampling activities. Groundwater data are used collaboratively to generate a snap-shot of groundwater conditions at the site and site vicinity.

Blaine Tech Services, Inc. (Blaine Tech) of San Jose, California was retained to conduct quarterly monitoring and sampling activities at the site. On July 23, 2004, Blaine Tech measured groundwater levels and collected groundwater samples from monitoring wells MW-1 through MW-7. Copies of the field data sheets are included as Appendix A.

Water Level Measurements: Depth to groundwater measurements were recorded to the nearest 0.01-foot, relative to a previously established reference elevation. Measurements were collected using an electric, conductance-actuated well sounder. The groundwater level data are presented in Table 1.

Groundwater Sampling: Groundwater samples were collected from wells MW-1 through MW-7. Field activities associated with the sampling included well purging, field water quality measurements, sample collection, and equipment decontamination.

Prior to sampling, the wells were purged to remove standing water in the well casings and promote the inflow of representative groundwater from the surrounding formation. The wells were purged by repeated bailing using a disposable Teflon bailer. Field measurements of the pH, specific conductance, and temperature of the purged groundwater were measured initially and after the

extraction of each successive casing volume or at regular volume intervals. Casing volumes were calculated based on the well diameter and the height of the water column in the well casing. Typically, well purging continued until three or more casing volumes had been removed from the well and consecutive pH, specific conductance, and temperature measurements were within 10 percent. Field water quality measurements, purge volumes and sample collection data were recorded on field sampling data forms (Appendix A).

Groundwater samples were collected from each of the wells using disposable bailers. The samples were decanted from the bailers into 40-ml glass containers supplied by McCampbell Analytical, Inc. (McCampbell) of Pacheco, California. Immediately after collection, the sample containers were labeled and placed on ice in a cooler. Chain-of-custody procedures were followed at all times from sample collection to transfer to McCampbell (Appendix B).

Equipment Decontamination: To minimize the potential for cross-contamination, the groundwater monitoring equipment was decontaminated prior to being deployed in the first monitoring well and between successive wells. The probe of the electric well sounder used for water level measurements was rinsed thoroughly with distilled water prior to first use and between subsequent water level measurements. The disposable bailers were discarded after use at each well.

Sample Analyses: Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified United States Environmental Protection Agency (EPA) Method 8015C; and benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Groundwater samples collected from wells MW-4 and MW-7 were further analyzed for MTBE by EPA Method 8260. The laboratory analytical report is included as Appendix B. Groundwater analytical results are included in Table 1 and summarized on Figure 1.

MONITORING RESULTS

The results of the groundwater monitoring activities conducted at the site are discussed below.

Groundwater Flow Direction and Gradient: Depth-to-water measurements collected on July 23, 2004 ranged from 13.49 to 15.86 feet below top of casing. Groundwater elevations were calculated by subtracting the depth to water measurements from the surveyed top of casing elevations. The groundwater elevations were plotted on a site plan and contoured (Figure 1). The contours indicate that groundwater flowed southwest at a gradient of approximately 0.009 feet per foot (ft/ft) which is consistent with historical conditions. Depth-to-water and groundwater elevation data for the site are summarized in Table 1 and shown on Figure 1. Groundwater elevation data from the former Shell Station are included as Appendix C and summarized on Figure 1.

Hydrocarbon Distribution in Groundwater: Hydrocarbons were detected in wells MW-1, MW-2, MW-4, and MW-6 (Table 1). The maximum TPHg and BTEX concentrations were detected in well MW-2 at 81,000 micrograms per liter ($\mu\text{g/L}$), 2,000 $\mu\text{g/L}$, 12,000 $\mu\text{g/L}$, 2,500 $\mu\text{g/L}$, and 12,000 $\mu\text{g/L}$, respectively. Historically, hydrocarbon have not been detected in samples collected from well MW-6, but during the third quarter 2004, TPHg, benzene, ethylbenzene, and xylenes were detected at concentrations of 3,300 $\mu\text{g/L}$, 1,300 $\mu\text{g/L}$, 52 $\mu\text{g/L}$, and 9.7 $\mu\text{g/L}$, respectively. The presence of hydrocarbons in MW-6 is anomalous and as such, the analytical results from well MW-6 will be closely monitored during subsequent groundwater monitoring events.



Hydrocarbon concentrations in wells MW-2 and MW-4 increased slightly during the third quarter 2004. Despite the slight increase, hydrocarbon concentrations continue to exhibit an overall decreasing trend. Benzene concentration trend graphs are included as Appendix D.

MTBE Distribution in Groundwater: MTBE was detected in wells MW-4 and MW-7 at concentrations of 800 $\mu\text{g/L}$ and 120 $\mu\text{g/L}$, respectively. The MTBE concentration in well MW-4 increased from 160 $\mu\text{g/L}$ during the second quarter 2004 to 800 $\mu\text{g/L}$ during the third quarter 2004. Prior to the third quarter 2004, MTBE was never detected in well MW-7. The presence of MTBE in well MW-7 is highly anomalous and as such, analytical results from MW-7 will be closely monitored during the fourth quarter 2004.

Cambria suspects that the anomalous concentrations detected in well MW-6 and MW-7 are a result of cross contamination during sampling. These wells were the first to be sampled suggesting that the sampling equipment was not properly decontaminated prior to initiating the sampling event. Gasoline containing MTBE was reportedly never stored or used at the former ARCO service station. Retail activities were suspended in 1985 and the underground storage tanks (USTs) were removed in 1991. MTBE concentration trend graphs are included as Appendix D

GeoTracker: Analytical and groundwater elevation data were submitted to the GeoTracker database in accordance with California State Assembly Bill 592. Documentation confirming the submittal of the third quarter 2004 data is included in Appendix E.

ANTICIPATED FOURTH QUARTER 2004 ACTIVITIES

During the fourth quarter 2004, Cambria anticipates conducting the following:

- A work plan to conduct a soil, groundwater, and soil vapor investigation in conjunction with a risk assessment will be submitted to the ACEHS.

- Groundwater levels will be measured and groundwater samples will be collected from wells MW-1 through MW-7. Groundwater samples will be analyzed for TPHg by EPA Method 8015C, and BTEX and MTBE by EPA Method 8021B. Should MTBE be detected in a sample, the detection will be confirmed using EPA Method 8260B. Cambria will continue to coordinate monitoring activities with Aqua Science and groundwater sampling activities will not be subcontracted to Blain Tech Services. A groundwater monitoring report summarizing the monitoring activities and results will be submitted to ACEHS by January 31, 2004.



ATTACHMENTS

Figure 1 – Groundwater Elevation Contour and Hydrocarbon Concentration Map

Table 1 – Groundwater Elevations and Analytical Data

Appendix A – Groundwater Monitoring Field Data Sheets

Appendix B – Laboratory Analytical Report

Appendix C – Former Shell Station Groundwater Monitoring and Analytical Results

Appendix D – Benzene and MTBE Concentration Graphs

Appendix E – GeoTracker Electronic Delivery Confirmations

EXPLANATION

- Monitoring well location
- ⊕ Dual SVE/Sparging well
- ⊖ SVE well location
- ⊙ Shell Monitoring well location

12.00
Groundwater elevation contour, dashed where inferred

0.00
Groundwater flow direction and gradient (ft/ft)

Well ID
ELEV
TPHg
Benzene
MTBE

Well identification.

Groundwater elevation, in feet above mean sea level (msl).

TPHg, Benzene and MTBE concentrations are in micrograms per liter (µg/L)

NS Not Sampled

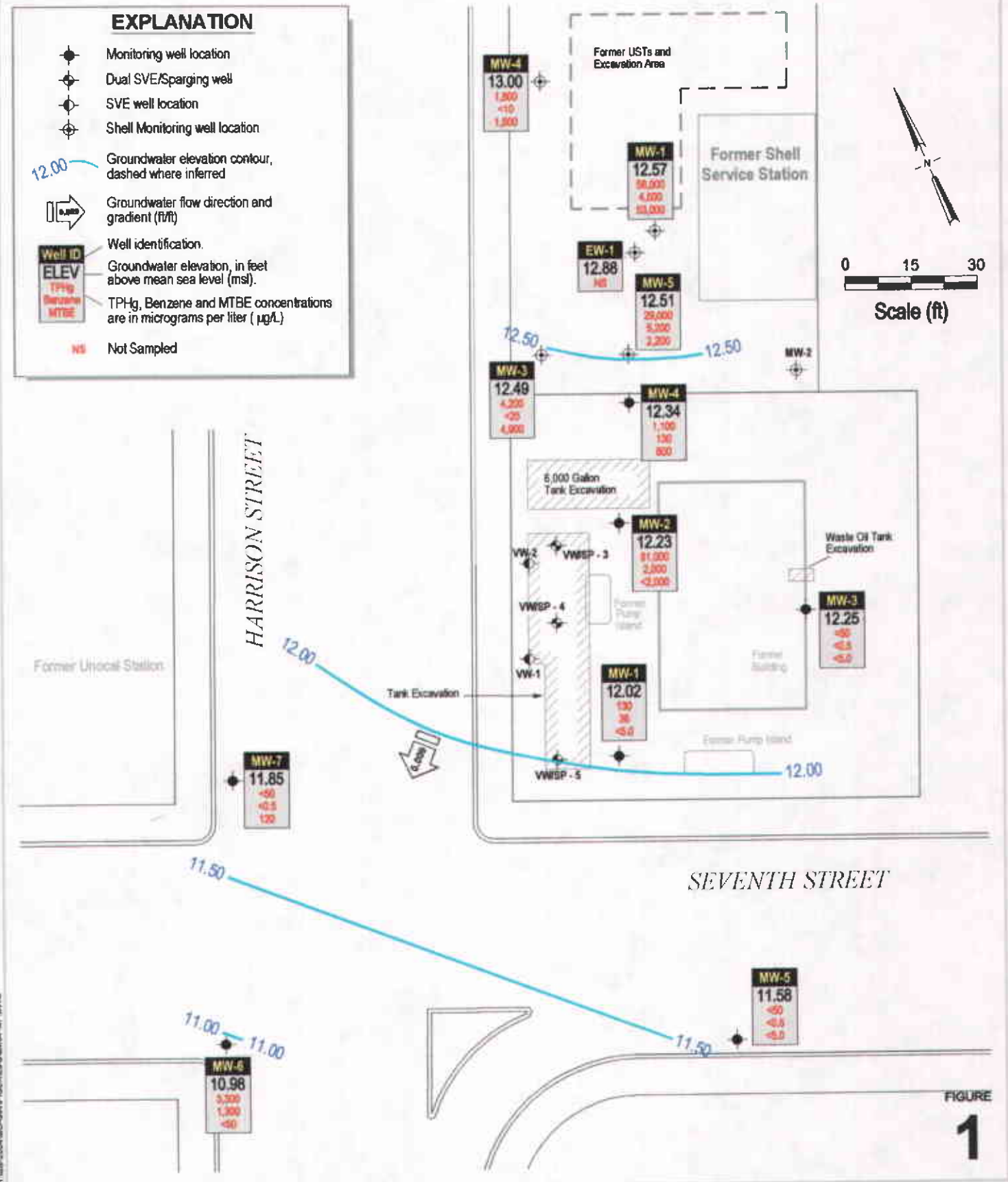


FIGURE 1

Former Arco Station
706 Harrison Street
Oakland, California



Groundwater Elevation Contour and Hydrocarbon Concentration Map

C A M B R I A

July 23, 2004

H:\88-2004\MO-QM\FIGURE13\CM04-APP.DWG

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to	Groundwater	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	Notes
Sampling Frequency	Date Sampled	Water (ft)	Elevation (ft-msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	
MW-1	8/13/1993	17.40	11.75	20,000	8,500	640	280	440	-	-	
29.15	12/14/1993	17.27	11.88	17,000	9,200	1,200	4,400	540	-	-	
Quarterly	4/15/1994	17.00	12.15	9,500	3,600	530	160	280	-	-	
	12/29/1994	16.40	12.75	-	-	-	-	-	-	-	
	7/19/1996	15.83	13.32	17,000	5,200	1,100	330	530	-	-	sheen/odor
	1/27/1997	13.58	15.57	30,000	9,800	1,300	790	880	400	-	b, sheen/odor
	6/18/1997	16.11	13.04	19,000	5,600	1,400	510	770	1,200	800	a, b
	9/18/1997	16.62	12.53	48,000	18,000	4,400	1,000	1,700	<640	-	b
	12/10/1997	15.93	13.22	22,000	4,900	1,300	580	650	460	260	a, b, odor
	2/18/1998	11.56	17.59	16,000	5,000	750	400	780	1,800	-	b
	5/12/1998	13.53	15.62	19,000	4,600	810	450	770	5,500	-	b, c
	8/18/1998	15.19	13.96	12,000	3,600	1,300	300	570	5,100	3,700	a, b
	11/24/1998	15.67	13.48	13,000	3,600	890	330	380	6,100	-	b
	2/4/1999	15.31	13.84	20,000	5,900	830	450	500	4,900	-	b
	5/18/1999	14.95	14.20	23,000	7,000	1,600	520	830	6,100	-	b
	8/27/1999	15.84	13.31	19,000	5,800	1,700	410	710	1,800	2,100	a, b
	11/18/1999	16.39	12.76	20,000	4,900	630	410	580	4,900	3,600	b
	2/29/2000	13.43	15.72	12,000	2,800	24	290	170	3,100	3,400	a
	5/25/2000	15.08	14.07	12,000	2,200	120	330	260	9,100	12,000	a, b
	8/9/2000	16.09	13.06	13,000	2,500	44	310	140	16,000	-	b
	11/9/2000	15.90	13.25	11,000	2,500	140	380	150	11,000	12,000	b
	1/29/2001	16.05	13.10	9,600	3,100	100	77	200	2,600	2,400	b
	4/16/2001	16.90	12.25	3,300	1,200	4.4	2.7	28	900	940	b
	8/14/2001	17.13	12.02	2,000	500	3.4	24	7.8	68	53	a
	10/22/2001	16.11	13.04	220	83	0.63	2.8	<0.5	<10	5.7	a
2/1/2002	16.93	12.22	640	220	1.7	4.7	0.57	<10	-	a	
5/10/2002	15.09	14.06	230	26	0.97	<0.5	<0.5	<5.0	-	a	
7/8/2002	15.20	13.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5		
10/2/2002	15.70	13.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-		
1/23/2003	15.09	14.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-		
4/29/2003	13.02	16.13	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-		
26.17	7/18/2003	14.50	11.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/9/2003	13.81	12.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	1/28/2004	13.09	13.08	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/7/2004	14.97	11.20	180	60	0.56	1.9	<0.5	<5.0	-	a
	7/23/2004	14.15	12.02	130	36	<0.5	0.65	<0.5	<5.0	-	a

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Notes	
MW-2		8/13/1993	17.05	13.46	34,000	6,800	10,000	740	3,900	-	-	
30.51		12/14/1993	18.28	12.23	16,000	3,200	4,200	500	1,700	-	-	
Quarterly		4/15/1994	18.10	12.41	23,000	2,500	4,200	470	1,800	-	-	
		12/29/1994	17.40	13.11	-	-	-	-	-	-	-	
		7/19/1996	16.72	13.79	90,000	7,300	14,000	1,600	7,300	-	-	odor
		1/27/1997	14.89	15.62	63,000	7,100	13,000	1,600	7,100	500	-	b, odor
		6/18/1997	17.12	13.39	52,000	5,100	10,000	1,400	6,000	<200	-	b
		9/18/1997	17.63	12.88	110,000	9,400	23,000	2,600	13,000	<890	-	b, sheen/odor
		12/10/1997	16.98	13.53	39,000	2,600	5,300	940	3,900	780	320	b, odor
		2/18/1998	12.61	17.90	85,000	9,000	19,000	2,300	11,000	2,400	-	b
		5/12/1998	14.45	16.06	110,000	9,500	21,000	2,500	12,000	<1,200	-	b
		8/18/1998	16.14	14.37	64,000	6,000	13,000	1,700	7,800	2,000	1,300	a, b
		11/24/1998	16.70	13.81	78,000	5,300	14,000	2,300	11,000	<2,000	-	b, g
		2/4/1999	18.39	12.12	66,000	5,800	16,000	2,600	12,000	3,000	-	b, g
		5/18/1999	15.90	14.61	78,000	6,700	17,000	2,400	10,000	4,300	-	b
		8/27/1999	16.79	13.72	91,000	7,400	17,000	2,300	11,000	1,200	1,000	a, b
		11/18/1999	17.32	13.19	180,000	7,000	20,000	3,300	16,000	<6,000	1,700	b, g
		2/29/2000	14.37	16.14	86,000	5,500	13,000	2,000	9,500	3,500	4,700	a
		5/25/2000	16.01	14.50	110,000	6,300	14,000	2,400	10,000	7,500	6,500	a, b, g
		8/9/2000	17.02	13.49	77,000	5,000	13,000	2,000	8,600	5,900	-	b
		11/9/2000	17.00	13.51	70,000	4,800	12,000	1,900	8,000	9,400	8,300	b
		1/29/2001	18.31	12.20	110,000	8,200	21,000	2,800	13,000	2,500	1,900	b, g
		4/16/2001	18.59	11.92	97,000	7,400	15,000	2,500	12,000	<3,000	<50	b, g
		8/14/2001	18.74	11.77	97,000	6,200	14,000	2,400	13,000	<250	<50	a, j
		10/22/2001	18.27	12.24	71,000	5,900	15,000	2,400	12,000	<1,400	150	a
		2/1/2002	18.05	12.46	1,400	11	88	44	210	<5.0	-	a
		5/10/2002	17.15	13.36	97,000	4,500	15,000	2,500	12,000	<3,000	-	a, g
		7/8/2002	15.30	15.21	42,000	2,100	6,500	2,200	8,800	<1,000	65	a
		10/2/2002	15.89	14.62	70,000	1,700	5,700	1,900	8,300	<1,700	-	a
		1/23/2003	17.51	13.00	40,000	1,900	7,800	1,200	5,600	<1,000	-	a
		4/29/2003	15.31	15.20	82,000	2,500	11,000	2,200	9,400	<2,000	-	a
27.53		7/18/2003	16.84	10.69	57,000	2,100	8,700	2,200	10,000	-	<50	a
		10/9/2003	16.05	11.48	49,000	1,800	7,000	1,700	7,600	<1,500	26	a
		1/28/2004	15.39	12.14	550	21	33	3.0	61	<100	-	a
		4/7/2004	16.01	11.52	41,000	2,500	11,000	1,900	8,000	<2,000	-	a
		7/23/2004	15.30	12.23	81,000	2,000	12,000	2,500	12,000	<2,000	-	a, h

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID		Depth to	Groundwater								
TOC		Water	Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	Notes
Sampling Frequency	Date Sampled	(ft)	(ft-msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	
MW-3	8/13/1993	17.05	12.72	<50	<0.50	<0.50	<0.50	<1.5	-	-	
29.77	12/14/1993	17.70	12.07	<50	<0.50	<0.50	<0.50	<1.5	-	-	
Semi-annually	4/15/1994	17.40	12.37	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	12/29/1994	16.80	12.97	-	-	-	-	-	-	-	
	7/19/1996	16.28	13.49	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/1997	13.83	15.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/1997	16.53	13.24	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	9/18/1997	17.07	12.70	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/1997	16.15	13.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/1998	11.80	17.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/1998	13.85	15.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/1998	15.57	14.20	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/1998	16.04	13.73	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/1999	17.80	11.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/1999	15.29	14.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/1999	16.15	13.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/1999	16.77	13.00	-	-	-	-	-	-	-	
	2/29/2000	13.71	16.06	<50	2	<0.5	<0.5	<0.5	<5.0	-	
	5/25/2000	15.46	14.31	-	-	-	-	-	-	-	
	8/9/2000	16.46	13.31	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/2000	16.25	13.52	-	-	-	-	-	-	-	
	1/29/2001	16.52	13.25	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/16/2001	16.95	12.82	-	-	-	-	-	-	-	
	8/14/2001	17.11	12.66	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/22/2001	16.50	13.27	-	-	-	-	-	-	-	
	2/1/2002	16.90	12.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/10/2002	15.03	14.74	-	-	-	-	-	-	-	
	7/8/2002	14.45	15.32	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/2/2002	15.03	14.74	-	-	-	-	-	-	-	
	1/23/2003	15.48	14.29	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/29/2003	12.49	17.28	-	-	-	-	-	-	-	
26.79	7/18/2003	14.80	11.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/9/2003	14.13	12.66	-	-	-	-	-	-	-	
	1/28/2004	13.47	13.32	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/7/2004	15.41	11.38	-	-	-	-	-	-	-	
	7/23/2004	14.54	12.25	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Notes
Sampling Frequency	Date Sampled										
MW-4	12/16/1994	18.10	13.08	2,500	32	6.5	4.5	17	-	-	
31.18	12/29/1994	17.95	13.23	-	-	-	-	-	-	-	
Quarterly	7/19/1996	17.38	13.80	3,300	520	39	67	60	-	-	
	1/27/1997	15.25	15.93	4,500	860	55	100	91	1,100	-	b
	6/18/1997	17.61	13.57	2,700	700	52	81	76	2,200	2,300	a, b
	9/18/1997	18.01	13.17	3,900	760	38	56	64	<170	-	b
	12/10/1997	17.45	13.73	12,000	1,800	120	210	210	2,900	2,600	a, b
	2/18/1998	13.09	18.09	1,700	210	8	6.7	16	200	-	b
	5/12/1998	14.78	16.40	2,100	300	15	36	34	920	-	b, c
	8/18/1998	16.59	14.59	4,700	1,000	130	110	150	5,200	4,900	a, b
	11/24/1998	17.18	14.00	3,000	810	44	76	94	4,800	-	b
	2/4/1999	18.90	12.28	2,800	770	50	69	69	3,100	-	b
	5/18/1999	16.30	14.88	4,000	780	57	7.7	79	4,800	-	b
	8/27/1999	17.21	13.97	4,100	870	51	74	99	3,300	4,100	a, b
	11/18/1999	17.77	13.41	3,000	760	43	67	65	5,100	5,400	b
	2/29/2000	14.85	16.33	4,600	1,000	64	94	170	4,100	4,600	a
	5/25/2000	16.45	14.73	2,600	540	39	59	41	3,500	5,300	b
	8/9/2000	17.47	13.71	4,400	930	66	98	79	9,400	-	b
	11/9/2000	17.45	13.73	4,200	630	34	54	44	7,800	9,400	b
	1/29/2001	18.90	12.28	3,100	710	34	66	51	9,400	8,000	b
	4/16/2001	19.17	12.01	160	1.2	1.3	<0.5	12	22	20	b
	8/14/2001	19.20	11.98	1,700	190	11	35	13	300	250	b
10/22/2001	18.95	12.23	1,100	120	3.7	29	7.9	<25	16	a	
2/1/2002	19.05	12.13	2,600	25	43	21	280	<5.0	-	a	
5/10/2002	17.69	13.49	490	3.5	2.0	2.1	2.2	<5.0	-	a	
7/8/2002	15.75	15.43	170	0.51	0.62	1.6	1.2	<5.0	2.0	m	
10/2/2002	16.30	14.88	240	1.7	2.0	2.2	0.88	<5.0	-	a	
1/23/2003	17.74	13.44	<50	0.52	4.1	<0.5	1.9	<5.0	-		
4/29/2003	15.47	15.71	1,300	75	4.8	21	7.3	130	120	a	
28.20	7/18/2003	17.08	11.12	<50	<0.5	<0.5	<0.5	<0.5	-	0.74	a
	10/9/2003	16.25	11.95	210	4.7	0.57	1.6	1.1	<10	10	a
	1/28/2004	15.65	12.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	a
	4/7/2004	16.49	11.71	-	-	-	-	-	-	-	
	4/12/2004	-	-	770	56	3.2	7.0	6.5	120	160	a
	7/23/2004	15.86	12.34	1,100	130	11	17	17	790	800	a

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Notes
Sampling Frequency	Date Sampled										
MW-5	12/16/1994	16.07	11.97	<50	1.1	<0.5	<0.5	2.4	-	-	
28.04	12/29/1994	16.10	11.94	-	-	-	-	-	-	-	
Semi-annually	7/19/1996	15.49	12.55	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/1997	13.60	14.44	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/1997	15.55	12.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	9/18/1997	16.16	11.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/1997	15.41	12.63	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/1998	10.93	17.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/1998	13.25	14.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/1998	14.75	13.29	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/1998	15.15	12.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/1999	14.61	13.43	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/1999	14.15	13.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/1999	15.43	12.61	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/1999	15.97	12.07	-	-	-	-	-	-	-	
	2/29/2000	13.16	14.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/25/2000	14.72	13.32	-	-	-	-	-	-	-	
	8/9/2000	15.68	12.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/2000	15.39	12.65	-	-	-	-	-	-	-	
	1/29/2001	15.97	12.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/16/2001	16.24	11.80	-	-	-	-	-	-	-	
	8/14/2001	17.39	10.65	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/22/2001	15.90	12.14	-	-	-	-	-	-	-	
	2/1/2002	16.55	11.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/10/2002	15.12	12.92	-	-	-	-	-	-	-	
	7/8/2002	15.92	12.12	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/2/2002	16.42	11.62	-	-	-	-	-	-	-	
	1/23/2003	14.90	13.14	<50	20	<0.5	<0.5	<0.5	<5.0	-	
	4/29/2003	12.05	15.99	-	-	-	-	-	-	-	
25.07	7/18/2003	14.28	10.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/9/2003	13.36	11.71	-	-	-	-	-	-	-	
	1/28/2004	12.68	12.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/7/2004	14.71	10.36	-	-	-	-	-	-	-	
	7/23/2004	13.49	11.58	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	i

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	Notes
Frequency	Date Sampled	(ft)	(ft-msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	
MW-6	12/16/1994	17.74	11.36	-	-	-	-	-	-	-	
29.10	12/29/1994	17.40	11.70	-	-	-	-	-	-	-	
Semi-annually	7/19/1996	16.60	12.50	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/1997	14.88	14.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/1997	16.73	12.37	51	22	<0.5	<0.5	<0.5	<5.0	-	c
	9/18/1997	17.24	11.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/1997	16.56	12.54	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/1998	12.93	16.17	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/1998	14.35	14.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/1998	15.94	13.16	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/1998	16.46	12.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/1999	18.25	10.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/1999	15.73	13.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/1999	15.64	13.46	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/1999	17.04	12.06	-	-	-	-	-	-	-	
	2/29/2000	14.55	14.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/25/2000	15.86	13.24	-	-	-	-	-	-	-	
	8/9/2000	16.80	12.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/2000	16.60	12.50	-	-	-	-	-	-	-	
	1/29/2001	17.00	12.10	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/16/2001	17.15	11.95	-	-	-	-	-	-	-	
	8/14/2001	17.30	11.80	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
10/22/2001	17.13	11.97	-	-	-	-	-	-	-		
2/1/2002	16.57	12.53	70	37	<0.5	<0.5	<0.5	<5.0	-	a	
5/10/2002	15.25	13.85	-	-	-	-	-	-	-		
7/8/2002	15.79	13.31	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-		
10/2/2002	16.38	12.72	-	-	-	-	-	-	-		
1/23/2003	16.03	13.07	<50	21	<0.5	<0.5	<0.5	<5.0	-		
4/29/2003	14.19	14.91	-	-	-	-	-	-	-		
26.13	7/18/2003	15.47	10.66	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	10/9/2003	14.73	11.40	-	-	-	-	-	-	-	
	1/28/2004	14.05	12.08	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	4/7/2004	14.41	11.72	-	-	-	-	-	-	-	
7/23/2004	15.15	10.98	3,300	1,300	<5.0	52	9.7	<5.0	-	a	

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (8020) (µg/L)	MTBE (8260) (µg/L)	Notes
MW-7		12/16/1994	17.07	12.60	<50	<0.5	<0.5	<0.5	<5.0	-	
29.67		12/29/1994	17.65	12.02	-	-	-	-	-	-	
Semi-annually		7/19/1996	16.44	13.23	<50	<0.5	<0.5	<0.5	<5.0	-	
		1/27/1997	15.09	14.58	<50	<0.5	<0.5	<0.5	<5.0	-	
		6/18/1997	16.59	13.08	73	<0.5	0.55	<0.5	<5.0	-	d
		9/18/1997	17.06	12.61	94	<0.5	<0.5	<0.5	<5.0	-	b, f
		12/10/1997	16.58	13.09	<50	<0.5	<0.5	<0.5	<5.0	-	
		2/18/1998	12.60	17.07	<50	<0.5	<0.5	<0.5	<5.0	-	
		5/12/1998	14.81	14.86	<50	<0.5	<0.5	<0.5	<5.0	-	
		8/18/1998	15.67	14.00	<50	<0.5	<0.5	<0.5	<5.0	-	
		11/24/1998	16.30	13.37	200	<0.5	<0.5	<0.5	<5.0	-	d
		2/4/1999	15.99	13.68	<50	<0.5	<0.5	<0.5	<5.0	-	
		5/18/1999	15.42	14.25	200	<0.5	<0.5	<0.5	<5.0	-	d
		8/27/1999	16.35	13.32	140	<0.5	<0.5	<0.5	<5.0	-	
		11/18/1999	16.81	12.86	--	--	--	--	--	--	
		2/29/2000	14.16	15.51	100	<0.5	<0.5	<0.5	<5.0	-	f
		5/25/2000	15.54	14.13	--	--	--	--	--	--	
		8/9/2000	16.56	13.11	<50	<0.5	<0.5	<0.5	<5.0	-	
		11/9/2000	16.45	13.22	-	-	-	-	-	-	
		1/29/2001	16.92	12.75	<50	<0.5	<0.5	<0.5	<5.0	-	
		4/16/2001	17.03	12.64	-	-	-	-	-	-	
		8/14/2001	17.27	12.40	<50	<0.5	<0.5	<0.5	<5.0	-	
		10/22/2001	16.95	12.72	-	-	-	-	-	-	
		2/1/2002	16.14	13.53	<50	<0.5	<0.5	<0.5	<5.0	-	
		5/10/2002	15.30	14.37	-	-	-	-	-	-	
		7/8/2002	15.73	13.94	<50	<0.5	<0.5	<0.5	<5.0	-	
		10/2/2002	16.24	13.43	-	-	-	-	-	-	
		1/23/2003	15.70	13.97	<50	23	<0.5	<0.5	<5.0	-	
		4/29/2003	12.68	16.99	-	-	-	-	-	-	
26.70		7/18/2003	15.19	11.51	<50	<0.5	<0.5	<0.5	<5.0	-	
		10/9/2003	14.45	12.25	-	-	-	-	-	-	
		1/28/2004	13.88	12.82	<50	<0.5	<0.5	<0.5	<5.0	-	
		4/7/2004	15.71	10.99	-	-	-	-	-	-	
		7/23/2004	14.85	11.85	<50	<0.5	<0.5	<0.5	130	120	

CAMBRIA

Table 1. Groundwater Elevations and Analytical Data: Former ARCO Station - 706 Harrison Street, Oakland, California

Well ID	TOC	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE (8020)	MTBE (8260)	Notes
Sampling Frequency	Date Sampled	(ft)	(ft-msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	
VW-3	3/6/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	i
-	3/25/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	i
VW-4	3/6/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
-	3/25/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
Trip Blank	11/9/2000	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

Abbreviations and Analyses:

TOC = Top of casing elevation with respect to mean sea level
 ft = measured in feet
 ft-msl = measured in feet relative to mean sea level
 TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 Benzene, ethylbenzene, toluene and xylenes by EPA Method 8020.
 MTBE = Methyl tertiary butyl ether by EPA Method 8020 and/or 8260.
 µg/L = Micrograms per liter
 - = not sampled, not analyzed, or not applicable
 Data prior to 12/16/94 provided by previous consultant.
 Wells were re-surveyed on October 27, 2003 to City of Oakland benchmark 25A.

Notes

a = Analytical laboratory notes that unmodified or weakly modified gasoline is significant.
 b = Analytical laboratory notes that heavier gasoline range compounds are significant.
 c = Analytical laboratory notes that lighter gasoline range compounds are significant.
 d = Analytical laboratory notes that isolated peaks are present.
 f = Analytical laboratory notes hydrocarbons with no recognizable patterns are present.
 g = Analytical laboratory notes lighter than water immiscible sheen is present.
 h = lighter than water immiscible sheen/product is present
 j = Sample diluted due to high organic content.
 i = Sample contains greater than ~2 vol. % sediment.

APPENDIX A

Groundwater Monitoring Field Data Sheets

WELLHEAD INSPECTION CHECKLIST

Date 7/23/04 Client Cambridge

Site Address 706 Harrison St, Oakland

Job Number 040723-PC1 Technician P. Cornish

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1							L	1032
MW-2							K	1210
MW-3							A	1138
MW-4							A	1102
MW-5	K							1030
MW-6	K							912
MW-7	K							945

NOTES: ^{VR} MW-2, MW-3, ~~MW-4~~, MW-1 ⇒ 3/3 tabs stripped; 3/3 bolts missing
 MW-4 3/3 bolts missing

WELL GAUGING DATA

Project # 0-10723-PL1 Date 7/23/04 Client Cambria

Site 706 Harrison St., Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOB
MW-1	2					14.15	24.25	↓
MW-2	2					15.30	25.44	
MW-3	2					14.54	27.69	
MW-4	2					15.86	25.55	
MW-5	2					13.49	27.08	
MW-6	2					15.15	25.98	
MW-7	2					14.85	27.66	

WELL MONITORING DATA SHEET

Project #: 040723-PC1	Client: Cambria
Sampler: R	Date: 7/23/04
Well I.D.: MW-1	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 24.25	Depth to Water (DTW): 14.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 16.17	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

1.6 (Gals.) X 3 = 4.8 Gals.
 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
1220	19.6	6.7	533	402	1.6	grey ↓
1223	19.6	6.7	539	675	3.2	
1225	19.6	6.7	537	459	4.8	

Did well dewater? Yes No Gallons actually evacuated: 4.8

Sampling Date: 7/23/04 Sampling Time: 1232 Depth to Water: 14.35

Sample I.D.: MW-1 Laboratory: Kiff CalScience Other: McCormbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ _____ Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>040723-PC1</u>	Client: <u>Cambridge</u>
Sampler: <u>P2</u>	Date: <u>7/23/04</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>25.44</u>	Depth to Water (DTW): <u>15.30</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVG</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.33</u>	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
--	--	---

1.6 (Gals.) X 3 = 4.8 Gals. I Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1152	19.9	6.5	700	323	1.6	grey odor, seen ↓ ↓ ↓
1156	20.0	6.5	775	801	3.2	
1202	20.0	6.6	804	71000	4.8	

Did well dewater? Yes No Gallons actually evacuated: 4.8

Sampling Date: 7/23/04 Sampling Time: 1210 Depth to Water: 15.69

Sample I.D.: MW-2 Laboratory: Kiff CalScience Other: McC Campbell

Analyzed for: ~~TPH-G~~ BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>040723.04</u>	Client: <u>Cambridge</u>
Sampler: <u>PL</u>	Date: <u>7/23/04</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>27.69</u>	Depth to Water (DTW): <u>14.54</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.17</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
<input checked="" type="checkbox"/> Disposable Bailer	<input type="checkbox"/> Peristaltic	<input checked="" type="checkbox"/> Disposable Bailer
<input type="checkbox"/> Positive Air Displacement	<input type="checkbox"/> Extraction Pump	<input type="checkbox"/> Extraction Port
<input type="checkbox"/> Electric Submersible	Other _____	<input type="checkbox"/> Dedicated Tubing
		Other: _____

<u>2.1</u> (Gals.) X <u>3</u> = <u>6.3</u> Gals. Case Volume Specified Volumes Calculated Volume	<table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
1122	19.6	7.0	590	370	2.1	brown
1125	19.5	6.8	594	400	4.2	↓
1127	19.5	6.6	586	408	6.3	↓

Did well dewater? Yes No Gallons actually evacuated: 6.3

Sampling Date: 7/23/04 Sampling Time: 1138 Depth to Water: 15.02

Sample I.D.: MW-3 Laboratory: Kiff CalScience Other McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 040723-PC1	Client: Cambridge
Sampler: PC	Date: 7/23/04
Well I.D.: MW-4	Well Diameter: 2 3 4 6 8 _____
Total Well Depth (TD): 25.55	Depth to Water (DTW): 15.86
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="checkbox"/> VE Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 17.79	

Purge Method: Bailer Waterra Disposable Bailer Peristaltic Positive Air Displacement Extraction Pump Electric Submersible Other _____

Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: _____

$1.6 \text{ (Gals.)} \times 3 = 4.8 \text{ Gals.}$ I Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1050	19.3	6.3	721	803	1.6	grey ↓
1052	19.5	6.3	696	653	3.2	
1054	19.3	6.6	682	723	4.8	

Did well dewater? Yes No Gallons actually evacuated: **4.8**

Sampling Date: **7/23/04** Sampling Time: **1102** Depth to Water: **16.04**

Sample I.D.: **MW-4** Laboratory: Kiff CalScience Other: **McCampbell**

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ _____ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>040723-PC1</u>	Client: <u>Cambridge</u>
Sampler: <u>P2</u>	Date: <u>7/23/04</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>27.00</u>	Depth to Water (DTW): <u>13.49</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>16.37</u>	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
--	--	---

$\underline{2.3} \text{ (Gals.)} \times \underline{3} = \underline{6.9} \text{ Gals.}$ 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1017	19.4	6.2	260 µS	71000	2.3	brown
1020	19.3	6.5	228	71000	4.6	↓
1022	19.7	6.0	225	71000	6.9	

Did well dewater? Yes No Gallons actually evacuated: 7

Sampling Date: 7/23/04 Sampling Time: 1030 Depth to Water: 14.20

Sample I.D.: MW-5 Laboratory: Kiff CalScience Other: McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 040723-PC1	Client: Cambria
Sampler: PC	Date: 7/23/04
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 25.98	Depth to Water (DTW): 15.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 17.32	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
--	--	---

$1.7 \text{ (Gals.)} \times 3 = 5.1 \text{ Gals.}$			
1 Case Volume	Specified Volumes	Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
903	20.2	6.2	339	476	1.7	cloudy
905	20.2	6.1	399	976	3.4	↓
908	20.1	6.2	440	7000	5.1	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 5.1		
Sampling Date: 7/23/04	Sampling Time: 912	Depth to Water: 15.66	
Sample I.D.: MW-6	Laboratory: Kiff CalScience	Other: <u>McCampbell</u>	
Analyzed for: <u>TPH-G BTEX MTBE</u> TPH-D	Oxygenates (5)	Other:	
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable): _____		
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5)	Other:	
D.O. (if req'd): Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>040723-PC1</u>	Client: <u>Bambiza</u>
Sampler: <u>PC</u>	Date: <u>7/23/04</u>
Well I.D.: <u>MW-7</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>27.66</u>	Depth to Water (DTW): <u>14.85</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVD</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.41</u>	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
--	--	---

$\frac{2.0 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{6}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
932	20.2	6.3	768	371	2	cloudy ↓
936	20.6	6.3	775	398	4	
938	20.3	6.3	781	684	6	

Did well dewater? Yes No Gallons actually evacuated: 6

Sampling Date: 7/23/04 Sampling Time: 945 Depth to Water: 15.65

Sample I.D.: MW-7 Laboratory: Kiff CalScience Other McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SPH or Purge Water Drum Log

Client: Cambridge

Site Address: 706 Harrison St., Oakland

STATUS OF DRUM(S) UPON ARRIVAL						
Date	7/23/04					
Number of drum(s) empty:	0					
Number of drum(s) 1/4 full:	1					
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:						
Number of drum(s) full:						
Total drum(s) on site:	1					
Are the drum(s) properly labeled?	Y					
Drum ID & Contents:	Purge Water					
If any drum(s) are partially or totally filled, what is the first use date:	No date					

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purge water or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	7/23/04					
Number of drums empty:						
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:	1					
Number of drum(s) full:						
Total drum(s) on site:	1					
Are the drum(s) properly labeled?	Y					
Drum ID & Contents:	Purge Water					

LOCATION OF DRUM(S)

Describe location of drum(s):

FINAL STATUS						
Number of new drum(s) left on site this event	—					
Date of inspection:	7/23/04					
Drum(s) labelled properly:	Y					
Logged by BTS Field Tech:	R					
Office reviewed by:	AS					

APPENDIX B

Laboratory Analytical Report



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: Former Arco Site 706 Harrison St. Oakland CA	Date Sampled: 07/23/04
		Date Received: 07/27/04
	Client Contact: Matt Meyers	Date Reported: 08/02/04
	Client P.O.:	Date Completed: 08/02/04

WorkOrder: 0407347

August 02, 2004

Dear Matt:

Enclosed are:

- 1). the results of 7 analyzed samples from your **Former Arco Site 706 Harrison St. Oakland CA project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: Former Arco Site 706 Harrison St. Oakland CA	Date Sampled: 07/23/04
	Client Contact: Matt Meyers	Date Received: 07/27/04
	Client P.O.:	Date Extracted: 07/28/04-07/29/04
		Date Analyzed: 07/28/04-07/29/04

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0407347


Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	130,a	ND	36	ND	0.65	ND	1	101
002A	MW-2	W	81,000,a,h	ND<2000	2000	12,000	2500	12,000	200	97.2
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	96.2
004A	MW-4	W	1100,a	790	130	11	17	17	10	101
005A	MW-5	W	ND,i	ND	ND	ND	ND	ND	1	96.6
006A	MW-6	W	3300,a	ND<50	1300	ND<5.0	52	9.7	10	101
007A	MW-7	W	ND	130	ND	ND	ND	ND	1	97.6

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

 Angela Rydelius, Lab Manager



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: Former Arco Site 706 Harrison St. Oakland CA	Date Sampled: 07/23/04
	Client Contact: Matt Meyers	Date Received: 07/27/04
	Client P.O.:	Date Extracted: 08/03/04
		Date Analyzed: 08/03/04

Methyl tert-Butyl Ether*

Extraction method: SW5030B

Analytical methods: SW8260B

Work Order: 0407347

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
004B	MW-4	W	800	25	94.8
007B	MW-7	W	120	5	92.8


Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.5	µg/L
	S	NA	NA

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.

 Angela Rydelius, Lab Manager



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0407347

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12487			Spiked Sample ID: 0407345-008A			
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) [£]	ND	60	94.9	104	9.39	97.6	96.9	0.693	70	130
MTBE	ND	10	95.7	98.1	2.56	118	113	4.35	70	130
Benzene	ND	10	103	106	3.51	118	112	5.15	70	130
Toluene	ND	10	98.2	101	2.43	111	106	4.66	70	130
Ethylbenzene	ND	10	102	103	1.01	112	111	1.30	70	130
Xylenes	ND	30	90.7	91.7	1.10	100	96	4.08	70	130
%SS:	94.4	10	102	104	1.23	108	106	1.53	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0407347

EPA Method: SW8260B		Extraction: SW5030B		BatchID: 12577			Spiked Sample ID: 0408001-001C			
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Methyl-t-butyl ether (MTBE)	ND	10	90.5	107	17.1	87.5	97.7	11.0	70	130
%SS1:	102	10	102	103	0.959	96.1	96	0.113	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

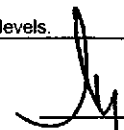
% Recovery = $100 * (MS - Sample) / (Amount\ Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

 QA/QC Officer

BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

0407347

CONDUCT ANALYSIS TO DETECT

LAB Mc Campbell

DHS #

MUST MEET SPECIFICATIONS
 EPA
 LIA
 OTHER

RWQCB REGION

SPECIAL INSTRUCTIONS

Invoice and Report to:

Cambria

Attn: Matt Meyers

Confirm MBTE Hits by EPA 8260

CHAIN OF CUSTODY	BTS # 040723-PC1
CLIENT	Cambria
SITE	Former Arco Site
706 Harrison Street	
Oakland, CA	

C = COMPOSITE ALL CONTAINERS

SAMPLE I.D.	DATE	TIME	MATRIX	CONTAINERS		C	TPH-G (8015)	BTEX / MTBE (8020)	MTBE BY 8260 s/z per note							ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			S = Soil W = H2O	TOTAL															
*MW-1	7/23/04	1232	W	4			X	X											
*MW-2	7/23/04	1210	W	4			X	X											
*MW-3	7/23/04	1138	W	4			X	X											
*MW-4	7/23/04	1102	W	4			X	X	X										
*MW-5	7/23/04	1030	W	4			X	X											
*MW-6	7/23/04	912	W	4			X	X											
*MW-7	7/23/04	945	W	4			X	X	X										
TRIP BLANK							X	X											

ICE/C ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB ✓
APPROPRIATE CONTAINERS
PRESERVED IN LAB
PRESERVATION VOAS O&G METALS OTHER

SAMPLING COMPLETED	DATE 7/23/04	TIME 1250	SAMPLING PERFORMED BY P. Cornish	RESULTS NEEDED NO LATER THAN As Contracted	
RELEASED BY [Signature]	DATE 7/26/04	TIME 1140	RECEIVED BY [Signature]	DATE 7/26/04	TIME 1140
RELEASED BY [Signature]	DATE 7/23/04	TIME 1140	RECEIVED BY [Signature]	DATE 7/20	TIME 0630p
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
SHIPPED VIA LAB Courier	DATE SENT	TIME SENT	COOLER #		

McC Campbell Analytical, Inc.



110 Second Avenue South, #D7
 Pacheco, CA 94553-5560
 (925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0407347

ClientID: CETE

Report to:

Matt Meyers
 Cambria Env. Technology
 5900 Hollis St, Suite A
 Emeryville, CA 94608

TEL: (510) 420-0700
 FAX: (510) 420-9170
 ProjectNo: Former Arco Site 706 Harrison St. Oakla
 PO:

Bill to:

Accounts Payable
 Cambria Env. Technology
 5900 Hollis St, Ste. A
 Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 7/26/04

Date Printed: 8/2/04

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
0407347-001	MW-1	Water	7/23/04 12:32:00	<input type="checkbox"/>	A															
0407347-002	MW-2	Water	7/23/04 12:10:00	<input type="checkbox"/>	A															
0407347-003	MW-3	Water	7/23/04 11:38:00	<input type="checkbox"/>	A															
0407347-004	MW-4	Water	7/23/04 11:02:00	<input type="checkbox"/>	A	B														
0407347-005	MW-5	Water	7/23/04 10:30:00	<input type="checkbox"/>	A															
0407347-006	MW-6	Water	7/23/04 9:12:00 AM	<input type="checkbox"/>	A															
0407347-007	MW-7	Water	7/23/04 9:45:00 AM	<input type="checkbox"/>	A	B														

Test Legend:

1	G-MBTX_W	2	MTBE_W	3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Maria Venegas

Comments: MTBE CONFIRMATION ADDED ON 8/2 PER NOTE

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

APPENDIX C

Former Shell Station Groundwater Monitoring and Analytical Results

TABLE ONE
Groundwater Elevation Data
Former Chan's Shell Station
726 Harrison St., Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation project data
MW-1	12/15/1998	31.95*	17.32	14.63
	3/4/1999		15.52	16.43
	6/17/1999		16.9	15.05
	8/27/1999		17.39	14.56
	12/9/1999		18.03	13.92
	3/7/2000		15.11	16.84
	6/7/2000		16.66	15.29
	10/11/2000		18.08	13.87
	1/18/2001		17.96	13.99
	4/5/2001		16.35	15.60
	7/17/2001		16.94	15.01
	10/5/2001	28.98	17.35	11.63
	1/18/2002		15.40	13.58
	4/11/2002		15.76	13.22
	7/8/2002		16.17	12.81
	10/9/2002		16.72	12.26
	1/29/2003		16.26	12.72
	4/11/2003		16.56	12.42
	7/18/2003		16.42	12.56
	10/9/2003		16.88	12.10
	1/28/2004		16.10	12.88
4/7/2004		15.43	13.55	
7/23/2004		16.41	12.57	
MW-2	12/15/1998	32.40*	18.03	14.37
	3/4/1999		16.11	16.29
	6/17/1999		17.72	14.68
	8/27/1999	Inaccessible		
	12/9/1999	Inaccessible		
	3/7/2000	Inaccessible		
	6/7/2000		17.67	14.73
	10/11/2000		18.91	13.49
	1/18/2001		18.66	13.74
	4/5/2001		16.97	15.43
	7/17/2001		17.54	14.86
	10/5/2001	29.44	17.98	11.46
	1/18/2002		15.87	13.57
	4/11/2002		16.36	13.08
	7/8/2002		16.72	12.72
	10/9/2002		17.33	12.11
	1/29/2003		16.82	12.62
	4/11/2003		17.15	12.29
	7/18/2003		17.05	12.39
	10/9/2003		17.52	11.92
	1/28/2004		16.70	12.74
4/7/2004		16.02	13.42	
7/23/2004	obstruction			
MW-3	12/15/1998	31.61*	17.26	14.35
	3/4/1999		15.47	16.14
	6/17/1999		16.92	14.69
	8/27/1999		17.40	14.21
	12/9/1999		18.01	13.60
	3/7/2000		16.15	15.46
	6/7/2000		16.85	14.76
	10/11/2000		18.07	13.54
	1/18/2001		17.89	13.72
	4/5/2001		16.21	15.40

TABLE ONE
Groundwater Elevation Data
Former Chan's Shell Station
726 Harrison St., Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation project data
	7/17/2001		16.90	14.71
	10/5/2001	28.64	17.32	11.32
	1/18/2002		15.35	13.29
	4/11/2002		15.82	12.82
	7/8/2002		16.15	12.49
	10/9/2002		16.67	11.97
	1/29/2003		16.19	12.45
	4/11/2003		16.49	12.15
	7/18/2003		16.42	12.22
	10/9/2003		16.80	11.84
	1/28/2003		15.94	12.70
	4/7/2004		15.28	13.36
	7/23/2004		16.15	12.49
MW-4	12/15/1998	32.53*	17.59	14.94
	3/4/1999		15.88	16.65
	6/17/1999		17.14	15.39
	8/27/1999		17.65	14.88
	12/9/1999		18.28	14.25
	3/7/2000		15.41	17.12
	6/7/2000		17.09	15.44
	10/11/2000		18.33	14.20
	1/18/2001		18.23	14.30
	4/5/2001		16.69	15.84
	7/17/2001		17.32	15.21
	10/5/2001	29.58	17.71	11.87
	1/18/2002		15.85	13.73
	4/11/2002		16.14	13.44
	7/8/2002		16.56	13.02
	10/9/2002		17.09	12.49
	1/29/2003		16.65	12.93
	4/11/2003		16.93	12.65
	7/18/2003		16.78	12.80
	10/9/2003		17.26	12.32
	1/28/2004		16.38	13.20
	4/7/2004		15.64	13.94
	7/23/2004		16.58	13.00
MW-5	8/29/2001	29.06	17.42	11.64
	1/18/2002		15.68	13.38
	4/11/2002		16.17	12.89
	7/8/2002		16.51	12.55
	10/9/2002		17.10	11.96
	1/29/2003		16.58	12.48
	4/11/2003		16.87	12.19
	7/18/2003		16.77	12.29
	10/9/2003		17.21	11.85
	1/28/2004		16.34	12.72
	4/7/2004		15.38	13.68
	7/23/2004		16.55	12.51
EW-1	1/18/2002	28.89	15.35	13.54
	4/11/2002		15.73	13.16
	7/8/2002		16.13	12.76
	10/9/2002		16.70	12.19
	1/29/2003		16.20	12.69
	4/11/2003		16.52	12.37
	7/18/2003		16.38	12.51
	10/9/2003		16.84	12.05
	1/28/2004		15.94	12.95
	4/7/2004		15.02	13.87
	7/23/2004		16.01	12.88

* Top of casing elevation relative to arbitrary project datum

TABLE THREE
Certified Analytical Results for GROUNDWATER Samples
Former Chan's Shell Station
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
MW-1						
7/3/1997	18,000	2,700	350	450	900	7,400
12/5/1998	18,000	1,500	270	260	560	14,000
3/4/1999	44,000	2,800	400	440	960	43,000
6/17/1999	33,000	2,200	250	460	660	25,000
8/27/1999	6,000	1,000	97	190	230	14,000/ 16,000*
12/9/1999	15,000	1,500	160	220	420	17,000
3/7/2000	9,300	1,500	210	66	530	12,000
6/7/2000	26,000**	1,700	< 250	360	580	30,000
10/11/2000	13,000**	1,600	< 100	140	160	19,000
1/18/2001	14,000**	450	< 100	110	230	9,600
4/5/2001	38,000	2,200	180	290	590	35,000
7/17/2001	35,000**	1,800	< 100	300	170	35,000
10/5/2001	17,000	1,500	210	420	790	27,000
1/18/2002	18,000	1,500	120	160	220	22,000
4/11/2002	41,000	2,700	210	340	360	30,000
7/8/2002	36,000	2,800	140	360	300	31,000
10/9/2002	30,000	1,700	310	< 100	< 100	19,000
1/29/2003	26,000	2,400	< 100	310	520	20,000
4/11/2003	22,000	1,700	< 100	270	580	16,000
7/18/2003	40,000	3,200	290	480	830	39,000
10/9/2003	54,000**	3,300	< 130	350	310	49,000
1/28/2004	26,000***	3,000	310	420	800	31,000
4/7/2004	33,000***	2,800	13	310	310	39,000
7/23/2004	56,000***	4,500	<250	390	<500	53,000
MW-2						
12/5/1998	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
3/4/1999		Inaccessible due to car parked over well				
6/17/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
8/27/1999		Inaccessible due to car parked over well				
12/9/1999		Inaccessible due to car parked over well				
3/7/2000		Inaccessible due to car parked over well				
6/7/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
10/11/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
1/18/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
4/5/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
7/17/2001		No Longer Sampled				
MW-3						
12/5/1998	6,500***	< 50	50	60	50	3,900
3/4/1999	2,800	< 25	< 25	< 25	< 25	1,600
6/17/1999	1,000	< 10	< 10	< 10	< 10	1,400
8/27/1999	230	< 0.5	0.51	0.5	1	1,500/ 1,600*
12/9/1999	870**	< 0.5	< 0.5	< 0.5	< 0.5	2,100
3/7/2000	150**	4	< 0.5	< 0.5	< 0.5	830
6/7/2000	140**	< 0.5	< 0.5	< 0.5	< 0.5	1,100
10/11/2000	620**	< 5.0	< 5.0	< 5.0	< 5.0	1,500
1/18/2001	1,200**	< 5.0	< 5.0	< 5.0	< 5.0	1,000
4/5/2001	1,700**	< 5.0	< 5.0	< 5.0	< 5.0	1,900
7/17/2001	1,400**	< 10	< 10	< 10	< 10	1,700
10/5/2001	< 1,000	< 10	< 10	< 10	< 10	1,700
1/18/2002	1,600	26	20	16	54	2,100
4/11/2002	2,600	21	16	< 10	21	2,300
7/8/2002	2,800	< 10	< 10	< 10	< 10	3,800
10/9/2002	6,000	< 50	< 50	< 50	< 50	4,900
1/29/2003	1,800	< 10	< 10	< 10	< 10	2,300
4/11/2003	2,900	< 25	< 25	< 25	< 25	3,100
7/18/2003	3,400	< 10	< 10	< 10	< 10	3,200
10/9/2003	2,300	< 10	< 10	< 10	< 10	2,700
1/28/2003	1,700**	< 10	< 10	< 10	< 10	2,900
4/12/2004	2,700**	< 10	< 10	< 10	< 20	3,600
7/23/2004	4,200**	<25	<25	<25	<50	4,900

TABLE THREE
Certified Analytical Results for GROUNDWATER Samples
Former Chan's Shell Station
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE
MW-4						
12/5/1998	880	3	< 0.5	< 0.5	< 0.5	950
3/4/1999	3,800	< 25	< 25	< 25	< 25	3,700
6/17/1999	2,700	< 25	< 25	< 25	< 25	2,700
8/27/1999	440	4.7	1.1	0.58	1.3	1,600/ 1,700*
12/9/1999	1,100**	< 2.5	< 2.5	< 2.5	< 2.5	1,700
3/7/2000	< 250	< 2.5	< 2.5	< 2.5	< 2.5	1,700
6/7/2000	530**	8.8	< 2.5	< 2.5	< 2.5	440
10/11/2000	700**	3.9	< 2.5	< 2.5	< 2.5	680
1/18/2001	2,000**	< 2.5	< 2.5	< 2.5	< 2.5	780
4/5/2001	810**	< 2.5	< 2.5	< 2.5	< 2.5	620
7/17/2001	880**	< 2.5	< 2.5	< 2.5	< 2.5	570
10/5/2001	550**	< 2.5	< 2.5	< 2.5	< 2.5	710
1/18/2002	960**	< 5.0	< 5.0	< 5.0	< 5.0	1,300
4/11/2002	1,100**	< 5.0	< 5.0	< 5.0	< 5.0	550
7/8/2002	1,200**	< 5.0	< 5.0	< 5.0	< 5.0	890
10/9/2002	1,300**	< 5.0	< 5.0	< 5.0	< 5.0	880
1/29/2003	530**	< 1.0	< 1.0	< 1.0	< 1.0	190
4/11/2003	690**	< 2.5	< 2.5	< 2.5	< 2.5	310
7/18/2003	1,600**	< 10	< 10	< 10	< 10	1,300
10/9/2003	1500***	< 10	< 10	< 10	< 10	1,400
1/28/2004	1,200**	< 10	< 10	< 10	< 10	1,900
4/12/2004	1,900**	< 10	< 10	< 10	< 20	2,200
7/23/2004	1,800	<10	<10	<10	<20	1,600
MW-5						
8/29/2001	14,000	1,300	470	230	800	14,000
1/18/2002	24,000	3,200	1,300	390	1,500	5,700
4/11/2002	23,000	2,700	980	38	950	4,300
7/8/2002	19,000	3,300	25	360	1,100	2,100
10/9/2002	24,000	2,800	990	360	820	2,400
1/29/2003	17,000	2,100	1,400	380	1,400	< 250
4/11/2003	26,000	2,900	2,200	590	2,200	630
7/18/2003	26,000	3,500	1,700	480	1,300	1,300
10/9/2003	27,000	3,800	1,900	510	1,700	1,200
1/28/2004	29,000	4,800	2,900	770	2,300	3,300
4/12/2004	23,000	4,400	2,700	720	2,200	1,700
7/23/2004	29,000	5,200	2,200	810	1,400	2,200
EW-1						
1/18/2002	11,000	1,000	< 100	220	350	6,700
4/11/2002	17,000	1,000	< 100	120	140	9,700
7/8/2002	21,000	1,300	< 100	< 100	200	12,000
10/9/2002	12,000	900	< 25	< 25	200	9,200
1/29/2003	12,000	860	73	130	500	4,500
4/11/2003	8,700	890	< 25	< 25	82	5,400
7/18/2003	8,200	650	77	99	140	4,300
10/9/2003	5,700**	500	28	53	35	3,600
1/28/2004	17,000***	1,600	90	250	280	9,700
4/12/2004			No Longer Sampled			
ESL:	400	46	130	290	13	1,000

Notes:

* EPA Method 8020/EPA Method 8260 (MTBE confirmation)

** Hydrocarbon reported in the gasoline range does not match the laboratory gasoline standards

*** Sample contains a discrete peak in addition to gasoline

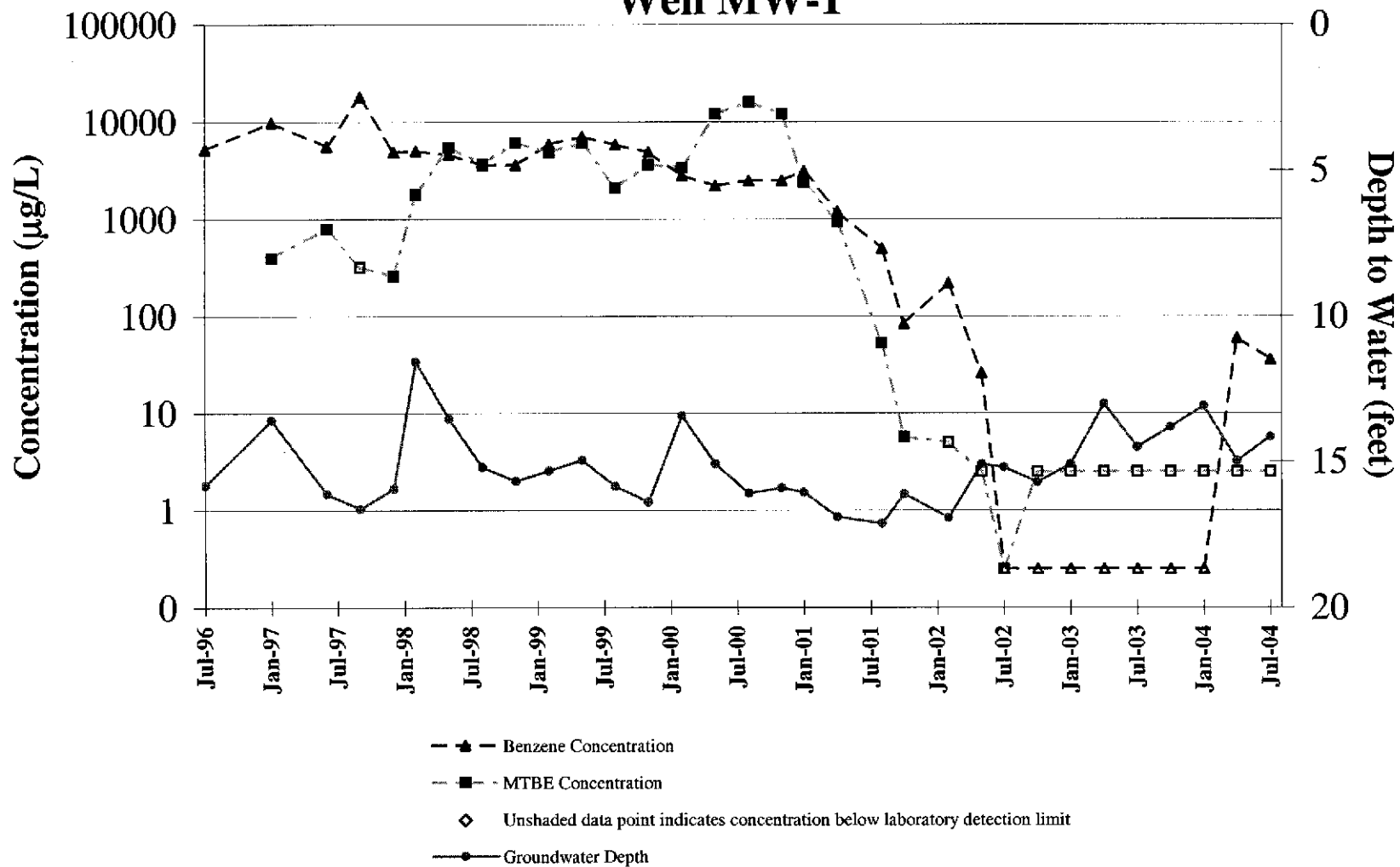
ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document
 Most current data is in **Bold**

Non-detectable concentrations noted by the less than sign (<) followed by the laboratory method reporting limit.

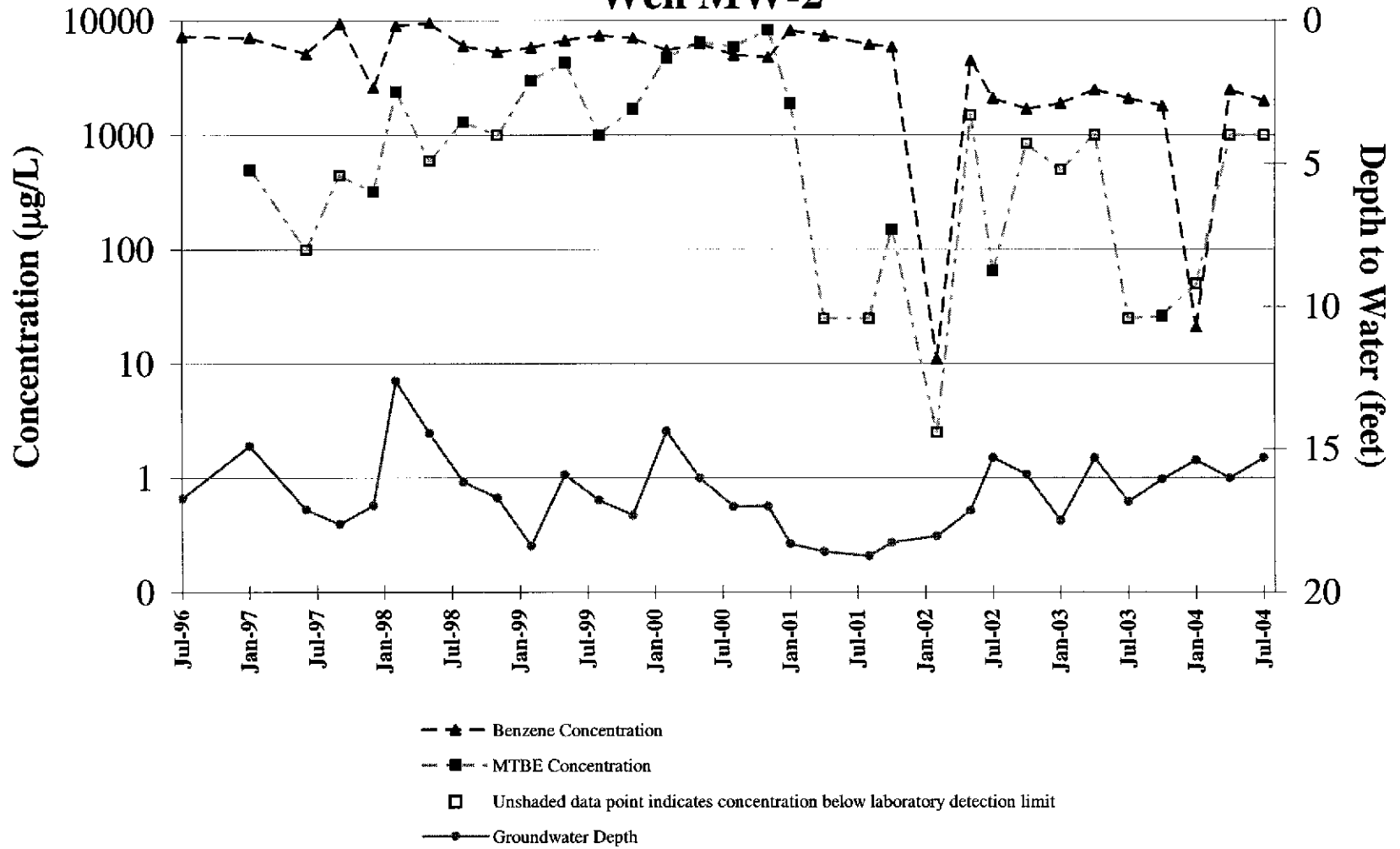
APPENDIX D

Benzene and MTBE Concentration Graphs

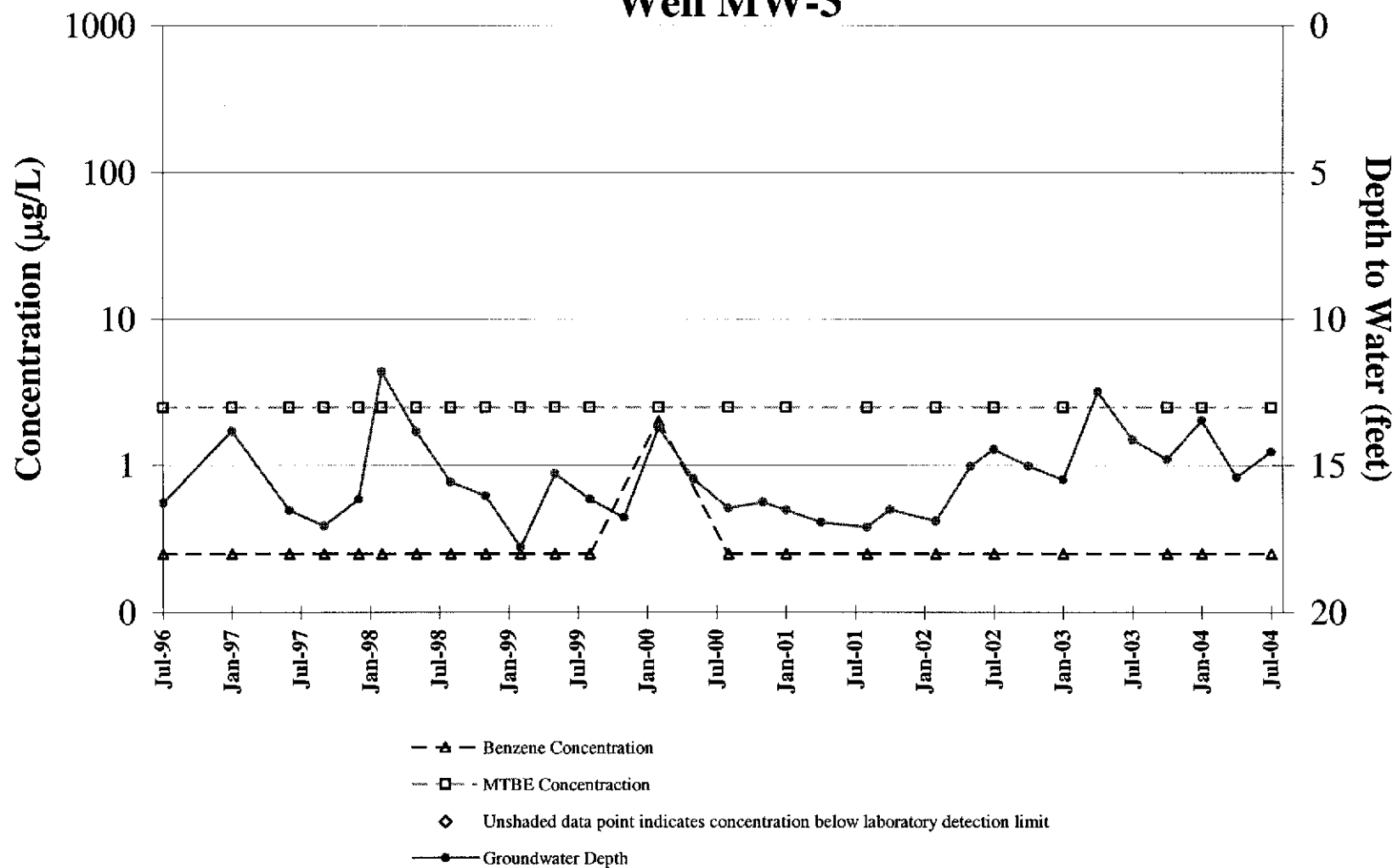
Benzene and MTBE Concentration Trends Well MW-1



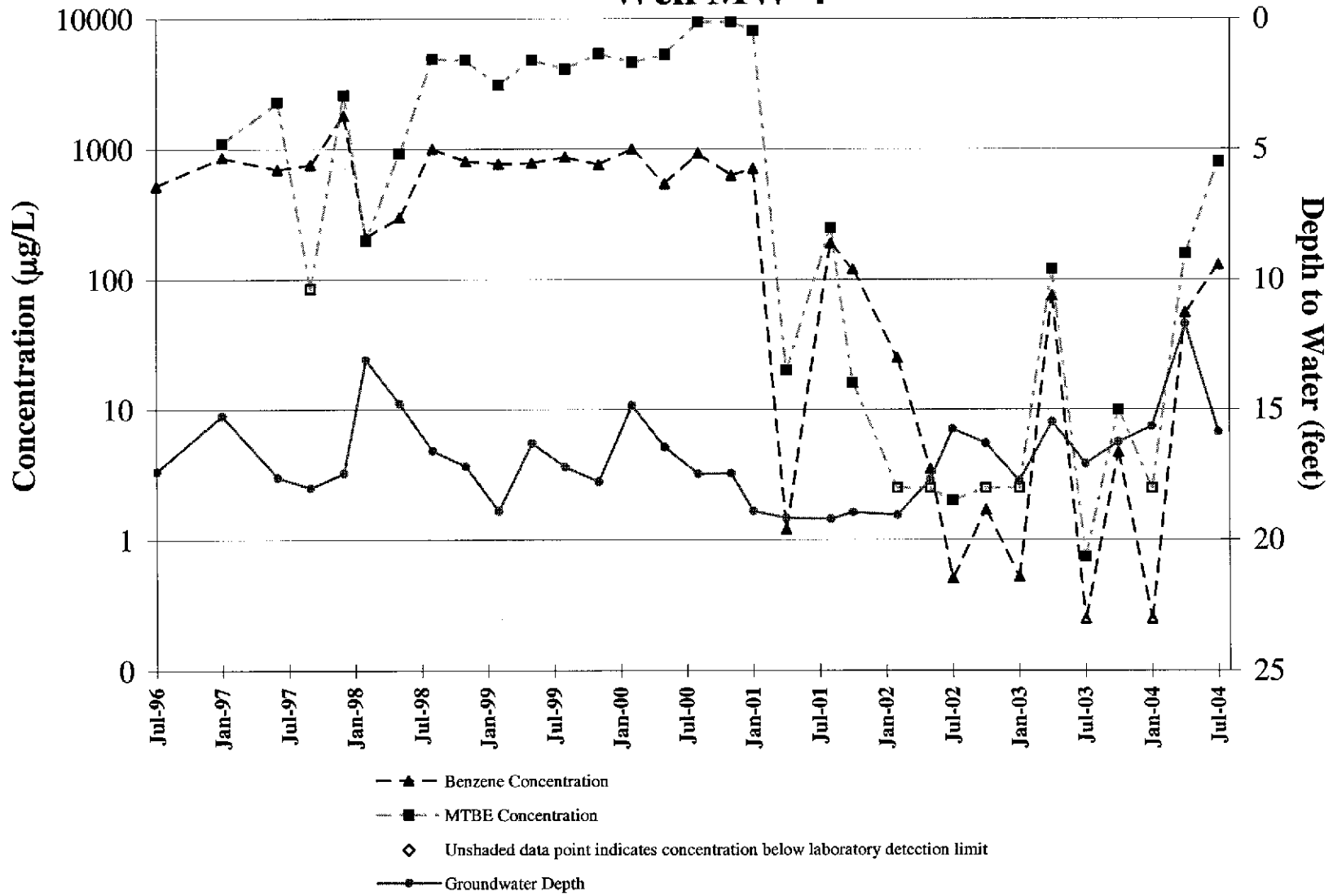
Benzene and MTBE Concentration Trends Well MW-2



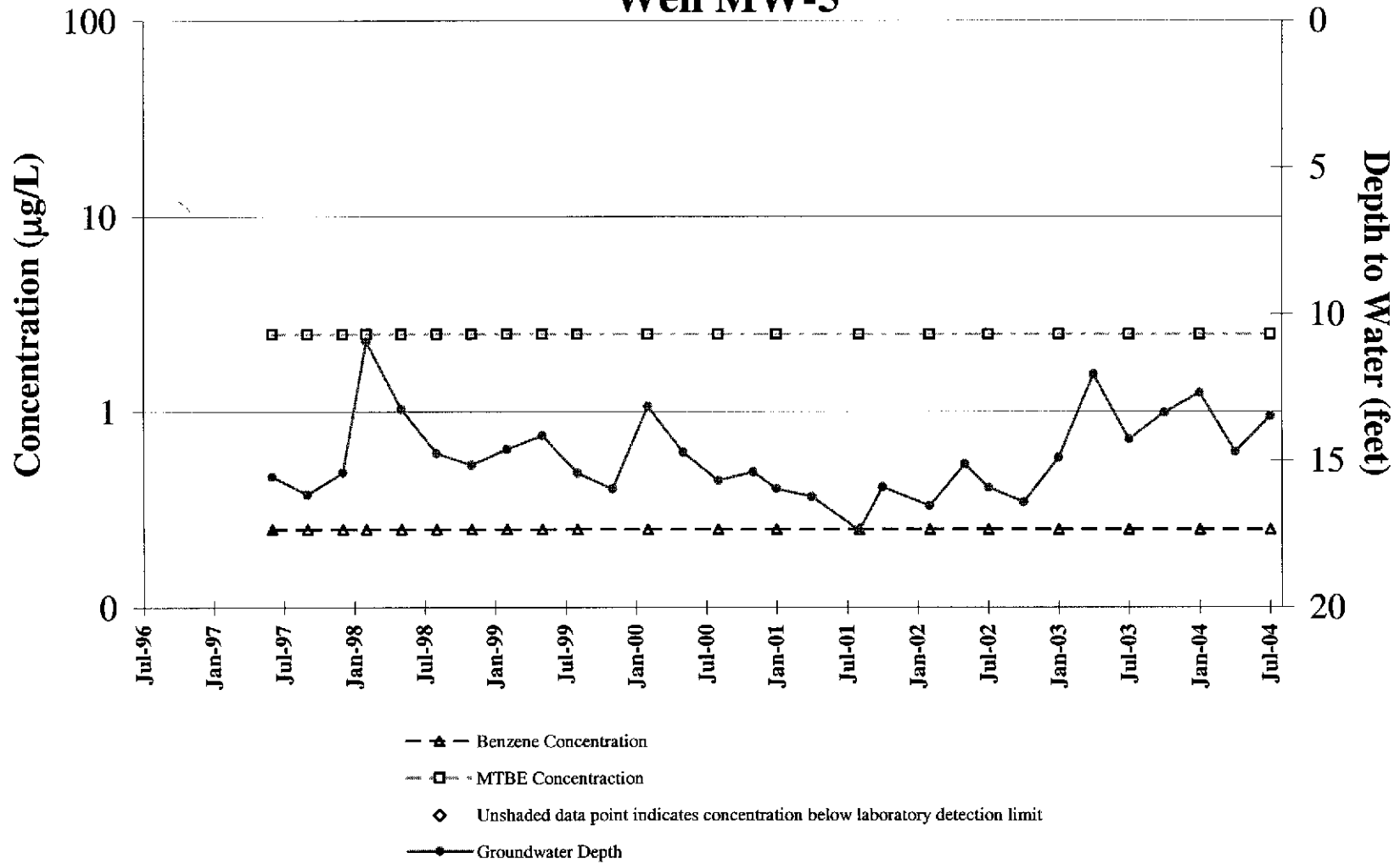
Benzene and MTBE Concentration Trends Well MW-3



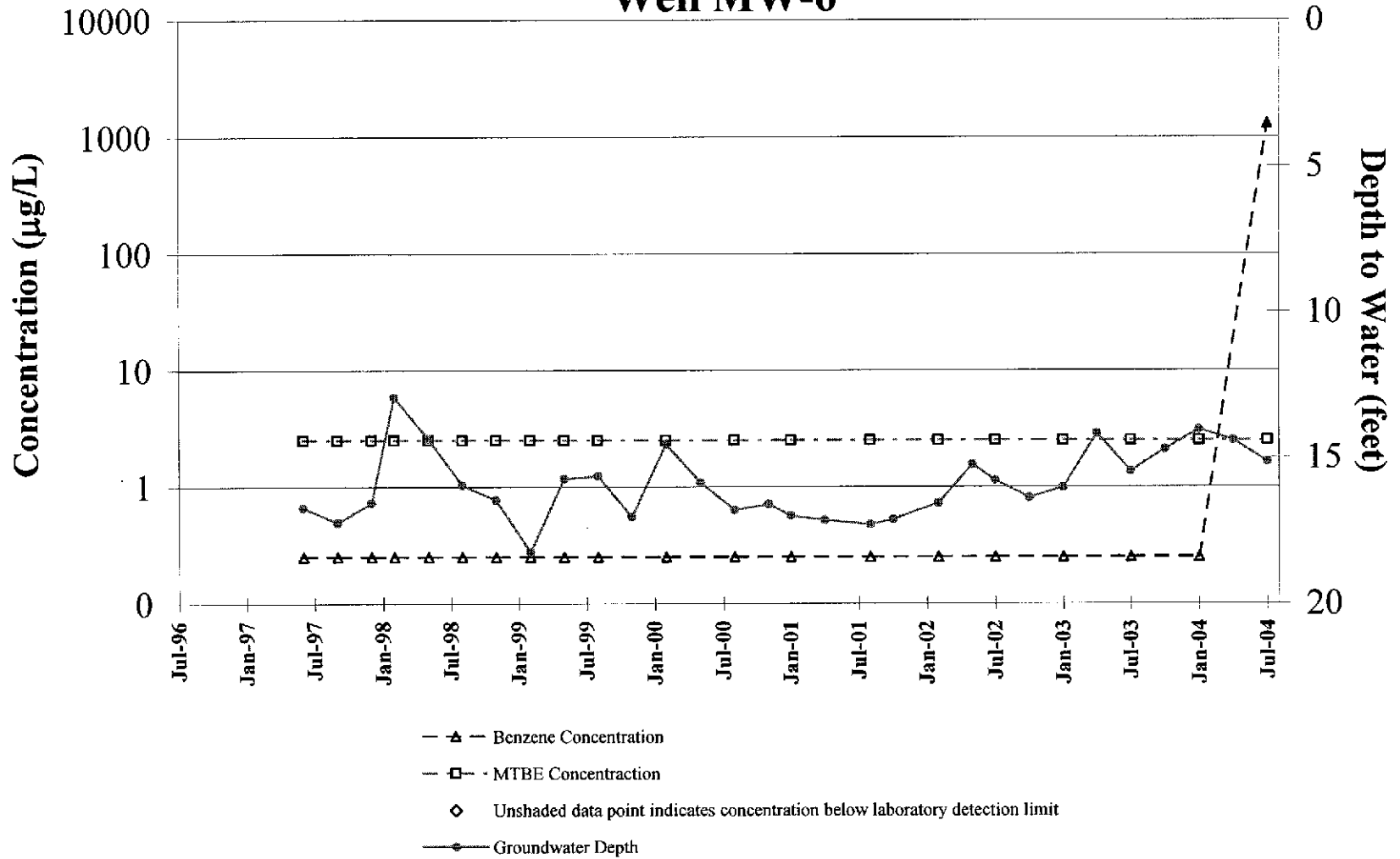
Benzene and MTBE Concentration Trends Well MW-4



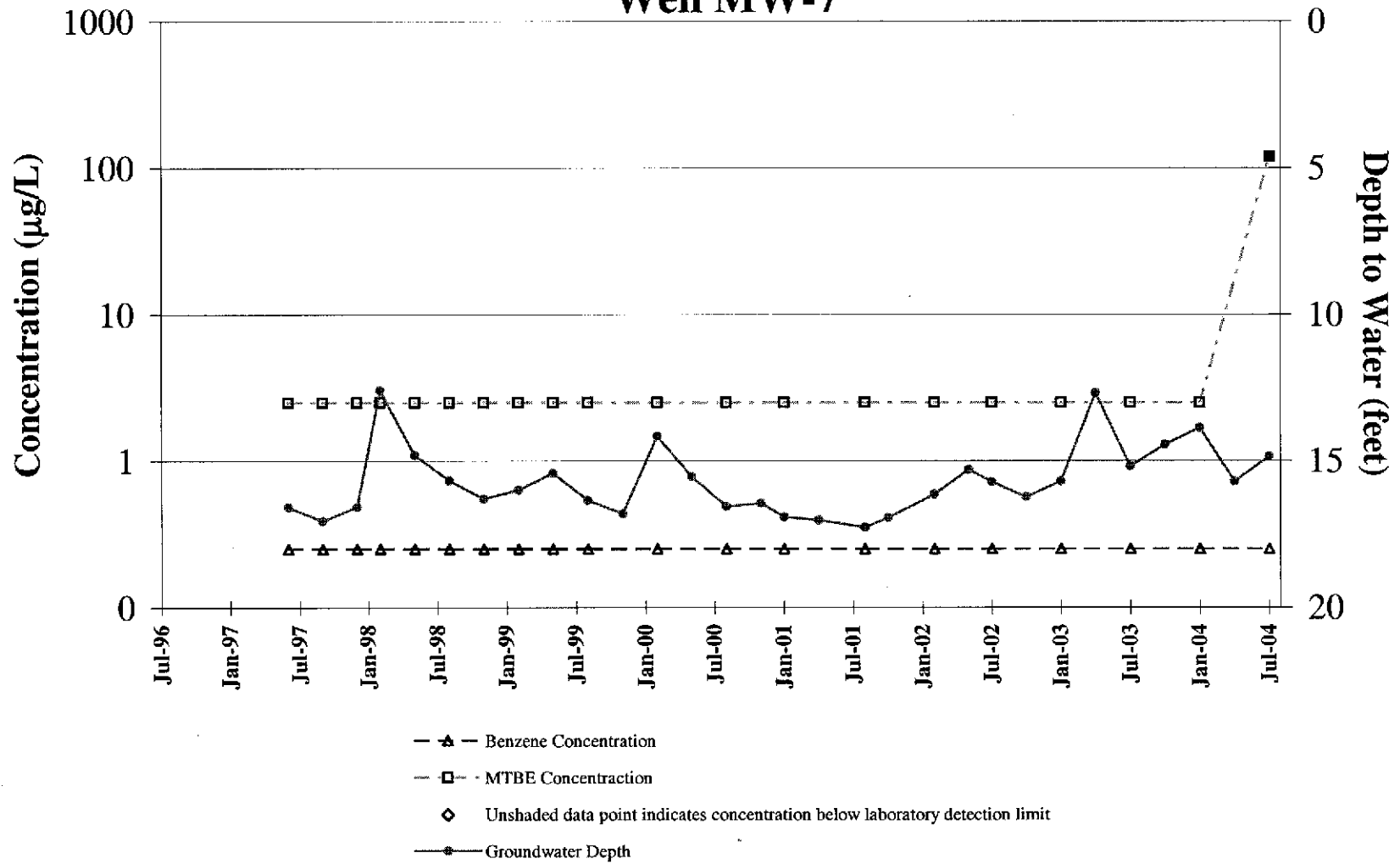
Benzene and MTBE Concentration Trends Well MW-5



Benzene and MTBE Concentration Trends Well MW-6



Benzene and MTBE Concentration Trends Well MW-7



APPENDIX E

GeoTracker Electronic Delivery Confirmations

Electronic Submittal Information

[Main Menu](#) |
 [View/Add Facilities](#) |
 [Upload EDD](#) |
 [Check EDD](#)

Your EDF file has been successfully uploaded!

Confirmation Number: 9735464453
Date/Time of Submittal: 9/30/2004 2:35:37 PM
Facility Global ID: T0600100985
Facility Name: OAKLAND AUTO PARTS
Submittal Title: 3rd Qtr 2004 GW Analytical Data
Submittal Type: GW Monitoring Report

[Click here](#) to view the detections report for this upload.

OAKLAND AUTO PARTS 706 HARRISON ST OAKLAND, CA 94607	Regional Board - Case #: 01-1068 SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) Local Agency UNKNOWN - (DH)
---	---

<u>CONF #</u>	<u>TITLE</u>	<u>QUARTER</u>
9735464453	3rd Qtr 2004 GW Analytical Data	Q3 2004
<u>SUBMITTED BY</u>	<u>SUBMIT DATE</u>	<u>STATUS</u>
Matt Meyers	9/30/2004	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	5
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	5
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	SW8021F,SW8260B
TESTED FOR REQUIRED ANALYTES?	Y
LAB NOTE DATA QUALIFIERS	N

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE - NON-STANDARD SURROGATE USED	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

FIELD QC SAMPLES

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as CAMBRIA-EM (AUTH_RP)

CONTACT SITE ADMINISTRATOR.

Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

UPLOADING A GEO_WELL FILE

**Processing is complete. No errors were found!
Your file has been successfully submitted!**

Submittal Title: 3rd Qtr 2004 GW Depth
Data

Submittal Date/Time: 9/30/2004 2:12:51 PM

**Confirmation
Number:** 1465748429

[Back to Main Menu](#)

Logged in as CAMBRIA-EM (AUTH_RP) [CONTACT SITE ADMINISTRATOR](#)