

R20484 DH

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March 22, 2005

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

Re: **First Quarter 2005 Monitoring Report**
Former ARCO Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116

Alameda County

MAR 28 2005

Environmental Health



Dear Mr. Chan:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. is submitting this *First Quarter 2005 Monitoring Report* for the subject site. The report describes the first quarter 2005 activities and results as well as the anticipated second quarter 2005 activities.

If you have any questions or comments regarding this report, please call me at (510) 420-3314.

Sincerely,
Cambria Environmental Technology, Inc.

Matthew A. Meyers
Project Geologist

Attachments: *First Quarter 2005 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

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FIRST QUARTER 2005 MONITORING REPORT

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

March 22, 2005



Prepared for:

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

Alameda County

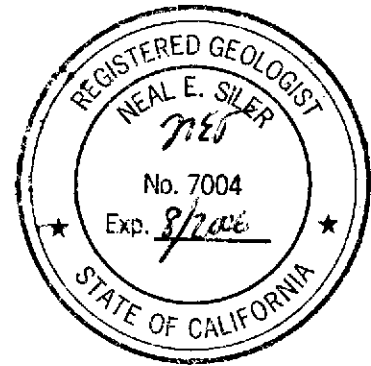
MAR 25 2005

Environmental Health

Prepared by:

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

Written by:



Matthew A. Meyers
Project Geologist

Neal Siler, P.G., R.E.A.
Senior Project Geologist

FIRST QUARTER 2005 MONITORING REPORT

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

March 22, 2005

INTRODUCTION



On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. (Cambria) is submitting this *First Quarter 2005 Monitoring Report* for the subject site. Presented below are the first quarter 2005 groundwater monitoring activities and results and the anticipated second quarter 2005 activities.

Figure 1 displays the groundwater elevation data and summarizes the hydrochemical data. Table 1 presents current and historical groundwater level measurements, calculated groundwater elevation data, and hydrochemical data. Appendix A contains the field data sheets for this monitoring event. Appendix B contains the laboratory analytical report. Appendix C contains benzene and MTBE concentration and groundwater elevation versus time graphs. Appendix D contains the GeoTracker electronic delivery confirmation documentation.

FIRST QUARTER 2005 ACTIVITIES

Monitoring Activities

Field Activities: On February 14, 2005, Muskan Environmental Sampling (MES) conducted quarterly monitoring and sampling activities. MES gauged water levels and collected groundwater samples from monitoring wells MW-1 through MW-7 (Figure 1) pursuant to the well sampling schedule. The groundwater depth measurements have been submitted to the GeoTracker database (Appendix D).

Prior to sampling, groundwater levels were gauged in the wells to evaluate groundwater elevation and flow patterns at the site. To facilitate groundwater sampling, MES purged approximately three well-casing volumes of groundwater prior to sampling. MES recorded groundwater pH, conductivity, temperature, and evaluated reading stabilization. Groundwater samples were collected using clean, disposable bailers and were decanted into the appropriate containers supplied by the analytical laboratory. Samples were labeled, placed in protective foam sleeves, stored on crushed ice at or below 4 degrees Celsius and transported under chain-of-custody protocol to the laboratory. Field data sheets are presented as Appendix A.

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. Samples from wells MW-4, MW-6, and MW-7 were analyzed for MTBE by EPA Method 8260B to confirm detections by EPA Method 8021B, particularly, anomalous detections in wells MW-6 and MW-7. The analytical laboratory report is included as Appendix B. Groundwater analytical results are shown on Table 1 and summarized on Figure 1. The groundwater analytical results have been submitted to the GeoTracker database (Appendix D).



Monitoring Results

Groundwater Gradient: Based on depth-to-water measurements collected during the monitoring event on February 14, 2005, groundwater generally flows towards the southwest with a gradient of 0.008 feet per foot (Figure 1). The gradient and flow direction is consistent with historical data. Depth-to-water and groundwater elevation data for the site are presented in Table 1.

Hydrocarbon Distribution in Groundwater: Hydrocarbons were detected in wells MW-2, MW-4, and MW-6 during this sampling event (Table 1). The highest TPHg and BTEX concentrations were detected in well MW-2 at 75,000 micrograms per liter ($\mu\text{g/L}$), 2,600 $\mu\text{g/L}$, 12,000 $\mu\text{g/L}$, 2,400 $\mu\text{g/L}$, and 10,000 $\mu\text{g/L}$, respectively.

Hydrocarbon concentrations in site wells remained at either non detectable levels (onsite wells MW-1 and MW-3, downgradient well MW-5, and crossgradient well MW-7) or similar levels (source area well MW-2) as compared to previous quarters and continue to display overall decreasing concentration trends. However, hydrocarbon concentrations in upgradient well MW-4 (TPHg at 1,500 $\mu\text{g/L}$; benzene at 200 $\mu\text{g/L}$; toluene at 16 $\mu\text{g/L}$; ethylbenzene at 30 $\mu\text{g/L}$; xylenes at 31 $\mu\text{g/L}$) are at their highest levels since February 2002. Also, down/crossgradient well MW-6, which historically had nondetectable levels of hydrocarbons, contained TPHg (350 $\mu\text{g/L}$) and benzene (160 $\mu\text{g/L}$) for the second time since July 2004. Prior to third quarter 2004, hydrocarbon concentrations had not been detected in MW-6 at these levels (Table 1 and Appendix C).

MTBE Distribution in Groundwater: MTBE was detected in upgradient well MW-4 and crossgradient wells MW-6 and MW-7 during this sampling event. The highest MTBE concentration was detected in upgradient well MW-4 at 550 $\mu\text{g/L}$.

MTBE concentrations in upgradient well MW-4 remained at similar levels to those detected in samples from previous sampling events. Samples from crossgradient wells MW-6 and MW-7 contained MTBE concentrations for the second consecutive quarter. Prior to July 2004, MTBE had not been detected in wells MW-6 and MW-7 (Table 1 and Appendix C).

CONCLUSIONS AND RECOMMENDATIONS

Anomalous hydrocarbon concentrations were detected in down/crossgradient well MW-6 during the last two sampling events. During the same two sampling events MTBE concentrations were detected in crossgradient well MW-7. These chemicals have not been observed in these wells since sampling began in 1994. Due to the present and historic groundwater flow directions, proximity of these wells to the former Unocal Station, and previous analytical results, it is Cambria's opinion that the chemicals detected may be due to an offsite source. Cambria recommends further investigation as to the source(s) of these new confirmed detections.



Since initiating joint monitoring with the neighboring site (a former Shell Service Station) groundwater flow directions have consistently been toward the south-southwest. It is Cambria's opinion that the neighboring property's hydrocarbon and MTBE impacted groundwater is impacting the subject site and thereby delaying site closure. Cambria understands that the neighboring property has undergone a transfer of ownership, which has postponed the initiation of remedial work. Cambria also understands that the transfer of ownership is now complete and that the property now has a functioning business operating on it. Several letters (dated December 9, 2003, December 11, 2003, April 6, 2004, and July 26, 2004) have been issued by the Alameda County Health Care Services Agency (ACHCSA) to the neighboring site requesting further remedial action. It is Cambria's opinion that these continued delays are directly impacting the subject site. Thus it is strongly requested that prompt remedial action be initiated on the neighboring upgradient property.

ANTICIPATED SECOND QUARTER 2005 ACTIVITIES

Monitoring Activities

Cambria will gauge water levels in wells MW-1 through MW-7 and collect groundwater samples from wells MW-1, MW-2, MW-4, MW-6, and MW-7. Pursuant to Alameda County Department of Environmental Health's letter dated February 25, 2003, the well sampling schedule was revised so that wells MW-1, MW-2, and MW-4 are sampled on a quarterly basis and wells MW-3, MW-5, MW-6, and MW-7 are sampled on a semi-annual basis during the first and third quarters. However, due to recent detections of hydrocarbons and/or MTBE in wells MW-6 and MW-7, Cambria will resume quarterly sampling of these wells. Groundwater samples will be analyzed for TPHg by EPA Method 8015, and BTEX and MTBE by EPA Method 8021B. Groundwater samples from wells MW-6 and MW-7 will be analyzed for MTBE by EPA method 8260B. Should MTBE be detected in other samples by EPA Method 8021C, the detection will be confirmed using EPA Method 8260B. Cambria will prepare a groundwater monitoring report summarizing the monitoring activities and results.

Assessment Activities

Cambria plans to submit a work plan that will propose the collection of post-remediation soil and groundwater samples from the former 6,000-gallon UST cavity and from the vicinity of MW-2.

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 – Benzene and MTBE Concentration Graphs


Appendix D – GeoTracker Electronic Delivery Confirmations

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EXPLANATION

-  Monitoring well location
-  Dual SVE/Sparging well
-  SVE well location
-  Shell Monitoring well location

12.00  Groundwater elevation contour, dashed where inferred

 Groundwater flow direction and gradient (ft/ft)

Well ID	Well identification.
ELEV	Groundwater elevation, in feet above mean sea level (msl).
TPHg	TPHg, Benzene and MTBE concentrations are in micrograms per liter (µg/L)
Benzene	
MTBE	

Well ID
ELEV
TPHg
Benzene
MTBE

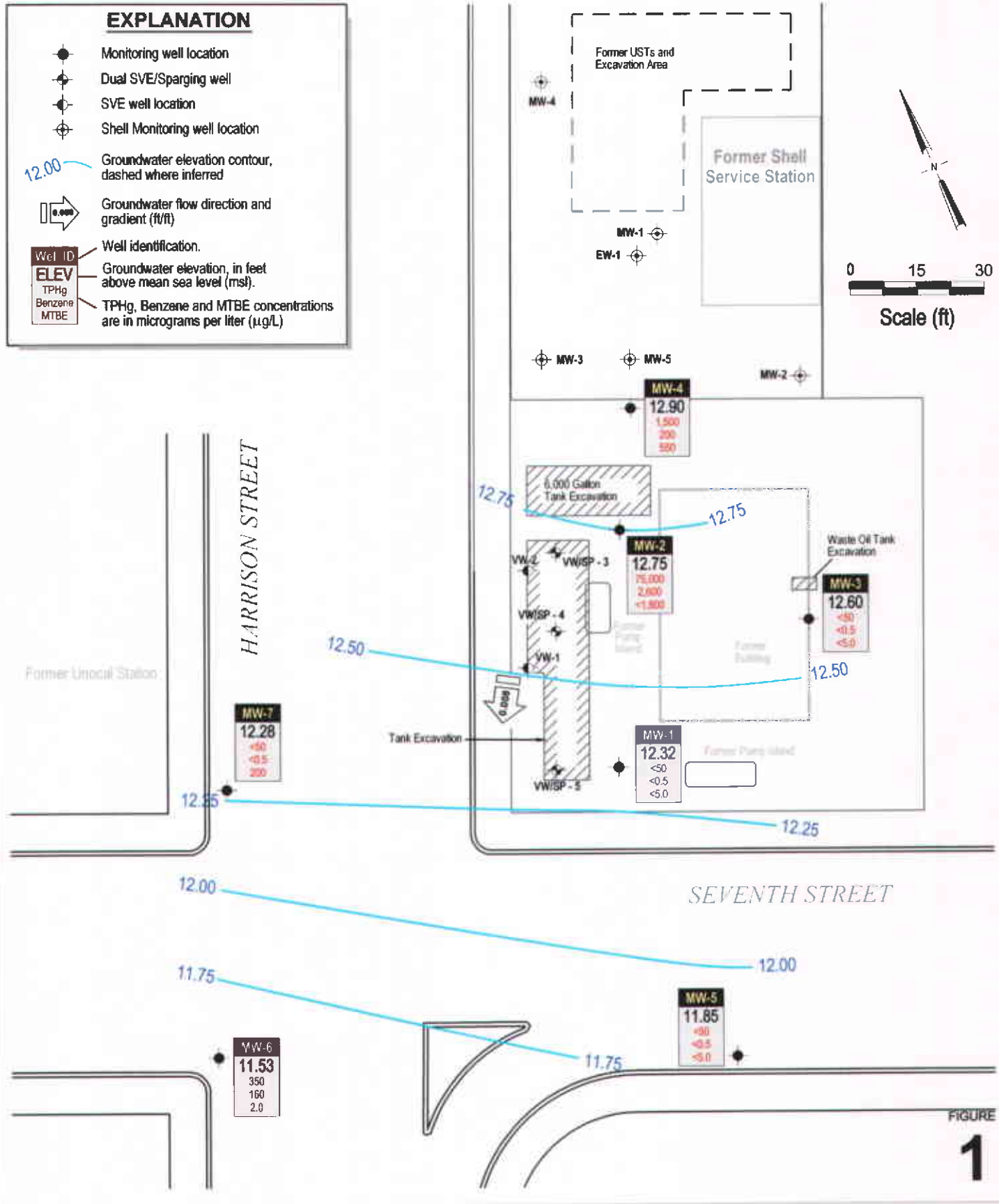


FIGURE
1

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Former Arco Station
706 Harrison Street
Oakland, California



C A M B R I A

**Groundwater Elevation Contour and
Hydrocarbon Concentration Map**

February 14, 2005

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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 by	MTBE by	Notes
Sampling	Date Sampled	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
Frequency		(ft)	(ft-msl)						(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
	10/12/2004	16.30	9.87	<50	2.5	1.5	<0.5	0.86	<5.0	-	
	2/14/2005	13.85	12.32	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

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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 by	MTBE by	Notes
Sampling	Frequency	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
	Date Sampled	(ft)	(ft-msl)						(µg/L)	(µg/L)	
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
	10/12/2004	17.87	9.66	75,000	2,600	13,000	2,300	11,000	<1,300	-	a
	2/14/2005	14.80	12.73	75,000	2,600	12,000	2,400	10,000	<1,800	-	a,h

CAMBRIA

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Well ID	TOC	Depth to	Groundwater	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE by	MTBE by	Notes
Sampling	Date Sampled	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
Frequency		(ft)	(ft-msl)						(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	-	
	10/12/2004	16.58	10.21	-	-	-	-	-	-	-	
	2/14/2005	14.19	12.60	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

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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 by	MTBE by	Notes
Sampling	Date Sampled	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
Frequency		(ft)	(ft-msl)						(µg/L)	(µg/L)	
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
	10/12/2004	18.05	10.15	150	0.86	<0.5	<0.5	0.97	<10	-	a
	2/14/2005	15.30	12.90	1,500	200	16	30	31	420	550	a

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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 by 8021C (µg/L)	MTBE by 8260B (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
	10/12/2004	15.88	9.19	-	-	-	-	-	-	-	
	2/14/2005	13.22	11.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	i

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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 by 8021C	MTBE by 8260B	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	<50	-	a
	10/12/2004	17.29	8.84	-	-	-	-	-	-	-	
	2/14/2005	14.60	11.53	350	160	<0.5	<0.5	<0.5	<25	2.0	a,i

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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 by	MTBE by	Notes
Sampling	Date Sampled	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
Frequency		(ft)	(ft-msl)						(µg/L)	(µg/L)	
MW-7	12/16/1994	17.07	12.60	<50	<0.5	<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	<0.5	<5.0	-	
	1/27/1997	15.09	14.58	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/1997	16.59	13.08	73	<0.5	0.55	<0.5	<0.5	<5.0	-	d
	9/18/1997	17.06	12.61	94	<0.5	<0.5	<0.5	<0.5	<5.0	-	b, f
	12/10/1997	16.58	13.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/1998	12.60	17.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/1998	14.81	14.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/1998	15.67	14.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/1998	16.30	13.37	200	<0.5	<0.5	<0.5	<0.5	<5.0	-	d
	2/4/1999	15.99	13.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/1999	15.42	14.25	200	<0.5	<0.5	<0.5	<0.5	<5.0	-	d
	8/27/1999	16.35	13.32	140	<0.5	<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	<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	<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	<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	<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	<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	<0.5	<5.0	-	
	10/2/2002	16.24	13.43	-	-	-	-	-	-	-	
	1/23/2003	15.70	13.97	<50	23	<0.5	<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	<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	<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	<0.5	130	120	
	10/12/2004	16.90	9.80	-	-	-	-	-	-	-	
	2/14/2005	14.42	12.28	<50	<0.5	<0.5	<0.5	<0.5	190	200	

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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 by	MTBE by	Notes
Sampling	Date Sampled	Water	Elevation	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	8021C	8260B	
Frequency		(ft)	(ft-msl)						(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	-	
	2/14/2005	-	-	<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 8015C
 Benzene, ethylbenzene, toluene and xylenes by EPA Method 8021B.
 MTBE = Methyl tertiary butyl ether by EPA Method 8021B and/or 8260B.
 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 = Analytical laboratory notes lighter than water immiscible sheen/product is present
 j = Analytical laboratory notes that sample was diluted due to high organic content.
 i = Analytical laboratory notes that sample contains greater than ~1-2 vol. % sediment.

APPENDIX A

Groundwater Monitoring Field Data Sheets



WELL GAUGING SHEET

Client: Cambria Environmental Technology						
Site						
Address: 706 Harrison Street Oaknald, CA						
Date: 2/14/2005			Signature: <i>[Handwritten Signature]</i>			
Well ID	Time	Depth to SPH	Depth to Water	SPH Thickness	Depth to Bottom	Comments
MW-1	3:20		13.85		24.40	
MW-2	3:30		14.80		25.42	
MW-3	3:15		14.19		27.75	
MW-4	3:25		15.30		25.59	
MW-5	3:05		13.22		27.90	
MW-6	3:10		14.60		25.90	
MW-7	3:00		14.42		27.79	



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-1				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		24.40	Fe= mg/L			
Depth to Water:		13.85	ORP= mV			
Water Column Height:		10.55	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		1.69	COMMENTS: Turbid			
3 Casing Volumes (gal):		5.06				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
5:35	1.69	22.7			7.29	1540
5:40	3.38	22.6	7.33	1294		
5:45	5.06	22.5	7.31	1270		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-1	2/14/2005	5:50	3 Voa	HCl	TPH, BTEX, MTBE	8015, 8021
				Signature:		

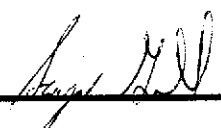


WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-2				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		25.42	Fe= mg/L			
Depth to Water:		14.80	ORP= mV			
Water Column Height:		10.62	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		1.70	COMMENTS:			
3 Casing Volumes (gal):		5.10				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
6:35	1.70	22.7			7.13	891
6:40	3.40	22.5	7.29	822		
6:45	5.10	22.5	7.26	850		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-2	2/14/2005	6:50	3 Voa	HCl	TPH, BTEX, MTBE	8015, 8021
				Signature:		



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-3				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		27.75	Fe=	mg/L		
Depth to Water:		14.19	ORP=	mV		
Water Column Height:		13.56	DO=	mg/L		
Volume/ft:		0.16				
1 Casing Volume (gal):		2.17	COMMENTS: Turbid			
3 Casing Volumes (gal):		6.51				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
5:10	2.17	22.5			7.17	592
5:15	4.34	22.7	7.19	640		
5:20	6.51	22.6	7.15	695		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-3	2/14/2005	5:25	3 Voa	HCl	TPH, BTEX, MTBE	8015, 8021
				Signature:		



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-4				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		25.59	Fe= mg/L			
Depth to Water:		15.30	ORP= mV			
Water Column Height:		10.29	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		1.65	COMMENTS: Turbid			
3 Casing Volumes (gal):		4.94				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
6:10	1.65	22.5			7.11	825
6:15	3.29	22.5			7.14	842
6:20	4.94	22.5	7.10	873		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-4	2/14/2005	6:25	3 Voa	HCl	TPH, BTEX, MTBE	8015, 8021, 8260
				Signature:		



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-5				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		27.90	Fe= mg/L			
Depth to Water:		13.22	ORP= mV			
Water Column Height:		14.68	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		2.35	COMMENTS:			
3 Casing Volumes (gal):		7.05				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
4:35	2.35	22.6			7.15	1081
4:40	4.70	22.4			7.23	690
4:45	7.05	22.4	7.20	722		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-5	2/14/2005	4:50	3 Voa	HCl	TPH _g , BTEX, MTBE	8015, 8021
Signature:						



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-6				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		25.90	Fe= mg/L			
Depth to Water:		14.60	ORP= mV			
Water Column Height:		11.30	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		1.81	COMMENTS: Turbid			
3 Casing Volumes (gal):		5.42				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
3:45	1.81	22.1			7.09	760
3:50	3.62	22.4	7.12	891		
3:55	5.42	22.3	7.13	874		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-6	2/14/2005	4:00	3 Voa	HCl	TPHg, BTEX, MTBE	8015, 8021, 8260
				Signature:		



WELL SAMPLING FORM

Date:		2/14/2005				
Client:		Cambria Environmental Technology				
Site Address:		706 Harrison Street Oakland, CA				
Well ID:		MW-7				
Well Diameter:		2"				
Purging Device:		Disposable Bailer				
Sampling Method:		Disposable Bailer				
Total Well Depth:		27.79	Fe= mg/L			
Depth to Water:		14.42	ORP= mV			
Water Column Height:		13.37	DO= mg/L			
Volume/ft:		0.16				
1 Casing Volume (gal):		2.14	COMMENTS: Turbid			
3 Casing Volumes (gal):		6.42				
TIME:	CASING VOLUME (gal)	TEMP (Celsius)			pH	COND. (microns)
4:10	2.14	22.7			7.19	681
4:15	4.28	22.6	7.12	513		
4:20	6.42	22.4	7.14	540		
Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-7	2/14/2005	4:25	3 Voa	HCl	TPHg, BTEX, MTBE	8015, 8021, 8260
				Signature:		



DRUM INVENTORY

Client:	Cambria Environmental Technology				
Project:	Bo Gin				
Site Address:	706 Harrison Street Oakland, CA				
Date:	2/14/2005				
ARRIVAL		Amount	Soil	Water	
COMMENTS (color, type, label markings, location etc.): One black open top steel drums onsite with non-haz label marked purgewater.		FULL		1	
		3/4			
		1/2			
		1/4			
		2/3			
		1/3			
DEPARTURE		Amount	Soil	Water	
COMMENTS (color, type, label markings, location etc.): Two black open top steel drums onsite Generated one drum of purged groundwater this sampling event. Total 2 drums onsite.		FULL			
		3/4		1	
		1/2			
		1/4			
		2/3			
		1/3			
		TOTAL	0	2	

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: #230-0116; BoGin 706 Harrison St, Oakland	Date Sampled: 02/14/05
		Date Received: 02/14/05
	Client Contact: Matt Meyers	Date Reported: 02/18/05
	Client P.O.:	Date Completed: 02/18/05

WorkOrder: 0502194

February 18, 2005

Dear Matt:

Enclosed are:

- 1). the results of **8** analyzed samples from your **#230-0116; BoGin 706 Harrison St, Oakland 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



Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #230-0116; BoGin 706 Harrison St, Oakland	Date Sampled: 02/14/05
		Date Received: 02/14/05
	Client Contact: Matt Meyers	Date Extracted: 02/16/05-02/18/05
	Client P.O.:	Date Analyzed: 02/16/05-02/18/05

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0502194


Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	106
002A	MW-2	W	75,000,a,h	ND<1800	2600	12,000	2400	10,000	100	95
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	108
004A	MW-4	W	1500,a	420	200	16	30	31	1	103
005A	MW-5	W	ND,i	ND	ND	ND	ND	ND	1	117
006A	MW-6	W	350,a,i	ND<25	160	ND	ND	ND	1	100
007A	MW-7	W	ND	190	ND	ND	ND	ND	1	116
008A	TB	W	ND	ND	ND	ND	ND	ND	1	110

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	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/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.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #230-0116; BoGin 706 Harrison St, Oakland	Date Sampled: 02/14/05
		Date Received: 02/14/05
	Client Contact: Matt Meyers	Date Extracted: 02/16/05
	Client P.O.:	Date Analyzed: 02/16/05

Methyl tert-Butyl Ether*

Extraction method: SW5030B

Analytical methods: SW8260B

Work Order: 0502194

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
004B	MW-4	W	550	20	104
006B	MW-6	W	2.0,i	1	101
007B	MW-7	W	200	10	106

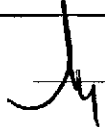
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.5	µg/L
	S	NA	NA

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

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/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

 Angela Rydelius, Lab Manager



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0502194

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 15012 Spiked Sample ID: 0502193-008A										
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) [£]	ND	60	87.9	88.4	0.522	90.1	93.2	3.38	70 - 130	70 - 130
MTBE	ND	10	89.4	95.2	6.29	93.4	95	1.70	70 - 130	70 - 130
Benzene	ND	10	90.7	96.8	6.55	102	102	0	70 - 130	70 - 130
Toluene	ND	10	93.1	98.5	5.58	98.2	99.6	1.50	70 - 130	70 - 130
Ethylbenzene	ND	10	97	101	4.11	100	102	1.56	70 - 130	70 - 130
Xylenes	ND	30	99.7	100	0.334	86.3	86.3	0	70 - 130	70 - 130
%SS:	105	10	97	101	3.87	114	114	0	70 - 130	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).

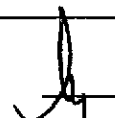
* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0502194

EPA Method: SW8260B		Extraction: SW5030B			BatchID: 15033		Spiked Sample ID: 0502220-016A			
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Methyl-t-butyl ether (MTBE)	ND	10	93.3	98.2	5.20	105	107	2.23	70 - 130	70 - 130
%SSI:	100	10	103	103	0	103	103	0	70 - 130	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 / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the 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.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0502194

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: #230-0116; BoGin 706 Harrison St, Oakl
PO:

Bill to:

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

Requested TAT:

5 days

Date Received: 02/14/2005

Date Printed: 02/15/2005

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		
0502194-001	MW-1	Water	2/14/05 5:50:00 AM	<input type="checkbox"/>	A		A														
0502194-002	MW-2	Water	2/14/05 6:50:00 AM	<input type="checkbox"/>	A																
0502194-003	MW-3	Water	2/14/05 5:25:00 AM	<input type="checkbox"/>	A																
0502194-004	MW-4	Water	2/14/05 6:25:00 AM	<input type="checkbox"/>	A	B															
0502194-005	MW-5	Water	2/14/05 4:50:00 AM	<input type="checkbox"/>	A																
0502194-006	MW-6	Water	2/14/05 4:00:00 AM	<input type="checkbox"/>	A	B															
0502194-007	MW-7	Water	2/14/05 4:25:00 AM	<input type="checkbox"/>	A	B															

Test Legend:

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

Prepared by: Maria Venegas

Comments:

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.

0502194

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH #D7
PACHECO, CA 94553-5560

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DA

EDF Required? ^{YES} (Normal) No ~~White On (DW)~~ No

Report To: Matt Meyers Bill To: Cambria Env. Tech.
Company: Cambria Env. Tech.
5400 Hollis St.
Livermore, CA E-Mail: fmeyers@cambriaenv.com
Tele: (510) 420-3314 Fax: (510) 420-4170
Project #: 230-011b Project Name: Babun
Project Location: 706 Harrison St. Oakland, CA
Sampler Signature: Muskan Environmental Sampling

Analysis Request

Other

Comment

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505 / 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comment								
		Date	Time			Water	Soil	Air	Sludge	Other	ICE																			HCL	HNO ₃	Other					
+ MN-1		2/4/05	5:50	3	✓	X					X																										
+ MN-2			6:50	1		X					X																										
+ MN-3			5:25	1		X					X																										
+ MN-4			6:25	1		X					X																										
+2 MN-5			4:50	1		X					X																										
+1 MN-6			4:00	1		X					X																										
+ MN-7			4:25	1		X					X																										
✓ TB				2		X					X																										

mtbe (200) added per fax 2/14

Filter Samples for Metal analysis: Yes / No

Relinquished By: [Signature] Date: 2/14 Time: 8:25 Received By: [Signature]

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/P GOOD CONDITION
 HEAD SPACE ABSENT
 DECHLORINATED IN LAB
 APPROPRIATE CONTAINERS
 PRESERVED IN LAB

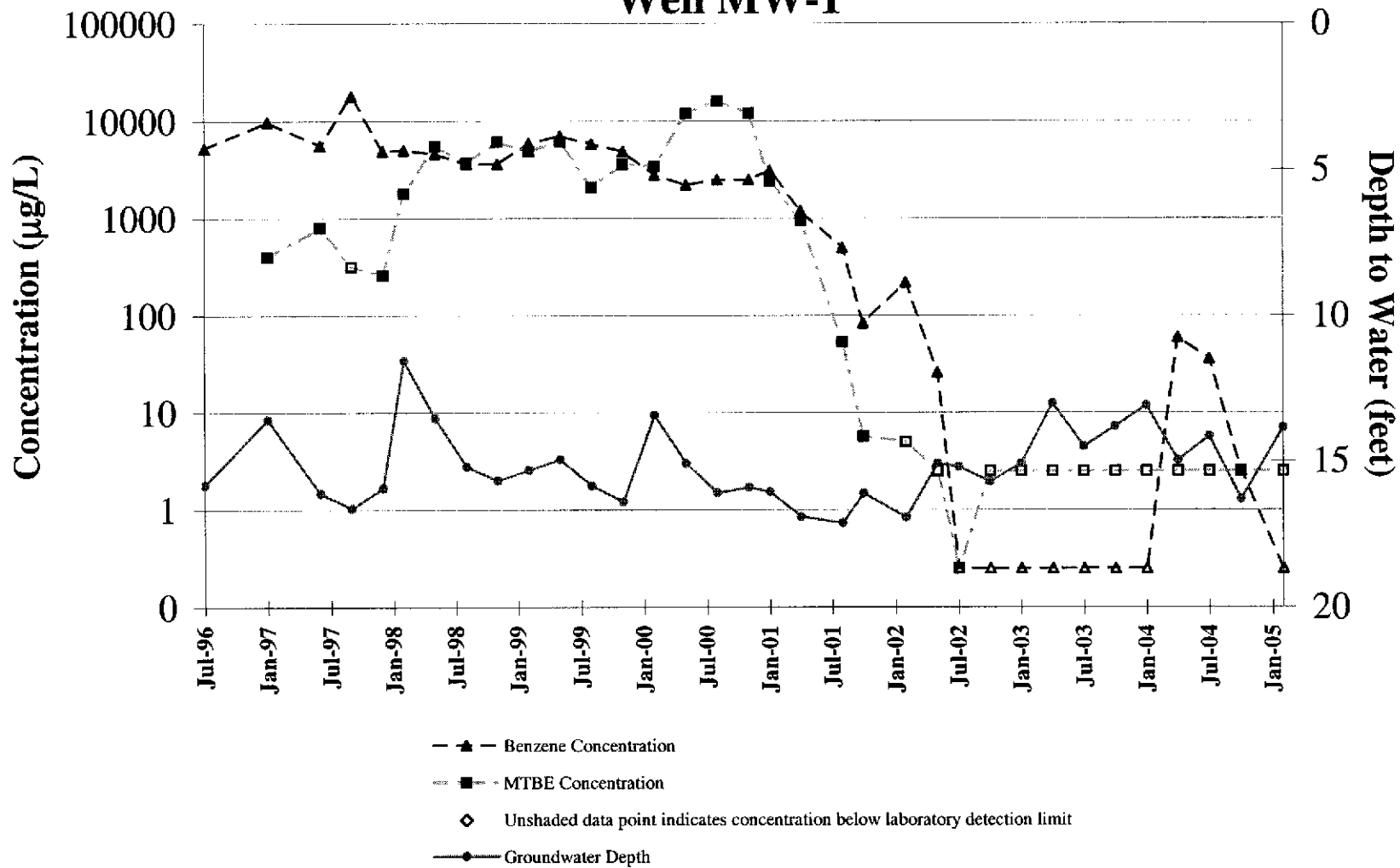
COMMENTS: EDF Required

VOAS O&G METALS OTHER
 PRESERVATION pH<2

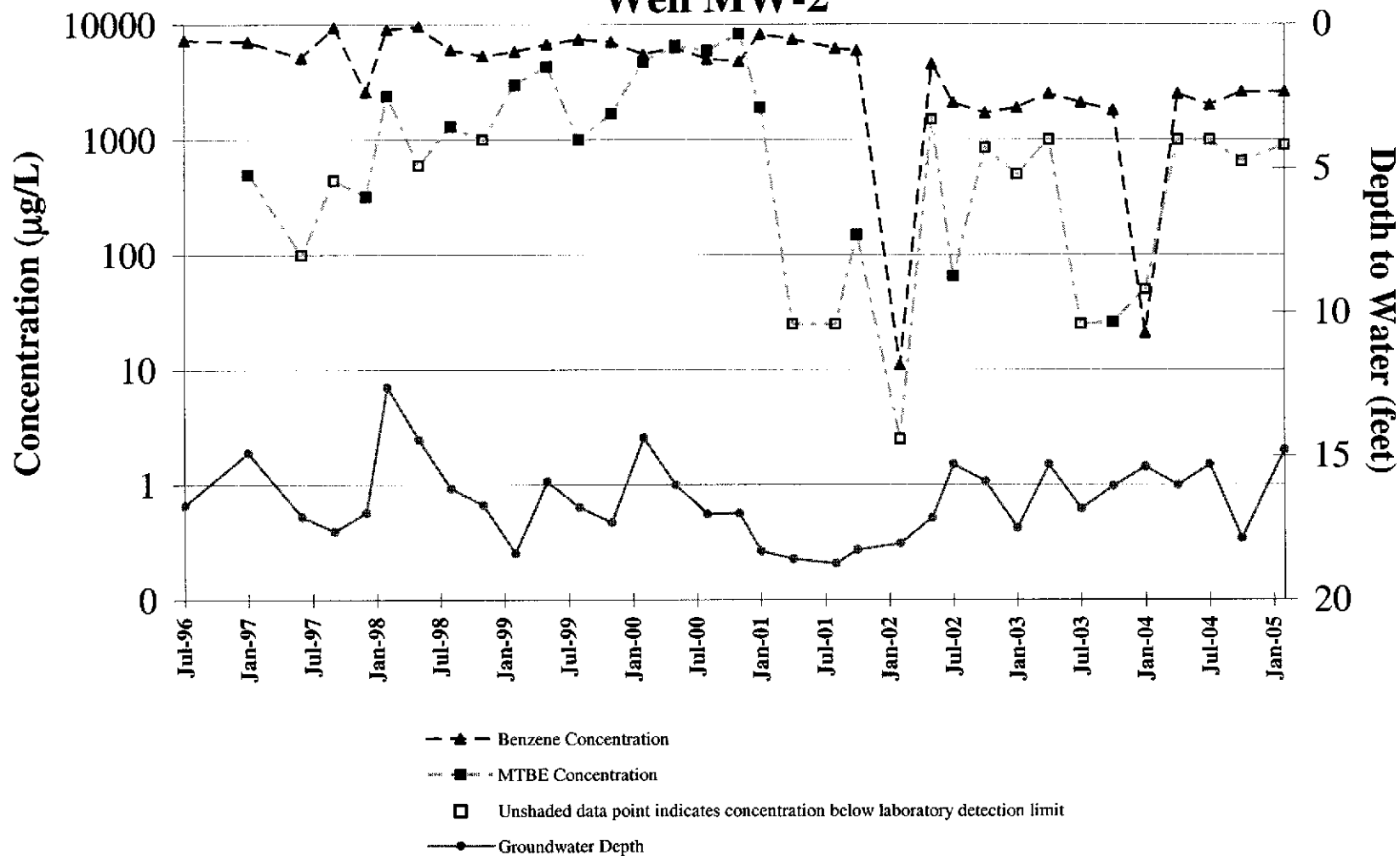
APPENDIX C

Benzene and MTBE Concentration Graphs

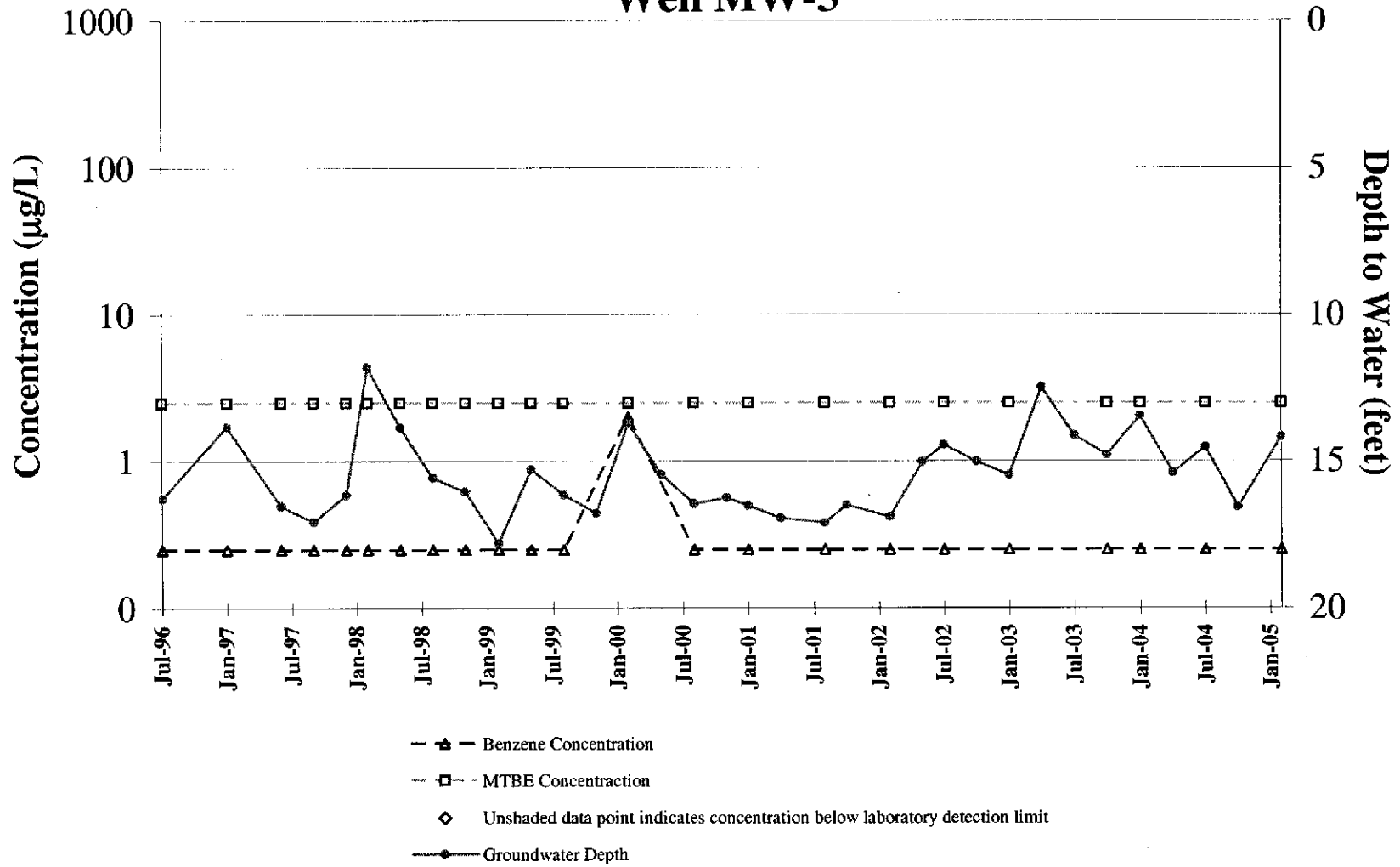
Benzene and MTBE Concentration Trends Well MW-1



Benzene and MTBE Concentration Trends Well MW-2

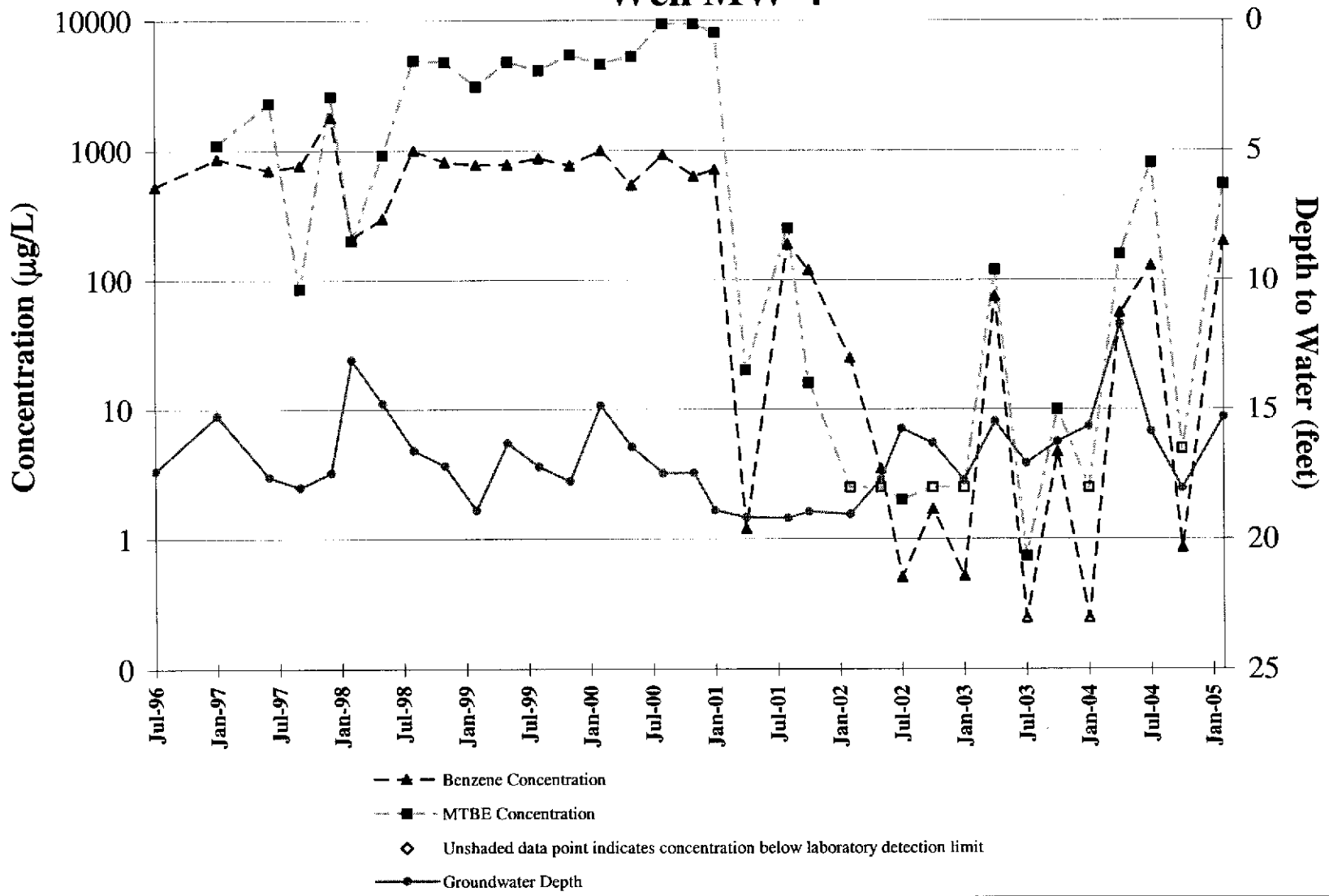


Benzene and MTBE Concentration Trends Well MW-3

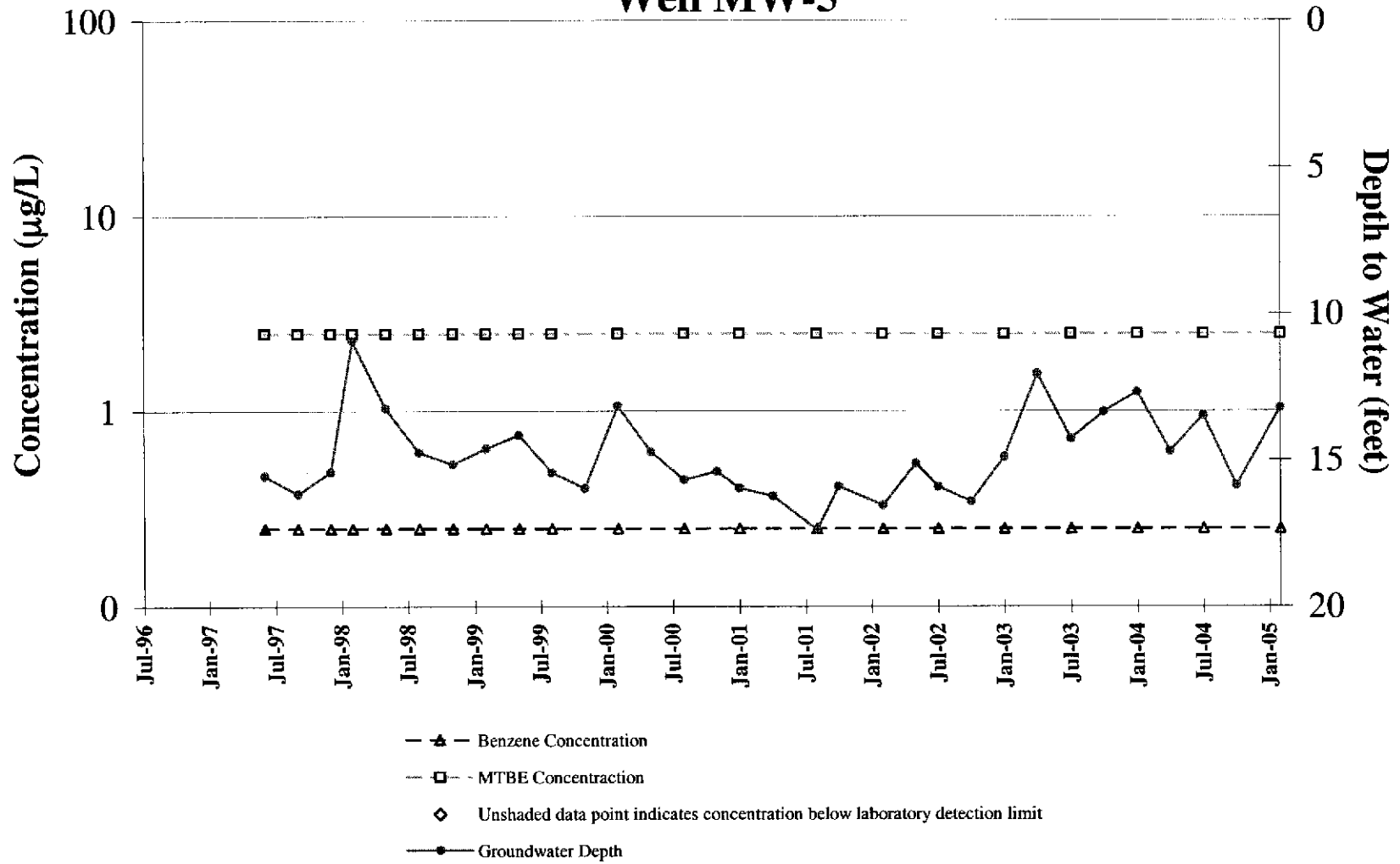


Benzene and MTBE Concentration Trends

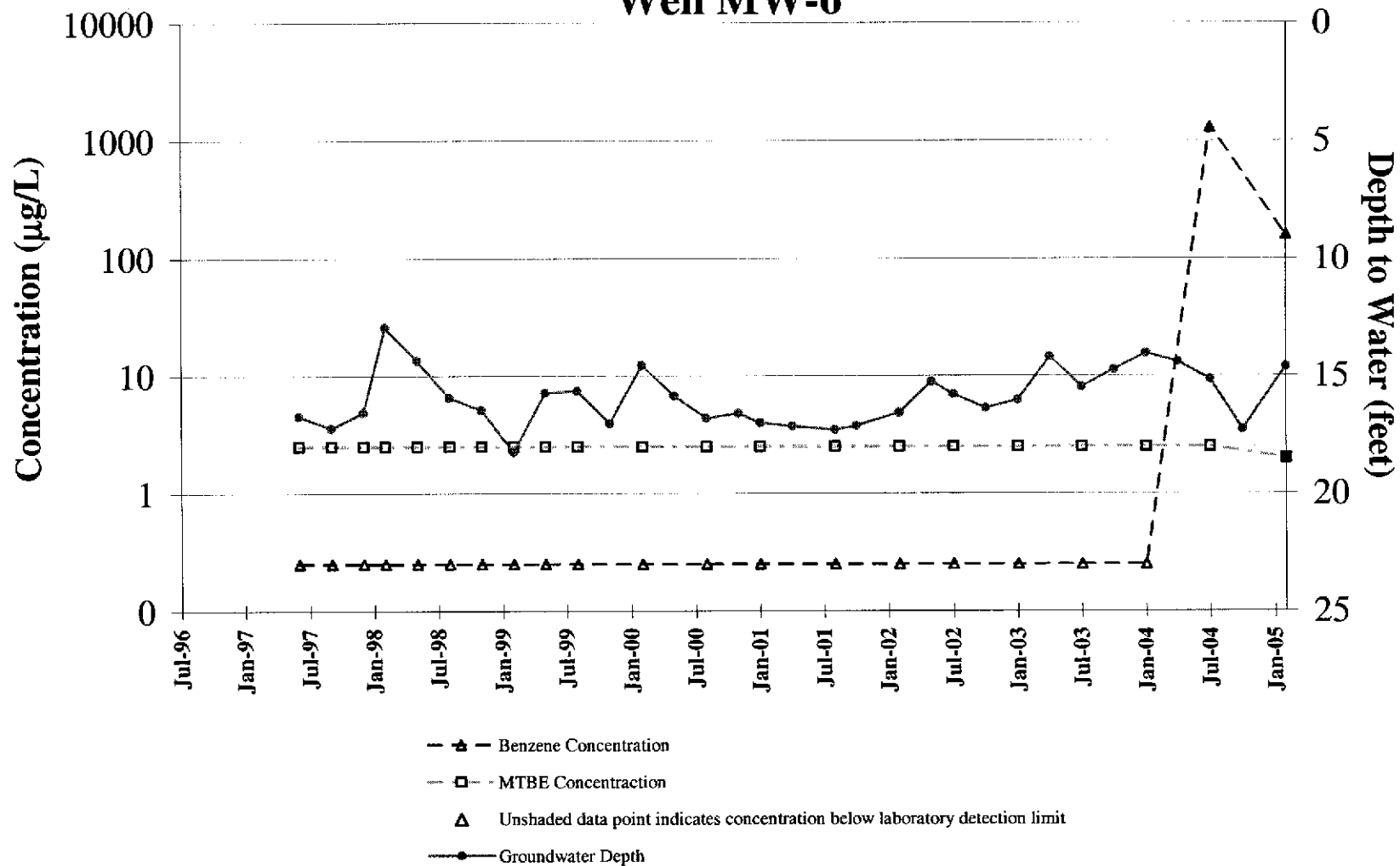
Well MW-4



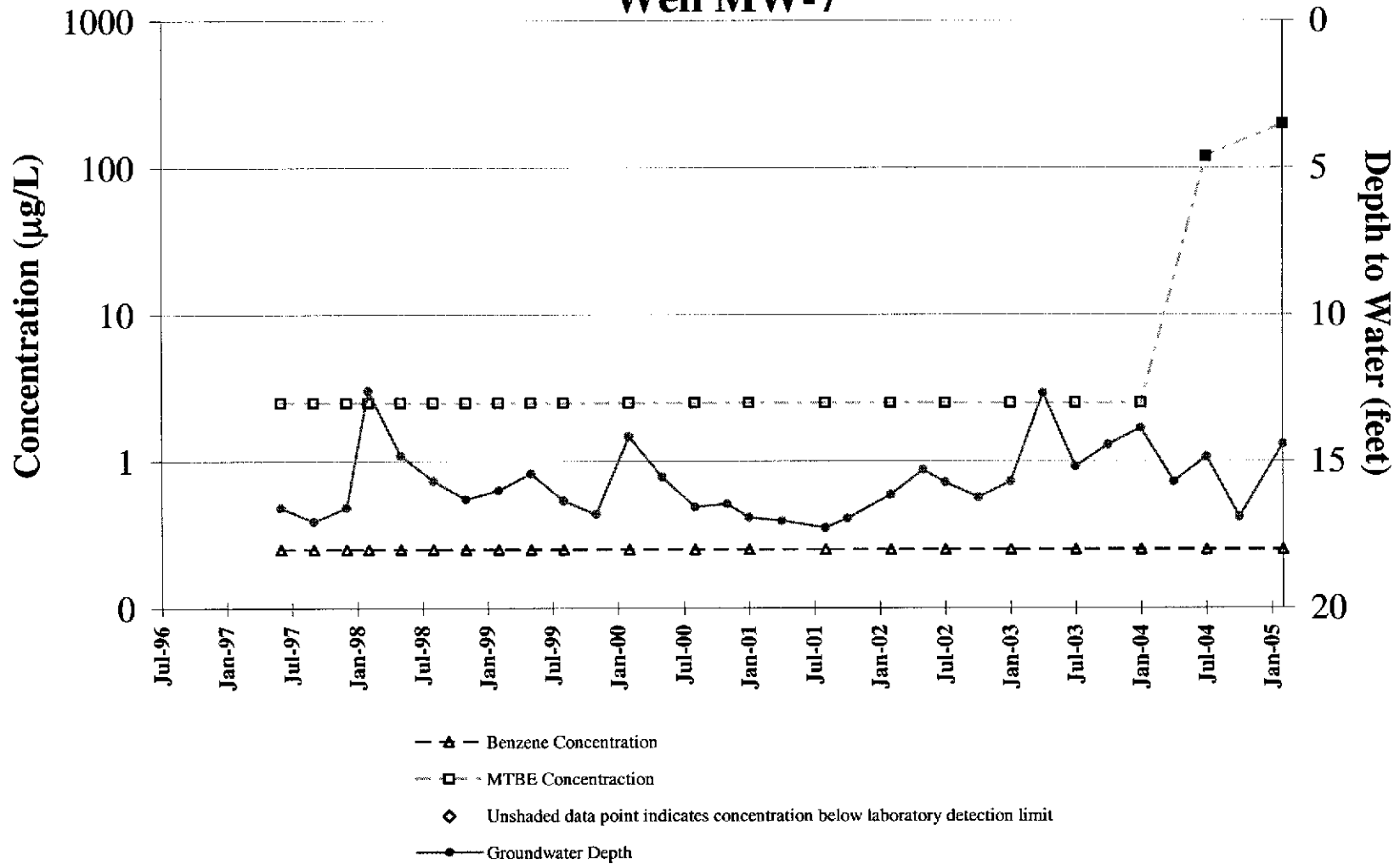
Benzene and MTBE Concentration Trends Well MW-5



Benzene and MTBE Concentration Trends Well MW-6



Benzene and MTBE Concentration Trends Well MW-7



APPENDIX D

GeoTracker Electronic Delivery Confirmations

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: 1st Qtr 2005 GW Depth Data for 706 Harrison Street,
Oakland

Submittal Date/Time: 2/24/2005 5:34:52 PM

Confirmation
Number: 8908004581

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Confirmation Number: 7721054136
Date/Time of Submittal: 2/25/2005 2:46:12 PM
Facility Global ID: T0600100985
Facility Name: OAKLAND AUTO PARTS
Submittal Title: 1st Qtr 2005 GW Analytical Data
Submittal Type: GW Monitoring Report

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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)
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CONF #	TITLE	QUARTER
7721054136	1st Qtr 2005 GW Analytical Data	Q1 2005
SUBMITTED BY	SUBMIT DATE	STATUS
Matt Meyers	2/25/2005	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	4
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	4
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%	N
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.L</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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Global ID: T0600100985
Title: First Quarter 2005 Monitoring Report
Document Type: Monitoring Report - Quarterly
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