

C A M B R I A

February 3, 2004

Mr. Don Hwang
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Groundwater Monitoring Report - Fourth Quarter 2003**
Connell Automobile Dealership
3093 Broadway
Oakland, California
ACHESA Case No. 469
Cambria Project #425-1580

Alameda County
FEB 06 2004
Environmental Health



Dear Mr. Hwang:

On behalf of Messrs. George Hill and Gordon Linden, Cambria Environmental Technology, Inc. (Cambria) has prepared this *Groundwater Monitoring Report – Fourth Quarter 2003* for the above-referenced site. Presented in this report are the fourth quarter 2003 activities and anticipated first quarter 2004 activities.

If you have any questions or comments please call me at (510) 420-3307.

Sincerely,

Cambria Environmental Technology, Inc.

Mary C. Holland-Ford, R.G.
Project Geologist

Attachments: Groundwater Monitoring Report – Fourth Quarter 2003

cc: Mr. George Hill, 305 Sheridan Avenue, Piedmont, California 94611
Mr. Gordon Linden, 150 La Salle Avenue, Piedmont, California 94611
Mr. Paul Kibel, Fitzgerald, Abbott & Beardsley, LLP, 1221 Broadway, 21st Floor, Oakland, California 94612
Mr. Leroy Griffin, Hazardous Materials Manager, Fire Department - OES, 1605 MLK Jr. Way, Oakland, California 94612

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GROUNDWATER MONITORING REPORT - FOURTH QUARTER 2003

Connell Automobile Dealership
3093 Broadway
Oakland, California
ASHCSA Case No. 469
Cambria Project #425-1580

February 3, 2004

Alameda County
FEB 06 2004
Environmental Health

Prepared for:

Mr. George Hill
305 Sheridan Avenue
Piedmont, California 94611

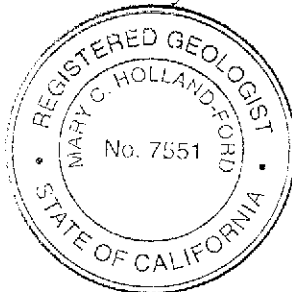
and

Mr. Gordon Linden
150 La Salle Avenue
Piedmont, California 94611

Prepared by:

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
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Written by:



Matthew A. Meyers
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Project Geologist

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GROUNDWATER MONITORING REPORT - FOURTH QUARTER 2003

Connell Automobile Dealership
3093 Broadway
Oakland, California
ASHCSA Case No. 469
Cambria Project #425-1580

February 3, 2004

INTRODUCTION



As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this *Groundwater Monitoring Report - Fourth Quarter 2003* for the above-referenced site (Figure 1). Described below are the fourth quarter 2003 monitoring activities and results and the anticipated first quarter 2004 activities.

FOURTH QUARTER 2003 ACTIVITIES


Monitoring Activities

Field Activities: On November 10, 2003, Cambria gauged and inspected all groundwater monitoring wells for separate-phase hydrocarbons (SPH) (Figure 1). Groundwater samples were collected from wells MW-4, MW-7, MW-8, MW-9, and MW-13 as described by the well sampling protocol in Appendix A. Wells MW-2, MW-3, MW-5, MW-10, and MW-11 are no longer a part of the well sampling protocol due to the absence of hydrocarbons and/or redundant locations. Wells MW-1, MW-6, MW-14 and MW-15 were not sampled due to the presence of SPH in the wells. Field data sheets are presented in Appendix B. The well gauging data has been submitted to the Geotracker database. See Appendix D for the electronic delivery confirmation.

Sample Analysis: Groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPHg) and TPH as diesel (TPHd) with silica gel cleanup by EPA Method 8015C; and benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Dissolved oxygen was also measured in all the wells that were sampled. Laboratory analyses were performed by McCampbell Analytical of Pacheco, California. Laboratory analytical results are shown in Table 1 and summarized on Figure 1. The laboratory analytical report and chain of custody are included in Appendix C. The groundwater analytical

been submitted to the Geotracker database. See Appendix D for the electronic delivery confirmation.

Monitoring Results



Groundwater Flow Direction: Based on depth-to-water measurements collected on November 10, 2003, groundwater beneath the site generally flows toward the northeast with a gradient of 0.103 ft/ft (Figure 1). This groundwater gradient is consistent with previous quarters. Depth to water and groundwater elevation data are presented in Table 1.

Hydrocarbon Distribution in Groundwater: SPH were measured in wells MW-1, MW-6, MW-14, and MW-15 (sheen). Hydrocarbon concentrations were detected in three of five wells that were sampled. The maximum TPHg, TPHd, and benzene concentrations were detected in well MW-4 at 130,000 micrograms per liter ($\mu\text{g/L}$), 15,000 $\mu\text{g/L}$, and 14,000 $\mu\text{g/L}$, respectively. No MTBE was detected in any of the wells sampled. In general, analytical results were consistent relative to the previous quarter.

Corrective Action Activities

Separate-Phase Hydrocarbon Removal: Cambria conducted SPH removal activities on October 10, November 10, 21, and December 4, 2003. Cambria removed a total of 0.262 gallons of SPH during this quarter from wells MW-1, MW-6, MW-14, and MW-15. A total of 153.13 gallons of SPH have been removed since SPH removal activities began in December 1991. Table 2 presents the SPH thickness measurements, the amount of SPH removed from the wells, and the cumulative volume of SPH removed.

ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

Monitoring Activities

Cambria will gauge all wells, check wells for SPH, and collect groundwater samples from all wells not containing SPH. Groundwater samples will be analyzed for TPHg and TPHd (with silica gel cleanup) by modified EPA Method 8015C, and BTEX and MTBE by

EPA Method 8021B. Cambria will summarize groundwater monitoring and corrective action activities in the *Groundwater Monitoring Report - First Quarter 2004*.

Corrective Action Activities

Cambria will continue to perform monthly SPH recovery events by hand-bailing all wells with measurable SPH.



ATTACHMENTS

Figure 1 – Groundwater Elevation Contours and Hydrocarbon Concentration Map

Table 1 – Groundwater Elevation and Analytical Data:

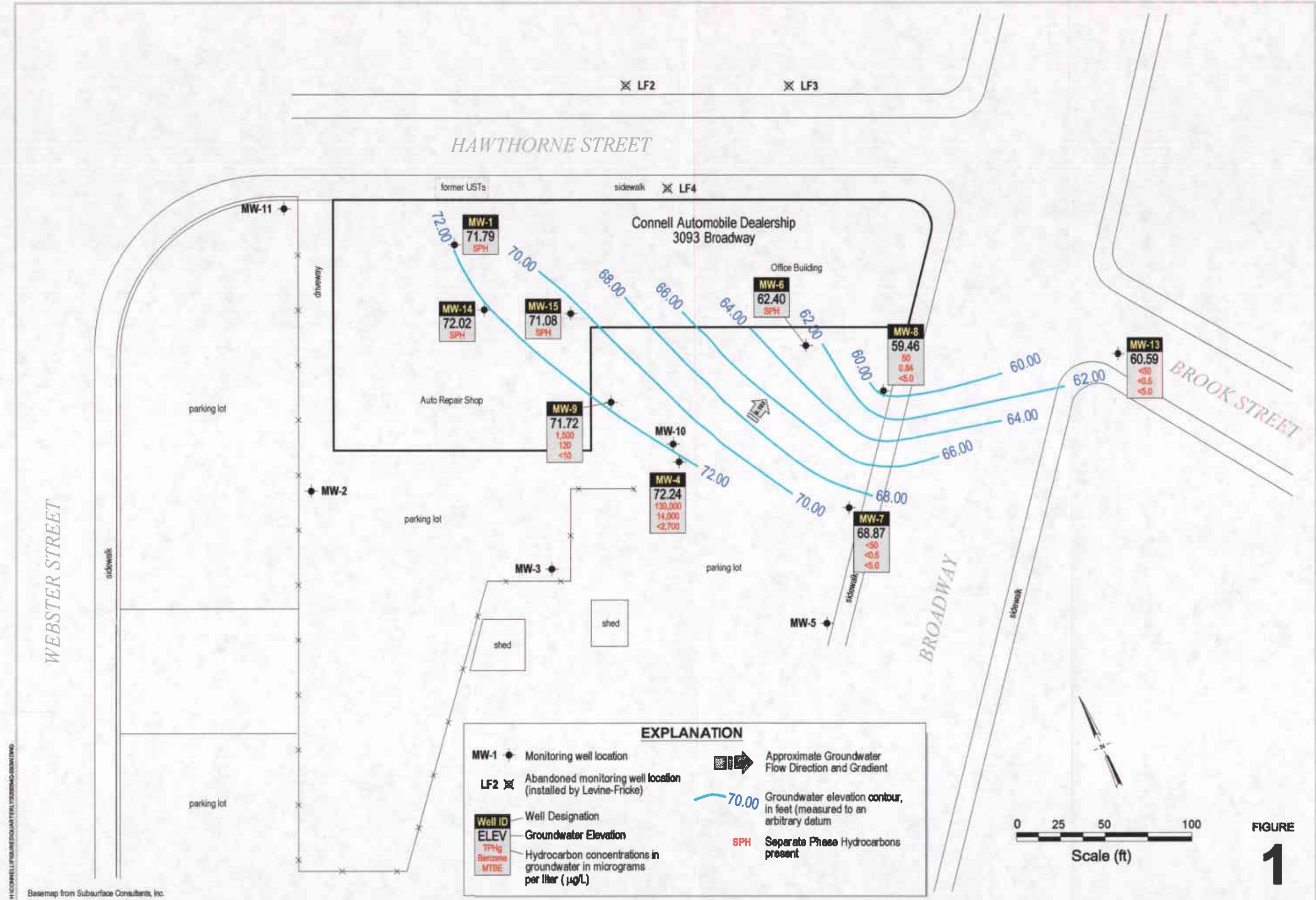
Table 2 – Separate-Phase Hydrocarbon Removal

Appendix A – Well Sampling Protocol

Appendix B – Groundwater Monitoring Field Data

Appendix C – Laboratory Analytical Report

Appendix D – Geotracker Electronic Delivery Confirmations



H:\CONNELLS\FIGURES\QUANTITATIVE\20030403.DWG
 Basemap from Subsurface Consultants, Inc.



FIGURE
1

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Table 1. Groundwater Elevation and Analytical Data:
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-1 94.48	10/5/1990	26.40	68.08	620,000	33,000	50,000	7,900	41,000	--
	3/1/1991	27.46	67.02	SPH	--	--	--	--	**
	10/12/1992	26.44	68.04	490,000	51,000	59,000	5,000	27,000	--
	11/24/1992	26.63	67.85	320,000	35,000	43,000	4,200	22,000	--
	4/5/1993	23.77	70.71	270,000	50,000	58,000	4,600	25,000	--
	7/21/1993	24.51	69.97	SPH	--	--	--	--	--
	11/9/1993	26.06	68.42	SPH	--	--	--	--	--
	8/30/1995	21.73	72.75	SPH	--	--	--	--	--
	12/4/1995	21.94	72.54	SPH	--	--	--	--	<200
	5/2/1996	20.65	73.83	340,000	57,000	73,000	7,200	38,000	--
	11/5/1996	24.29	70.19	270,000	43,000	56,000	4,500	34,000	--
	5/9/1997	22.79	71.69	240,000	36,000	45,000	3,300	17,900	--
	11/5/1997	25.06	69.42	240,000	42,000	48,000	3,600	18,800	<1,000
	2/9/1998	22.64	71.84	220,000	47,000	60,000	5,200	29,800	<1,000
	5/1/1998	19.95	74.53	160,000	35,000	42,000	2,800	16,000	<1,000
	11/3/1998	23.29	71.19	200,000	39,000	49,000	4,400	26,000	<500
	3/24/1999	22.30	72.18	SPH	--	--	--	--	--
	7/1/1999	22.70	71.78	SPH	--	--	--	--	--
	9/21/1999	23.81	70.67	SPH	--	--	--	--	--
	2/9/2000	23.95	70.59	SPH	--	--	--	--	--
	5/31/2000	22.05	72.43	SPH	--	--	--	--	--
	8/8/2000	22.49	71.99	SPH	--	--	--	--	--
	11/14/2000	24.65	69.83	SPH	--	--	--	--	--
	3/1/2001	24.22	70.28	SPH	--	--	--	--	--
	5/7/2001	23.85	70.67	SPH (0.05)	--	--	--	--	--
	8/1/2001	23.91	70.64	SPH (0.09)	--	--	--	--	--
	11/5/2001	23.95	70.67	SPH (0.18)	--	--	--	--	--
	2/13/2002	23.15	71.39	SPH(0.07)	--	--	--	--	--
	5/2/2002	23.91	70.60	SPH (0.04)	--	--	--	--	--
	8/4/2002	24.02	70.48	SPH (0.03)	--	--	--	--	--
11/26/2002	24.47	70.05	SPH (0.05)	--	--	--	--	--	
1/20/2003	22.37	72.14	SPH (0.04)	--	--	--	--	--	
5/28/2003	21.77	72.73	SPH (0.02)	--	--	--	--	--	
8/5/2003	23.07	71.44	SPH (0.04)	--	--	--	--	--	
11/10/2003	22.53	71.97	SPH (0.03)	--	--	--	--	--	
MW-2 94.81	3/1/1991	27.86	66.95	<50	<0.5	<0.5	<0.5	<0.5	--
	11/24/1992	27.91	66.90	<50	<0.5	1.1	<0.5	1.5	--
	4/5/1993	25.95	68.86	<50	<0.5	<0.5	<0.5	<0.5	--
	7/21/1993	25.59	69.22	<50	<0.5	<0.5	<0.5	<0.5	--
	11/10/1993	26.72	68.09	<50	<0.5	<0.5	<0.5	<0.5	--
	8/30/1995	25.75	69.06	<50	<0.5	<0.5	<0.5	<0.5	--
	5/3/1996	23.28	71.53	<50	<0.5	<0.5	<0.5	<0.5	--
	5/8/1997	24.58	70.23	<50	<0.5	0.7	<0.5	<0.5	--
	4/29/1998	22.18	72.63	<50	<0.5	<0.5	<0.5	<0.5	<2

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Table 1. Groundwater Elevation and Analytical Data:

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-3 90.08	3/1/1991	23.17	66.91	<50	<50	0.6	<0.5	<0.5	--	
	11/25/1992	23.01	67.07	50	<0.5	0.9	<0.5	2	--	
	4/5/1993	22.11	67.97	<50	<0.5	<0.5	<0.5	<0.5	--	
	7/21/1993	23.93	66.15	<50	<0.5	<0.5	<0.5	<0.5	--	
	11/10/1993	23.14	66.94	<50	<0.5	<0.5	<0.5	<0.5	--	
	8/30/1995	20.61	69.47	<50	<0.5	<0.5	<0.5	<0.5	--	
	5/3/1996	18.43	71.65	<50	<0.5	<0.5	<0.5	<0.5	--	
	5/8/1997	19.77	70.31	<50	<0.5	0.7	<0.5	<0.5	--	
	4/29/1998	17.92	72.16	<50	<0.5	<0.5	<0.5	<0.5	<2	
	MW-4 88.84	3/1/1991	23.79	65.05	150,000	20,000	38,000	2,800	14,000	**
10/12/1992		22.48	66.36	230,000	15,000	32,000	2,500	14,000	--	
11/24/1992		22.60	66.24	210,000	14,000	31,000	2,500	14,000	--	
4/2/1993		20.11	68.73	SPH	--	--	--	--	--	
7/21/1993		20.48	68.36	SPH	--	--	--	--	--	
11/9/1993		21.71	67.13	SPH	--	--	--	--	--	
8/30/1995		19.90	68.94	SPH	--	--	--	--	--	
12/1/1995		19.40	69.44	SPH	--	--	--	--	--	
5/2/1996		17.50	71.34	140,000	24,000	50,000	3,000	15,100	--	
11/4/1996		20.13	68.71	160,000	16,000	38,000	2,700	14,000	--	
5/8/1997		18.63	70.21	170,000	16,000	37,000	2,400	15,900	--	
11/5/1997		20.19	68.65	190,000	15,000	31,000	2,200	14,600	<400	
2/9/1998		18.28	70.56	110,000	19,000	42,000	2,500	18,300	<500	
5/1/1998		16.11	72.73	130,000	15,000	31,000	2,000	13,400	<1,000	
88.84		8/4/1998	17.54	71.30	130,000	16,000	34,000	2,400	15,700	<400
11/2/1998		19.21	69.63	140,000	16,000	32,000	2,300	15,500	<400	
3/26/1999		17.51	71.33	110,000	15,000	30,000	1,600	15,000	450 ⁴	
7/1/1999		18.80	70.04	110,000	13,000	23,000	1,600	12,000	<83	
9/21/1999		19.85	68.99	140,000	16,000	31,000	2,400	14,800	ND	
2/9/2000		19.76	69.08	140,000	16,000	28,000	2,100	14,000	<400	
5/31/2000		17.90	70.94	15,000	17,000	28,000	2,400	14,000	<0.5 ⁶	
8/8/2000		18.62	70.22	140,000	15,000	25,000	2,100	13,000	<300	
11/14/2000		19.63	69.21	150,000	19,000	36,000	2,900	17,000	<200	
3/1/2001		19.68	69.16	120,000	10,000	15,000	1,300	10,000	<2000	
5/7/2001		18.60	70.24	210,000	12,000	19,000	1,900	12,000	<200	
8/1/2001		18.73	70.11	160,000	13,000	21,000	2,200	13,000	<200	
11/5/2001		18.97	69.87	220,000	15,000	26,000	3,100	16,000	<200	
2/13/2002	18.59	70.25	180,000	6,100	11,000	1,400	13,000	<200		
5/2/2002	18.77	70.07	110,000	13,000	20,000	2,000	10,000	<1,200		
8/4/2002	18.95	69.89	92,000	9,200	15,000	1,800	10,000	<2,000		
11/26/2002	20.83	68.01	110,000	16,000	26,000	2,700	12,000	<1,000		
1/20/2003	16.90	71.94	110,000	9,000	16,000	1,900	11,000	<1,200		
5/28/2003	15.25	73.59	110,000	13,000	17,000	1,800	8,500	<1,000		
8/5/2003	17.05	71.79	110,000	13,000	20,000	2,200	9,800	<1,000		
11/10/2003	16.60	72.24	130,000	14,000	23,000	2,700	12,000	<2,700		

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Table 1. Groundwater Elevation and Analytical Data:

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-5 84.84	3/15/1991	26.31	58.53	<50	<0.5	<0.5	<0.5	<0.5	--	
	11/10/1992	26.83	58.01	<50	<0.5	<0.5	<0.5	<0.5	--	
	4/2/1993	26.62	58.22	<50	<0.5	<0.5	<0.5	<0.5	--	
	7/21/1993	26.60	58.24	<50	<0.5	<0.5	<0.5	<0.5	--	
	11/9/1993	27.24	57.60	<50	<0.5	<0.5	<0.5	<0.5	--	
	8/30/1995	27.46	57.38	<50	<0.5	<0.5	<0.5	<0.5	--	
	5/3/1996	26.02	58.82	<50	<0.5	<0.5	<0.5	<0.5	--	
	5/8/1997	26.76	58.08	<50	<0.5	0.5	<0.5	<0.5	--	
	4/29/1998	26.55	58.29	<50	<0.5	0.5	<0.5	<0.5	<2	
MW-6 85.62	3/15/1991	25.82	59.80	80,000	12,000	13,000	1,100	5,400	--	
	10/12/1992	25.02	60.60	19,000	3,200	1,400	200	560	--	
	12/1/1992	28.87	56.75	SPH	--	--	--	--	--	
	4/2/1993	26.96	58.66	SPH	--	--	--	--	--	
	7/21/1993	26.17	59.45	SPH	--	--	--	--	--	
	11/9/1993	27.51	58.11	SPH	--	--	--	--	--	
	8/30/1995	28.00	57.62	SPH	--	--	--	--	--	
	12/1/1995	27.58	58.04	SPH	--	--	--	--	<8,000,000	
	86.94	5/3/1996	28.15	58.79	130,000	37,000	50,000	3,200	14,200	--
5/9/1997		26.54	60.40	1,700,000	14,000	27,000	4,000	28,200	--	
11/5/1997		26.16	60.78	160,000	13,000	19,000	1,900	14,300	<200	
5/1/1998		22.96	62.86	130,000	15,000	23,000	1,700	13,200	<500	
85.82		11/3/1998	24.35	61.47	110,000	17,000	21,000	1,800	10,700	<200
		3/26/1999	23.82	62.00	SPH	--	--	--	--	--
		7/1/1999	24.45	61.37	SPH	--	--	--	--	--
		9/21/1999	24.58	61.24	SPH	--	--	--	--	--
		2/9/2000	24.93	61.24	SPH	--	--	--	--	--
	5/31/2000	23.47	62.41	SPH	--	--	--	--	--	
	8/8/2000	23.85	61.97	SPH	--	--	--	--	--	
	11/14/2000	24.61	61.21	SPH	--	--	--	--	--	
	3/1/2001	23.97	61.85	SPH	--	--	--	--	--	
	5/7/2001	23.17	62.71	SPH	--	--	--	--	--	
8/1/2001	obstruction in well			--	--	--	--	--	--	
11/5/2001	obstruction in well			--	--	--	--	--	--	
2/13/2002	obstruction in well			--	--	--	--	--	--	
5/2/2002	23.25	62.41	SPH (0.05)	--	--	--	--	--	--	
8/4/2002	23.55	62.29	SPH (0.03)	--	--	--	--	--	--	
11/26/2002	24.22	61.62	SPH (0.03)	--	--	--	--	--	--	
1/20/2003	22.49	63.36	SPH (0.04)	--	--	--	--	--	--	
5/28/2003	21.92	63.93	SPH (0.04)	--	--	--	--	--	--	
8/5/2003	23.98	61.87	SPH (0.04)	--	--	--	--	--	--	
	11/10/2003	23.50	62.40	SPH (0.10)	--	--	--	--	--	
MW-7 85.41	3/15/1991	21.63	63.78	<50	<0.5	<0.5	<0.5	<0.5	--	
	11/24/1992	21.52	63.89	<50	<0.5	<0.5	<0.5	<0.5	--	
	4/2/1993	20.08	65.33	<50	<0.5	<0.5	<0.5	<0.5	--	
	7/21/1993	19.59	65.82	<50	<0.5	<0.5	<0.5	<0.5	--	
	11/9/1993	20.65	64.76	<50	<0.5	1	<0.5	1.7	--	
	8/30/1995	18.78	66.63	<50	<0.5	<0.5	<0.5	<0.5	--	

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Table 1. Groundwater Elevation and Analytical Data:

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-7	12/1/1995	19.47	65.94	<50	<0.5	<0.5	<0.5	<0.5	--
(cont'd)	5/2/1996	17.15	68.26	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/1996	18.48	66.93	<50	<0.5	<0.5	<0.5	<0.5	<2
	11/4/1996	18.69	66.72	<50	<1	<1	<1	<1	--
	2/6/1997	17.44	67.97	<50	<0.5	<0.5	<0.5	<0.5	<2
	5/8/1997	17.72	67.69	<50	<0.5	<0.5	<0.5	<0.5	--
	8/7/1997	18.49	66.92	<50	<0.5	<0.5	<0.5	<0.5	<2
	11/5/1997	18.86	66.55	<50	<0.5	<0.5	<0.5	<0.5	<2
	2/9/1998	17.56	67.85	<50	<0.5	<0.5	<0.5	<0.5	<2
	4/29/1998	16.23	69.18	<50	<0.5	<0.5	<0.5	<0.5	<2
	8/4/1998	17.24	68.17	<50	<0.5	<0.5	<0.5	<0.5	<2
	11/2/1998	17.91	67.50	<50	<0.5	<0.5	<0.5	<0.5	<2
	3/26/1999	16.42	68.99	<50	<0.5	<0.5	<0.5	<0.5	<2
	7/1/1999	17.90	67.51	85	<0.5	1.1	0.55	2.5	<0.5
	9/21/1999	18.91	66.50	<50	0.7	1.8	<0.5	1.5	<5.0
	2/9/2000	16.74	68.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/31/2000	16.21	69.20	<50	3	6	1	9	<0.5
	8/8/2000	16.92	68.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/14/2000	17.00	68.41	<50	<0.5	0.63	<0.5	<0.5	<5.0
	3/1/2001	17.09	68.32	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/7/2001	17.19	68.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/1/2001	17.25	68.16	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/5/2001	17.35	68.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/13/2002	17.50	67.91	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/2/2002	17.30	68.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/4/2002	17.58	67.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/26/2002	18.35	67.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/20/2003	15.84	69.57	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/28/2003	15.19	70.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/5/2003	17.00	68.41	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/10/2003	16.54	68.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-8	10/12/1992	27.70	57.80	70	20	1	1	3	--
85.50	11/25/1992	27.62	57.88	<50	<0.5	<0.5	<0.5	<0.5	--
	4/8/1993	26.64	58.86	490	15	45	5.1	73	--
	7/21/1993	26.60	58.90	180	2.5	3	<0.5	1.9	--
	11/11/1993	27.18	58.32	310	23	<0.5	<0.5	<0.5	--
	8/30/1995	26.35	59.15	660	360	6.8	13	2.8	--
	12/4/1995	26.72	58.78	250	46	0.9	4.9	<0.5	--
	5/3/1996	25.47	60.03	69	110	<0.5	<0.5	1.5	--
	8/8/1996	26.41	59.09	120	11	<0.5	<0.5	<0.5	<2
	11/5/1996	26.77	58.73	110	20	<1	1	<1	--
	2/6/1997	25.84	59.66	67	51	<0.5	0.56	<0.5	<2
	5/9/1997	26.39	59.11	110	59	<0.5	<0.5	<0.5	--
	8/7/1997	26.72	58.78	<50	12	<0.5	<0.5	<0.5	<2
	11/5/1997	26.82	58.68	<50	9.4	<0.5	<0.5	<0.5	<2
	2/9/1998	25.57	59.93	<50	6	<0.5	<0.5	<0.5	<2
	5/1/1998	25.64	59.86	430	490	7.1	27	26	<10
	8/5/1998	25.96	59.54	140	19	<0.5	5.2	5.3	<2

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Table 1. Groundwater Elevation and Analytical Data:
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-8 (cont'd)	11/3/1998	26.27	59.23	150	110	1.1	4.3	4.5	<2
	3/31/1999	20.93	64.57	54	170	1.5	4.1	1.9	4.4
	7/1/1999	26.59	58.91	140	58	0.9	3	2.3	<0.5
	9/21/1999	26.89	58.61	670	170	2.6	11	7.9	<5
	2/9/2000	26.60	58.90	300	60	1.2	4.8	1.2	<5.0
	8/8/2000	26.43	59.07	270	56	1.2	4.1	1.0	<5.0
	11/14/2000	26.60	58.90	330	64	1.3	3.5	0.60	<5.0
	3/1/2001	26.41	59.09	400	140	<0.5	<0.5	0.55	<5.0
	5/7/2001	26.55	58.95	240	37	0.71	2.5	0.77	<5.0
	8/1/2001	26.71	58.79	130	5.2	<0.5	<0.5	<0.5	<5.0
	11/5/2001	26.67	58.83	140	3.3	<0.5	<0.5	<0.5	<5.0
	2/13/2002	26.15	59.35	1,100	440	0.087	0.66	2.0	<5.0
	5/2/2002	26.63	58.87	90	3.9	<0.5	<0.5	<0.5	<5.0
	8/4/2002	26.80	58.70	120	2.4	0.77	<0.5	<0.5	<5.0
	11/26/2002	27.50	58.00	85	3.7	<0.5	<0.5	<0.5	<5.0
	1/20/2003	24.93	60.57	90	3.9	0.67	<0.5	<0.5	<5.0
	5/28/2003	24.28	61.22	120	1.4	<0.5	<0.5	<0.5	<5.0
8/5/2003	26.51	58.99	150 ^f	<0.5	<0.5	<0.5	<0.5	<5.0	
11/10/2003	26.04	59.46	50	0.84	<0.5	<0.5	<0.5	<0.5	
MW-9 90.37	11/24/1992	23.51	66.86	19,000	180	590	23	2,000	--
	4/5/1993	21.14	69.23	2,300	48	4	0.6	13	--
	7/21/1993	21.54	68.83	2,300	170	8.1	15	<0.5	--
	11/10/1993	27.53	62.84	4,400	69	7.3	21	9.7	--
	8/30/1995	19.59	70.78	3,200	3,900	49	80	22.8	--
	12/4/1995	20.65	69.72	--	--	--	--	--	<2
	5/2/1996	18.63	71.74	<1300	2,600	<13	200	<13	--
	11/5/1996	20.69	69.68	1,800	280	<5	65	<5	--
	5/9/1997	19.96	70.41	1,100	160	<0.5	42	<0.5	--
	8/8/1997	20.84	69.53	570 ^{1,2}	<0.5	<0.5	<0.5	0.78 ³	<2
	11/5/1997	21.55	68.82	490 ¹	<0.5	<0.5	6	<0.5	<2
	2/9/1998	20.21	70.16	270 ¹	48	17	5.8	<0.5	<2
	5/1/1998	19.27	71.10	550	70	<0.5	22	2.2	<2
	8/5/1998	19.35	71.02	550 ¹	88	<0.5	13	1.9 ³	<2
	11/2/1998	20.43	69.94	580	<0.5	<0.5	7.5 ³	1.6 ³	<2
	3/25/1999	18.46	71.91	1,100	160	<0.5	21	2.1 ³	5.7 ⁴
	7/1/1999	19.95	70.42	540	100	7.4	26	16.9	<1.3
	9/21/1999	21.15	69.22	2,700	320	98	88	47	<20
	2/9/2000	21.08	69.29	1,600	81	3.6	19	18	<5.0
	5/31/2000	19.11	71.26	1,500	170	13	25	<1.0	<0.5
	8/8/2000	19.86	70.51	1,300	140	2.1	19	<0.5	<5.0
	11/14/2000	20.90	69.47	1,700	250	2.6	44	2.1	<5.0
	3/1/2001	20.45	69.92	1,800	170	5.6	30	2.5	<20
5/7/2001	19.83	70.54	1,500	120	2.6	24	<0.5	<5.0	
8/1/2001	20.02	70.35	2,600	280	4.8	50	<0.5	<5.0	
11/5/2001	19.85	70.52	2,200	170	4.5	100	0.54	<5.0	
2/13/2002	19.80	70.57	1,800	98	3	58	1.5	<5.0	
5/2/2002	19.93	70.44	1,100	82	1.4	20	<0.5	<10	
8/4/2002	20.20	70.17	1,200	130	2.5	50	0.58	<10	

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Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-9 <i>(cont'd)</i>	11/26/2002	20.37	70.00	1,200	150	3.3	48	<2.5	<25
	1/20/2003	17.93	72.44	840	110	1.2	31	0.76	<5.0
	5/28/2003	17.25	73.12	1,100	40	1.9	3.0	<0.5	<20
	8/5/2003	19.03	71.34	1,100 ^p	62	0.99	25	<0.5	<5.0
	11/10/2003	18.65	71.72	1,500	120	7.6	41	<1.0	<10
MW-10 88.60	10/12/1992	21.55	67.05	28,000	2,700	3,800	210	1,300	--
	11/24/1992	21.86	66.74	130,000	9,700	19,000	1,400	8,400	--
	4/5/1993	19.14	69.46	63,000	6,300	14,000	1,100	7,500	--
	7/21/1993	19.79	68.81	140,000	16,000	31,000	2,200	13,000	--
	8/30/1995	17.99	70.61	92,000	13,000	24,000	1,800	9,100	--
	5/3/1996	17.04	71.56	81,000	17,000	29,000	2,100	8,500	--
	5/9/1997	18.36	70.24	63,000	7,400	13,000	940	4,100	--
	5/1/1998	15.84	72.76	60,000	7,100	14,000	1,100	5,300	<250
MW-11 102.06	11/24/1992	33.65	68.41	<50	<0.5	<0.5	<0.5	<0.5	--
	12/8/92***	33.37	68.69	<50	<0.1	<0.1	<0.1	<0.1	--
	12/8/1992	33.37	68.69	<50	<0.5	<0.5	<0.5	<0.5	--
	4/5/1993	31.03	71.03	<50	<0.5	<0.5	<0.5	<0.5	--
	7/21/1993	31.90	70.16	160	<0.5	1.8	<0.5	<0.5	--
	11/9/1993	32.60	69.46	80	<0.5	<0.5	<0.5	<0.5	--
	8/30/1995	28.92	73.14	<50	<0.5	<0.5	<0.5	<0.5	--
	5/3/1996	28.00	74.06	<50	<0.5	<0.5	<0.5	<0.5	--
	5/8/1997	29.93	72.13	<50	<0.5	<0.5	<0.5	<0.5	--
4/29/1998	27.22	74.84	<50	<0.5	<0.5	<0.5	<0.5	<2	
MW-13 84.06	11/24/1992	26.05	58.01	<50	<0.5	<0.5	<0.5	<0.5	--
	12/8/92***	25.08	58.98	<50	<0.1	<0.1	<0.1	<0.1	--
	12/8/1992	25.08	58.98	<50	<0.5	<0.5	<0.5	<0.5	--
	4/5/1993	24.64	59.42	<50	<0.5	0.9	<0.5	<0.5	--
	7/21/1993	24.29	59.77	<50	<0.5	<0.5	<0.5	<0.5	--
	11/9/1993	24.23	59.83	<50	<0.5	<0.5	<0.5	<0.5	--
	8/30/1995	23.30	60.76	<50	49	<0.5	<0.5	<0.5	--
	12/1/1995	23.80	60.26	<50	<0.5	<0.5	<0.5	<0.5	--
	5/3/1996	23.19	60.87	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/1996	23.44	60.62	<50	32	<0.5	<0.5	<0.5	<2
	11/5/1996	24.04	60.02	<50	<1	<1	<1	<1	--
	2/6/1997	23.24	60.82	<50	<0.5	<0.5	<0.5	<0.5	<2
	5/8/1997	23.46	60.60	<50	81	<0.5	<0.5	<0.5	--
	8/8/1997	23.92	60.14	<50	<0.5	<0.5	<0.5	<0.5	<2
	11/5/1997	24.27	59.79	<50	<0.5	<0.5	<0.5	<0.5	<2
	2/9/1998	22.89	61.17	<50	<0.5	<0.5	<0.5	<0.5	<2
	4/29/1998	22.27	61.79	<50	24	<0.5	<0.5	<0.5	<2
	8/4/1998	22.75	61.31	120	200	<1	<1	<1	<4
	11/3/1998	23.90	60.16	59 ¹	33	<0.5	<0.5	<0.5	<2
	3/31/1999	23.11	60.95	130	0.56	<0.5	<0.5	<0.5	<2
7/1/1999	23.40	60.66	160	370	19	1.2	3.5	<1	
9/21/1999	21.91	62.15	370	150	1.0	0.8	0.8	<5.0	
2/9/2000	23.84	60.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	

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Table 1. Groundwater Elevation and Analytical Data:

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-13	8/8/2000	23.31	60.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0
(cont'd)	11/14/2000	24.00	60.06	< 50	< 0.5	0.52	< 0.5	< 0.5	< 5.0
	3/1/2001	23.93	60.13	< 50	< 0.5	<0.5	< 0.5	< 0.5	< 5.0
	5/7/2001	23.93	60.13	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/1/2001	24.10	59.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/5/2001	24.02	60.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/13/2002	23.70	60.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/2/2002	23.97	60.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/4/2002	24.19	59.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/26/2002	24.78	59.28	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/20/2003	22.10	61.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	5/28/2003	21.72	62.34	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/5/2003	23.99	60.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	11/10/2003	23.47	60.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-14	5/26/1998	21.67	72.99	41,000	7,100	11,000	720	3,900	<1000
94.66	7/1/1999	22.95	71.71	SPH	--	--	--	--	--
	9/21/1999	24.26	70.40	SPH	--	--	--	--	--
	2/9/2000	24.13	70.53	92,000	12,000	17,000	1,300	8,700	<140
	5/31/2000	22.09	72.57	SPH	--	--	--	--	--
	8/8/2000	22.88	71.78	SPH	--	--	--	--	--
	11/14/2000	23.90	70.76	SPH	--	--	--	--	--
	3/1/2001	23.97	70.69	SPH	--	--	--	--	--
	5/7/2001	23.45	71.23	SPH (sheen)	--	--	--	--	--
	8/1/2001	23.57	71.12	SPH (0.06)	--	--	--	--	--
	11/5/2001	23.50	71.18	SPH (0.03)	--	--	--	--	--
	2/13/2002	22.99	71.70	SPH (0.04)	--	--	--	--	--
	5/2/2002	23.51	71.17	SPH (0.02)	--	--	--	--	--
	8/4/2002	23.61	71.06	SPH (0.01)	--	--	--	--	--
	1/20/2003	22.35	72.31	SPH (sheen)	--	--	--	--	--
	5/28/2003	21.95	72.74	SPH (0.04)	--	--	--	--	--
	8/5/2003	23.03	71.66	SPH (0.04)	--	--	--	--	--
	11/10/2003	22.70	72.02	SPH (0.07)	--	--	--	--	--

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Table 1. Groundwater Elevation and Analytical Data:

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-15	5/26/1998	21.87	72.89	130,000	30,000	38,000	2,500	12,600	<1000
94.76	7/1/1999	22.25	72.51	SPH	--	--	--	--	--
	9/21/1999	24.12	70.64	SPH	--	--	--	--	--
	2/9/2000	24.42	70.34	180,000	32,000	37,000	2,800	14,000	<200
	5/31/2000	22.40	72.36	SPH	--	--	--	--	--
	8/8/2000	23.17	71.59	SPH	--	--	--	--	--
	11/14/2000	24.15	70.61	SPH	--	--	--	--	--
	3/1/2001	23.99	70.77	SPH	--	--	--	--	--
	5/7/2001	23.50	71.26	SPH (sheen)	--	--	--	--	--
	8/1/2001	23.62	71.14	SPH (sheen)	--	--	--	--	--
	11/5/2001	23.65	71.11	SPH (sheen)	--	--	--	--	--
	2/13/2002	23.09	71.67	68,000	9,300	8,500	760	2,600	<200
	5/2/2002	23.59	71.17	SPH (sheen)	--	--	--	--	--
	8/4/2002	23.65	71.11	SPH (sheen)	--	--	--	--	--
	11/26/2002	24.59	70.17	SPH (sheen)	--	--	--	--	--
	1/20/2003	22.08	72.68	48,000	9,900	10,000	1,000	3,600	<1,200
	5/28/2003	21.68	73.08	SPH (sheen)	--	--	--	--	--
	8/5/2003	24.05	70.71	SPH (sheen)	--	--	--	--	--
	11/10/2003	23.68	71.08	SPH (sheen)	--	--	--	--	--

Abbreviations and Notes:

TOC Elev. (ft) = Top of casing elevation, surveyed to an arbitrary datum (measured in feet)

µg/L = micrograms per liter = parts per billion = ppb

-- = Not measured or not analyzed

ND = Not detected above laboratory reporting limit, see laboratory report for individual reporting limits

SPH = Separate-phase hydrocarbons encountered in well

TVH = Total Volatile Hydrocarbons

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015; value in parentheses by EPA Method 8260

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B; value in parentheses by EPA Method 8260

MTBE = Methyl tertiary butyl ether by EPA Method 8021B; values in parentheses by EPA Method 8260

See laboratory analytical reports for notes.

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Date Sampled	Depth to Groundwater (feet)	SPH Thickness (feet)	SPH Removed (gallons)	Cumulative SPH Removed (gallons)	Notes
MW-1	12/23/1991	26.86	1.15	2.00	2.00	1
94.48	12/26/1991	26.08	0.22	0.50	2.50	1
	1/13/1992	26.53	0.66	1.00	3.50	1
	2/28/1992	27.75	0.42	2.00	5.50	1
	11/9/1993	26.06	1.17	0.50	6.00	1
	11/3/1995	23.10	0.76	0.75	6.75	1
	11/30/1995	23.38	0.70	0.25	7.00	1
	1/3/1996	23.30	0.78	0.53	7.53	1
	2/2/1996	22.96	0.84	0.75	8.28	1
	3/1/1996	21.69	0.14	0.10	8.38	1
	4/4/1996	21.11	0.00	0.00	8.38	1
	5/2/1996	20.96	0.00	0.00	8.38	1
	6/5/1996	20.98	0.04	0.10	8.48	1
	7/9/1996	21.64	0.20	0.10	8.58	1
	8/8/1996	22.43	0.33	0.05	8.63	1
	9/10/1996	23.25	0.60	0.10	8.73	1
	10/1/1996	23.58	0.60	0.25	8.98	1
	11/4/1996	24.29	0.78	0.13	9.11	1
	12/2/1996	24.63	0.88	0.26	9.37	1
	1/3/1997	24.08	0.81	0.39	9.76	1
	2/6/1997	22.46	0.30	0.01	9.77	1
	3/5/1997	23.00	0.00	0.00	9.77	1
	4/1/1997	22.29	0.20	0.01	9.78	1
	5/8/1997	22.79	0.33	0.02	9.80	1
	6/6/1997	24.33	1.69	0.26	10.06	1
	7/8/1997	24.00	0.96	0.20	10.26	1
	8/7/1997	24.58	1.29	1.00	11.26	1
	9/10/1997	24.93	1.21	1.50	12.76	1
	10/1/1997	24.89	0.86	0.26	13.02	1
	11/4/1997	25.06	0.77	0.26	13.28	1
	12/4/1997	24.76	0.54	0.19	13.47	1
	1/8/1998	23.66	0.00	0.00	13.47	1
	2/5/1998	22.64	0.00	0.00	13.47	1
	3/6/1998	20.80	0.00	0.00	13.47	1
	4/2/1998	20.31	0.00	0.00	13.47	1
	4/29/1998	19.95	0.00	0.00	13.47	1
	6/3/1998	20.41	0.00	0.00	13.47	1
	7/9/1998	20.97	0.07	0.00	13.47	1
	8/4/1998	21.40	trace	0.00	13.47	1
	8/26/1998	21.85	0.10	0.00	13.47	1

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Date Sampled	Depth to Groundwater (feet)	SPH Thickness (feet)	SPH Removed (gallons)	Cumulative SPH Removed (gallons)	Notes
MW-1	11/2/1998	22.92	0.39	0.00	13.47	1
(cont'd)	12/4/1998	23.29	0.29	0.01	13.48	1
	1/5/1999	23.51	0.42	0.03	13.51	1
	2/8/1999	23.08	0.05	0.25	13.76	1
	3/24/1999	21.90	0.01	0.01	13.77	1
	4/30/1999	21.52	0.00	0.00	13.77	1
	7/1/1999	22.70	0.03	0.01	13.78	1
	9/21/1999	23.81	0.08	0.20	13.98	1
	10/20/1999	23.90	0.10	0.01	13.99	1
	12/13/1999	24.24	trace	0.00	13.99	1
	2/9/2000	23.95	0.07	0.05	14.04	1
	2/15/2000	--	0.00	0.00	14.04	2
	2/25/2000	23.69	0.00	0.06	14.10	2
	3/3/2000	23.27	0.00	0.05	14.15	2
	3/28/2000	22.39	0.00	0.13	14.28	2
	5/2/2000	22.29	0.00	0.05	14.32	2
	5/31/2000	22.05	0.00	0.00	14.32	2
	7/3/2000	22.10	trace	0.02	14.34	2
	8/4/2000	22.40	0.00	0.01	14.35	2
	10/6/2000	23.47	0.46	0.01	14.36	1
	11/3/2000	24.14	0.78	0.00	14.36	
	12/1/2000	25.40	0.83	1.75	16.11	1,2
	1/4/2001	25.13	0.09	0.25	16.36	2
	2/2/2001	25.12	0.03	0.13	16.49	2
	4/3/2001	23.19	0.24	0.10	16.59	
	5/4/2001	23.31	0.47	0.00	16.59	
	5/7/2001	23.85	0.05	0.03	16.62	2
	6/11/2001	23.77	0.67	0.00	16.62	2
	5/2/2002	23.41	0.46	0.01	16.62	
	6/14/2002	23.95	0.03	0.01	16.63	2
	8/4/2002	24.02	0.03	0.01	16.64	2
	9/24/2002	24.59	0.01	0.003	16.64	2
	10/16/2002	25.08	0.03	0.003	16.64	2
	11/6/2002	25.71	0.08	0.005	16.65	2
	11/26/2002	24.47	0.05	0.003	16.65	2
	12/9/2002	24.08	0.07	0.009	16.66	2
	1/17/2003	22.14	0.07	0.005	16.67	1,2
	1/27/2003	22.55	0.02	0.003	16.67	2
	3/5/2003	23.53	0.02	0.25	16.92	1,2
	4/11/2003	23.11	0.03	0.007	16.93	1,2
	5/13/2003	22.95	0.02	0.007	16.93	1,2

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(gallons)</i>	<i>(gallons)</i>	
MW-1	5/28/2003	21.77	0.02	0.008	16.94	1, 2
<i>(cont'd)</i>	6/13/2003	21.84	0.03	0.013	16.95	1, 2
	7/24/2003	23.19	0.05	0.003	16.96	1, 2
	8/5/2003	23.07	0.04	0.013	16.97	1, 2
	9/12/2003	23.74	0.05	0.021	16.99	1, 2
	10/10/2003	23.90	0.06	0.026	17.02	1, 2
	11/10/2003	22.53	0.03	0.016	17.03	1, 2
	11/21/2003	23.12	0.02	0.026	17.06	1, 2
	12/4/2003	22.95	0.03	0.026	17.09	1, 2
MW-4	12/23/1991	22.63	0.98	2.50	2.50	1
88.84	12/26/1991	22.52	0.96	6.00	8.50	1
	1/10/1992	22.74	0.99	5.00	13.50	1
	2/28/1992	22.00	0.67	4.00	17.50	1
	3/11/1992	21.71	0.55	3.50	21.00	1
	3/13/1992	21.56	0.49	3.50	24.50	1
	3/17/1992	25.46	0.44	2.25	26.75	1
	3/18/1992	21.38	0.44	2.50	29.25	1
	3/19/1992	21.33	0.48	1.50	30.75	1
	3/23/1992	21.29	0.42	4.00	34.75	1
	3/24/1992	21.31	0.38	1.50	36.25	1
	3/25/1992	21.17	0.36	1.00	37.25	1
	3/26/1992	21.08	0.35	1.00	38.25	1
	3/27/1992	20.92	0.26	0.50	38.75	1
	3/31/1992	21.15	0.44	0.50	39.25	1
	4/1/1992	20.90	0.24	0.25	39.50	1
	4/2/1992	20.90	0.17	0.13	39.63	1
	4/6/1992	--	--	0.13	39.76	1
	4/10/1992	20.91	0.33	0.25	40.01	1
	4/13/1992	21.04	0.42	0.25	40.26	1
	4/20/1992	20.74	0.19	0.13	40.39	1
	5/4/1992	20.83	0.33	0.13	40.52	1
	5/18/1992	21.33	0.23	0.13	40.65	1
	5/26/1992	20.83	0.17	0.13	40.78	1
	6/1/1992	20.85	0.19	0.06	40.84	1
	6/29/1992	21.38	0.53	0.25	41.09	1
	7/29/1992	21.69	0.56	1.11	42.20	1
	8/28/1992	21.35	0.63	1.68	43.88	1
	4/3/1993	20.11	0.51	0.13	44.01	1
	11/9/1993	20.48	0.52	0.03	44.04	1
	8/30/1995	21.71	0.63	1.75	45.79	1

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Date Sampled	Depth to Groundwater (feet)	SPH Thickness (feet)	SPH Removed (gallons)	Cumulative SPH Removed (gallons)	Notes
MW-4	10/2/1995	19.90	2.20	0.50	46.29	1
(cont'd)	11/3/1995	18.76	0.57	0.25	46.54	1
	11/30/1995	19.17	0.65	0.25	46.79	1
	1/3/1996	19.45	0.44	0.05	46.84	1
	2/2/1996	19.50	0.32	0.10	46.94	1
	3/1/1996	19.31	0.20	0.20	47.14	1
	4/4/1996	17.53	0.18	0.20	47.34	1
	5/2/1996	17.50	0.25	0.20	47.54	1
	6/5/1996	17.67	0.39	0.15	47.69	1
	7/9/1996	18.29	0.50	0.16	47.85	1
	8/8/1996	18.84	0.00	0.00	47.85	1
	9/10/1996	19.31	0.34	0.05	47.90	1
	10/1/1996	19.51	0.29	0.05	47.95	1
	11/4/1996	20.13	0.35	0.02	47.97	1
	12/2/1996	20.23	0.33	0.02	47.99	1
	1/3/1997	19.33	0.10	0.02	48.01	1
	2/6/1997	18.13	0.01	0.01	48.02	1
	4/30/1999	17.28	trace	0.00	48.02	1
	2/9/2000	19.76	0.00	0.00	48.02	1
	2/15/2000	--	0.00	0.00	48.02	2
	2/25/2000	19.30	0.00	0.00	48.02	2
MW-6	12/23/1991	28.40	3.21	7.50	7.50	1
85.62	12/26/1991	27.25	1.67	2.00	9.50	1
	1/10/1992	27.23	0.90	1.00	10.50	1
	2/4/1992	27.71	2.04	2.00	12.50	1
	2/28/1992	27.92	3.00	3.00	15.50	1
	3/10/1992	27.16	2.06	2.75	18.25	1
	3/12/1992	25.96	0.52	2.00	20.25	1
	3/23/1992	26.34	1.09	1.00	21.25	1
	3/30/1992	25.73	0.35	0.50	21.75	1
	4/10/1992	25.29	0.05	0.25	22.00	1
	4/13/1992	25.52	0.21	0.13	22.13	1
	4/20/1992	25.38	0.10	0.13	22.26	1
	5/4/1992	25.40	--	0.13	22.39	1
	5/8/1992	25.50	0.17	0.06	22.45	1
	5/26/1992	25.46	0.13	0.13	22.58	1
	6/1/1992	25.46	0.09	0.06	22.64	1
	6/29/1992	25.59	0.14	0.19	22.83	1
	7/29/1992	26.90	1.71	0.60	23.43	1
	8/28/1992	25.09	2.62	2.40	25.83	1

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	Cumulative SPH	Notes
TOC Elev.	Sampled	Groundwater	Thickness	Removed	Removed	
(ft)		(feet)	(feet)	(gallons)	(gallons)	
MW-6	12/2/1992	--	--	0.00	25.83	1
(cont'd)	4/3/1993	26.96	2.86	1.75	27.58	1
	11/9/1993	27.51	3.06	0.83	28.41	1
	8/30/1995	28.00	7.96	4.50	32.91	1
	10/2/1995	28.24	6.14	4.00	36.91	1
	11/3/1995	28.39	6.13	3.00	39.91	1
	11/30/1995	26.91	3.44	2.50	42.41	1
	1/3/1996	27.58	4.41	2.50	44.91	1
	2/2/1995	27.58	4.37	5.00	49.91	1
	3/1/1996	27.96	5.15	4.00	53.91	1
	4/4/1996	27.96	5.41	5.00	58.91	1
	5/2/1996	26.83	4.66	4.50	63.41	1
	6/5/1996	27.15	5.17	4.00	67.41	1
	7/9/1996	27.08	4.86	4.50	71.91	1
	8/8/1996	26.71	4.05	4.00	75.91	1
	9/10/1996	26.83	3.82	3.50	79.41	1
	10/1/1996	26.96	3.77	4.00	83.41	1
	11/4/1996	--	NM	0.00	83.41	4
86.94	12/2/1996	--	NM	0.00	83.41	4
	1/3/1997	--	NM	0.00	83.41	4
	2/6/1997	25.08	0.20	0.00	83.41	4
	3/5/1997	24.20	0.00	0.00	83.41	4
	4/1/1997	24.04	0.00	0.00	83.41	4
	5/8/1997	26.54	1.88	0.40	83.81	1
	6/6/1997	25.33	0.21	0.03	83.44	1
85.82	7/8/1997	25.30	0.07	0.00	83.41	1
	8/7/1997	25.52	0.00	0.00	83.41	1
	9/10/1997	25.76	0.00	0.00	83.41	1
	10/1/1997	25.12	0.00	0.00	83.41	1
	11/4/1997	26.16	0.18	0.02	83.43	1
	12/4/1997	26.08	0.16	0.05	83.86	1
	1/8/1998	25.79	0.10	0.66	84.10	1
	2/5/1998	25.31	0.89	0.00	84.10	4
	3/6/1998	24.63	0.46	0.04	84.14	1
	4/2/1998	24.45	0.59	0.10	84.24	1
	4/29/1998	22.96	0.55	0.09	84.33	1
	6/3/1998	22.81	0.41	0.03	84.36	1
	7/9/1998	23.04	0.35	0.05	84.41	1
	8/4/1998	23.29	0.35	0.04	84.45	1
	8/26/1998	23.50	0.31	0.01	84.46	1
	11/2/1998	24.24	0.43	0.02	84.48	1
	12/4/1998	24.35	0.32	0.01	84.49	1

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(gallons)</i>	<i>(gallons)</i>	
MW-6	1/5/1999	24.51	0.40	0.03	84.52	1
<i>(cont'd)</i>	2/8/1999	24.00	0.03	0.13	84.65	1
	3/24/1999	23.82	0.19	0.03	84.68	1
	4/30/1999	23.60	1.13	0.10	84.78	1
	7/1/1999	24.45	0.42	0.06	84.84	1
	7/27/1999	25.35	0.24	0.06	84.90	1
	8/19/1999	24.87	0.24	0.06	84.96	1
	9/21/1999	24.58	0.10	0.20	85.16	1
	10/20/1999	25.05	0.17	0.20	85.36	1
	12/13/1999	25.08	0.10	0.06	85.42	1
	2/9/2000	24.93	0.44	0.25	85.67	1
	2/15/2000	--	0.00	0.07	85.74	3
	2/25/2000	24.23	0.00	0.01	85.75	3
	3/3/2000	24.00	0.00	0.00	85.75	3
	3/28/2000	23.54	0.00	0.05	85.80	3
	5/2/2000	23.52	0.06	0.03	85.83	3
	5/31/2000	23.39	0.08	0.00	85.83	3
	7/3/2000	23.61	Trace	0.02	85.85	3
	8/4/2000	23.80	0.10	0.01	85.86	3
	10/6/2000	24.22	0.04	0.01	85.87	
	11/3/2000	24.30	0.09	0.00	85.87	
	12/1/2000	24.38	0.07	0.03	85.90	2, 3
	1/4/2001	24.65	0.17	0.00	85.90	5
	2/2/2001	24.72	0.22	0.25	86.15	3
	4/3/2001	23.90	0.06	0.05	86.20	
	5/4/2001	23.95	0.07	0.05	86.25	
	5/7/2001	--	--	0.08	86.33	
	6/11/2001	24.25	0.10	0.00	86.33	
	5/2/2002	23.25	0.01	0.00	86.33	2
	6/14/2002	23.17	0.07	0.01	86.34	1
	8/4/2002	23.55	0.03	0.01	86.35	1
	9/24/2002	23.98	0.02	0.007	86.35	1
	10/16/2002	24.20	0.09	0.005	86.36	1
	11/6/2002	25.78	0.07	0.005	86.36	1
	11/26/2002	24.22	0.03	0.009	86.37	1, 3
	12/9/2002	23.97	0.05	0.021	86.39	1, 3
	1/17/2003	21.30	0.06	0.013	86.41	1, 3
	1/27/2003	22.49	0.02	0.016	86.42	1, 3
	3/5/2003	24.35	0.06	0.013	86.44	1, 3
	4/11/2003	24.05	0.07	0.029	86.46	3

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Date Sampled	Depth to Groundwater (feet)	SPH Thickness (feet)	SPH Removed (gallons)	Cumulative SPH Removed (gallons)	Notes
MW-6	5/13/2003	23.98	0.03	0.016	86.48	3
(cont'd)	5/28/2003	21.92	0.04	0.021	86.50	1, 3
	6/13/2003	21.98	0.06	0.020	86.52	1, 3
	7/24/2003	24.11	0.07	0.040	86.56	1, 3
	8/5/2003	23.98	0.04	0.021	86.58	1, 3
	9/12/2003	24.53	0.06	0.026	86.61	1, 3
	10/10/2003	24.88	0.10	0.026	86.64	1, 3
	11/10/2003	23.50	0.10	0.032	86.67	1, 3
	11/21/2003	23.81	0.06	0.026	86.69	1, 3
	12/4/2003	23.61	0.08	0.029	86.72	1, 3
MW-9 90.37	8/8/1996	19.89	0.35	0.10	0.61	1
MW-14 94.66	12/4/1998	23.42	0.23	0.01	0.01	1
	1/5/1999	23.36	0.12	0.01	0.02	1
	2/8/1999	23.17	trace	0.01	0.03	1
	3/24/1999	22.08	trace	0.00	0.03	1
	4/30/1999	21.17	0.01	0.00	0.03	1
	7/1/1999	22.95	0.04	0.00	0.03	1
	9/21/1999	24.26	trace	0.00	0.03	1
	10/20/1999	24.10	0.00	0.00	0.03	1
	2/9/2000	24.13	0.00	0.00	0.03	1
	2/15/2000	--	0.00	0.00	0.03	1
	2/25/2000	--	0.00	0.00	0.03	2
	3/3/2000	23.27	0.00	0.05	0.08	2
	3/28/2000	22.40	0.00	0.13	0.21	2
	5/2/2000	22.22	0.00	0.04	0.25	2
	5/31/2000	22.09	0.00	0.00	0.25	2
	7/3/2000	22.35	trace	0.01	0.26	2
	8/4/2000	22.78	0.00	0.03	0.29	2
	10/6/2000	23.48	0.00	0.00	0.29	
	11/3/2000	23.60	0.00	0.00	0.29	
	12/1/2000	23.90	0.04	0.04	0.33	1, 2
	1/4/2001	24.10	0.00	0.00	0.33	
	2/2/2001	24.27	0.00	0.10	0.43	2
	4/3/2001	23.06	0.00	0.05	0.48	
	5/4/2001	23.05	0.00	0.00	0.48	
	5/7/2001	23.45	0.02	0.01	0.48	2
	6/11/2001	23.40	0.00	0.00	0.48	
	5/2/2002	23.51	0.02	0.003	0.49	2
	6/14/2002	23.88	0.01	0.003	0.49	2
	8/4/2002	23.61	0.01	0.004	0.49	2
	9/24/2002	24.07	0.01	0.007	0.50	2
	10/16/2002	24.29	trace	0.007	0.51	2

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Table 2. Separate-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(gallons)</i>	<i>(gallons)</i>	
MW-14	11/6/2002	25.85	0.00	0.00	0.51	2
(cont'd)	11/26/2002	24.35	trace	0.00	0.51	2
	12/9/2002	24.05	trace	0.00	0.51	2
	1/17/2003	22.09	0.00	0.00	0.51	2
	1/27/2003	22.60	0.00	0.00	0.51	2
	3/5/2003	23.63	0.00	0.13	0.64	1,2
	4/11/2003	23.63	0.02	0.003	0.64	1,2
	5/13/2003	23.11	0.03	0.003	0.64	1,2
	5/28/2003	21.95	0.04	0.007	0.65	1,2
	6/13/2003	22.05	0.03	0.004	0.65	1,2
	7/24/2003	23.10	0.02	0.003	0.65	1,2
	8/5/2003	23.03	0.04	0.011	0.66	1,2
	9/12/2003	23.81	0.06	0.013	0.68	1,2
	10/10/2003	24.03	0.05	0.021	0.70	1,2
	11/10/2003	22.70	0.07	0.013	0.71	1,2
	11/21/2003	22.85	0.05	0.013	0.73	1,2
	12/4/2003	22.69	0.02	0.008	0.73	1,2
<i>Total SPH Removed (gallons):</i>					153.13	

Abbreviations and Notes:

TOC Elev. (ft) = Top of casing elevation, surveyed to an arbitrary datum (measured in feet)

-- = Not measured or not applicable

NM = Not Measured. Product was being removed by vapor extraction at time of measurement.

1 = SPH removed by manual bailing

2 = SPH removed from well by absorbent sock

3 = SPH removed from well by passive skimmer

4 = Vapor extraction system operating in well

5 = No product removed; skimmer adjusted incorrectly.

APPENDIX A

Well Sampling Protocol

Cambria QM Well Sampling Protocol

Client: Connell Automobile Dealership

CAMBRIA

Address	3093 Broadway	Cambria Project #	425-1580
City	Oakland	Cambria Project Manager:	MHF
Cross Street	Hawthorne	Sample Month:	B

General Notes: If measureable SPH present, do not sample - gauge only. MW-1 and MW-14 have soakease socks in wells. MW-6 has product skimmer. Remove product from soakease and skimmer. Drum onsite for SPH.
(Note MW-12 does not exist)

Well ID	Sample?				Analytes	Comments
	1Q	2Q	3Q	4Q		
MW-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	(SPH in well) Gauge quarterly, sample 1st Qtr
MW-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	do not gauge or sample	removed from QMS schedule per May 3, 1999 letter from ASHCSA
MW-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	do not gauge or sample	removed from QMS schedule per May 3, 1999 letter from ASHCSA
MW-13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	Well in parking lane (vault stamped "City Monument")
MW-14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	(SPH in well) Gauge quarterly, sample 1st Qtr
MW-15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	If sheen in well, purge and sample. Gauge quarterly, sample 1st Qtr
MW-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	do not gauge or sample	removed from QMS schedule per May 3, 1999 letter from ASHCSA
MW-3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	do not gauge or sample	removed from QMS schedule per May 3, 1999 letter from ASHCSA

Cambria QM Well Sampling Protocol

Client: Connell Automobile Dealership

CAMBRIA

MW-4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	
MW-5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	do not gauge or sample	removed from QMS schedule per May 3, 1999 letter from ASHCSA
MW-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	(SPH present) Gauge quarterly, sample 1st Qtr
MW-7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	
MW-8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg, BTEX and MTBE, TPHd with silica gel cleanup, DO	Six-inch diameter well
MW-9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg/BTEX and MTBE, TPHd with silica gel cleanup, DO	
trip blank	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPHg/BTEX	

APPENDIX B

Groundwater Monitoring Field Data

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	11:35	22.50	22.53	0.03		removed 60ml SPH
MW-4	11:20		16.60		24.03	
MW-6	11:30	23.40	23.50	0.10		removed 70ml SKimmer, 50ml SPH base - total = 120ml SPH removed
MW-7	11:10		16.54		30.00	
MW-8	11:05		26.04		39.45	
MW-9	11:15		18.65		30.44	
MW-13	11:00		23.47		39.43	
MW-14	11:40	22.63	22.70	0.07		removed 50ml SPH
MW-15	11:25	sheen	23.68			removed sheen

Project Name: Connell
 Measured By: [Signature]

Project Number: 425-1580/120
 Date: 11/10/03

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: MHF	Well ID: MW-4
Project Number: 425-1580	Date: 11/10/03	Well Yield:
Site Address: 3093 Broadway Oakland, CA	Sampling Method:	Well Diameter: 2"
	Disposable Bailer	Technician(s): SG
Initial Depth to Water: 16.60	Total Well Depth: 24.03	Water Column Height: 7.43
Volume/ft: 0.16	1 Casing Volume: 1.18	3 Casing Volumes: 3.56
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 3.5
Start Purge Time: 3:15	Stop Purge Time: 3:44	Total Time: 29mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
3:25	1.5	18.9	7.13	690	
3:35	2.5	18.9	7.10	740	
3:45	3.5	18.9	7.05	782	

Fe = mg/L ORP = mV DO = **0.74** mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	11/10/03	3:50	3 voa 1 Amber	HCl		

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: MHF	Well ID: MW-7
Project Number: 425-1580	Date: 11/10/03	Well Yield:
Site Address: 3093 Broadway Oakland, CA	Sampling Method:	Well Diameter: 2"
	Disposable Bailer	Technician(s): SG
Initial Depth to Water: 16.54	Total Well Depth: 30.00	Water Column Height: 13.46
Volume/ft: 0.16	1 Casing Volume: 2.15	3 Casing Volumes: 6.46
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 6.5
Start Purge Time: 1:35	Stop Purge Time: 2:04	Total Time: 29mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
1:45	2.5	18.9	7.13	810	
1:55	4.5	19.1	7.15	1031	
2:05	6.5	19.0	7.13	970	

Fe = mg/L ORP = mV DO = **0.65** mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-7	11/10/03	2:10	3 voa 1 Amber	HCl		

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: MHF	Well ID: MW- 8
Project Number: 425-1580	Date: 11/10/03	Well Yield:
Site Address: 3093 Broadway Oakland, CA	Sampling Method:	Well Diameter: 6"
	Disposable Bailer	Technician(s): SG
Initial Depth to Water: 26.04	Total Well Depth: 39.45	Water Column Height: 13.41
Volume/ft: 1.47	1 Casing Volume: 19.71	3 Casing Volumes: 59.13
Purging Device: whal pump, disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 59
Start Purge Time: 12:45	Stop Purge Time: 1:14	Total Time: 29mins

1 Casing Volume = Water column height x Volume/ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
12:55	20	19.0	7.20	1249	
1:05	40	18.9	7.14	1160	
1:15	59	19.1	7.18	1095	

Fe = mg/L ORP = mV DO = **0.70** mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 8	11/10/03	1:20	3 voa 1 Amber	HCl		

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: MHF	Well ID: MW-9
Project Number: 425-1580	Date: 11/10/03	Well Yield:
Site Address: 3093 Broadway Oakland, CA	Sampling Method:	Well Diameter: 2"
	Disposable Bailer	Technician(s): SG
Initial Depth to Water: 18.65	Total Well Depth: 30.44	Water Column Height: 11.79
Volume/ft: 0.16	1 Casing Volume: 1.88	3 Casing Volumes: 5.65
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5.5
Start Purge Time: 2:25	Stop Purge Time: 2:54	Total Time: 29mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
2:35	1.5	19.0	7.10	1013	
2:45	3.5	18.9	7.15	1070	
2:55	5.5	18.9	7.13	1115	

Fe = mg/L ORP = mV DO = 0.62 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-9	11/10/03	3:00	3 voa 1 Amber	HCl		

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: MHF	Well ID: MW-13
Project Number: 425-1580	Date: 11/10/03	Well Yield:
Site Address: 3093 Broadway Oakland, CA	Sampling Method:	Well Diameter: 2"
	Disposable Bailer	Technician(s): SG
Initial Depth to Water: 23.47	Total Well Depth: 39.43	Water Column Height: 15.96
Volume/ft: 0.16	1 Casing Volume: 2.55	3 Casing Volumes: 7.66
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 7
Start Purge Time: 12:00	Stop Purge Time: 12:19	Total Time: 19 mins

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. (°C)	pH	Cond. (uS)	Comments
12:05	2.5	19.0	7.10	621	
12:10	5	18.9	7.05	640	
12:20	7	18.8	7.07	710	

Fe = mg/L ORP = mV DO = 0.70 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-13	11/10/03	12:25	3 voa 1 Amber	HCl		

APPENDIX C

Laboratory Analytical Report



McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #425-1580/120; Connell	Date Sampled: 11/10/03
		Date Received: 11/12/03
	Client Contact: Mary C. Holland-Ford	Date Reported: 11/19/03
	Client P.O.:	Date Completed: 11/19/03

WorkOrder: 0311146

November 19, 2003

Dear Mary:

Enclosed are:

- 1). the results of 5 analyzed samples from your #425-1580/120; Connell 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



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0311146

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 9306		Spiked Sample ID: 0311144-002A				
	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	96.9	104	6.79	102	105	2.65	70	130
MTBE	ND	10	97.6	118	18.6	112	109	2.85	70	130
Benzene	ND	10	106	113	5.65	105	109	3.87	70	130
Toluene	ND	10	89	107	18.7	100	104	3.74	70	130
Ethylbenzene	ND	10	92	112	19.3	108	110	1.65	70	130
Xylenes	ND	30	95.7	100	4.43	100	100	0	70	130
%SS:	96.6	100	103	105	1.76	96.8	104	6.91	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.

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

* 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 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.



QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0311146

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 9278		Spiked Sample ID: N/A			
	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(d)	N/A	7500	N/A	N/A	N/A	106	105	0.545	70	130
%SS:	N/A	100	N/A	N/A	N/A	110	109	0.652	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.

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

* 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.

McC Campbell Analytical Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0311146

Client:

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

TEL: (510) 420-0700
 FAX: (510) 420-3394
 ProjectNo: #425-1580/120; Connell
 PO:

Date Received: 11/12/03
Date Printed: 11/12/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests		
					<>	SW8015C	SW8021B/8015Cm
0311146-001	MW-4	Water	11/10/03	<input type="checkbox"/>	A	B	A
0311146-002	MW-7	Water	11/10/03	<input type="checkbox"/>		B	A
0311146-003	MW-8	Water	11/10/03	<input type="checkbox"/>		B	A
0311146-004	MW-9	Water	11/10/03	<input type="checkbox"/>		B	A
0311146-005	MW-13	Water	11/10/03	<input type="checkbox"/>		B	A

Prepared by: Melissa Valles

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.

copy

0311146

McCAMPBELL ANALYTICAL INC.

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

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME:

RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required? Yes No

Report To: Mary Holland Ford Bill To: Cambria Env. Tech

Company: Cambria Environmental Technology Inc.

5900 Hollis Street

Emeryville, CA 94608

E-mail:

Tele: 510-420-3307

Fax: 510-420-9170

Project #: 425-1580/120

Project Name: Connell

Project Location: 3093 Broadway Oakland, CA

Sampler Signature: [Signature]

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other			
<u>MW-4</u>		<u>11-10-03</u>		<u>4</u>	<u>250ml</u>	<u>X</u>					<u>X</u>	<u>X</u>					
<u>MW-7</u>		<u>11-10-03</u>		<u>4</u>	<u>250ml</u>	<u>X</u>					<u>X</u>	<u>X</u>					
<u>MW-8</u>		<u>11-10-03</u>		<u>4</u>	<u>250ml</u>	<u>X</u>					<u>X</u>	<u>X</u>					
<u>MW-9</u>		<u>11-10-03</u>		<u>4</u>	<u>250ml</u>	<u>X</u>					<u>X</u>	<u>X</u>					
<u>MW-13</u>		<u>11-10-03</u>		<u>4</u>	<u>X</u>	<u>X</u>					<u>X</u>	<u>X</u>					

Remarks:

ICE ✓
 GOOD CONDITION ✓
 HEAD SPACE ABSENT ✓
 DECHLORINATED IN LAB ✓
 PRESERVATION ✓

APPROPRIATE CONTAINERS ✓
 PRESERVED IN LAB ✓

VOAS O&G METALS OTHER

Relinquished By: [Signature] Date: 11-11-03 Time: 5:00 Received By:

Relinquished By: [Signature] Date: 11/12/03 Time: 9:10 Received By: ERIC E. RICARDO ULTRA EX

Relinquished By: [Signature] Date: 11/12/03 Time: 16:00 Received By: [Signature]

APPENDIX D

Geotracker Electronic Delivery Confirmations

AB2886 Electronic Delivery

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UPLOADING A GEO_WELL FILE

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

<u>Submittal Title:</u>	Connell 4Q03
<u>Submittal Date/Time:</u>	1/2/2004 2:22:41 PM
<u>Confirmation Number:</u>	5636021256

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Logged in as CAMBRIA-EM
(AUTH_RP)

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AB2886 Electronic Delivery

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Your EDF file has been successfully uploaded!

Confirmation Number: 8479154229
Date/Time of Submittal: 1/2/2004 2:29:34 PM
Facility Global ID: T0600100406
Facility Name: CONNELL OLDSMOBILE
Submittal Title: Connell 4Q03
Submittal Type: GW Monitoring Report

Logged in as CAMBRIA-EM
(AUTH_RP)

[CONTACT SITE ADMINISTRATOR.](#)