

CAMBRIA

October 25, 2000

Ms. Susan Hugo
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Third Quarter 2000 Monitoring Report**
Connell Automobile Dealership
3093 Broadway
Oakland, California
StID #469

ENVIRONMENTAL
PROTECTION
NOV - 5 PM 4: 04

10/27/99



Dear Ms. Hugo:

On behalf of Messrs. George Hill and Gordon Linden, and as required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this quarterly monitoring report for the above-referenced site. This report satisfies the quarterly reporting requirements prescribed by 23 CCR 2652d. The site background, third quarter 2000 activities and results, and the anticipated fourth quarter 2000 activities are presented below.

SITE BACKGROUND

Three underground storage tanks (USTs) which previously contained gasoline, diesel, and waste oil were removed from the subject site in December 1989. Soil and groundwater investigation has been ongoing since 1990. Between October 1996 and March 1998, operation of a soil vapor extraction (SVE) remediation system removed approximately 1,421 lbs of hydrocarbons. Manual removal of hydrocarbons from site monitoring wells has been ongoing since 1991.

THIRD QUARTER 2000 ACTIVITIES AND RESULTS

Groundwater Monitoring: Cambria monitored site groundwater following the sampling protocol described in Cambria's May 8, 2000 *Workplan Addendum*. On August 8, 2000, Cambria gauged monitoring wells MW-1, MW-4, MW-6, MW-7, MW-8, MW-9, MW-13, MW-14, and MW-15, and inspected the wells for separate-phase hydrocarbons (SPH). Groundwater samples were collected from wells MW-4, MW-7, MW-8, MW-9, and MW-13. The samples were analyzed by a California Department of Health Services (DHS) certified analytical laboratory for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), and EPA List 8010 halogenated volatile organic compounds (HVOCs). Cambria mistakenly omitted TPHmo and TPHd from the suite of analyses this quarter; analysis for

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
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these compounds will resume next quarter. The groundwater elevations, groundwater flow direction, and gradient are shown on Figure 1. The groundwater and analytical data are presented in Tables 1 and 2. Dissolved metals data is presented in Table 3, and SPH thicknesses and quantities removed are presented in Table 4. The analytical laboratory report is included as Attachment A. Field data sheets are included as Attachment B.

Groundwater Flow Direction: Based on the August 8, 2000 depth-to-water measurements, groundwater flowed eastward with a gradient of approximately 0.074 ft/ft during the third quarter of 2000 (Figure 1). This result is consistent with the historical local groundwater flow direction.



Contaminant Distribution in Groundwater: In general, monitoring results were consistent with past results for this site. SPH were detected in well MW-6 (Figure 1). The primary contaminants of concern (COCs) in site groundwater are benzene, 1,2-DCA, naphthalene, lead and nickel; these COCs are typically associated with releases from USTs containing gasoline, diesel, and/or motor oil. The maximum benzene concentration detected in groundwater was 15,000 micrograms per liter (ug/l) in MW-4, and the maximum 1,2-DCA concentration was 330 ug/l in MW-9 (Table 1). Although not analyzed this quarter, TPHd, TPHmo, naphthalene, lead, and nickel concentrations are expected to be consistent with the first quarter 2000 results. The contaminant plumes are adequately defined cross-gradient (south) and downgradient (east) of the former UST complex location by wells MW-7 and MW-13, respectively.

Separate-Phase Hydrocarbon Removal: During site visits on July 3 and August 4, 2000, Cambria inspected the passive SPH recovery devices in wells MW-1, MW-6, and MW-14. On July 3, 2000, product sheens were detected in MW-1 and MW-6; the absorbent sock in MW-1 was removed and replaced, and the skimmer in MW-6 was emptied and reset. On August 4, 2000, product sheen was detected in well MW-1 and 0.10 ft of SPH was detected in well MW-6. Product was removed from the socks in wells MW-1 and MW-14, as well as the skimmer in well MW-6. No SPH was recovered during the August 8, 2000 monitoring event. As of August 31, 2000, a total of approximately 909.5 lbs of SPH has been recovered from the site monitoring wells since liquid-phase hydrocarbon removal began in December 1991. Table 4 presents the SPH thickness measurements, the amount of SPH removed from the wells during each site visit, and the cumulative mass of SPH removed from each well.

ANTICIPATED FOURTH QUARTER 2000 ACTIVITIES

Groundwater Monitoring and Reporting: As required by the ACHCSA, Cambria will gauge site wells MW-1, MW-4, MW-6, MW-7, MW-8, MW-9, MW-13, MW-14, and MW-15 on a quarterly basis, collecting groundwater samples from MW-4, MW-7, MW-8, MW-9, and MW-13. During fourth quarter 2000, Cambria will analyze groundwater samples for TPHd, TPHmo, TPHg, BTEX, MTBE, and EPA List 8010 HVOCs. Cambria will prepare a quarterly monitoring report that will include tabulated groundwater elevation and analytical data and a potentiometric surface map.

Separate-Phase Hydrocarbon Removal: Cambria will conduct monthly SPH recovery events. Proper functioning of the recovery devices in MW-1, MW-6, and MW-14 will be verified, and collected SPH will be transferred to labeled, DOT-approved steel drums pending disposal or recycling.

Implementation of the May 8, 2000 Workplan Addendum: Cambria anticipates implementation of the May 8, 2000 *Workplan Addendum* to continue during the fourth quarter 2000. Cambria conducted dual-phase extraction (DVE) from wells MW-1, MW-6, MW-14, and MW-15 on September 25-28, 2000. Additional feasibility testing of DVE from site wells MW-1 and MW-6 is pending. Prior to implementation, cost pre-approval will be obtained from the state UST Cleanup Fund.



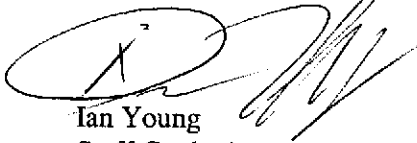
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Ms. Susan Hugo
October 25, 2000

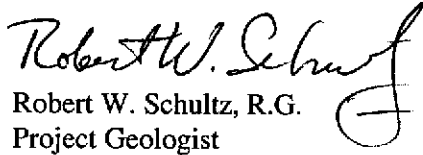
CLOSING

We trust that this report meets your requirements. If you have any questions or comments concerning this report, please call Bob Schultz at (510) 420-3341.

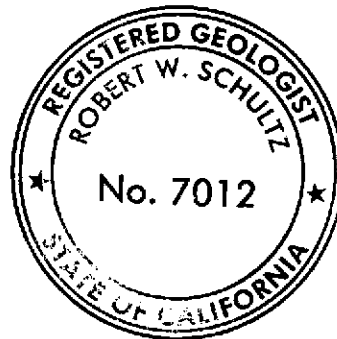
Sincerely,
Cambria Environmental Technology, Inc.



Ian Young
Staff Geologist



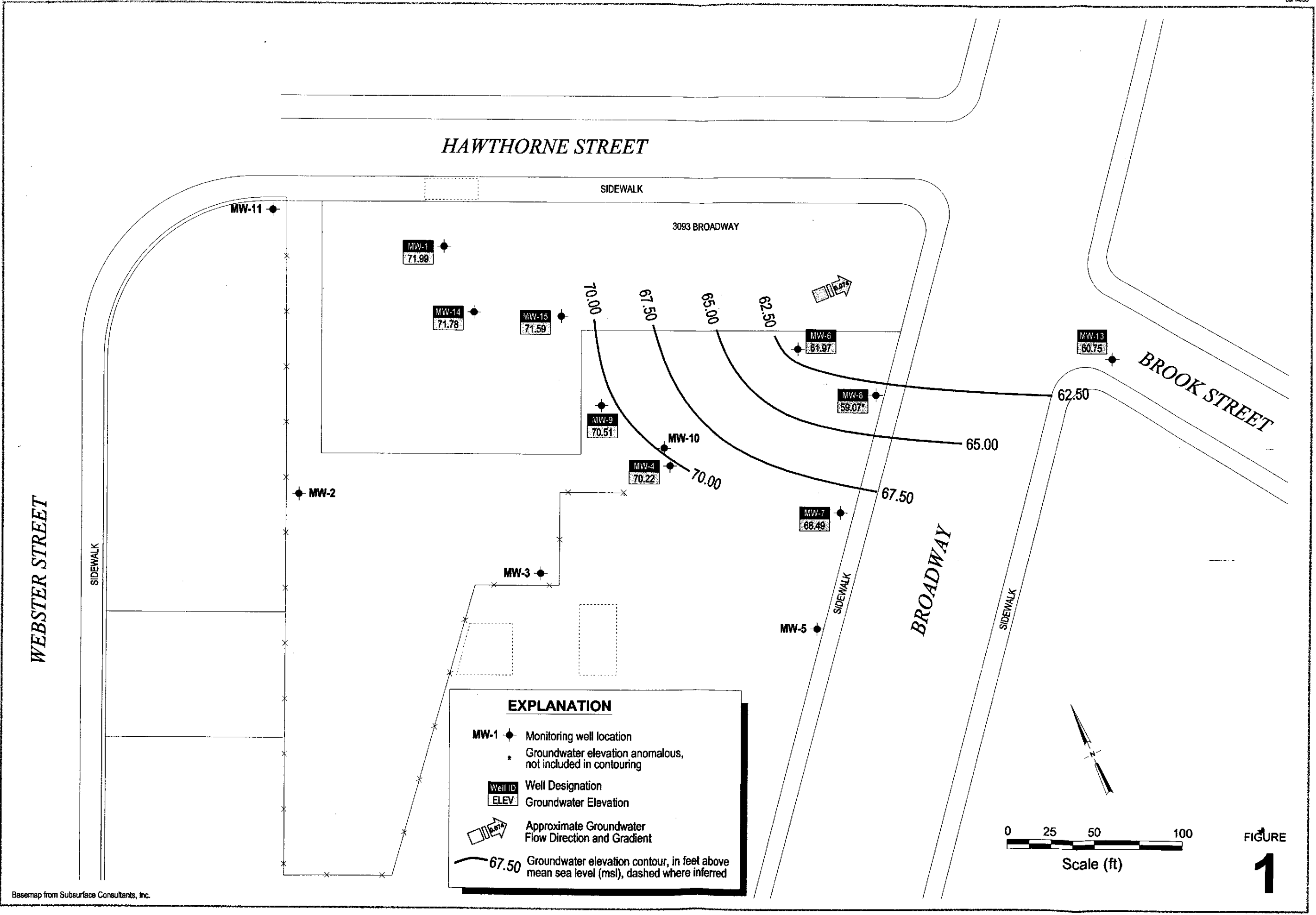
Robert W. Schultz, R.G.
Project Geologist



Attachments: A - Analytical Laboratory Report
B - Field Data Sheets

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

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Basemap from Subsurface Consultants, Inc.

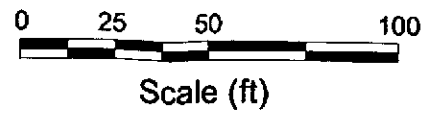


FIGURE
1

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

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	μg/l								
				TVH	TPHg	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE	1,2-DCA	Other HVOCs
MW-1	10/5/1990	26.40	68.08	620,000	--	33,000	50,000	7,900	41,000	--	2,900	ND
94.48	3/1/1991	27.46	67.02	FP	--	--	--	--	--	**	--	--
	10/12/1992	26.44	68.04	490,000	--	51,000	59,000	5,000	27,000	--	1,300	--
	11/24/1992	26.63	67.85	320,000	--	35,000	43,000	4,200	22,000	--	1,600	ND
	4/5/1993	23.77	70.71	270,000	--	50,000	58,000	4,600	25,000	--	1,800	ND
	7/21/1993	24.51	69.97	FP	--	--	--	--	--	--	--	--
	11/9/1993	26.06	68.42	FP	--	--	--	--	--	--	--	--
	8/30/1995	21.73	72.75	FP	--	--	--	--	--	--	--	--
	12/4/1995	21.94	72.54	FP	--	--	--	--	--	<200	--	--
	5/2/1996	20.65	73.83	340,000	--	57,000	73,000	7,200	38,000	--	1,200	--
	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	--	930	--
	11/5/1997	25.06	69.42	240,000	--	42,000	48,000	3,600	18,800	<1,000	1,200	--
	2/9/1998	22.64	71.84	220,000	--	47,000	60,000	5,200	29,800	<1,000	1,500	ND
	5/1/1998	19.95	74.53	160,000	--	35,000	42,000	2,800	16,000	<1,000	1,100	ND
	11/3/1998	23.29	71.19	200,000	--	39,000	49,000	4,400	26,000	<500	1,200	ND
	3/24/1999	22.30	72.18	FP	--	--	--	--	--	--	--	--
	7/1/1999	22.70	71.78	FP	--	--	--	--	--	--	--	--
	9/21/1999	23.81	70.67	FP	--	--	--	--	--	--	--	--
	2/9/2000	23.95	70.59	FP	--	--	--	--	--	--	--	--
	5/31/2000	22.05	72.43	--	--	--	--	--	--	--	--	--
	8/8/2000	22.49	71.99	--	--	--	--	--	--	--	--	--
MW-2	3/1/1991	27.86	66.95	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
94.81	11/24/1992	27.91	66.90	<50	--	<0.5	1.1	<0.5	1.5	--	<1.0	ND
	4/5/1993	25.95	68.86	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	7/21/1993	25.59	69.22	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	11/10/1993	26.72	68.09	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	8/30/1995	25.75	69.06	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--
	5/3/1996	23.28	71.53	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	5/8/1997	24.58	70.23	<50	--	<0.5	0.7	<0.5	<0.5	--	<1.0	--
	4/29/1998	22.18	72.63	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND

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Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH ←	TPHg	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs →
MW-3 90.08	3/1/1991	23.17	66.91	<50	--	<50	0.6	<0.5	<0.5	--	<1.0	ND
	11/25/1992	23.01	67.07	50	--	<0.5	0.9	<0.5	2	--	<1.0	ND
	4/5/1993	22.11	67.97	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	7/21/1993	23.93	66.15	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	11/10/1993	23.14	66.94	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	8/30/1995	20.61	69.47	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--
	5/3/1996	18.43	71.65	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	5/8/1997	19.77	70.31	<50	--	<0.5	0.7	<0.5	<0.5	--	<1.0	--
4/29/1998	17.92	72.16	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND	
MW-4 88.84	3/1/1991	23.79	65.05	150,000	--	20,000	38,000	2,800	14,000	**	610	ND
	10/12/1992	22.48	66.36	230,000	--	15,000	32,000	2,500	14,000	--	430	--
	11/24/1992	22.60	66.24	210,000	--	14,000	31,000	2,500	14,000	--	500	ND
	4/2/1993	20.11	68.73	FP	--	--	--	--	--	--	--	--
	7/21/1993	20.48	68.36	FP	--	--	--	--	--	--	--	--
	11/9/1993	21.71	67.13	FP	--	--	--	--	--	--	--	--
	8/30/1995	19.90	68.94	FP	--	--	--	--	--	--	--	--
	12/1/1995	19.40	69.44	FP	--	--	--	--	--	--	--	--
	5/2/1996	17.50	71.34	140,000	--	24,000	50,000	3,000	15,100	--	420	ND
	11/4/1996	20.13	68.71	160,000	--	16,000	38,000	2,700	14,000	--	380	ND
	5/8/1997	18.63	70.21	170,000	--	16,000	37,000	2,400	15,900	--	290	--
	11/5/1997	20.19	68.65	190,000	--	15,000	31,000	2,200	14,600	<400	290	--
	2/9/1998	18.28	70.56	110,000	--	19,000	42,000	2,500	18,300	<500	300	--
	5/1/1998	16.11	72.73	130,000	--	15,000	31,000	2,000	13,400	<1,000	260	ND
	8/4/1998	17.54	71.30	130,000	--	16,000	34,000	2,400	15,700	<400	240	ND
	11/2/1998	19.21	69.63	140,000	--	16,000	32,000	2,300	15,500	<400	230	ND
	3/26/1999	17.51	71.33	110,000	--	15,000	30,000	1,600	15,000	450 ⁴	210	⁵
	7/1/1999	18.80	70.04	110,000	--	13,000	23,000	1,600	12,000	<83	170	⁵
	9/21/1999	19.85	68.99	140,000	--	16,000	31,000	2,400	14,800	ND	<1000	⁵
	2/9/2000	19.76	69.08	--	--	140,000	16,000	28,000	2,100	14,000	<400	100
5/31/2000	17.90	70.94	--	--	15,000	17,000	28,000	2,400	14,000	<0.5 ⁶	<0.5	ND
8/8/2000	18.62	70.22	--	--	140,000	15,000	25,000	2,100	13,000	<300	110	ND

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MW-5	3/15/1991	26.31	58.53	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
84.84	11/10/1992	26.83	58.01	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	4/2/1993	26.62	58.22	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	7/21/1993	26.60	58.24	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	11/9/1993	27.24	57.60	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	8/30/1995	27.46	57.38	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--
	5/3/1996	26.02	58.82	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	5/8/1997	26.76	58.08	<50	--	<0.5	0.5	<0.5	<0.5	--	<1.0	--
	4/29/1998	26.55	58.29	<50	--	<0.5	0.5	<0.5	<0.5	<2	<1.0	ND
MW-6	3/15/1991	25.82	59.80	80,000	--	12,000	13,000	1,100	5,400	--	1,400	DBCM: 160
85.62	10/12/1992	25.02	60.60	19,000	--	3,200	1,400	200	560	--	840	--
	12/1/1992	28.87	56.75	FP	--	--	--	--	--	--	--	--
	4/2/1993	26.96	58.66	FP	--	--	--	--	--	--	--	--
	7/21/1993	26.17	59.45	FP	--	--	--	--	--	--	--	--
	11/9/1993	27.51	58.11	FP	--	--	--	--	--	--	--	--
	8/30/1995	28.00	57.62	FP	--	--	--	--	--	--	--	--
	12/1/1995	27.58	58.04	FP	--	--	--	--	--	<8,000,000	71	--
86.94	5/3/1996	28.15	58.79	130,000	--	37,000	50,000	3,200	14,200	--	2,400	ND
	5/9/1997	26.54	60.40	1,700,000	--	14,000	27,000	4,000	28,200	--	1,200	--
	11/5/1997	26.16	60.78	160,000	--	13,000	19,000	1,900	14,300	<200	790	--
85.82	5/1/1998	22.96	62.86	130,000	--	15,000	23,000	1,700	13,200	<500	1,100	ND
	11/3/1998	24.35	61.47	110,000	--	17,000	21,000	1,800	10,700	<200	990	ND
	3/26/1999	23.82	62.00	FP	--	--	--	--	--	--	--	--
	7/1/1999	24.45	61.37	FP	--	--	--	--	--	--	--	--
	9/21/1999	24.58	61.24	FP	--	--	--	--	--	--	--	--
	2/9/2000	24.93	61.24	FP	--	--	--	--	--	--	--	--
	5/31/2000	23.47	62.41	--	FP	--	--	--	--	--	--	--
	8/8/2000	23.85	61.97	--	--	--	--	--	--	--	--	--

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TOC Elev. (ft)				←----- μg/l -----→									
MW-7	3/15/1991	21.63	63.78	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
85.41	11/24/1992	21.52	63.89	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
	4/2/1993	20.08	65.33	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
	7/21/1993	19.59	65.82	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
	11/9/1993	20.65	64.76	<50	--	<0.5	1	<0.5	1.7	--	<1.0	ND	
	8/30/1995	18.78	66.63	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--	
	12/1/1995	19.47	65.94	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
	5/2/1996	17.15	68.26	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND	
	8/8/1996	18.48	66.93	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND	
	11/4/1996	18.69	66.72	<50	--	<1	<1	<1	<1	--	<1.0	ND	
	2/6/1997	17.44	67.97	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND	
	5/8/1997	17.72	67.69	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--	
	8/7/1997	18.49	66.92	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND	
	11/5/1997	18.86	66.55	<50	--	<0.5	<0.5	<0.5	<0.5	<2	1	--	
	2/9/1998	17.56	67.85	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	--	
	4/29/1998	16.23	69.18	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND	
	8/4/1998	17.24	68.17	<50	--	<0.5	<0.5	<0.5	<0.5	<2	1.1	ND	
	11/2/1998	17.91	67.50	<50	--	<0.5	<0.5	<0.5	<0.5	<2	1.2	ND	
	3/26/1999	16.42	68.99	<50	--	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	
	7/1/1999	17.90	67.51	85	--	<0.5	1.1	0.55	2.5	<0.5	1.0	5	
	9/21/1999	18.91	66.50	<50	--	0.7	1.8	<0.5	1.5	<5.0	<5.0	ND	
	2/9/2000	16.74	68.67	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	
	5/31/2000	16.21	69.20	--	<50	3	6	1	9	<0.5	<0.5	ND	
	8/8/2000	16.92	68.49	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.52	ND	
MW-8	10/12/1992	27.70	57.80	70	--	20	1	1	3	--	210	--	
85.50	11/25/1992	27.62	57.88	<50	--	<0.5	<0.5	<0.5	<0.5	--	200	ND	
	4/8/1993	26.64	58.86	490	--	15	45	5.1	73	--	210	ND	
	7/21/1993	26.60	58.90	180	--	2.5	3	<0.5	1.9	--	350	ND	
	11/11/1993	27.18	58.32	310	--	23	<0.5	<0.5	<0.5	--	240	ND	
	8/30/1995	26.35	59.15	660	--	360	6.8	13	2.8	--	130	--	
	12/4/1995	26.72	58.78	250	--	46	0.9	4.9	<0.5	--	94	ND	
	5/3/1996	25.47	60.03	69	--	110	<0.5	<0.5	1.5	--	100	ND	

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Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons and HVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH ←	TPHg	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs →
	8/8/1996	26.41	59.09	120	--	11	<0.5	<0.5	<0.5	<2	93	ND
	11/5/1996	26.77	58.73	110	--	20	<1	1	<1	--	98	ND
	2/6/1997	25.84	59.66	67 ^{1,2}	--	51	<0.5	0.56	<0.5	<2	81	ND
	5/9/1997	26.39	59.11	110 ^{1,2}	--	59	<0.5	<0.5	<0.5	--	76	--
	8/7/1997	26.72	58.78	<50	--	12 ³	<0.5	<0.5	<0.5	<2	79	ND
	11/5/1997	26.82	58.68	<50	--	9.4	<0.5	<0.5	<0.5	<2	84	--
	2/9/1998	25.57	59.93	<50	--	6	<0.5	<0.5	<0.5	<2	85	--
	5/1/1998	25.64	59.86	430	--	490	7.1	27	26	<10	85	ND
	8/5/1998	25.96	59.54	140	--	19	<0.5	5.2	5.3	<2	69	ND
	11/3/1998	26.27	59.23	150	--	110	1.1	4.3	4.5	<2	67	ND
	3/31/1999	20.93	64.57	54	--	170	1.5	4.1	1.9	4.4 ⁴	5.9	1,1 DCA: 0.7 ⁵
	7/1/1999	26.59	58.91	140	--	58	0.9	3	2.3	<0.5	55	5
	9/21/1999	26.89	58.61	670	--	170	2.6	11	7.9	<5	41	ND
	2/9/2000	26.60	58.90	--	300	60	1.2	4.8	1.2	<5.0	40	<0.5
	8/8/2000	26.43	59.07	--	270	56	1.2	4.1	1.0	<5.0	39	ND
MW-9	11/24/1992	23.51	66.86	19,000	--	180	590	23	2000	--	340	TCM: 15
90.37	4/5/1993	21.14	69.23	2,300	--	48	4	0.6	13	--	600	TCM: 2
	7/21/1993	21.54	68.83	2,300	--	170	8.1	15	<0.5	--	1100	ND
	11/10/1993	27.53	62.84	4,400	--	69	7.3	21	9.7	--	900	ND
	8/30/1995	19.59	70.78	3,200	--	3,900	49	80	22.8	--	960	--
	12/4/1995	20.65	69.72	--	--	--	--	--	--	<2	--	--
	5/2/1996	18.63	71.74	<1300	--	2,600	<13	200	<13	--	550	ND
	11/5/1996	20.69	69.68	1,800	--	280	<5	65	<5	--	770	ND
	5/9/1997	19.96	70.41	1,100	--	160	<0.5	42	<0.5	--	690	--
	8/8/1997	20.84	69.53	570 ^{1,2}	--	<0.5	<0.5	<0.5	0.78 ³	<2	680	ND
	11/5/1997	21.55	68.82	490 ¹	--	<0.5	<0.5	6	<0.5	<2	500	--
	2/9/1998	20.21	70.16	270 ¹	--	48	17	5.8	<0.5	<2	520	--
	5/1/1998	19.27	71.10	550	--	70	<0.5	22	2.2	<2	390	ND
	8/5/1998	19.35	71.02	550 ¹	--	88	<0.5	13	1.9 ³	<2	420	ND
	11/2/1998	20.43	69.94	580	--	<0.5	<0.5	7.5 ³	1.6 ³	<2	430	ND
	3/25/1999	18.46	71.91	1,100	--	160	<0.5	21	2.1 ³	5.7 ⁴	550	ND

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Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons and HVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH ←	TPHg	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs →
	7/1/1999	19.95	70.42	540	--	100	7.4	26	16.9	<1.3	400	⁵
	9/21/1999	21.15	69.22	2,700	--	320	98	88	47	<20	540	ND
	2/9/2000	21.08	69.29	--	1,600	81	3.6	19	18	<5.0	360	<0.5
	5/31/2000	19.11	71.26	--	1,500	170	13	25	<1.0	<0.5	300	ND
	8/8/2000	19.86	70.51	--	1,300	140	2.1	19	<0.5	<5.0	330	ND
MW-10	10/12/1992	21.55	67.05	28,000	--	2,700	3,800	210	1,300	--	150	--
88.60	11/24/1992	21.86	66.74	130,000	--	9,700	19,000	1,400	8,400	--	370	ND
	4/5/1993	19.14	69.46	63,000	--	6,300	14,000	1,100	7,500	--	70	ND
	7/21/1993	19.79	68.81	140,000	--	16,000	31,000	2,200	13,000	--	700	ND
	8/30/1995	17.99	70.61	92,000	--	13,000	24,000	1,800	9,100	--	300	--
	5/3/1996	17.04	71.56	81,000	--	17,000	29,000	2,100	8,500	--	320	ND
	5/9/1997	18.36	70.24	63,000	--	7,400	13,000	940	4,100	--	150	--
	5/1/1998	15.84	72.76	60,000	--	7,100	14,000	1100	5,300	<250	120	ND
MW-11	11/24/1992	33.65	68.41	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
102.06	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	--	<1.0	ND
	7/21/1993	31.90	70.16	160	--	<0.5	1.8	<0.5	<0.5	--	<1.0	ND
	11/9/1993	32.60	69.46	80	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	8/30/1995	28.92	73.14	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--
	5/3/1996	28.00	74.06	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	5/8/1997	29.93	72.13	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	--
	4/29/1998	27.22	74.84	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND
MW-13	11/24/1992	26.05	58.01	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
84.06	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	--	<1.0	ND
	7/21/1993	24.29	59.77	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	11/9/1993	24.23	59.83	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	8/30/1995	23.30	60.76	<50	--	49	<0.5	<0.5	<0.5	--	3.6	--

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Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons and HVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH ←	TPHg	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs →
	12/1/1995	23.80	60.26	<50	--	<0.5	<0.5	<0.5	<0.5	--	4.1	ND
	5/3/1996	23.19	60.87	<50	--	<0.5	<0.5	<0.5	<0.5	--	4	ND
	8/8/1996	23.44	60.62	<50	--	32	<0.5	<0.5	<0.5	<2	6.4	ND
	11/5/1996	24.04	60.02	<50	--	<1	<1	<1	<1	--	5.7	ND
	2/6/1997	23.24	60.82	<50	--	<0.5	<0.5	<0.5	<0.5	<2	3.5	ND
	5/8/1997	23.46	60.60	<50	--	81	<0.5	<0.5	<0.5	--	5.5	--
	8/8/1997	23.92	60.14	<50	--	<0.5	<0.5	<0.5	<0.5	<2	6.8	ND
	11/5/1997	24.27	59.79	<50	--	<0.5	<0.5	<0.5	<0.5	<2	5.5	--
	2/9/1998	22.89	61.17	<50	--	<0.5	<0.5	<0.5	<0.5	<2	2.9	--
	4/29/1998	22.27	61.79	<50	--	24	<0.5	<0.5	<0.5	<2	5.7	ND
	8/4/1998	22.75	61.31	120	--	200	<1	<1	<1	<4	6.2	ND
	11/3/1998	23.90	60.16	59 ¹	--	33	<0.5	<0.5	<0.5	<2	6.1	ND
	3/31/1999	23.11	60.95	130	--	0.56	<0.5	<0.5	<0.5	<2	1.4	ND
	7/1/1999	23.40	60.66	160	--	370	19	1.2	3.5	<1	4.2	⁵
	9/21/1999	21.91	62.15	370	--	150	1.0	0.8	0.8	<5.0	<5.0	ND
	2/9/2000	23.84	60.22	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.1	<0.5
	8/8/2000	23.31	60.75	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.6	ND
MW-14	5/26/1998	21.67	72.99	41,000	--	7,100	11,000	720	3,900	<1000	440	ND
94.66	7/1/1999	22.95	71.71	FP	--	--	--	--	--	--	--	--
	9/21/1999	24.26	70.40	FP	--	--	--	--	--	--	--	--
	2/9/2000	24.13	70.53	--	92,000	12,000	17,000	1,300	8,700	<140	450	<0.5
	5/31/2000	22.09	72.57	--	--	--	--	--	--	--	--	--
	8/8/2000	22.88	71.78	--	--	--	--	--	--	--	--	--

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Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons and HVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	µg/l								
				TVH	TPHg	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE	1,2-DCA	Other HVOCs
MW-15	5/26/1998	21.87	72.89	130,000	--	30,000	38,000	2,500	12,600	<1000	1,200	ND
94.76	7/1/1999	22.25	72.51	FP	--	--	--	--	--	--	--	--
	9/21/1999	24.12	70.64	FP	--	--	--	--	--	--	--	--
	2/9/2000	24.42	70.34	--	180,000	32,000	37,000	2,800	14,000	<200	1,100	<0.5
	5/31/2000	22.40	72.36	--	--	--	--	--	--	--	--	--
	8/8/2000	23.17	71.59	--	--	--	--	--	--	--	--	--

Abbreviations and Notes:

TOC Elev. (ft) = Top of casing elevation in feet above mean sea level

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

TVH = Total Volatile Hydrocarbons

TPHg = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tert-butyl ether

1,2-DCA = 1,2 Dichloroethane

HVOCs = Halogenated volatile organic compounds by EPA Method 8010

DCB = 1, 3 Dichlorobenzene

MCB = Chlorobenzene

DBCM = Dibromochloromethane

TCM = Chloroform = trichloromethane

ND = None detected above laboratory reporting limit, see laboratory report for individual reporting limits.

-- = Sample not analyzed

FP = Free product encountered in well

<n = Chemical not present at a concentration in excess of detection limit shown

MW-1 was initially referred to as Sample 5.

* = Suspect laboratory contamination contributing to test result.

** = Fuel fingerprint analysis indicates MTBE is not present in the free product sample collected from this well.

*** = Duplicate sample sent to a different chemical laboratory.

1 = Sample exhibits fuel pattern which does not resemble standard

2 = Lighter hydrocarbons than indicated standard

3 = Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two

4 = Detection may potentially be a false positive, to be checked during the next event.

5 = One or more of the following substances found: Acetone, 1,2-Dibromoethane, 1,3,5-Trimethylbenzene, 2-Chlorotoluene, 1,2,4-Trimethylbenzene, n-Butylbenzene, and Naphthalene. See laboratory results for details.

6 = Confirmed by GC/MS.

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs
 Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene $\mu\text{g/l}$	Naphthalene	Other SVOCs
MW-1 94.48	10/5/1990	26.40	68.08	<500	--	--	--	--	--
	3/1/1991	27.46	67.02	FP	--	--	--	--	--
	10/12/1992	26.44	68.04	--	--	--	--	--	--
	11/24/1992	26.63	67.85	4,600	--	--	--	--	--
	4/5/1993	23.77	70.71	25,000	--	--	--	--	--
	7/21/1993	24.51	69.97	FP	--	--	--	--	--
	11/9/1993	26.06	68.42	FP	--	--	--	--	--
	8/30/1995	21.73	72.75	FP	--	--	630	1,200	ND
	12/4/1995	21.94	72.54	FP	--	--	--	--	--
	5/2/1996	20.65	73.83	32,000	--	--	250	640	ND
	11/5/1996	24.29	70.19	--	--	--	--	--	--
	5/9/1997	22.79	71.69	28,000	--	--	280	650	ND
	11/5/1997	25.06	69.42	28,000	--	--	720	1,500	ND
	2/9/1998	22.64	71.84	27,000	--	--	160	570	ND
	5/1/1998	19.95	74.53	29,000	--	--	--	--	--
	5/27/1998	--	--	--	--	--	120	630	ND
	11/3/1998	23.29	71.19	37,000	--	--	500	1,100	ND
	3/24/1999	22.30	72.18	FP	--	--	--	--	--
	7/1/1999	22.70	71.78	FP	--	--	--	--	--
	9/21/1999	23.81	70.67	FP	--	--	--	--	--
2/9/2000	23.95	70.59	--	FP	--	--	--	--	
5/31/2000	22.05	72.43	--	--	--	--	--	--	
MW-2 94.81	3/1/1991	27.86	66.95	<50	--	--	--	--	--
	11/24/1992	27.91	66.90	<50	--	--	--	--	--
	4/5/1993	25.95	68.86	870	--	--	--	--	--
	7/21/1993	25.59	69.22	<50	--	--	--	--	--
	11/10/1993	26.72	68.09	240	--	--	--	--	--
	8/30/1995	25.75	69.06	150	--	--	--	--	--
	5/3/1996	23.28	71.53	<50	--	--	--	--	--
	5/8/1997	24.58	70.23	<50	--	--	--	--	--
	4/29/1998	22.18	72.63	<47	--	--	--	--	--
MW-3 90.08	3/1/1991	23.17	66.91	<50	--	--	--	--	--
	11/25/1992	23.01	67.07	160	--	--	--	--	--
	4/5/1993	22.11	67.97	<50	--	--	--	--	--
	7/21/1993	23.93	66.15	<50	--	--	--	--	--
	11/10/1993	23.14	66.94	<50	--	--	--	--	--
	8/30/1995	20.61	69.47	<50	--	--	--	--	--
	5/3/1996	18.43	71.65	<50	--	--	--	--	--
	5/8/1997	19.77	70.31	<50	--	--	--	--	--
	4/29/1998	17.92	72.16	<47	--	--	--	--	--

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs
 Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH ←	TPHd	TPHmo	2-Methyl naphthalene μg/l	Naphthalene	Other SVOCs →
MW-4 88.84	3/1/1991	23.79	65.05	<500	--	--	--	--	--
	10/12/1992	22.48	66.36	--	--	--	--	--	--
	11/24/1992	22.60	66.24	1,600	--	--	--	--	--
	4/2/1993	20.11	68.73	FP	--	--	--	--	--
	7/21/1993	20.48	68.36	FP	--	--	--	--	--
	11/9/1993	21.71	67.13	FP	--	--	--	--	--
	8/30/1995	19.90	68.94	FP	--	--	--	--	--
	12/1/1995	19.40	69.44	FP	--	--	--	--	--
	5/2/1996	17.50	71.34	9,200	--	--	--	--	--
	11/4/1996	20.13	68.71	4,700	--	--	--	--	--
	5/8/1997	18.63	70.21	5,100	--	--	--	--	--
	11/5/1997	20.19	68.65	3,700	--	--	--	--	--
	2/9/1998	18.28	70.56	4,800	--	--	--	--	--
	5/1/1998	16.11	72.73	5,000	--	--	--	--	--
	8/4/1998	17.54	71.30	3,500	--	--	--	--	--
	11/2/1998	19.21	69.63	7,200	--	--	--	--	--
	3/26/1999	17.51	71.33	14,000	--	--	--	--	--
	7/1/1999	18.80	70.04	17,000	--	--	370	860	ND
	9/21/1999	19.85	68.99	14,000	--	--	360	820	ND
	2/9/2000	19.76	69.08	--	12,000	1,000	290	700	ND
	5/31/2000	17.90	70.94	--	14,000 **	<500	--	--	--
MW-5 84.84	3/15/1991	26.31	58.53	<50	--	--	--	--	--
	11/10/1992	26.83	58.01	50	--	--	--	--	--
	4/2/1993	26.62	58.22	<50	--	--	--	--	--
	7/21/1993	26.60	58.24	190	--	--	--	--	--
	11/9/1993	27.24	57.60	170	--	--	--	--	--
	8/30/1995	27.46	57.38	180	--	--	--	--	--
	5/3/1996	26.02	58.82	<50	--	--	--	--	--
	5/8/1997	26.76	58.08	<50	--	--	--	--	--
	4/29/1998	26.55	58.29	<47	--	--	--	--	--
MW-6 85.62	3/15/1991	25.82	59.80	<50	--	--	--	--	--
	10/12/1992	25.02	60.60	--	--	--	--	--	--
	12/1/1992	28.87	56.75	FP	--	--	--	--	--
	4/2/1993	26.96	58.66	FP	--	--	--	--	--
	7/21/1993	26.17	59.45	FP	--	--	--	--	--
	11/9/1993	27.51	58.11	FP	--	--	--	--	--
	8/30/1995	28.00	57.62	FP	--	--	--	--	--
	12/1/1995	27.58	58.04	FP	--	--	--	--	--
	5/3/1996	26.83	58.79	9,000	--	--	--	--	--
86.94	5/9/1997	26.54	60.40	53,000	--	--	--	--	--
	11/5/1997	26.16	60.78	65,000	--	--	--	--	--
85.82	5/1/1998	22.96	62.86	25,000	--	--	--	--	--

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene $\mu\text{g/l}$	Naphthalene	Other SVOCs
	11/3/1998	24.35	61.47	30,000	--	--	--	--	--
	3/26/1999	23.82	62.00	FP	--	--	--	--	--
	7/1/1999	24.45	61.37	FP	--	--	--	--	--
	9/21/1999	24.58	61.24	FP	--	--	--	--	--
	2/9/2000	24.93	61.24	--	FP	--	--	--	--
	5/31/2000	23.47	62.41	--	FP	--	--	--	--
MW-7 85.41	3/15/1991	21.63	63.78	<50	--	--	--	--	--
	11/24/1992	21.52	63.89	<50	--	--	--	--	--
	4/2/1993	20.08	65.33	<50	--	--	--	--	--
	7/21/1993	19.59	65.82	150	--	--	--	--	--
	11/9/1993	20.65	64.76	200	--	--	--	--	--
	8/30/1995	18.78	66.63	170	--	--	--	--	--
	12/1/1995	19.47	65.94	<50	--	--	--	--	--
	5/2/1996	17.15	68.26	<50	--	--	--	--	--
	8/8/1996	18.48	66.93	<50	--	--	--	--	--
	11/4/1996	18.69	66.72	<50	--	--	--	--	--
	2/6/1997	17.44	67.97	<50	--	--	--	--	--
	5/8/1997	17.72	67.69	<50	--	--	--	--	--
	8/7/1997	18.49	66.92	<50	--	--	--	--	--
	11/5/1997	18.86	66.55	<50	--	--	--	--	--
	2/9/1998	17.56	67.85	<50	--	--	--	--	--
	4/29/1998	16.23	69.18	<47	--	--	--	--	--
	8/4/1998	17.24	68.17	<50	--	--	--	--	--
	11/2/1998	17.91	67.50	<50	--	--	--	--	--
	3/26/1999	16.42	68.99	<50	--	--	--	--	--
	7/1/1999	17.90	67.51	<50	--	--	<10	<10	ND
	9/21/1999	18.91	66.50	<48	--	--	<9.5	<9.5	ND
	2/9/2000	16.74	68.67	--	<50	<250	<10	<10	ND
	5/31/2000	16.21	69.20	--	<50	<500	--	--	--
MW-8 85.50	10/12/1992	27.70	57.80	--	--	--	--	--	--
	11/25/1992	27.62	57.88	170	--	--	--	--	--
	4/8/1993	26.64	58.86	100	--	--	--	--	--
	7/21/1993	26.60	58.90	90	--	--	--	--	--
	11/11/1993	27.18	58.32	170	--	--	--	--	--
	8/30/1995	26.35	59.15	240	--	--	--	--	--
	12/4/1995	26.72	58.78	<50	--	--	--	--	--
	5/3/1996	25.47	60.03	94	--	--	--	--	--
	8/8/1996	26.41	59.09	250	--	--	--	--	--
	11/5/1996	26.77	58.73	<50	--	--	--	--	--
	2/6/1997	25.84	59.66	130	--	--	--	--	--
	5/9/1997	26.39	59.11	120	--	--	--	--	--
	8/7/1997	26.72	58.78	150	--	--	--	--	--

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH ←	TPHd	TPHmo	2-Methyl naphthalene µg/l	Naphthalene	Other SVOCs →
	11/5/1997	26.82	58.68	110	--	--	--	--	--
	2/9/1998	25.57	59.93	75	--	--	--	--	--
	5/1/1998	25.64	59.86	210	--	--	--	--	--
	8/5/1998	25.96	59.54	260	--	--	--	--	--
	11/3/1998	26.27	59.23	190	--	--	--	--	--
	3/31/1999	20.93	64.57	200	--	--	--	--	--
	7/1/1999	26.59	58.91	170	--	--	<9.6	<9.6	ND
	9/21/1999	26.89	58.61	420	--	--	<9.4	<9.4	ND
	2/9/2000	26.60	58.90	--	120	280	<10	<10	ND
	5/31/2000	26.16	59.34	--	160 **	<500	--	--	--
MW-9 90.37	11/24/1992	23.51	66.86	320	--	--	--	--	--
	4/5/1993	21.14	69.23	920	--	--	--	--	--
	7/21/1993	21.54	68.83	450	--	--	--	--	--
	11/10/1993	27.53	62.84	450	--	--	--	--	--
	8/30/1995	19.59	70.78	680	--	--	--	--	--
	12/4/1995	20.65	69.72	--	--	--	--	--	--
	5/2/1996	18.63	71.74	710	--	--	--	--	--
	11/5/1996	20.69	69.68	420	--	--	--	--	--
	5/9/1997	19.96	70.41	490	--	--	--	--	--
	8/8/1997	20.84	69.53	480	--	--	--	--	--
	11/5/1997	21.55	68.82	370	--	--	--	--	--
	2/9/1998	20.21	70.16	410	--	--	--	--	--
	5/1/1998	19.27	71.10	450	--	--	--	--	--
	8/5/1998	19.35	71.02	630	--	--	--	--	--
	11/2/1998	20.43	69.94	500	--	--	--	--	--
	3/25/1999	18.46	71.91	630	--	--	--	--	--
	7/1/1999	19.95	70.42	570	--	--	<9.5	<9.5	ND
	9/21/1999	21.15	69.22	770	--	--	<9.4	<9.4	ND
	2/9/2000	21.08	69.29	--	320	<250	<10	<10	ND
	5/31/2000	19.11	71.26	--	390 **	<500	--	--	--
MW-10 88.60	10/12/1992	21.55	67.05	--	--	--	--	--	--
	11/24/1992	21.86	66.74	1,300	--	--	--	--	--
	4/5/1993	19.14	69.46	5,000	--	--	--	--	--
	7/21/1993	19.79	68.81	20,000	--	--	--	--	--
	8/30/1995	17.99	70.61	5,900	--	--	--	--	--
	5/3/1996	17.04	71.56	5,600	--	--	--	--	--

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH ←	TPHd	TPHmo	2-Methyl naphthalene µg/l	Naphthalene	Other SVOCs →
	5/9/1997	18.36	70.24	2,500	--	--	--	--	--
	5/1/1998	15.84	72.76	2,000	--	--	--	--	--
MW-11 102.06	11/24/1992	33.65	68.41	220	--	--	--	--	--
	12/8/92*	33.37	68.69	140	--	--	--	--	--
	12/8/1992	33.37	68.69	120	--	--	--	--	--
	4/5/1993	31.03	71.03	<50	--	--	--	--	--
	7/21/1993	31.90	70.16	150	--	--	--	--	--
	11/9/1993	32.60	69.46	60	--	--	--	--	--
	8/30/1995	28.92	73.14	240	--	--	--	--	--
	5/3/1996	28.00	74.06	<50	--	--	--	--	--
	5/8/1997	29.93	72.13	<50	--	--	--	--	--
	4/29/1998	27.22	74.84	<47	--	--	--	--	--
MW-13 84.06	11/24/1992	26.05	58.01	3,600	--	--	--	--	--
	12/8/92*	25.08	58.98	210	--	--	--	--	--
	12/8/1992	25.08	58.98	100	--	--	--	--	--
	4/5/1993	24.64	59.42	<50	--	--	--	--	--
	7/21/1993	24.29	59.77	<50	--	--	--	--	--
	11/9/1993	24.23	59.83	160	--	--	--	--	--
	8/30/1995	23.30	60.76	<50	--	--	--	--	--
	12/1/1995	23.80	60.26	<50	--	--	--	--	--
	5/3/1996	23.19	60.87	<50	--	--	--	--	--
	8/8/1996	23.44	60.62	<50	--	--	--	--	--
	11/5/1996	24.04	60.02	<50	--	--	--	--	--
	2/6/1997	23.24	60.82	<50	--	--	--	--	--
	5/8/1997	23.46	60.60	<50	--	--	--	--	--
	8/8/1997	23.92	60.14	<50	--	--	--	--	--
	11/5/1997	24.27	59.79	<50	--	--	--	--	--
	2/9/1998	22.89	61.17	<50	--	--	--	--	--
	4/29/1998	22.27	61.79	<47	--	--	--	--	--
	8/4/1998	22.75	61.31	78	--	--	--	--	--
	11/3/1998	23.90	60.16	<50	--	--	--	--	--
	3/31/1999	23.11	60.95	<48	--	--	--	--	--

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Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH ←	TPHd	TPHmo	2-Methyl naphthalene µg/l	Naphthalene	Other SVOCs →
	7/1/1999	23.40	60.66	100	--	--	<9.6	<9.6	ND
	9/21/1999	21.91	62.15	<48	--	--	<9.4	<9.4	ND
	2/9/2000	23.84	60.22	--	<50	<250	<10	<10	ND
	5/31/2000	22.97	61.09	--	<50	<500	--	--	--
MW-14 94.66	5/26/1998	21.67	72.99	7,700	--	--	--	--	--
	7/1/1999	22.95	71.71	FP	--	--	--	--	--
	9/21/1999	24.26	70.40	FP	--	--	--	--	--
	2/9/2000	24.13	70.53	--	14,000	1,500	290	600	ND
	5/31/2000	22.09	72.57	--	--	--	--	--	--
MW-15 94.76	5/26/1998	21.87	72.89	1,700	--	--	--	--	--
	7/1/1999	22.25	72.51	FP	--	--	--	--	--
	9/21/1999	24.12	70.64	FP	--	--	--	--	--
	2/9/2000	24.42	70.34	--	4,000	1,200	50	270	ND
	5/31/2000	22.40	72.36	--	--	--	--	--	--

Abbreviations and Notes:

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

TEH = Total extractable hydrocarbons

TPHd = Total petroleum hydrocarbons as diesel

TPHmo = Total petroleum hydrocarbons as motor oil

SVOCs = Semi-volatile organic compounds

Other SVOC's = All other compounds analyzed by EPA Method 8270

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

ND = None detected above laboratory reporting limit, see laboratory report for individual reporting limits

< n = Not detected above n ug/l

-- = Not analyzed/not available

* = Duplicate sample sent to a different chemical laboratory

** = Does not match diesel pattern

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Table 3. LUFT Metals In Groundwater

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Sampling Date	Cadmium	Chromium	Lead	Nickel	Zinc
		←-----ug/l-----→				
MW-4	7/1/1999	<5	<10	59	<20	<20
	9/21/1999	<5	<10	66	<20	33
	2/9/2000	<5	17	68	<50	<50
MW-7	7/1/1999	<5	<10	<3	<20	<20
	9/21/1999	<5	<10	<3	<20	<20
	2/9/2000	<5	14	8.6	59	<50
MW-8	7/1/1999	<5	<10	<3	<20	<20
	9/21/1999	<5	<10	<3	<20	<20
	2/9/2000	<5	<5	<5	<50	<50
MW-9	7/1/1999	<5	<10	<3	34	<20
	9/21/1999	<5	<10	<3	25	37
	2/9/2000	<5	82	29	160	130
MW-13	7/1/1999	<5	<10	<3	<20	<20
	9/21/1999	<5	<10	<3	<20	<20
	2/9/2000	<5	12	15	<50	<50
MW-14	2/9/2000	<5	210	24	2,500	280
MW-15	2/9/2000	<5	140	1,800	220	150

Abbreviations and Notes:

LUFT metals analyzed by EPA Method 6010

ug/l = micrograms per liter

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Table 4. Liquid-Phase Hydrocarbon Removal -
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-1	12/23/1991	26.86	1.15	2.00	12.20	12.20	1
94.48	12/26/1991	26.08	0.22	0.50	3.05	15.25	1
	1/13/1992	26.53	0.66	1.00	6.10	21.35	1
	2/28/1992	27.75	0.42	2.00	12.20	33.55	1
	11/9/1993	26.06	1.17	0.50	3.05	36.60	1
	11/3/1995	23.10	0.76	0.75	4.58	41.18	1
	11/30/1995	23.38	0.70	0.25	1.53	42.70	1
	1/3/1996	23.30	0.78	0.53	3.23	45.93	1
	2/2/1996	22.96	0.84	0.75	4.58	50.51	1
	3/1/1996	21.69	0.14	0.10	0.61	51.12	1
	4/4/1996	21.11	0.00	0.00	0.00	51.12	1
	5/2/1996	20.96	0.00	0.00	0.00	51.12	1
	6/5/1996	20.98	0.04	0.10	0.61	51.73	1
	7/9/1996	21.64	0.20	0.10	0.61	52.34	1
	8/8/1996	22.43	0.33	0.05	0.31	52.64	1
	9/10/1996	23.25	0.60	0.10	0.61	53.25	1
	10/1/1996	23.58	0.60	0.25	1.53	54.78	1
	11/4/1996	24.29	0.78	0.13	0.79	55.57	1
	12/2/1996	24.63	0.88	0.26	1.59	57.16	1
	1/3/1997	24.08	0.81	0.39	2.38	59.54	1
	2/6/1997	22.46	0.30	0.01	0.06	59.60	1
	3/5/1997	23.00	0.00	0.00	0.00	59.60	1
	4/1/1997	22.29	0.20	0.01	0.06	59.66	1
	5/8/1997	22.79	0.33	0.02	0.12	59.78	1
	6/6/1997	24.33	1.69	0.26	1.59	61.37	1
	7/8/1997	24.00	0.96	0.20	1.22	62.59	1
	8/7/1997	24.58	1.29	1.00	6.10	68.69	1
	9/10/1997	24.93	1.21	1.50	9.15	77.84	1
	10/1/1997	24.89	0.86	0.26	1.59	79.42	1
	11/4/1997	25.06	0.77	0.26	1.59	81.01	1
	12/4/1997	24.76	0.54	0.19	1.16	82.17	1
	1/8/1998	23.66	0.00	0.00	0.00	82.17	1
	2/5/1998	22.64	0.00	0.00	0.00	82.17	1
	3/6/1998	20.80	0.00	0.00	0.00	82.17	1
	4/2/1998	20.31	0.00	0.00	0.00	82.17	1
	4/29/1998	19.95	0.00	0.00	0.00	82.17	1
	6/3/1998	20.41	0.00	0.00	0.00	82.17	1
	7/9/1998	20.97	0.07	0.00	0.00	82.17	1
	8/4/1998	21.40	trace	trace	0.00	82.17	1
	8/26/1998	21.85	0.10	trace	0.00	82.17	1
	11/2/1998	22.92	0.39	trace	0.00	82.17	1

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Table 4. Liquid-Phase Hydrocarbon Removal -
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
	12/4/1998	23.29	0.29	0.01	0.06	82.23	1
	1/5/1999	23.51	0.42	0.03	0.18	82.41	1
	2/8/1999	23.08	0.05	0.25	1.53	83.94	1
	3/24/1999	21.90	0.01	0.01	0.06	84.00	1
	4/30/1999	21.52	0.00	0.00	0.00	84.00	1
	7/1/1999	22.70	0.03	0.01	0.06	84.06	1
	9/21/1999	23.81	0.08	0.20	1.22	85.28	1
	10/20/1999	23.90	0.10	0.01	0.06	85.34	1
	12/13/1999	24.24	trace	0.00	0.00	85.34	1
	2/9/2000	23.95	0.07	0.05	0.31	85.64	1
	2/15/2000	--	0.00	0.00	0.00	85.64	2
	2/25/2000	23.69	0.00	0.06	0.38	86.03	2
	3/3/2000	23.27	0.00	0.05	0.31	86.33	2
	3/28/2000	22.39	0.00	0.13	0.79	87.13	2
	5/2/2000	22.29	0.00	0.05	0.29	87.42	2
	5/31/2000	22.05	0.00	0.00	0.00	87.42	2
	7/3/2000	22.10	trace	0.02	0.12	87.54	2
	8/4/2000	22.40	0.00	0.01	0.06	87.60	2
MW-4 88.84	12/23/1991	22.63	0.98	2.50	15.25	15.25	1
	12/26/1991	22.52	0.96	6.00	36.60	51.85	1
	1/10/1992	22.74	0.99	5.00	30.50	82.35	1
	2/28/1992	22.00	0.67	4.00	24.40	106.75	1
	3/11/1992	21.71	0.55	3.50	21.35	128.10	1
	3/13/1992	21.56	0.49	3.50	21.35	149.45	1
	3/17/1992	25.46	0.44	2.25	13.73	163.18	1
	3/18/1992	21.38	0.44	2.50	15.25	178.43	1
	3/19/1992	21.33	0.48	1.50	9.15	187.58	1
	3/23/1992	21.29	0.42	4.00	24.40	211.98	1
	3/24/1992	21.31	0.38	1.50	9.15	221.13	1
	3/25/1992	21.17	0.36	1.00	6.10	227.23	1
	3/26/1992	21.08	0.35	1.00	6.10	233.33	1
	3/27/1992	20.92	0.26	0.50	3.05	236.38	1
	3/31/1992	21.15	0.44	0.50	3.05	239.43	1
	4/1/1992	20.90	0.24	0.25	1.53	240.95	1
	4/2/1992	20.90	0.17	0.13	0.79	241.74	1
	4/6/1992	--	--	0.13	0.79	242.54	1
	4/10/1992	20.91	0.33	0.25	1.53	244.06	1
	4/13/1992	21.04	0.42	0.25	1.53	245.59	1
	4/20/1992	20.74	0.19	0.13	0.79	246.38	1
	5/4/1992	20.83	0.33	0.13	0.79	247.17	1
	5/18/1992	21.33	0.23	0.13	0.79	247.97	1

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Table 4. Liquid-Phase Hydrocarbon Removal -
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
	5/26/1992	20.83	0.17	0.13	0.79	248.76	1
	6/1/1992	20.85	0.19	0.06	0.37	249.12	1
	6/29/1992	21.38	0.53	0.25	1.53	250.65	1
	7/29/1992	21.69	0.56	1.11	6.77	257.42	1
	8/28/1992	21.35	0.63	1.68	10.25	267.67	1
	4/3/1993	20.11	0.51	0.13	0.79	268.46	1
	11/9/1993	20.48	0.52	0.03	0.18	268.64	1
	8/30/1995	21.71	0.63	1.75	10.68	279.32	1
	10/2/1995	19.90	2.20	0.50	3.05	282.37	1
	11/3/1995	18.76	0.57	0.25	1.53	283.89	1
	11/30/1995	19.17	0.65	0.25	1.53	285.42	1
	1/3/1996	19.45	0.44	0.05	0.31	285.72	1
	2/2/1996	19.50	0.32	0.10	0.61	286.33	1
	3/1/1996	19.31	0.20	0.20	1.22	287.55	1
	4/4/1996	17.53	0.18	0.20	1.22	288.77	1
	5/2/1996	17.50	0.25	0.20	1.22	289.99	1
	6/5/1996	17.67	0.39	0.15	0.92	290.91	1
	7/9/1996	18.29	0.50	0.16	0.98	291.89	1
	8/8/1996	18.84	0.00	0.00	0.00	291.89	1
	9/10/1996	19.31	0.34	0.05	0.31	292.19	1
	10/1/1996	19.51	0.29	0.05	0.31	292.50	1
	11/4/1996	20.13	0.35	0.02	0.12	292.62	1
	12/2/1996	20.23	0.33	0.02	0.12	292.74	1
	1/3/1997	19.33	0.10	0.02	0.12	292.86	1
	2/6/1997	18.13	0.01	0.01	0.06	292.92	1
	4/30/1999	17.28	trace	0.00	0.00	292.92	1
	2/9/2000	19.76	0.00	0.00	0.00	292.92	1
	2/15/2000	--	0.00	0.00	0.00	292.92	2
	2/25/2000	19.30	0.00	0.00	0.00	292.92	2
MW-6	12/23/1991	28.40	3.21	7.50	45.75	45.75	1
85.62	12/26/1991	27.25	1.67	2.00	12.20	57.95	1
	1/10/1992	27.23	0.90	1.00	6.10	64.05	1
	2/4/1992	27.71	2.04	2.00	12.20	76.25	1
	2/28/1992	27.92	3.00	3.00	18.30	94.55	1
	3/10/1992	27.16	2.06	2.75	16.78	111.33	1
	3/12/1992	25.96	0.52	2.00	12.20	123.53	1
	3/23/1992	26.34	1.09	1.00	6.10	129.63	1
	3/30/1992	25.73	0.35	0.50	3.05	132.68	1
	4/10/1992	25.29	0.05	0.25	1.53	134.20	1
	4/13/1992	25.52	0.21	0.13	0.79	134.99	1
	4/20/1992	25.38	0.10	0.13	0.79	135.79	1

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Table 4. Liquid-Phase Hydrocarbon Removal -
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
	5/4/1992	25.40	--	0.13	0.79	136.58	1
	5/8/1992	25.50	0.17	0.06	0.37	136.95	1
	5/26/1992	25.46	0.13	0.13	0.79	137.74	1
	6/1/1992	25.46	0.09	0.06	0.37	138.10	1
	6/29/1992	25.59	0.14	0.19	1.16	139.26	1
	7/29/1992	26.90	1.71	0.60	3.66	142.92	1
	8/28/1992	25.09	2.62	2.40	14.64	157.56	1
	12/2/1992	--	--	0.00	0.00	157.56	1
	4/3/1993	26.96	2.86	1.75	10.68	168.24	1
	11/9/1993	27.51	3.06	0.83	5.06	173.30	1
	8/30/1995	28.00	7.96	4.50	27.45	200.75	1
	10/2/1995	28.24	6.14	4.00	24.40	225.15	1
	11/3/1995	28.39	6.13	3.00	18.30	243.45	1
	11/30/1995	26.91	3.44	2.50	15.25	258.70	1
	1/3/1996	27.58	4.41	2.50	15.25	273.95	1
	2/2/1996	27.58	4.37	5.00	30.50	304.45	1
	3/1/1996	27.96	5.15	4.00	24.40	328.85	1
	4/4/1996	27.96	5.41	5.00	30.50	359.35	1
	5/2/1996	26.83	4.66	4.50	27.45	386.80	1
	6/5/1996	27.15	5.17	4.00	24.40	411.20	1
	7/9/1996	27.08	4.86	4.50	27.45	438.65	1
	8/8/1996	26.71	4.05	4.00	24.40	463.05	1
	9/10/1996	26.83	3.82	3.50	21.35	484.40	1
	10/1/1996	26.96	3.77	4.00	24.40	508.80	1
	11/4/1996	--	--	NM	NM	NM	4
86.94	12/2/1996	--	--	NM	NM	NM	4
	1/3/1997	--	--	NM	NM	NM	4
	2/6/1997	25.08	0.20	NM	NM	NM	4
	3/5/1997	24.20	0.00	NM	NM	NM	4
	4/1/1997	24.04	0.00	NM	NM	NM	4
	5/8/1997	26.54	1.88	0.40	2.44	511.24	1
	6/6/1997	25.33	0.21	0.03	0.18	511.42	1
	7/8/1997	25.30	0.07	0.00	0.00	511.42	1
	8/7/1997	25.52	0.00	0.00	0.00	511.42	1
	9/10/1997	25.76	0.00	0.00	0.00	511.42	1
	10/1/1997	25.12	0.00	0.00	0.00	511.42	1
	11/4/1997	26.16	0.18	0.02	0.12	511.55	1
	12/4/1997	26.08	0.16	0.05	0.31	511.85	1
	1/8/1998	25.79	0.10	0.66	4.03	515.88	1
	2/5/1998	25.31	0.89	NM	NM	NM	4
	3/6/1998	24.63	0.46	0.04	0.24	516.12	1
85.82	4/2/1998	24.45	0.59	0.10	0.61	516.73	1

CAMBRIA

Table 4. Liquid-Phase Hydrocarbon Removal -
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
	4/29/1998	22.96	0.55	0.09	0.55	517.28	1
	6/3/1998	22.81	0.41	0.03	0.18	517.46	1
	7/9/1998	23.04	0.35	0.05	0.31	517.77	1
	8/4/1998	23.29	0.35	0.04	0.24	518.01	1
	8/26/1998	23.50	0.31	0.01	0.06	518.07	1
	11/2/1998	24.24	0.43	0.02	0.12	518.20	1
	12/4/1998	24.35	0.32	0.01	0.06	518.26	1
	1/5/1999	24.51	0.40	0.03	0.18	518.44	1
	2/8/1999	24.00	0.03	0.13	0.76	519.20	1
	3/24/1999	23.82	0.19	0.03	0.18	519.38	1
	4/30/1999	23.60	1.13	0.10	0.61	519.99	1
	7/1/1999	24.45	0.42	0.06	0.38	520.38	1
	7/27/1999	25.35	0.24	0.06	0.38	520.76	1
	8/19/1999	24.87	0.24	0.06	0.37	521.12	1
	9/21/1999	24.58	0.10	0.20	1.22	522.34	1
	10/20/1999	25.05	0.17	0.20	1.22	523.56	1
	12/13/1999	25.08	0.10	0.06	0.37	523.93	1
	2/9/2000	24.93	0.44	0.25	1.53	525.45	1
	2/15/2000	--	0.00	0.07	0.43	525.88	3
	2/25/2000	24.23	0.00	0.01	0.06	525.94	3
	3/3/2000	24.00	0.00	0.00	0.01	525.95	3
	3/28/2000	23.54	0.00	0.05	0.31	526.26	3
	5/2/2000	23.52	0.06	0.03	0.15	526.41	3
	5/31/2000	23.39	0.08	0.00	0.00	526.41	3
	7/3/2000	23.61	trace	0.02	0.12	526.53	3
	8/4/2000	23.80	0.10	0.01	0.06	526.59	3
MW-9 90.37	8/8/1996	19.89	0.35	0.10	0.61	0.61	1
MW-14 94.66	12/4/1998	23.42	0.23	0.01	0.06	0.06	1
	1/5/1999	23.36	0.12	0.01	0.06	0.12	1
	2/8/1999	23.17	trace	0.01	0.06	0.18	1
	3/24/1999	22.08	trace	trace	0.00	0.18	1
	4/30/1999	21.17	0.01	trace	0.00	0.18	1
	7/1/1999	22.95	0.04	trace	0.00	0.18	1
	9/21/1999	24.26	trace	trace	0.00	0.18	1
	10/20/1999	24.10	0.00	0.00	0.00	0.18	1
	2/9/2000	24.13	0.00	0.00	0.00	0.18	1
	2/15/2000	--	0.00	0.00	0.00	0.18	1
	2/25/2000	--	0.00	0.00	0.00	0.18	2
	3/3/2000	23.27	0.00	0.05	0.31	0.49	2

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Table 4. Liquid-Phase Hydrocarbon Removal -

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
	3/28/2000	22.40	0.00	0.13	0.76	1.25	2
	5/2/2000	22.22	0.00	0.04	0.24	1.49	2
	5/31/2000	22.09	0.00	0.00	0.00	1.49	2
	7/3/2000	22.35	trace	0.01	0.06	1.55	2
	8/4/2000	22.78	0.00	0.03	0.18	1.73	2
MW-15	9/20/1999	24.12	trace	trace	0.00	0.00	1
94.76	10/20/1999	24.40	0.00	0.00	0.00	0.00	1
	12/13/1999	24.61	0.00	0.00	0.00	0.00	1

Abbreviations and Notes:

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

-- = Not measured or not applicable

NM = product was being removed by vapor extraction at time of measurement.

1 = LPH removed by manual bailing

2 = LPH removed from well by absorbent sock

3 = LPH removed from well by passive skimmer

4 = vapor extraction system operating in well

Liquid-phase hydrocarbons (LPH) converted from volume to weight using the relation 1 gallon LPH= 6.1 pounds.

ATTACHMENT A

Analytical Laboratory Report



McCAMPBELL ANALYTICAL INC.

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Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #425-1580; Connel	Date Sampled: 08/08/00
	Client Contact: Cathy Bell	Date Received: 08/09/00
	Client P.O:	Date Extracted: 08/09-08/10/00
		Date Analyzed: 08/09-08/10/00


Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
 EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
44761	MW-13	W	ND	ND	ND	ND	ND	ND	106
44762	MW-4	W	140,000,a	ND<300	15,000	25,000	2100	13,000	98
44763	MW-7	W	ND	ND	ND	ND	ND	ND	102
44764	MW-8	W	270,a	ND	56	1.2	4.1	1.0	103
44765	MW-9	W	1300,a	ND	140	2.1	19	ND	--- [#]
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

[#] cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

 Edward Hamilton, Lab Director



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Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #425-1580; Connel	Date Sampled: 08/08/00
	Client Contact: Cathy Bell	Date Received: 08/09/00
	Client P.O:	Date Extracted: 08/10-08/16/00
		Date Analyzed: 08/10-08/16/00

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	44761	44762	44763	44764	44765
Client ID	MW-13	MW-4	MW-7	MW-8	MW-9
Matrix	W	W	W	W	W
Compound	Concentration				
Bromodichloromethane	ND	ND<10	ND	ND	ND<10
Bromoform ^(b)	ND	ND<10	ND	ND	ND<10
Bromomethane	ND	ND<10	ND	ND	ND<10
Carbon Tetrachloride ^(c)	ND	ND<10	ND	ND	ND<10
Chlorobenzene	ND	ND<10	ND	ND	ND<10
Chloroethane	ND	ND<10	ND	ND	ND<10
2-Chloroethyl Vinyl Ether ^(d)	ND	ND<10	ND	ND	ND<10
Chloroform ^(e)	ND	ND<10	ND	ND	ND<10
Chloromethane	ND	ND<10	ND	ND	ND<10
Dibromochloromethane	ND	ND<10	ND	ND	ND<10
1,2-Dichlorobenzene	ND	ND<10	ND	ND	ND<10
1,3-Dichlorobenzene	ND	ND<10	ND	ND	ND<10
1,4-Dichlorobenzene	ND	ND<10	ND	ND	ND<10
Dichlorodifluoromethane	ND	ND<10	ND	ND	ND<10
1,1-Dichloroethane	ND	ND<10	ND	ND	ND<10
1,2-Dichloroethane	3.6	110	0.52	39	330
1,1-Dichloroethene	ND	ND<10	ND	ND	ND<10
cis 1,2-Dichloroethene	ND	ND<10	ND	ND	ND<10
trans 1,2-Dichloroethene	ND	ND<10	ND	ND	ND<10
1,2-Dichloropropane	ND	ND<10	ND	ND	ND<10
cis 1,3-Dichloropropene	ND	ND<10	ND	ND	ND<10
trans 1,3-Dichloropropene	ND	ND<10	ND	ND	ND<10
Methylene Chloride ^(f)	ND	ND<10	ND	ND	ND<10
1,1,2,2-Tetrachloroethane	ND	ND<10	ND	ND	ND<10
Tetrachloroethene	ND	ND<10	ND	ND	ND<10
1,1,1-Trichloroethane	ND	ND<10	ND	ND	ND<10
1,1,2-Trichloroethane	ND	ND<10	ND	ND	ND<10
Trichloroethene	ND	ND<10	ND	ND	ND<10
Trichlorofluoromethane	ND	ND<10	ND	ND	ND<10
Vinyl Chloride ^(g)	ND	ND<10	ND	ND	ND<10
% Recovery Surrogate	90	108	94	95	106
Comments					

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe
 Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.



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QC REPORT

Date: 08/09/00

Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 40793

Instrument: GC-3

Surrogate1	0.000	100.0	99.0	100.00	100	99	1.0
Xylenes	0.000	274.0	288.0	300.00	91	96	5.0
Ethyl Benzene	0.000	92.0	97.0	100.00	92	97	5.3
Toluene	0.000	94.0	98.0	100.00	94	98	4.2
Benzene	0.000	96.0	101.0	100.00	96	101	5.1
MTBE	0.000	95.0	104.0	100.00	95	104	9.0
GAS	0.000	849.5	845.3	1000.00	85	85	0.5

SampleID: 81400

Instrument: GC-2 A

Surrogate1	0.000	100.0	101.0	100.00	100	101	1.0
TPH (diesel)	0.000	334.0	336.0	300.00	111	112	0.6

SampleID: 8900

Instrument: IR-1

Surrogate1	0.000	120.0	121.0	100.00	120	121	0.8
TRPH	0.000	27.1	27.7	23.70	114	117	2.2

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$

RPD means Relative Percent Deviation



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QC REPORT

EPA 8010/8020/EDB

Date: 08/10/00-08/11/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 81400

Instrument: GC-1

Surrogate1	0.000	115.0	111.0	100.00	115	111	3.5
Chlorobenzene	0.000	110.0	105.0	100.00	110	105	4.7
EDB	0.000	82.0	83.0	100.00	82	83	1.2
Trichloroethane	0.000	107.0	106.0	100.00	107	106	0.9
1,1-DCE	0.000	101.0	101.0	100.00	101	101	0.0

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{AmountSpiked}} \cdot 100$$

$$\text{RPD} = \frac{(MS - \text{MSD})}{(MS + \text{MSD})} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

ATTACHMENT B

Field Data Sheets

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	8:43		22.49'			HC odor Gauge only
MW-4	8:26		18.62'		24.00'	HC odor
MW-6	8:31		23.85'			Skimmer in well, little prod. Gauge only
MW-7	8:17		16.92'		29.90'	needs new well cap
MW-8	8:21		26.43'		39.50'	6" well
MW-9	8:29		19.86'		30.50'	
MW-13	8:15		23.31'		39.40'	
MW-14	8:40		22.88'			HC odor Gauge only
MW-15	8:35		23.17'			water in well vault, HC odor Gauge only

← SPH

← SPH

← SPH

Project Name: Cenue II

Project Number: 425-1580

Measured By: Jo/CB

Date: 8/8/00

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: RWS	Well ID: MW-4
Project Number: 425-1580	Date: 8/8/00	Well Yield: -----
Site Address: 3093 Broadway Oakland, California	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): CB/JO
Initial Depth to Water: 18.62'	Total Well Depth: 24.00'	Water Column Height: 5.38'
Volume/ft: .16 gal/ft	1 Casing Volume: 0.86 gal	3 Casing Volumes: 2.58 gal
Purging Device: bailer	Did Well Dewater?: no	Total Gallons Purged: 3.0 gal
Start Purge Time: 10:32	Stop Purge Time: 10:38	Total Time: 6 min

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

D.O. = 0.60

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

Time	Casing Volume	Temp. °C	pH	Cond. µS	Comments
10:33	1	18.4	6.71	469	H ₂ O odor, sheen
10:35	2	18.4	6.79	438	
10:38	3	18.8	6.79	430	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	8/8/00	10:40	6 voa's	HCL	TPHg, BTEX, MTBE SVOCs HVOCs	8015M/8020, confirm MTBE 8260, SVOCs by 8270, 8010 list
MW-4	8/8/00	10:40	2- 1L ambers	none	TPHd/TPHmo	8015 multi- range
			1- 0.5L plastic	none	Luft 5 Metals - Pb, Cr, Cd, Zn, Ni	

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: RWS	Well ID: MW-7
Project Number: 425-1580	Date: 8/8/00	Well Yield: -----
Site Address: 3093 Broadway Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): CB/JO
Initial Depth to Water: 16.92'	Total Well Depth: 29.90'	Water Column Height: 12.98'
Volume/ft: .16 gal/ft	1 Casing Volume: 2.07 gal	3 Casing Volumes: 6.23 gal
Purging Device: bailer	Did Well Dewater?: no	Total Gallons Purged: 6.25 gal
Start Purge Time: 11:13	Stop Purge Time: 11:25	Total Time: 12 min.

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

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

D.O. = 0.43

Time	Casing Volume	Temp. °C	pH	Cond. µS	Comments
11:16	1	19.0	6.82	560	
11:20	2	18.6	6.75	435	
11:24	3	18.6	6.65	456	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-7	8/8/00	11:30	6 voa's	HCL	TPHg, BTEX, MTBE SVOCs HVOCs	8015M/8020, confirm MTBE 8260, SVOCs by 8270, 8010 list
MW-7	8/8/00	11:30	2- 1L ambers	none	TPHd/TPHmo	8015 multi- range
			1- 0.5L- plastic	none	Luft 5 Metals - Pb, Cr, Cd, Zn, Ni	

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: RWS	Well ID: MW-8
Project Number: 425-1580	Date: 8/8/00	Well Yield: -----
Site Address: 3093 Broadway Oakland, California	Sampling Method:	Well Diameter: 6" pvc
	Disposable bailer	Technician(s): CB/JO
Initial Depth to Water: 26.43'	Total Well Depth: 39.50'	Water Column Height: 13.07'
Volume/ft: 1.47 gal/ft	1 Casing Volume: 19.21 gal	3 Casing Volumes: 57.6 gal
Purging Device: Sub Pump	Did Well Dewater?: N	Total Gallons Purged: 40 gal
Start Purge Time: 9:45	Stop Purge Time: 10:37	Total Time: 52 min

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

D.O. = 0.25

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

Time	Casing Volume	Temp. °C	pH	Cond. µS	Comments
10:23	25 gal	17.2	6.9	1099	
10:30	32 gal	18.0	6.5	1030	
10:37	39 gal	18.3	6.2	1051	
PARAMETERS STABILIZED					

STOP PURGE

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-8	8/8	10:45	6 vials	HCL	TPHg, BTEX, MTBE SVOCs HVOCs	8015M/8020, confirm MTBE 8260, SVOCs by 8270, 8010 list
↓	↓	↓	2- 1L ambers	none	TPHd/TPHmo	8015 multi- range
↓	↓	↓	1- 0.5L plastic	none	Luft 5 Metals - Pb, Cr, Cd, Zn, Ni	

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: RWS	Well ID: MW-9
Project Number: 425-1580	Date: 8/8/00	Well Yield: -----
Site Address: 3093 Broadway Oakland, California	Sampling Method:	Well Diameter: 2" pvc
	Disposable bailer	Technician(s): CB/JO
Initial Depth to Water: 19.86'	Total Well Depth: 30.50'	Water Column Height: 10.64'
Volume/ft: .16 gal/ft	1 Casing Volume: 1.70 gal	3 Casing Volumes: 5.11 gal
Purging Device: Dis. bailer	Did Well Dewater?: Yes	Total Gallons Purged: 3 gal
Start Purge Time: 9:15	Stop Purge Time: 9:20	Total Time: 5 min

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

Do 2.4

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

Time	Casing Volume	Temp. °C	pH	Cond. µS	Comments
	3	19.3°C	6.0	545	
	4				
	5	Well Dewatered			

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-9	8/8	11:20	6 vials	HCL	TPHg, BTEX, MTBE, SVOCs, HVOCs	8015M/8020, confirm MTBE 8260, SVOCs by 8270, 8010 list
MW-9	↓	↓	2- 1L ambers	none	TPHd/TPHmo	8015 multi-range
		↓	1- 0.5L plastic	none	Luft 5 Metals - Pb, Cr, Cd, Zn, Ni	

WELL SAMPLING FORM

Project Name: Connell	Cambria Mgr: RWS	Well ID: MW-13
Project Number: 425-1580	Date: 8/8/00	Well Yield: -----
Site Address: 3093 Broadway Oakland, California	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): CB/JO
Initial Depth to Water: 23.31'	Total Well Depth: 39.40'	Water Column Height: 16.09'
Volume/ft: .16 gal/ft	1 Casing Volume: 2.57	3 Casing Volumes: 7.72
Purging Device: bailer	Did Well Dewater?: no	Total Gallons Purged: 7.75
Start Purge Time: 9:14	Stop Purge Time: 9:29	Total Time: 15 min

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

D.O. 1.76

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

Time	Casing Volume	Temp. °C	pH	Cond. µS	Comments
9:17	1	17.3	7.53	806	
9:23	2	17.2	7.20	764	
9:29	3	17.1	7.28	730	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-13	8/6/00	4:05	6 voa's	HCL	TPHg, BTEX, MTBE SVOCs HVOCs	8015M/8020, confirm MTBE 8260, SVOCs by 8270, 8010 list
MW-13	8/8/00	9:35	2- 1L ambers	none	TPHd/TPHmo	8015 multi-range
			1- 0.5L plastic	none	Luft 5 Metals - Pb, Cr, Cd, Zn, Ni	

Product Removal Form Connell Automobile Dealership, Oakland, CA

By: GB Date: 7-3-00

Project and Task #: 425-1580-011

Well	Treatment	Time	Gallons Removed*	DTW/ DTP	Comments
MW-1	SoakEasc	1:45		22.5 ^{DTW}	Thin sheen detected
	Replaced soak ease				set soak ease 1' below
MW-6	Skimmer	2:00		23.61	well cap loose & missing one Thin sheen detected
MW-14	SoakEasc	1:30		DTW 22.35	No product detected

Water
bolt

* If SoakEasc is removed, wring out used sock into bucket and estimate vol. removed. Saturated socks theoretically hold about 1 quart (0.25 gal) of product. Skimmer receptacle holds about 1/2 quart (0.14 gal) of product.

Notes Lv. shop 12:45 Arr. site 1:15

MW-6 - lowered skimmer 6" so it would be 2' below the DTW per factory recommendations.

of Drums - (5) 50 gal + (1) 10 gal. The 10 gal has the socks + product in it. (3) of the (5) were empty so I brought them back to the shop the (2) that have non-haz stickers (purple water) on them + are full. I added a #1 and a #2 to the labels on the full drums on site.

Total Product Recovered x 4-bags.

Lv. site - 3:00 Arr. shop - 3: Demob-

No. of Product Drums Onsite: 3 - (2) 50 gal (1) 10 gal

Drum capacity available: 7 gal

Product Removal Form Connell Automobile Dealership, Oakland, CA

By: CB Date: 8-4-00

Project and Task #: 425-1580-1

Well	Treatment	Time	Gallons Removed*	DTW/ DTP	Comments
MW-1	SoakEase	9:40	Approx. 1oz	DTW 22.4	No product detected sock smells of product - sock barely saturated
MW-6	Skimmer	9:10	Approx. 1oz	DTW 23.8 / 23.7	Reset skimmer
MW-14	SoakEase	9:30	Approx. 4oz	DTW 22.78	No product detected, sock saturated & smells of produ.

* If SoakEase is removed, wring out used sock into bucket and estimate vol. removed. Saturated socks theoretically hold about 1 quart (0.25 gal) of product. Skimmer receptacle holds about 1/2 quart (0.14 gal) of product.

Notes MW-6 is missing a well cap bolt and the others were hand tight. On my last visit there were (3) bolts and I tightened down all (3) bolts.

No. of Product Drums Onsite: (2) 50gal (1) 10gal

Drum capacity available: 1/2 a 50gal and 1/2 of the 10gal