

C A M B R I A

October 14, 2002

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

Re: **Second Quarter 2002 Monitoring Report**
Connell Automobile Dealership
3093 Broadway
Oakland, California
StID #469

Alameda County
OCT 17 2002
Environmental Health

Dear Mr. Seery:

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 Title 23 of the California Code of Regulations Article 3 Section 2652(d). The site background, second quarter 2002 activities and results, and anticipated third quarter 2002 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 separate phase hydrocarbons (SPH) from site monitoring wells has been conducted periodically since 1991.

SECOND QUARTER 2002 ACTIVITIES AND RESULTS

Groundwater Monitoring: Cambria monitored site groundwater following the sampling protocol described in Cambria's May 8, 2000 *Workplan Addendum* (Attachment A). On May 2, 2002 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 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), TPH as diesel (TPHd), TPH as motor oil (TPHmo), and EPA List 8010 halogenated volatile organic compounds (HVOCs). As part of the annual sample analyses,

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria
Environmental
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groundwater samples from all sampled wells were analyzed for SVOCs by EPA Method 8270, and groundwater samples from wells MW-9 and MW-15 were filtered by the laboratory and analyzed for LUFT metals. The groundwater elevations, groundwater flow direction, and gradient are shown on Figure 1. The groundwater elevation, petroleum hydrocarbon, and HVOCS 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 B. Field data sheets are included as Attachment C.

Groundwater Flow Direction: Based on the May 2, 2002 depth-to-water measurements, groundwater flowed east-northeastward with a gradient of approximately 0.047 ft/ft during the second quarter of 2002 (Figure 1). The groundwater flow direction 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. Measureable SPH were detected in wells MW-1, MW-6, and MW-14, and a SPH sheen was observed in MW-15 (Figure 1). The primary contaminants of concern (COCs) in site groundwater are benzene, 1,2 dichloroethane (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 TPHd and benzene concentrations detected in groundwater were 68,000 micrograms per liter ($\mu\text{g/l}$) and 13,000 $\mu\text{g/l}$, respectively, in MW-4. The maximum 1,2-DCA concentration was 330 $\mu\text{g/l}$ in MW-9. TPHmo and metals were not present within laboratory detection limits in any analyzed groundwater sample (Tables 1 and 2). The contaminant plumes are adequately defined crossgradient (south) and downgradient (east) of the former UST complex location by wells MW-7 and MW-13, respectively.

Separate-Phase Hydrocarbon Removal: During the site visit on May 2, 2002 Cambria inspected the passive SPH recovery devices in wells MW-1, MW-6, and MW-14. Cambria removed and replaced the absorbent socks in wells MW-1 and MW-14. As of May 2, 2002, a total of approximately 925.03 lbs of SPH had been recovered 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 THIRD QUARTER 2002 ACTIVITIES

Groundwater Monitoring and Reporting: As required by the ACHCSA, during third quarter 2002, Cambria will gauge site wells MW-1, MW-4, MW-7, MW-8, MW-9, MW-13, MW-14, and MW-15, collecting groundwater samples from wells MW-4, MW-7, MW-8, MW-9 and MW-13. 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.

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

Feasibility Testing and Corrective Action Plan (CAP) Preparation: The *Feasibility Test Report* dated March 16, 2001 concluded that remediation would be feasible at the site and that the dissolved plume may not be stable. Although CAP preparation has been approved by the ACHCSA and the Fund, Cambria has requested that the ACHCSA confirm that CAP preparation is appropriate. Cambria has also requested an opportunity to meet with the ACHCSA to discuss required elements of a CAP for moving this site towards closure by the ACHCSA and the Regional Water Quality Control Board.



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CLOSING

We trust that this report meets your requirements. If you have any questions or comments concerning this report, please call Bob Clark-Riddell at (510) 420-3303.

Sincerely,

Cambria Environmental Technology, Inc.



Ian Young
Senior Staff Geologist



Bob Clark-Riddell, P.E.
Principal Engineer



Figures: 1 - Groundwater Elevation Contour Map

Tables: 1 - Groundwater Elevation and Analytical Data: Volatile Hydrocarbons and HVOCS
2 - Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs
3 - LUFT Metals in Groundwater
4 - Liquid Phase Hydrocarbon Removal

Attachments: A - Well Sampling Protocol
B - Analytical Laboratory Report
C - Field Data Sheets

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

Groundwater Elevation Contours



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Connell Automobile Dealership
3093 Broadway
Oakland, California

1**FIGURE**

0 25 50 100
Scale (ft)

WEBSTER STREET

HAWTHORNE STREET

BROOK STREET

BROADWAY

MW-5

MW-4

MW-10

MW-9

MW-14

MW-15

MW-3

MW-2

MW-11

MW-1
70.60*

MW-1

SIDEWALK

3093 BROADWAY

MW-6
62.41*MW-8
58.69*MW-7
68.11**EXPLANATION**

MW-1 Monitoring well location
 * Groundwater elevation anomalous,
 not included in contouring

Well ID Well Designation
 ELEV Groundwater Elevation

NS Not sampled

Approximate Groundwater
 Flow Direction and Gradient

65.00 Groundwater elevation contour, in feet above
 mean sea level (msl), dashed where inferred

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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)	TVII ◀	TPHg	Benzene	Toluene	Ethyl- benzene μg/l	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	SPH	--	--	--	--	--	**	--	--
	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	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	--	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	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)	--	--	--	--	--	--	--

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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-2 94.81	3/1/1991	27.86	66.95	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	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	--
MW-3 90.08	4/29/1998	22.18	72.63	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND
	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
MW-4 88.84	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
	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	SPH	--	--	--	--	--	--	--	--
	7/21/1993	20.48	68.36	SPH	--	--	--	--	--	--	--	--
	11/9/1993	21.71	67.13	SPH	--	--	--	--	--	--	--	--
MW-4 88.84	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	--	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	--

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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-4	5/1/1998	16.11	72.73	130,000	--	15,000	31,000	2,000	13,400	<1,000	260	ND	
88.84	8/4/1998	17.54	71.30	130,000	--	16,000	34,000	2,400	15,700	<400	240	ND	
(cont'd)	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	DCB: 5.9, MCB: 5.9	
	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	
	11/14/2000	19.63	69.21	--	150,000	19,000	36,000	2,900	17,000	< 200	120	ND	
	3/1/2001	19.68	69.16	--	120,000	10,000	15,000	1,300	10,000	<2000	110	ND	
	5/7/2001	18.60	70.24	--	210,000	12,000	19,000	1,900	12,000	<200	100	ND	
	8/1/2001	18.73	70.11	--	160,000	13,000	21,000	2,200	13,000	<200	84	ND	
	11/5/2001	18.97	69.87	--	220,000	15,000	26,000	3,100	16,000	<200	72	ND	
	2/13/2002	18.59	70.25	--	180,000	6,100	11,000	1,400	13,000	<200	55	ND	
	5/2/2002	18.77	70.07	--	110,000	13,000	20,000	2,000	10,000	<1,200	87	ND	
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	SPH	--	--	--	--	--	--	--	--	
	4/2/1993	26.96	58.66	SPH	--	--	--	--	--	--	--	--	
	7/21/1993	26.17	59.45	SPH	--	--	--	--	--	--	--	--	

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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-6	11/9/1993	27.51	58.11	SPH	--	--	--	--	--	--	--	--
(cont'd)	8/30/1995	28.00	57.62	SPH	--	--	--	--	--	--	--	--
	12/1/1995	27.58	58.04	SPH	--	--	--	--	--	<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	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	--	SPII	--	--	--	--	--	--	--
	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)	--	--	--	--	--	--	--
MW-7	3/15/1991	21.63	63.78	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
85.4J	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

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MW-7	5/2/1996	17.15	68.26	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
85.41	8/8/1996	18.48	66.93	<50	--	<0.5	<0.5	<0.5	<0.5	<2	<1.0	ND
(cont'd)	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
	11/14/2000	17.00	68.41	--	<50	<0.5	0.63	<0.5	<0.5	<5.0	<0.5	ND
	3/1/2001	17.09	68.32	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	5/7/2001	17.19	68.22	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	8/1/2001	17.25	68.16	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	11/5/2001	17.35	68.06	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	2/13/2002	17.50	67.91	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	5/2/2002	17.30	68.11	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	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

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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 ←	TPI ^{1g}	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs	→
MW-8	8/30/1995	26.35	59.15	660	--	360	6.8	13	2.8	--	130	--	
85.50	12/4/1995	26.72	58.78	250	--	46	0.9	4.9	<0.5	--	94	ND	
(cont'd)	5/3/1996	25.47	60.03	69	--	110	<0.5	<0.5	1.5	--	100	ND	
	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	
	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	
	11/14/2000	26.60	58.90	--	330	64	1.3	3.5	0.60	<5.0	47	ND	
	3/1/2001	26.41	59.09	--	400	140	<0.5	<0.5	0.55	<5.0	16	ND	
	5/7/2001	26.55	58.95	--	240	37	0.71	2.5	0.77	<5.0	48	ND	
	8/1/2001	26.71	58.79	--	130	5.2	<0.5	<0.5	<0.5	<5.0	39	ND	
	11/5/2001	26.67	58.83	--	140	3.3	<0.5	<0.5	<0.5	<5.0	44	ND	
	2/13/2002	26.15	59.35	--	1,100	440	0.87	0.66	2.0	<5.0	47	ND	
	5/2/2002	26.63	58.87	--	90	3.9	<0.5	<0.5	<0.5	<5.0	47	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 →
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
	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
	11/14/2000	20.90	69.47	--	1,700	250	2.6	44	2.1	<5.0	610	ND
	3/1/2001	20.45	69.92	--	1,800	170	5.6	30	2.5	<20	620	ND
	5/7/2001	19.83	70.54	--	1,500	120	2.6	24	<0.5	<5.0	400	ND
	8/1/2001	20.02	70.35	--	2,600	280	4.8	50	<0.5	<5.0	450	ND
	11/5/2001	19.85	70.52	--	2,200	170	4.5	100	0.54	<5.0	260	ND
	2/13/2002	19.80	70.57	--	1,800	98	3.0	58	1.5	<5.0	340	ND
	5/2/2002	19.93	70.44	--	1,100	82	1.4	20	<0.5	<10	330	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	Xylenes	MTBE	1,2-DCA	Other HVOCs
						μg/l	μg/l	μg/l	μg/l	μg/l	μg/l	μg/l
MW-10 88.60	10/12/1992	21.55	67.05	28,000	--	2,700	3,800	210	1,300	--	150	--
	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-11 102.06	11/24/1992	33.65	68.41	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	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 84.06	11/24/1992	26.05	58.01	<50	--	<0.5	<0.5	<0.5	<0.5	--	<1.0	ND
	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	--
	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

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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 →
MW-13	8/8/1996	23.44	60.62	<50	--	32	<0.5	<0.5	<0.5	<2	6.4	ND
84.06	11/5/1996	24.04	60.02	<50	--	<1	<1	<1	<1	--	5.7	ND
(cont'd)	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
	11/14/2000	24.00	60.06	--	<50	<0.5	0.52	<0.5	<0.5	<5.0	3.3	ND
	3/1/2001	23.93	60.13	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	5/7/2001	23.93	60.13	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.3	ND
	8/1/2001	24.10	59.96	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	11/5/2001	24.02	60.04	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	2/13/2002	23.70	60.36	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND
	5/2/2002	23.97	60.09	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.54	ND

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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	Benzene	Toluene	Ethyl- benzene μg/l	Xylenes	MTBE	1,2-DCA	Other HVOCs →
MW-14 94.66	5/26/1998	21.67	72.99	41,000	--	7,100	11,000	720	3,900	<1000	440	ND
	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	450	<0.5
	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)	--	--	--	--	--	--	--
MW-15 94.76	5/26/1998	21.87	72.89	130,000	--	30,000	38,000	2,500	12,600	<1000	1,200	ND
	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	1,100	<0.5
	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	560	<10
	5/2/2002	23.59	71.17	--	SPH (sheen)	--	--	--	--	--	--	--
Trip Blank	8/1/2001	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	11/5/2001	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	2/13/2002	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--

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Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> (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 ▶
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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

SPH = 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 TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene	Naphthalene µg/l	Other SVOCs
MW-1	10/5/1990	26.40	68.08	<500	--	--	--	--	--
94.48	3/1/1991	27.46	67.02	SPH	--	--	--	--	--
	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	SPH	--	--	--	--	--
	11/9/1993	26.06	68.42	SPH	--	--	--	--	--
	8/30/1995	21.73	72.75	SPH	--	--	630	1,200	ND
	12/4/1995	21.94	72.54	SPH	--	--	--	--	--
	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	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	--	--	--	--
	11/14/2000	24.65	69.83	--	SPH	--	--	--	--
	3/1/2001	24.22	70.28	--	SPH	--	--	--	--
	5/7/2001	23.85	70.67	--	SPH	--	--	--	--
	8/1/2001	23.91	70.64	--	SPH	--	--	--	--
	11/5/2001	23.95	70.67	--	SPH	--	--	--	--
	2/13/2002	23.15	71.39	--	SPH(0.07)	--	--	--	--
	5/2/2002	23.91	70.60	--	SPH (0.04)	--	--	--	--

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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	Naphthalene µg/l	Other SVOCs
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	--	--	--	--	--
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	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	9,200	--	--	--	--	--
	11/4/1996	20.13	68.71	4,700	--	--	--	--	--
	5/8/1997	18.63	70.21	5,100	--	--	--	--	--

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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. (#)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene	Naphthalene µg/l	Other SVOCs
MW-4	11/5/1997	20.19	68.65	3,700	--	--	--	--	--
88.84	2/9/1998	18.28	70.56	4,800	--	--	--	--	--
(cont'd)	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	--	--	--
	11/14/2000	19.63	69.21	--	8,000	290	--	--	--
	3/1/2001	19.68	69.16	--	57,000	2,800	210	510	ND
	5/7/2001	18.60	-18.60	--	56,000	3,600	--	--	--
	8/1/2001	18.73	70.11	--	42,000	6,700	--	--	--
	11/5/2001	18.97	69.87	--	49,000	14,000	--	--	--
	2/13/2002	18.59	70.25	--	140,000	11,000	620	1000	--
	5/2/2002	18.77	70.07	--	68,000	<25,000	--	--	--
MW-5	3/15/1991	26.31	58.53	<50	--	--	--	--	--
84.84	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	--	--	--	--	--

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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. <i>(ft)</i>	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEII	TPHd	TPHmo	2-Methyl naphthalene	Naphthalene µg/l	Other SVOCs
MW-6	3/15/1991	25.82	59.80	<50	--	--	--	--	--
85.62	10/12/1992	25.02	60.60	--	--	--	--	--	--
	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	--	--	--	--	--
	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	--	--	--	--	--
	11/3/1998	24.35	61.47	30,000	--	--	--	--	--
MW-6	3/26/1999	23.82	62.00	SPH	--	--	--	--	--
85.82	7/1/1999	24.45	61.37	SPH	--	--	--	--	--
(cont'd)	9/21/1999	24.58	61.24	SPH	--	--	--	--	--
	2/9/2000	24.93	61.24	--	SPH	--	--	--	--
	5/31/2000	23.47	62.41	--	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)	--	--	--	--
MW-7	3/15/1991	21.63	63.78	<50	--	--	--	--	--
85.41	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	--	--	--	--	--

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

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev. (ft)</i>	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene	Naphthalene μg/l	Other SVOCs
MW-7	5/2/1996	17.15	68.26	<50	--	--	--	--	--
<i>85.41</i>	8/8/1996	18.48	66.93	<50	--	--	--	--	--
<i>(cont'd)</i>	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	--	--	--
	11/14/2000	17.00	68.41	--	<50	<250	--	--	--
	3/1/2001	17.09	68.32	--	<50	<250	<10	<10	ND
	5/7/2001	17.19	68.22	--	<50	<250	--	--	--
	8/1/2001	17.25	68.16	--	<50	<250	--	--	--
	11/5/2001	17.35	68.06	--	<50	<250	--	--	--
	2/13/2002	17.50	67.91	--	<50	<250	--	--	--
5/2/2002	17.30	68.11	--	<50	<250	--	--	--	--
MW-8	10/12/1992	27.70	57.80	--	--	--	--	--	--
<i>85.50</i>	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	--	--	--	--	--

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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	Naphthalene µg/l	Other SVOCs
MW-8	8/8/1996	26.41	59.09	250	--	--	--	--	--
85.50	11/5/1996	26.77	58.73	<50	--	--	--	--	--
(cont'd)	2/6/1997	25.84	59.66	130	--	--	--	--	--
	5/9/1997	26.39	59.11	120	--	--	--	--	--
	8/7/1997	26.72	58.78	150	--	--	--	--	--
	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	--	--	--
	11/14/2000	26.60	58.90	--	150	<250	--	--	--
	3/1/2001	26.41	59.09	--	54	<250	<10	<10	Phenol: 25
	5/7/2001	26.55	58.95	--	<50	<250	--	--	--
	8/1/2001	26.71	58.79	--	58	<250	--	--	--
	11/5/2001	26.67	58.83	--	84	<250	--	--	--
	2/13/2002	26.15	59.35	--	83	<250	--	--	--
	5/2/2002	26.63	58.87	--	<50	<250	--	--	--
MW-9	11/24/1992	23.51	66.86	320	--	--	--	--	--
90.37	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	--	--	--	--	--

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

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev. (ft)</i>	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH	TPHd	TPHmo	2-Methyl naphthalene	Naphthalene μg/l	Other SVOCs
MW-9	8/8/1997	20.84	69.53	480	--	--	--	--	--
90.37	11/5/1997	21.55	68.82	370	--	--	--	--	--
<i>(cont'd)</i>	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	--	--	--
	11/14/2000	20.90	69.47	--	160	< 250	--	--	--
MW-10 <i>88.60</i>	3/1/2001	20.45	69.92	--	220	<250	<10	<10	ND
	5/7/2001	19.83	-19.83	--	290	<250	--	--	--
	8/1/2001	20.02	70.35	--	460	<250	--	--	--
	11/5/2001	19.85	70.52	--	230	<250	--	--	--
	2/13/2002	19.80	70.57	--	210	<250	--	--	--
	5/2/2002	19.93	70.44	--	250	<250	--	--	--
	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	--	--	--	--	--
MW-11 <i>102.06</i>	8/30/1995	17.99	70.61	5,900	--	--	--	--	--
	5/3/1996	17.04	71.56	5,600	--	--	--	--	--
	5/9/1997	18.36	70.24	2,500	--	--	--	--	--
	5/1/1998	15.84	72.76	2,000	--	--	--	--	--
	11/24/1992	33.65	68.41	220	--	--	--	--	--
<i>102.06</i>	12/8/92*	33.37	68.69	140	--	--	--	--	--
	12/8/1992	33.37	68.69	120	--	--	--	--	--
	4/5/1993	31.03	71.03	<50	--	--	--	--	--

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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	Naphthalene μg/l	Other SVOCs
MW-11	7/21/1993	31.90	70.16	150	--	--	--	--	--
102.06	11/9/1993	32.60	69.46	60	--	--	--	--	--
(cont'd)	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	11/24/1992	26.05	58.01	3,600	--	--	--	--	--
84.06	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	--	--	--	--	--
	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

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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	Naphthalene µg/l	Other SVOCs
MW-13	5/31/2000	22.97	61.09	--	<50	<500	--	--	--
84.06	11/14/2000	24.00	60.06	--	65	<250	--	--	--
(cont'd)	3/1/2001	23.93	60.13	--	<50	<250	<10	<10	ND
	5/7/2001	23.93	60.13	--	<50	<250	--	--	--
	8/1/2001	24.10	59.96	--	<50	<250	--	--	--
	11/5/2001	24.02	60.04	--	350	610	--	--	--
	2/13/2002	23.70	60.36	--	<50	<250	--	--	--
	5/2/2002	23.97	60.09	--	<50	<250	--	--	--
MW-14	5/26/1998	21.67	72.99	7,700	--	--	--	--	--
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	--	14,000	1,500	290	600	ND
	5/31/2000	22.09	72.57	--	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	--	--	--	--
	8/1/2001	23.57	71.12	--	SPH	--	--	--	--
	11/5/2001	23.50	71.18	--	SPH	--	--	--	--
	2/13/2002	22.99	71.70	--	SPH (0.04)	--	--	--	--
	5/2/2002	23.51	71.17	--	SPH (0.02)	--	--	--	--

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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	TPImo	2-Methyl naphthalene	Naphthalene µg/l	Other SVOCs
MW-15	5/26/1998	21.87	72.89	1,700	--	--	--	--	--
94.76	7/1/1999	22.25	72.51	SPII	--	--	--	--	--
	9/21/1999	24.12	70.64	SPH	--	--	--	--	--
	2/9/2000	24.42	70.34	--	4,000	1,200	50	270	ND
	5/31/2000	22.40	72.36	--	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	--	--	--	--
	8/1/2001	23.62	71.14	--	SPH	--	--	--	--
	11/5/2001	23.65	71.11	--	SPH (sheen)	--	--	--	--
	2/13/2002	23.09	71.67	--	3,100	<250	17	68	Benzoic Acid: 74; m &/or p-Creosol: 23
	5/2/2002	23.59	71.17	--	SPH (sheen)	--	--	--	--

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 µg/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 <----- ug/l----->	Chromium <10	Lead 59	Nickel <20	Zinc <20
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
	3/1/2001	<5	47	<5	72	<50
	5/7/2001	<5	49	<5	<50	<50
	8/1/2001	<5	<20	<5	<50	<50
	2/13/2002	<5	--	<5	<50	<50
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
	2/13/2002	<5	--	<5	<50	<50

Abbreviations and Notes:

LUFT metals analyzed by EPA Method 6010

ug/l = micrograms per liter

-- = Not analyzed/not available

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> (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

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> <i>(ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-1	8/26/1998	21.85	0.10	trace	0.00	82.17	1
<i>(cont'd)</i>	11/2/1998	22.92	0.39	trace	0.00	82.17	1
	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
	10/6/2000	23.47	0.46	0.01	0.06	87.66	1
	11/3/2000	24.14	0.78	0.00	0.00	87.66	
	12/1/2000	25.40	0.83	1.75	10.50	98.16	1,2
	1/4/2001	25.13	0.09	0.25	1.53	99.69	2
	2/2/2001	25.12	0.03	0.13	0.79	100.48	2
	4/3/2001	23.19	0.24	0.10	0.61	101.09	
	5/4/2001	23.31	0.47	0.00	0.00	100.48	
	5/7/2001	23.85	0.05	0.03	0.16	100.64	2
	6/11/2001	23.77	0.67	0.00	0.00	101.09	2
	5/2/2002	23.41	0.46	0.01	0.04	100.52	
MW-4	12/23/1991	22.63	0.98	2.50	15.25	15.25	1
88.84	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

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> <i>(ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-4	3/23/1992	21.29	0.42	4.00	24.40	211.98	1
<i>(cont'd)</i>	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
	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

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> <i>(ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-6	2/9/2000	19.76	0.00	0.00	0.00	292.92	1
85.62	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
	12/23/1991	28.40	3.21	7.50	45.75	45.75	1
	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
	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
	2/2/1995	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

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> <i>(ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-6 (<i>cont'd</i>)	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
85.82	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
	4/2/1998	24.45	0.59	0.10	0.61	516.73	1
	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

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Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev.</i> <i>(ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
MW-6 (<i>cont'd</i>)	5/2/2000	23.52	0.06	0.03	0.15	526.41	3
85.82	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
	10/6/2000	24.22	0.04	0.01	0.06	526.65	
	11/3/2000	24.30	0.09	0.00	0.00	526.65	
	12/1/2000	24.38	0.07	0.03	0.18	526.83	2, 3
	1/4/2001	24.65	0.17	0.00	0.00	526.83	5
	2/2/2001	24.72	0.22	0.25	1.53	528.36	3
	4/3/2001	23.90	0.06	0.05	0.31	528.67	
	5/4/2001	23.95	0.07	0.05	0.31	528.97	
	5/7/2001			0.08	0.48	529.15	
	6/11/2001	24.25	0.10	0.00	0.00	528.97	
	5/2/2002	23.25	0.01	0.00	0.02	529.16	2
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
	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
	10/6/2000	23.48	0.00	0.00	0.00	1.73	
	11/3/2000	23.60	0.00	0.00	0.00	1.73	
	12/1/2000	23.90	0.04	0.04	0.24	1.97	1, 2
	1/4/2001	24.10	0.00	0.00	0.00	1.97	
	2/2/2001	24.27	0.00	0.10	0.61	2.58	2

CAMBRIA

Table 4. Liquid-Phase Hydrocarbon Removal

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID <i>TOC Elev. (ft)</i>	Sampling Date	Depth to Water (ft)	LPH Thickness (ft)	Hydrocarbons Removed (gallons)	Hydrocarbons Removed (lbs)	Cumulative Hydrocarbons Removed (lbs)	Notes
94.66	4/3/2001	23.06	0.00	0.05	0.31	2.89	
MW-14	5/4/2001	23.05	0.00	0.00	0.00	2.89	
<i>(cont'd)</i>	5/7/2001	23.45	0.02	0.01	0.05	2.93	2
	6/11/2001	23.40	0.00	0.00	0.00	2.93	
	5/2/2002	23.51	0.02	0.003	0.02	2.95	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

5 = No product removed; skimmer adjusted incorrectly and filled with water.

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

ATTACHMENT A

Well Sampling Protocol

ATTACHMENT A

Well Sampling Protocol - May 8, 2000 Workplan Addendum

Well Sampling Protocol - May 8, 2000 Workplan Addendum					
Well	Sampling Frequency	Analytes	Additions from Prior Protocol	Reductions/Removals from Prior Protocol	
Source Area Wells					
MW-1					
MW-6	Annually (1st Qtr)	TPHd, TPHmo, TPHg, BTEX, MTBE,			Reduced Well Sampling Frequency
MW-14	<i>(Gauge Quarterly)</i>	HVOCs, SVOCs, LUFT Metals, DO	DO		
MW-15					
Down-Gradient/Cross-Gradient Wells					
MW-4					
MW-7	Quarterly	TPHd, TPHmo, TPHg, BTEX, MTBE,			LUFT Metals,
MW-13	<i>(Annually for SVOCs - 1st Qtr)</i>	HVOCs, DO (SVOCs - 1 st qtr only)	DO		Annual SVOCs
MW-8					
MW-9	Quarterly	TPHd, TPHmo, TPHg, BTEX, MTBE,			Annual LUFT Metals, Annual SVOC
	<i>(Annually for SVOCs and LUFT Metals - 1st Qtr)</i>	HVOCs, DO (SVOCs, LUFT Metals - 1 st qtr only)	DO		
Per the May 3, 1999, ACHCSA letter to Messrs. Hill and Linden, monitoring wells MW-2, MW-3, MW-5, MW-10, and MW-11 were dropped from the monitoring program.					

ATTACHMENT B

Analytical Laboratory Report



McCampbell Analytical Inc.

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

Cambria Env. Technology 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #425-1580; Connell			Date Sampled: 05/02/02		
				Date Received: 05/08/02		
	Client Contact: Bob Clark Riddell			Date Extracted: 05/10/02-05/14/02		
	Client P.O.:			Date Analyzed: 05/10/02-05/14/02		

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0205108

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-4	W	110,000,a,h	ND<1200	13,000	20,000	2000	10,000	250	105
002A	MW-7	W	ND	ND	ND	ND	ND	ND	1	104
003A	MW-8	W	90,a	ND	3.9	ND	ND	ND	1	108
004A	MW-9	W	1100,a	ND<10	82	1.4	20	ND	2	109
005A	MW-13	W	ND	ND	ND	ND	ND	ND	1	106

Reporting Limit for DF=1;	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
ND means not detected at or above the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

DF = dilution factor.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatograms 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 (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) no recognizable pattern; k) TPH pattern that does not appear to be derived from gasoline (aviation gas).

DHS Certification No. 1644

Edward Hamilton, Lab Director



McCampbell Analytical Inc.

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Cambria Env. Technology 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #425-1580; Connell	Date Sampled: 05/02/02
		Date Received: 05/08/02
	Client Contact: Bob Clark Riddell	Date Extracted: 05/08/02-05/09/02
	Client P.O.:	Date Analyzed: 05/08/02-05/09/02

Halogenated Volatile Organics by GC-ELCD (8010 Basic Target List)

Extraction Method: SW5030B

Analytical Method: SW8021B

Work Order: 0205108

Lab ID	0205108-001C	0205108-002C	0205108-003C	0205108-004C	Reporting Limit for DF = 1	
Client ID	MW-4	MW-7	MW-8	MW-9	S	W
Matrix	W	W	W	W		
DF	50	1	5	20		
Compound	Concentration					ug/kg
Bromodichloromethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Bromoform	ND<25	ND	ND<2.5	ND<10	NA	0.5
Bromomethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Carbon Tetrachloride	ND<25	ND	ND<2.5	ND<10	NA	0.5
Chlorobenzene	ND<25	ND	ND<2.5	ND<10	NA	0.5
Chloroethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
2-Chloroethyl vinyl ether	ND<25	ND	ND<2.5	ND<10	NA	0.5
Chloroform	ND<25	ND	ND<2.5	ND<10	NA	0.5
Chloromethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Dibromochloromethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,2-Dichlorobenzene	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,3-Dichlorobenzene	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,4-Dichlorobenzene	ND<25	ND	ND<2.5	ND<10	NA	0.5
Dichlorodifluoromethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,1-Dichloroethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,2-Dichloroethane	87	ND	47	330	NA	0.5
1,1-Dichloroethene	ND<25	ND	ND<2.5	ND<10	NA	0.5
cis-1,2-Dichloroethene	ND<25	ND	ND<2.5	ND<10	NA	0.5
trans-1,2-Dichloroethene	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,2-Dichloropropane	ND<25	ND	ND<2.5	ND<10	NA	0.5
cis-1,3-Dichloropropene	ND<25	ND	ND<2.5	ND<10	NA	0.5
trans-1,3-Dichloropropene	ND<25	ND	ND<2.5	ND<10	NA	0.5
Methylene chloride	ND<45	ND<1.5	ND<5.0	ND<35	NA	0.5
1,1,2,2-Tetrachloroethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Tetrachloroethene	ND<30	ND<1.5	ND<3.0	ND<25	NA	0.5
1,1,1-Trichloroethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
1,1,2-Trichloroethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Trichloroethene	ND<25	ND	ND<2.5	ND<10	NA	0.5
Trichlorofluoromethane	ND<25	ND	ND<2.5	ND<10	NA	0.5
Vinyl Chloride	ND<25	ND	ND<2.5	ND<10	NA	0.5
Surrogate Recoveries (%)						
%SS	93.3	120	97.5	98.2		
Comments	h					

* 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 for DF = 1; 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

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains greater than ~2 vol. % sediment; (j) sample diluted due to high organic content.



McCampbell Analytical Inc.

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Cambria Env. Technology 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #425-1580; Connell	Date Sampled: 05/02/02
		Date Received: 05/08/02
	Client Contact: Bob Clark Riddell	Date Extracted: 05/08/02-05/09/02
	Client P.O.:	Date Analyzed: 05/08/02-05/09/02

Halogenated Volatile Organics by GC-ELCD (8010 Basic Target List)

Extraction Method: SW5030B

Analytical Method: SW8021B

Work Order: 0205108

Lab ID	0205108-005C					Reporting Limit for DF =1
Client ID	MW-13					
Matrix	W					
DF	1					S W
Compound	Concentration					ug/kg ug/L
Bromodichloromethane	ND					NA 0.5
Bromoform	ND					NA 0.5
Bromomethane	ND					NA 0.5
Carbon Tetrachloride	ND					NA 0.5
Chlorobenzene	ND					NA 0.5
Chloroethane	ND					NA 0.5
2-Chloroethyl vinyl ether	ND					NA 0.5
Chloroform	ND					NA 0.5
Chloromethane	ND					NA 0.5
Dibromochloromethane	ND					NA 0.5
1,2-Dichlorobenzene	ND					NA 0.5
1,3-Dichlorobenzene	ND					NA 0.5
1,4-Dichlorobenzene	ND					NA 0.5
Dichlorodifluoromethane	ND					NA 0.5
1,1-Dichloroethane	ND					NA 0.5
1,2-Dichloroethane	0.54					NA 0.5
1,1-Dichloroethene	ND					NA 0.5
cis-1,2-Dichloroethene	ND					NA 0.5
trans-1,2-Dichloroethene	ND					NA 0.5
1,2-Dichloropropane	ND					NA 0.5
cis-1,3-Dichloropropene	ND					NA 0.5
trans-1,3-Dichloropropene	ND					NA 0.5
Methylene chloride	ND<1.5					NA 0.5
1,1,2,2-Tetrachloroethane	ND					NA 0.5
Tetrachloroethene	ND<1.5					NA 0.5
1,1,1-Trichloroethane	ND					NA 0.5
1,1,2-Trichloroethane	ND					NA 0.5
Trichloroethene	ND					NA 0.5
Trichlorofluoromethane	ND					NA 0.5
Vinyl Chloride	ND					NA 0.5
Surrogate Recoveries (%)						
%SS	94.7					
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 for DF = 1; 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

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains greater than ~2 vol. % sediment; (j) sample diluted due to high organic content.

QC SUMMARY REPORT FOR SW8021B/8015Cm

BatchID: 1738

Matrix: W

WorkOrder: 0205108

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		Ext. Date: 5/08/02		Spiked Sample ID: 0205101-001A				
Compound	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(gas)	ND	60	105	102	3.10	108	104	3.8	80	120
MTBE	ND	10	107	99.7	6.63	93.5	91.5	2.2	80	120
Benzene	ND	10	106	109	2.42	108	111	2.1	80	120
Toluene	ND	10	107	109	1.61	109	111	2.0	80	120
Ethylbenzene	ND	10	108	109	0.877	110	109	0.75	80	120
Xylenes	ND	30	110	107	3.08	113	110	3.0	80	120
%SS	105	10	103	106	2.28	103	105	2.5	80	120

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.

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

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

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



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QC REPORT

EPA 8015m + 8020

Date: 05/09/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
<u>SampleID:</u> 50902							Instrument GC-11 A
Surrogate1	ND	103.0	101.0	100.00	103	101	2.0
TPH (diesel)	ND	7425.0	7475.0	7500.00	99	100	0.7

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

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2100$$

RPD means Relative Percent Deviation



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QC REPORT

EPA 8010/8020

Date: 05/08/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		
<u>SampleID:</u> 51002						Instrument GC-1	
Surrogate1	ND	96.0	97.0	100.00	96	97	1.0
Chlorobenzene	ND	10.0	10.0	10.00	100	100	0.0
Trichloroethene	ND	9.7	10.0	10.00	97	100	3.0
1,1-DCE	ND	10.0	11.0	10.00	100	110	9.5

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

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2.100$$

RPD means Relative Percent Deviation

McCAMPBELL ANALYTICAL INC.

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

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0205108

Client:

Cambria Env. Technology
1144 65th Street, Suite C
Oakland, CA 94608

TEL: (510) 420-0700
FAX: (510) 420-9170
ProjectNo: #425-1580; Conn
PO:

08-May-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests			Comments
					SW8015C	SW8021B	8021B/8015	
0205108-001	MW-4	Water	5/02/02 12:10:00 PM		B	C	A	
0205108-002	MW-7	Water	5/02/02 11:30:00 AM		B	C	A	
0205108-003	MW-8	Water	5/02/02 10:15:00 AM		B	C	A	
0205108-004	MW-9	Water	5/02/02 12:45:00 PM		B	C	A	
0205108-005	MW-13	Water	5/02/02 9:30:00 AM		B	C	A	

Comments:

Date/Time	Date/Time
Relinquished by: _____	Received by: _____
Relinquished by: _____	Received by: _____
Relinquished by: _____	Received by: _____

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #107
PACIFICO, CA 94533

Telephone: (925) 798-1620

Fax: (925) 798-1622

Report To: ~~Reactive Solutions~~ Bob Clark Riddell

Bill To: Cambria Env.

Company: Cambria Environmental Technology

Cambria Env.

8262 Hollis Street

Emeryville, CA 94608

Tele: (510) 450-1983 420-0700

Project #: 425-1580

Project Location: 3093 Broadway Oakland, Ca

Project Name: Connell

Sampler Signature:

0305108

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

 RUSH 24 HOUR 48 HOUR 5 DAY

Analysis Request

Other

Comments

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type	MATRIX	METHOD PRESERVED	Comments
		Date	Time					
MW-4		5-2-02	12:10	7	Water	BTEX & TPH as Gas (602/8020 / 8015) METERS		
MW-7		5-2-02	11:30	7	Soil	TPH as Diesel (8015)		
MW-8		5-2-02	10:15	7	Air	Total Petroleum Oil & Grease (5520 E&FB&F)		
MW-9		5-2-02	12:45	7	Sludge	Total Petroleum Hydrocarbons (418.1)		
MW-13		5-2-02	9:30	7	Other	EPA 601 / 8010		
					Ice	BTEX ONLY (EPA 602 / 8020)		
					HCl	EPA 608 / 8080		
					HNO ₃	EPA 608 / 8080 PCB's ONLY		
					Other	EPA 624 / 8240 / 8260		
						EPA 625 / 8270		
						PAH's / PNA's by EPA 625 / 8270 / 8310		
						Cd/M-17 Metals		
						Li/UT 5 Metals		
						Lead (7240/7421/739.2/6010)		
						RCI		
Relinquished By:	S. Bell	Date: 5-3-02	Time: Received By: secuse location			Remarks: Report results in EDF format		
Relinquished By:		Date: 5/8/02	Time: Received By: 2001-05-08					
Relinquished By:		Date: 5/8/02	Time: Received By: 2001-05-08					

LVM

ATTACHMENT C

Field Data Sheets

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	8:30	23.87	23.91			
MW-4	8:00 21moo		18.77		24.00	
MW-6	8:00 23moo	23.20	23.25			
MW-7	8:05 23moo		17.30		30.00	
MW-8	7:55 23moo		26.63		39.40	
MW-9	8:10 23moo		19.93		30.50	
MW-13	7:50 23moo		23.97		39.45	
MW-14	8:25	23.49	23.51			
MW-15	8:20	sheen	23.59			

Project Name: Connell

Project Number: 425-1580

Measured By: J. Hill

Date: 5-2-02

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Connell</u>	Cambria Mgr: <u>BCR</u>	Well ID: MW-4
Project Number: <u>1125-1530</u>	Date: <u>5-2-02</u>	Well Yield: _____
Site Address: <u>3093 Broadway</u> <u>Oakland, Ca</u>	Sampling Method: <u>Disposable bailer</u>	Well Diameter: 2" pvc Technician(s): <u>SG</u>
Initial Depth to Water: <u>18.77</u>	Total Well Depth: <u>24.00</u>	Water Column Height: <u>5.23</u>
Volume/ft: <u>0.16</u>	Casing Volume: <u>0.83</u>	3 Casing Volumes: <u>2.51</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>2.50</u>
Start Purge Time: <u>11:50</u>	Stop Purge Time: <u>12:04</u>	Total Time: <u>14mins</u>

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
11:55	1	16.9	7.01	374	
12:00	2	16.8	7.09	920	DO = 0.21mg/l
12:05	2.5	16.9	7.13	854	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	5-2-02	12:00	Voa Amber	HCl		
MW-4						
MW-4						
MW-4						
MW-4						
MW-4						
MW-4						
MW-4						
MW-4						
MW-4						

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Connell</u>	Cambria Mfg: <u>BCR</u>	Well ID: MW- <u>7</u>
Project Number: <u>425-1580</u>	Date: <u>5-2-02</u>	Well Yield: _____
Site Address: <u>3093 Broadway</u> <u>Oakland, Ca</u>	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
Initial Depth to Water: <u>17.30</u>	Total Well Depth: <u>30.00</u>	Water Column Height: <u>12.70</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>2.03</u>	3 Casing Volumes: <u>6.09</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>6</u>
Start Purge Time: <u>11:10</u>	Stop Purge Time: <u>11:24</u>	Total Time: <u>14 mins</u>

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

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.27

Time	Casing Volume	Temp. C	pH	Cond. us	Comments
11:15	2	16.9	7.75	720	
11:20	4	16.8	7.62	955	
11:25	6	16.8	7.69	980	
					DO = 0.31 mg/l

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-7	5-2-02	11:30	VQA Plumber	HCl		
MW-8						
MW-9						
MW-10						

CAMBRIA

WELL SAMPLING FORM

Project Name:	CConnell	Cambria Mgr:	BCR	Well ID:	MW- 8
Project Number:	425-1580	Date:	5-2-02	Well Yield:	—
Site Address:	3093 Broadway Oakland, Ca	Sampling Method:	Disposable bailer	Well Diameter:	6" pvc
				Technician(s):	SG
Initial Depth to Water:	26.63	Total Well Depth:	39.40	Water Column Height:	12.77
Volume/ft:	1.47	1 Casing Volume:	18.77	3 Casing Volumes:	56.31
Purging Device:	Whal Pump	Did Well Dewater?:	no	Total Gallons Purged:	56
Start Purge Time:	9:40	Stop Purge Time:	10:09	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
9:50	18	16.8	7.47	920	
10:00	36	16.9	7.71	1210	
10:10	56	16.8	7.65	1359	
					DO = 0.37 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 8	5-2-02	10:15	Vac Amber	HCl		
MW- 8						
MW- 8						
MW- 8						

CAMBRIA

WELL SAMPLING FORM

Project Name:	Connell	Cambria Mgr:	BCR	Well ID:	MW-13
Project Number:	425-1580	Date:	5-2-02	Well Yield:	---
Site Address:	3093 Broadway Oakland, Ca	Sampling Method:	Disposable bailer	Well Diameter:	2" pvc
				Technician(s):	SG
Initial Depth to Water:	23.97	Total Well Depth:	39.45	Water Column Height:	15.48
Volume/ft:	0.16	1 Casing Volume:	2.47	3 Casing Volumes:	7.43
Purging Device:	disposable bails	Did Well Dewater?	no	Total Gallons Purged:	8
Start Purge Time:	9:50	Stop Purge Time:	9:24	Total Time:	34

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
9:05	2.5	16.9	7.74	820	
9:15	5	16.8	7.69	711	
9:23	8	16.8	7.61	725	
					DO = 0.63 mg/l

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-13	5-2-02	9:30	Von Amber	HCl		
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name:	Connell	Cambria Mgr:	BCR	Well ID:	MW-9
Project Number:	425-1580	Date:	5-2-02	Well Yield:	—
Site Address:	3093 Broadway Oakland, Ca	Sampling Method:	Disposable bailer	Well Diameter:	2" pvc
				Technician(s):	SG
Initial Depth to Water:	19.93	Total Well Depth:	30.50	Water Column Height:	10.57
Volume/ft:	0.16	1 Casing Volume:	1.69	3 Casing Volumes:	5.07
Purging Device:	disposable bailer	Did Well Dewater?	no	Total Gallons Purged:	5
Start Purge Time:	12:25	Stop Purge Time:	12:39	Total Time:	14 mins

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

Well Diam.	Volume/ft (gallons)
2"	0.16
1"	0.63
5"	1.47

Time	Casing Volume	Temp. C	pH	Cond. μS	Comments
12:30	1.5	16.9	7.20	1913	
12:35	.3	16.9	7.41	1505	
12:40	5	17.0	7.43	1570	
					DO=0.23mg/l

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-9	5-2-02	12:45	VOG Amber	HCl		
MW-10						
MW-11						
MW-12						
MW-13						
MW-14						
MW-15						
MW-16						
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