

C A M B R I A

Alameda County
OCT 31 2002
Environmental Health

October 23, 2002

Mr. Lee Douglas
Douglas Parking
1721 Webster Street
Oakland, California 94612

Re: **Third Quarter 2002 Monitoring Report**
Douglas Parking
1721 Webster Street 94612
Oakland, California
Cambria Project No. 580-0197

RO 129



Dear Mr. Douglas:

Cambria Environmental Technology, Inc. (Cambria) is pleased to provide this third quarter 2002 monitoring report for the above-referenced site. The report describes the third quarter 2002 activities and results as well as the anticipated fourth quarter 2002 activities.

If you have any questions or comments, please call me at (510) 450-1982.

Sincerely,
Cambria Environmental Technology, Inc.

Mary C. Holland-Ford
Project Geologist

Attachments: Third Quarter 2002 Monitoring Report

cc: Mr. Barney M. Chan, Alameda County Department of Environmental Health, 1131 Harbor Bay Parkway,
2nd Floor, Alameda, California 94502
Mr. Hari Patel, Technical Review Unit, UST Cleanup Fund, 1001 I Street, Sacramento, California 94244

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
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THIRD QUARTER 2002 MONITORING REPORT

Douglas Parking
1721 Webster Street
Oakland, California
Cambria Project No. 580-0917

October 23, 2002



Prepared for:

Mr. Lee Douglas
1721 Webster Street
Oakland, California 94612

Prepared by:

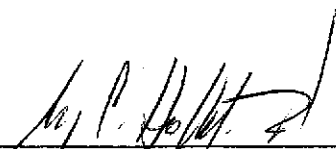
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Mary C. Holland-Ford
Project Geologist


Robert Clark-Riddell, P.E.
Principal Engineer

C A M B R I A

THIRD QUARTER 2002 MONITORING REPORT

Douglas Parking
1721 Webster Street
Oakland, California
Cambria Project No. 580-0917

October 23, 2002

INTRODUCTION



On behalf of Douglas Parking, Cambria Environmental Technology, Inc. (Cambria) is submitting this third quarter 2002 groundwater monitoring report for the above-referenced site. Presented below are the third quarter 2002 activities and results, and the anticipated fourth quarter 2002 activities.

THIRD QUARTER 2002 ACTIVITIES AND RESULTS

Monitoring Activities

Field Activities: On July 9, 2002, Cambria gauged depth-to-water and inspected for separate-phase hydrocarbons (SPH) in site wells MW-1 through MW-5. Groundwater samples were collected from monitoring wells MW-2 through MW-5. Well MW-1 is not included in the sampling schedule. Field data sheets are presented as Appendix A.

Sample Analyses: The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015, and benzene, toluene, ethylbenzene and xylene (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020 by McCampbell Analytical, Inc. of Pacheco, California. As MTBE concentrations were not detected by EPA Method 8020, confirmation analysis by EPA Method 8260 was not performed. The laboratory analytical report is included as Appendix B.

Monitoring Results

Groundwater Flow Direction: Based on depth-to-water data collected during Cambria's July 9, 2002 site visit, groundwater beneath the site flows toward the northeast with an average gradient of 0.008, which is consistent with historical data. Water levels for this monitoring event are summarized in Figure 1 and on Table 1.

Hydrocarbon Distribution in Groundwater: No SPH was detected in any site wells. The maximum detected TPHg concentration in groundwater was 13,000 micrograms per liter ($\mu\text{g/l}$), in well MW-3. The maximum detected benzene concentration was 200 $\mu\text{g/l}$, in well MW-2. Groundwater samples from downgradient well MW-4 contained no detectable hydrocarbons above laboratory reporting limits. MTBE was not detected above laboratory reporting limits in the groundwater samples from wells MW-2 through MW-5. The analytical results are summarized on Table 1. Benzene concentrations are summarized in Figure 1.



ANTICIPATED FOURTH QUARTER 2002 ACTIVITIES

Monitoring Activities

Cambria will gauge the site wells, inspect the wells for SPH, and collect groundwater samples from all wells not containing SPH. If MTBE is detected in any groundwater samples, concentrations will be confirmed using EPA Method 8260. Following field activities, Cambria will tabulate the data, contour site groundwater elevations, and prepare a groundwater monitoring report.

Corrective Action Activities

On April 29, 2002, the Alameda County Health Care Services Agency (ACHCSA) requested additional information about the planned feasibility testing. Cambria will conduct feasibility testing upon further approval from the ACHCSA. The proposed feasibility testing was approved by the California UST Cleanup Fund (Fund). The testing will evaluate the feasibility and effectiveness of air sparging and soil vapor extraction at the subject site.

Offsite Plume Delineation

On March 28 2002, Cambria submitted a *Subsurface Investigative Workplan*. The scope of work includes the installation of two offsite groundwater monitoring wells. Approval by the ACHCSA has been received, and upon receipt of Fund pre-approval Cambria will implement the workplan.

ATTACHMENTS

Figure 1 – Groundwater Elevation Contour and Benzene Concentration Map

Table 1 – Groundwater Elevation and Analytical Data

Appendix A – Field Data Sheets

Appendix B – Laboratory Analytical Report



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FIGURE

EXPLANATION

- Groundwater Monitoring Well
- SB-A Soil Boring Location

Well	Well ID
ELEV	Groundwater Elevation
Benzene	Benzene Conc. in Groundwater in parts per billion (ppb); Date is most recent sampling event unless otherwise noted.

NS Not Sampled

— 7.00 Groundwater Elevation Contour (ft)

Groundwater Flow Direction Gradient (ft/ft) = 0.008

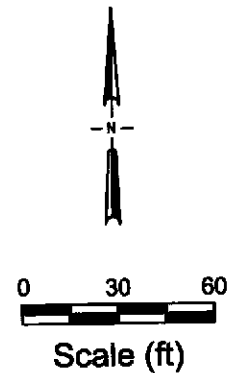
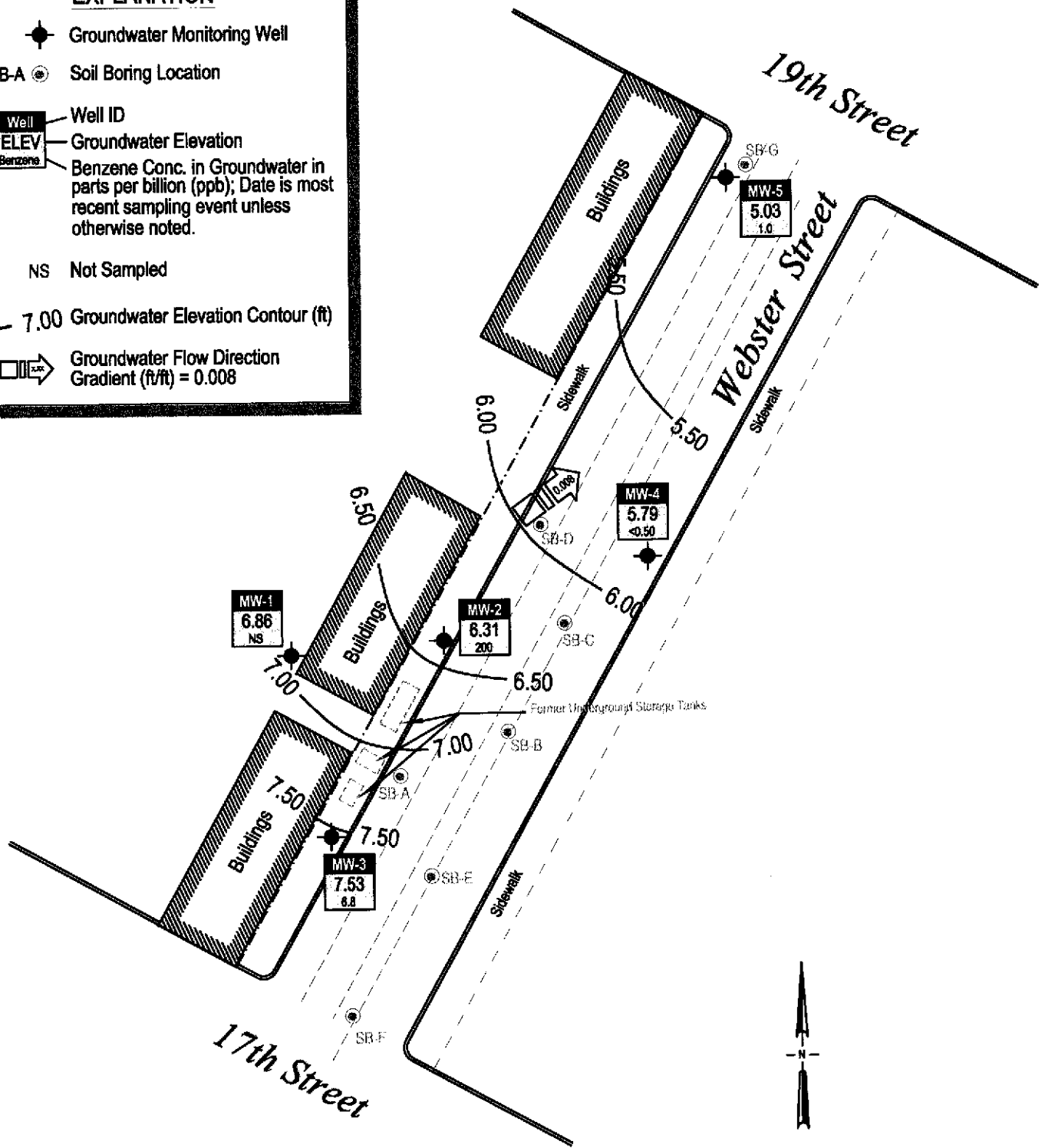


FIGURE
1

H:\SP-2004\DC\GIS\1721 Webster\FIGURES\30M02-MP.DWG

Base map from Piers Environmental Services

Douglas Parking Facility
1721 Webster Street
Oakland, California



**Groundwater Elevation Contours
Benzene Concentrations**

July 9, 2002

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TABLE

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Table 1. Groundwater Elevation and Analytical Data - Douglas Parking Company, 1721 Webster Street, Oakland, CA

Well ID	Date	TOC Elevation (ft-msl)	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO
					←————— (Concentrations in µg/l) —————→						(mg/L)
MW-1	12/2/1994	29.25	19.42	9.83	nd	nd	nd	nd	nd	-	-
	3/6/1995	29.73	20.69	9.04	nd	nd	nd	nd	nd	-	-
	7/11/1995	29.81	20.65	9.16	nd	nd	nd	nd	nd	-	-
	5/10/1996	29.81	20.80	9.01	nd	nd	nd	nd	nd	-	-
	10/2/1996	29.81	21.35	8.46	-	-	-	-	-	-	-
	2/28/1997	29.81	20.57	9.24	-	-	-	-	-	-	-
	9/16/1997	29.81	21.50	8.31	-	-	-	-	-	-	-
	2/5/1998	29.81	20.91	8.90	-	-	-	-	-	-	1.90
	8/11/1998	29.81	20.50	9.31	-	-	-	-	-	-	0.06
	2/8/1999	29.81	21.42	8.39	-	-	-	-	-	-	6.00
	2/24/1999	29.81	22.99	6.82	-	-	-	-	-	-	2.00
	3/3/1999	29.81	20.84	8.97	-	-	-	-	-	-	3.80
	3/10/1999	29.81	20.89	8.92	-	-	-	-	-	-	3.40
	3/17/1999	29.81	20.84	8.97	-	-	-	-	-	-	2.80
	5/4/1999	29.81	20.80	9.01	-	-	-	-	-	-	3.50
	7/20/1999	29.81	21.25	8.56	-	-	-	-	-	-	3.07
	10/5/1999	29.81	21.37	8.44	-	-	-	-	-	-	5.40
	1/7/2000	29.81	21.65	8.16	-	-	-	-	-	-	2.10
	4/6/2000	29.81	21.05	8.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.90
	7/31/2000	29.81	21.13	8.68	-	-	-	-	-	-	1.80
10/3/2000	29.81	21.69	8.12	-	-	-	-	-	-	1.42	
1/12/2001	29.81	22.00	7.81	-	-	-	-	-	-	0.68	
4/11/2001	29.81	22.16	7.65	-	-	-	-	-	-	0.51	
7/6/2001	29.81	22.57	7.24	-	-	-	-	-	-	-	
10/25/2001	29.81	22.71	7.10	-	-	-	-	-	-	-	
3/4/2002	29.81	22.53	7.28	-	-	-	-	-	-	-	
4/18/2002	29.81	22.81	7.00	-	-	-	-	-	-	-	
7/9/2002	29.81	22.95	6.86	-	-	-	-	-	-	-	
MW-2	12/2/1994	27.10	19.50	7.60	61,300	3,000	3,900	160	4,500	-	-
	3/6/1995	27.10	18.49	8.61	98,000	8,400	16,000	2,000	2,600	-	-
	7/11/1995	27.40	18.45	8.95	38,000	3,100	7,500	940	3,700	-	-
	5/10/1996	27.40	18.56	8.84	63,000	7,400	16,000	1,500	6,000	-	-
	10/2/1996	27.40	19.15	8.25	21,000	2,200	3,400	430	1,600	-	-

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Table 1. Groundwater Elevation and Analytical Data - Douglas Parking Company, 1721 Webster Street, Oakland, CA

Well ID	Date	TOC Elevation (ft-msl)	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg ←	(Concentrations in µg/l)					DO (mg/L)
						Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
MW-2	2/28/1997	27.40	18.43	8.97	39,000	4,700	9,600	950	4,200	nd	-
(cont'd)	9/16/1997	27.40	19.26	8.14	29,000	3,300	5,800	690	2,900	<620	-
	2/5/1998	27.40	18.66	8.74	10,000	1,000	2,000	170	860	<330	7.90
	8/11/1998	27.40	18.41	8.99	12,000	1,200	2,300	260	1,400	300	5.40
	2/8/1999	27.40	19.84	7.56	5,500	740	1,200	150	780	60	3.70
	2/17/1999	27.40	18.94	8.46	-	-	-	-	-	-	>20
	2/24/1999	27.40	20.76	6.64	-	-	-	-	-	-	>20
	3/3/1999	27.40	18.55	8.85	-	-	-	-	-	-	>20
	3/10/1999	27.40	20.74	6.66	-	-	-	-	-	-	>20
	3/17/1999	27.40	18.57	8.83	-	-	-	-	-	-	>20
	5/4/1999	27.40	18.55	8.85	90,000	9,200	21,000	1,600	10,000	560	3.20
	7/20/1999	27.40	18.98	8.42	28,000	2,100	3,700	900	4,200	<860	0.64
	10/5/1999	27.40	19.10	8.30	11,000	870	180	30	1,400	<110	0.58
	1/7/2000	27.40	19.41	7.99	15,000	1,300	2,100	440	1,800	<14	0.94
	4/6/2000	27.40	18.80	8.60	17,000	1,800	3,100	500	2,200	<50	0.64
	7/31/2000	27.40	18.87	8.53	17,000	1,500	2,700	430	2,100	<200	0.50
	10/3/2000	27.40	19.45	7.95	27,000	2,500	4,000	660	2,900	<50	0.16
	1/12/2001	27.40	19.80	7.60	25,000	2,700	4,100	670	3,000	<200	0.35
	4/11/2001	27.40	20.03	7.37	97,000	9,500	21,000	2,200	7,900	<200	-
	7/6/2001	27.40	20.19	7.21	3,500	500	150	11	420	<5.0	-
	10/25/2001	27.40	20.35	7.05	3,800	620	230	70	400	<50	-
	3/4/2002	27.40	20.37	7.03	46,000	7,300	12,000	870	3,200	<500	-
	4/18/2002	27.40	20.15	7.25	68,000	5,100	8,900	1,100	4,000	<1,000	-
	7/9/2002	27.40	21.09	6.31	1,000	200	8.9	0.67	82	<10	-
MW-3	12/2/1994	29.50	22.15	7.35	394,000	1,200	nd	1,800	4,000	-	-
	3/6/1995	29.25	20.09	9.16	21,000	400	150	24	62	-	-
	7/11/1995	29.56	19.99	9.57	12,000	nd	10	16	99	-	-
	5/10/1996	29.56	20.24	9.32	8,600	nd	7.6	16	84	-	-
	10/2/1996	29.56	20.90	8.66	11,000	nd	7.4	19	92	-	-
	2/28/1997	29.56	20.12	9.44	6,000	nd	4.4	17	88	50	-
	9/16/1997	29.56	20.97	8.59	6,500	<0.5	1	1	7	<5.0	-
	2/5/1998	29.56	20.39	9.17	5,400	<0.5	6.3	15	86	<63	1.90
	8/11/1998	29.56	19.95	9.61	2,700	<0.5	3.5	3.2	12	<10	0.05
	2/8/1999	29.56	20.58	8.98	6,100	<0.5	8.1	18	80	<140	2.20

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Table 1. Groundwater Elevation and Analytical Data - Douglas Parking Company, 1721 Webster Street, Oakland, CA

Well ID	Date	TOC Elevation (ft-msl)	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO
					←—————→						—————→
MW-3	2/17/1999	29.56	20.53	9.03	-	-	-	-	-	-	>20
(cont'd)	2/24/1999	29.56	22.53	7.03	-	-	-	-	-	-	>20
	3/3/1999	29.56	20.28	9.28	-	-	-	-	-	-	>20
	3/10/1999	29.56	22.45	7.11	-	-	-	-	-	-	>20
	3/17/1999	29.56	20.26	9.30	-	-	-	-	-	-	>20
	5/4/1999	29.56	20.24	9.32	11,000	<2	<2	9.8	140	<10	3.10
	7/20/1999	29.56	20.68	8.88	11,000	<0.5	3.1	13	88	<80	0.75
	10/5/1999	29.56	20.81	8.75	31,000	62	<0.5	21	170	<90	0.68
	1/7/2000	29.56	21.09	8.47	13,000	<0.5	<2	21	140	<80	1.96
	4/6/2000	29.56	20.48	9.08	5,300	1.5	1.4	9.8	60	<30	4.15
	7/31/2000	29.56	20.62	8.94	7,100	3.5	1.0	12	66	<5.0	0.35
	10/3/2000	29.56	21.13	8.43	8,000	<0.5	3.3	11	70	<40	3.66
	1/12/2001	29.56	21.45	8.11	11,000	4.3	6.7	11	73	<70	0.35
	4/11/2001	29.56	21.69	7.87	10,000	<0.5	<0.5	11	65	<10	-
	7/6/2001	29.56	21.60	7.96	13,000	5.3	1.6	11	58	<5.0	-
	10/25/2001	29.56	21.70	7.86	11,000	<0.5	3.0	15	70	<10	-
	3/4/2002	29.56	21.65	7.91	1,900	1.3	0.8	<0.5	15	<5.0	-
	4/18/2002	29.56	21.77	7.79	1,500	1.0	0.97	1.3	5.8	<5	-
	7/9/2002	29.56	22.03	7.53	13,000	6.8	5.7	13	59	<90	-
MW-4	5/10/1996	25.29	16.98	8.31	14,000	nd	1,200	720	3,100	-	-
	10/2/1996	25.29	17.65	7.64	12,000	nd	650	580	2,200	-	-
	2/28/1997	25.29	16.80	8.49	13,000	nd	1,100	750	2,700	110	-
	9/17/1997	25.29	17.93	7.36	13,000	<2.5	820	750	2,900	<190	-
	2/5/1998	25.29	16.78	8.51	13,000	<1.0	690	690	2,900	<170	2.10
	8/11/1998	25.29	16.59	8.70	15,000	<5	360	520	1,900	280	2.80
	2/8/1999	25.29	17.10	8.19	9,800	<5	680	770	2,200	300	1.80
	2/24/1999	25.29	18.95	6.34	-	-	-	-	-	-	2.20
	3/3/1999	25.29	16.80	8.49	-	-	-	-	-	-	4.60
	3/10/1999	25.29	16.86	8.43	-	-	-	-	-	-	3.70
	3/17/1999	25.29	16.82	8.47	-	-	-	-	-	-	4.30
	5/4/1999	25.29	16.86	8.43	11,000	46	600	620	1,900	<100	4.10
	7/20/1999	25.29	17.30	7.99	13,000	<0.5	470	7.0	2,000	<150	0.38
	10/5/1999	25.29	17.43	7.86	18,000	4.4	720	800	2,100	<120	0.71

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Table 1. Groundwater Elevation and Analytical Data - Douglas Parking Company, 1721 Webster Street, Oakland, CA

Well ID	Date	TOC Elevation (ft-msl)	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)
					(Concentrations in µg/l)						
MW-4	1/7/2000	25.29	17.78	7.51	18,000	<2	930	990	2,700	<30	0.98
(cont'd)	4/6/2000	25.29	17.17	8.12	8,000	31	390	530	1,300	<10	1.33
	7/31/2000	25.29	17.21	8.08	6,200	13	170	460	850	<10	0.50
	10/3/2000	25.29	18.00	7.29	14,000	42	820	730	2,000	<50	0.54
	1/12/2001	25.29	18.20	7.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.39
	4/11/2001	25.29	18.31	6.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	7/6/2001	25.29	18.35	6.94	470	2.3	1.6	0.81	43	<5.0	-
	10/25/2001	25.29	18.47	6.82	110	0.70	<0.5	<0.5	3.3	<5.0	-
	3/4/2002	25.29	18.43	6.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	4/18/2002	25.29	18.61	6.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	7/9/2002	25.29	19.50	5.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
MW-5	5/10/1996	21.97	14.60	7.37	nd	nd	nd	nd	nd	-	-
	10/2/1996	21.97	15.25	6.72	nd	nd	nd	nd	nd	-	-
	2/28/1997	21.97	14.31	7.66	nd	nd	nd	nd	nd	nd	-
	9/17/1997	21.97	15.18	6.79	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	-
	2/5/1998	21.97	13.64	8.33	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.80
	8/11/1998	21.97	13.92	8.05	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.05
	2/8/1999	21.97	14.19	7.78	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.00
	2/24/1999	21.97	16.18	5.79	-	-	-	-	-	-	4.90
	3/3/1999	21.97	14.23	7.74	-	-	-	-	-	-	3.40
	3/10/1999	21.97	14.32	7.65	-	-	-	-	-	-	3.60
	3/17/1999	21.97	14.25	7.72	-	-	-	-	-	-	3.90
	5/4/1999	21.97	14.41	7.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.20
	7/20/1999	21.97	14.44	7.53	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.99
	10/5/1999	21.97	14.79	7.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.52
	1/7/2000*	21.97	15.23	6.74	-	-	-	-	-	-	-
	4/6/2000	21.97	14.74	7.23	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.67
	7/31/2000	21.97	14.52	7.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.55
	10/3/2000	21.97	15.37	6.60	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.51
	1/12/2001	21.97	15.70	6.27	6,400	13	290	450	1,100	<40	0.71
	4/11/2001	21.97	15.78	6.19	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	7/6/2001	21.97	15.97	6.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	10/25/2001	21.97	16.05	5.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	3/4/2002	21.97	16.21	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	4/18/2002	21.97	16.59	5.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	7/9/2002	21.97	16.94	5.03	170	1.0	0.65	2.1	4.0	<15	-

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Table 1. Groundwater Elevation and Analytical Data - Douglas Parking Company, 1721 Webster Street, Oakland, CA

Well ID	Date	TOC Elevation (ft-msl)	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO
					←————— (Concentrations in µg/l) —————→						(mg/L)
Trip Blank	01/12/01	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	4/11/2001	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	7/6/2001	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
	3/4/2002	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-

Notes and Abbreviations:

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020.

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015.

MTBE = methyl tertiary butyl ether by EPA Method 8020.

µg/L = micrograms per liter

mg/L = milligrams per liter

ft-msl = feet above mean sea level

TOC = top of casing

nd = not detected

DO = dissolved oxygen

<n = Below detection limit of n µg/L

Data prior to 7/11/95 from Gen Tech and Piers Environmental Quarterly Groundwater Monitoring Reports dated December 2, 1994 and March 6, 1995, respectively.

Sampling no longer required in well MW-1 per September 17, 1996, ACDEH letter to Douglas Parking.

DO monitoring (no hydrocarbon analyses), as described in November 11, 1998 Remedial Workplan.

* = Well inaccessible

C A M B R I A



APPENDIX A

Field Data Sheets

Groundwater Monitoring Field Sheet

Well ID	Time	DTP	DTW	Product Thickness	Amount of Product Removed	Casing Diam. DTR	Comment BIB
MW-1	8:30		22.95				
MW-2	8:50		21.09			25.70	
MW-3	8:45		22.03			26.65	
MW-4	8:40		19.50			29.20	
MW-5	8:35		16.94			24.30	

Project Name: Douglas Parkings

Project Number/Task: 580-0197-052

Measured By: S. Hill

Date: 7-9-02

WELL SAMPLING FORM

Project Name: Dougals Parking	Cambria Mgr:MHF	Well ID: MW-2
Project Number: 580-0197	Date: 07/09/02	Well Yield: -----
Site Address: 1712 Webster St Oakland, Ca	Sampling Method:	Well Diameter: 2" PVC
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 21.09	Total Well Depth: 25.70	Water Column Height: 4.61
Volume/ft: 0.16	1 Casing Volume: 0.73	3 Casing Volumes: 2.21
Purging Device: pump/ bailer	Did Well Dewater?: 00	Total Gallons Purged: 2.5
Start Purge Time: 10:15	Stop Purge Time:	Total Time:

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
10:20	1	19.9	7.20	919	
10:25	2	19.9	7.28	1125	
10:30	2.5	19.9	7.35	1157	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	07/09/02	10:35	4 voa	HCl	TPHg BTEX MTBE	8015/8020

WELL SAMPLING FORM

Project Name: Dougals Parking	Cambria Mgr:MHF	Well ID: MW-3
Project Number: 580-0197	Date: 07/09/02	Well Yield: -----
Site Address: 1712 Webster St Oakland, Ca	Sampling Method:	Well Diameter: 2" PVC
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 22.03	Total Well Depth: 26.65	Water Column Height: 4.62
Volume/ft: 0.16	1 Casing Volume: 0.73	3 Casing Volumes: 2.21
Purging Device: pump/ bailer	Did Well Dewater?: 10	Total Gallons Purged: 2.5
Start Purge Time: 10:40	Stop Purge Time:	Total Time:

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
10:45	1	19.9	7.40	1095	
10:50	2	19.7	7.45	1570	
10:55	2.5	19.7	7.42	1522	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	07/09/02	11:00	4 voa	HCl	TPHg BTEX MTBE	8015/8020

WELL SAMPLING FORM

Project Name: Dougals Parking	Cambria Mgr:MHF	Well ID: MW-4
Project Number: 580-0197	Date: 07/09/02	Well Yield: -----
Site Address: 1712 Webster St Oakland, Ca	Sampling Method:	Well Diameter: 2" PVC
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 19.50	Total Well Depth: 29.20	Water Column Height: 9.70
Volume/ft: 0.16	1 Casing Volume: 1.55	3 Casing Volumes: 4.65
Purging Device: pump/ bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 9:45	Stop Purge Time:	Total Time:

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	1.5	20.0	7.29	920	
9:55	3	19.7	7.40	724	
10:00	5	19.5	7.42	851	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	07/09/02	10:05	4 voa	HCl	TPHg BTEX MTBE	8015/8020

WELL SAMPLING FORM

Project Name: Dougals Parking	Cambria Mgr:MHF	Well ID: MW-5
Project Number: 580-0197	Date: 07/09/02	Well Yield: -----
Site Address: 1712 Webster St Oakland, Ca	Sampling Method:	Well Diameter: 2" PVC
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 16.94	Total Well Depth: 24.30	Water Column Height: 7.36
Volume/ft: 0.16	1 Casing Volume: 1.17	3 Casing Volumes: 3.53
Purging Device: pump/ bailer	Did Well Dewater?: NO	Total Gallons Purged: 3.5
Start Purge Time: 9:15	Stop Purge Time:	Total Time:

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
9:20	1.5	19.7	7.15	1328	
9:25	2.5	19.9	7.22	1750	
9:30	3.5	19.8	7.30	1629	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	07/09/02	9:35	4 voa	HCl	TPHg BTEX MTBE	8015/8020

C A M B R I A



APPENDIX B

Laboratory Analytical Report



McC Campbell Analytical Inc.

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

Cambria Env. Technology 6262 Hollis St. Emeryville, CA 94608	Client Project ID: #580-0197; Douglas Parking	Date Sampled: 07/09/02
		Date Received: 07/17/02
	Client Contact: Mary Holland Ford	Date Reported: 07/24/02
	Client P.O.:	Date Completed: 07/24/02

July 24, 2002

Dear Mary:

Enclosed are:

- 1). the results of 4 samples from your #580-0197; Douglas Parking project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

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

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

Yours truly,

Angela Rydelius, Lab Manager



McC Campbell Analytical Inc.

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

Cambria Env. Technology 6262 Hollis St. Emeryville, CA 94608	Client Project ID: #580-0197; Douglas Parking	Date Sampled: 07/09/02
		Date Received: 07/17/02
	Client Contact: Mary Holland Ford	Date Extracted: 07/20/02
	Client P.O.:	Date Analyzed: 07/20/02

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0207230

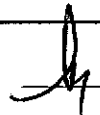
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-2	W	1000,a	ND<10	200	8.9	0.67	82	1	---#
002A	MW-3	W	13,000,a	ND<90	6.8	5.7	13	59	10	---#
003A	MW-4	W	ND	ND	ND	ND	ND	ND	1	105
004A	MW-5	W	170,a	ND<15	1.0	0.65	2.1	4.0	1	---#

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); 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) sample diluted due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

 Edward Hamilton, Lab Director



McC Campbell Analytical Inc.

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0207230

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 3001		Spiked Sample ID: N/A				
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)	N/A	60	N/A	N/A	N/A	111	97.1	13.0	80	120
MTBE	N/A	10	N/A	N/A	N/A	84	93.8	11.0	80	120
Benzene	N/A	10	N/A	N/A	N/A	97.6	100	2.49	80	120
Toluene	N/A	10	N/A	N/A	N/A	105	108	2.81	80	120
Ethylbenzene	N/A	10	N/A	N/A	N/A	98.1	104	6.02	80	120
Xylenes	N/A	30	N/A	N/A	N/A	100	107	6.45	80	120
%SS:	N/A	100	N/A	N/A	N/A	102	102	0.637	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 and matrix spike duplicate.

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

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

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

0207230

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #137
PACIFIC CO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD
TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: *Mary Holland Ford*

Bill To: *Cambria Env. Tech*

Company: Cambria Environmental Technology

6262 Hollis Street

Emeryville, CA 94608

Tele: (510) 450-1982

Fax: (510) 450-8295

Project #: *580-0197*

Project Name: *Douglas Parking*

Project Location: *1721 Webster St. Oakland, Ca*

Sampler Signature: *[Signature]*

Analysis Request

Other Comments

confirm by 11/17/02

BTEX & TPH as Gas (602/8020 + 8015) MTBE	
TPH as Diesel (8015)	
Total Petroleum Oil & Grease (5520 E&F/B&F)	
Total Petroleum Hydrocarbons (418.1)	
EPA 601 / 8010	
RTEX ONLY (EPA 602 / 8020)	
EPA 608 / 8080	
EPA 608 / 8080 PCB's ONLY	
EPA 624 / 8240 / 8260	
EPA 625 / 8270	
PAH's / PNA's by EPA 625 / 8270 / 8310	
CAM-17 Metals	
LUFT 5 Metals	
Lead (7240/7421/239.2/6010)	
RCI	

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX				METHOD PRESERVED									
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other					
✓ ML-2		7-9-02	10:35	4	VOL	X				X	X								
+ ML-3		7-9-02	11:00	4	VOL	X				X	X								
✓ ML-4		7-9-02	10:05	4	VOL	X				X	X								
+ ML-5		7-9-02	9:35	4	VOL	X				X	X								

Relinquished By: <i>[Signature]</i>	Date: 7/17/02	Time: 11:35	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: Report results in EDF format



McC Campbell Analytical Inc.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0207230

Client:

Cambria Env. Technology
 6262 Hollis St.
 Emeryville, CA 94608

TEL: (510) 450-1983
 FAX: (510) 450-8295
 ProjectNo: #580-0197; Doug
 PO:

17-Jul-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests					
					<>	8021B/8015				
0207230-001	MW-2	Water	7/9/02 10:35:00 AM		A	A				
0207230-002	MW-3	Water	7/9/02 11:00:00 AM			A				
0207230-003	MW-4	Water	7/9/02 10:05:00 AM			A				
0207230-004	MW-5	Water	7/9/02 9:35:00 AM			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