

C A M B R I A

Bar

February 12, 2002

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

FEB 21 2002

Re: **Fourth Quarter 2001 Monitoring Report**
Douglas Parking
1721 Webster Street
Oakland, California
Cambria Project No. 580-0197

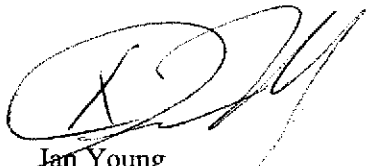


Dear Mr. Douglas:

Cambria Environmental Technology, Inc. (Cambria) is pleased to provide this fourth quarter 2001 monitoring report for the above-referenced site. The report describes the fourth quarter 2001 activities and results as well as the anticipated first quarter 2002 activities.

If you have any questions or comments, please call me at (510) 420-3305.

Sincerely,
Cambria Environmental Technology, Inc.



Ian Young
Senior Staff Geologist

Attachments: Fourth Quarter 2001 Monitoring Report

cc: Mr. Larry Seto, Alameda County Department of Environmental Health, 1131 Harbor Bay Parkway,
2nd Floor, Alameda, CA 94502

Mr. Hari Patel, Technical Review Unit, UST Cleanup Fund, 1001 I Street, Sacramento, CA 94244

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
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Tel (510) 420-0700
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FOURTH QUARTER 2001 MONITORING REPORT

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

February 12, 2002

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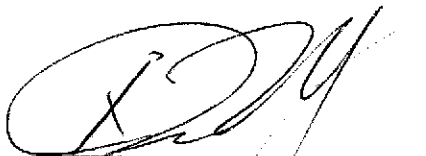
Prepared for:


Mr. Lee Douglas
1721 Webster Street
Oakland, California 94612

Prepared by:

Cambria Environmental Technology, Inc.
1144 65th Street, Suite B
Oakland, California 94608




Ian D. Young
Senior Staff Geologist


Robert Clark-Riddell, P.E.
Principal Engineer

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FOURTH QUARTER 2001 MONITORING REPORT

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

February 12, 2002

INTRODUCTION



On behalf of Douglas Parking, Cambria Environmental Technology, Inc. (Cambria) is submitting this fourth quarter 2001 groundwater monitoring report for the above-referenced site. Presented below are the fourth quarter 2001 activities and the anticipated first quarter 2002 activities.

FOURTH QUARTER 2001 ACTIVITIES


Monitoring Activities

Field Activities: On October 25, 2001, 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, MW-3, MW-4, and MW-5. Well MW-1 is not part of 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. MTBE concentrations were not detected by EPA Method 8020, so 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 October 25, 2001 site visit, groundwater beneath the site flows toward the north with an average gradient of 0.007 feet/feet (see Figure 1). Depth-to-water and groundwater elevation data are presented in Table 1.



Hydrocarbon Distribution in Groundwater: No SPH was detected in any site wells. The maximum detected TPHg concentration was 11,000 micrograms per liter ($\mu\text{g/l}$) in groundwater samples collected from upgradient well MW-3. The maximum benzene concentration detected was 620 $\mu\text{g/l}$ in groundwater samples from source area well MW-2. No benzene was detected in upgradient well MW-3. Consistent with historical groundwater data, groundwater samples from downgradient well MW-5 contained no detectable hydrocarbons above laboratory reporting limits. Also consistent with historical data, hydrocarbon concentrations detected in downgradient and crossgradient well MW-4 were low: 110 $\mu\text{g/l}$ TPHg, 0.70 $\mu\text{g/l}$ benzene, and 3.3 $\mu\text{g/l}$ xylenes. No MTBE was detected above laboratory reporting limits in any analyzed groundwater sample. The analytical results are summarized on Table 1.

ANTICIPATED FIRST 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 sample, 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

Cambria will continue coordination of feasibility testing that 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.

APPENDICES

Figure 1 – Groundwater Elevation Contour and Benzene Concentration Map

Table 1 – Groundwater Elevation and Analytical Data

Appendix A – Field Data Sheets

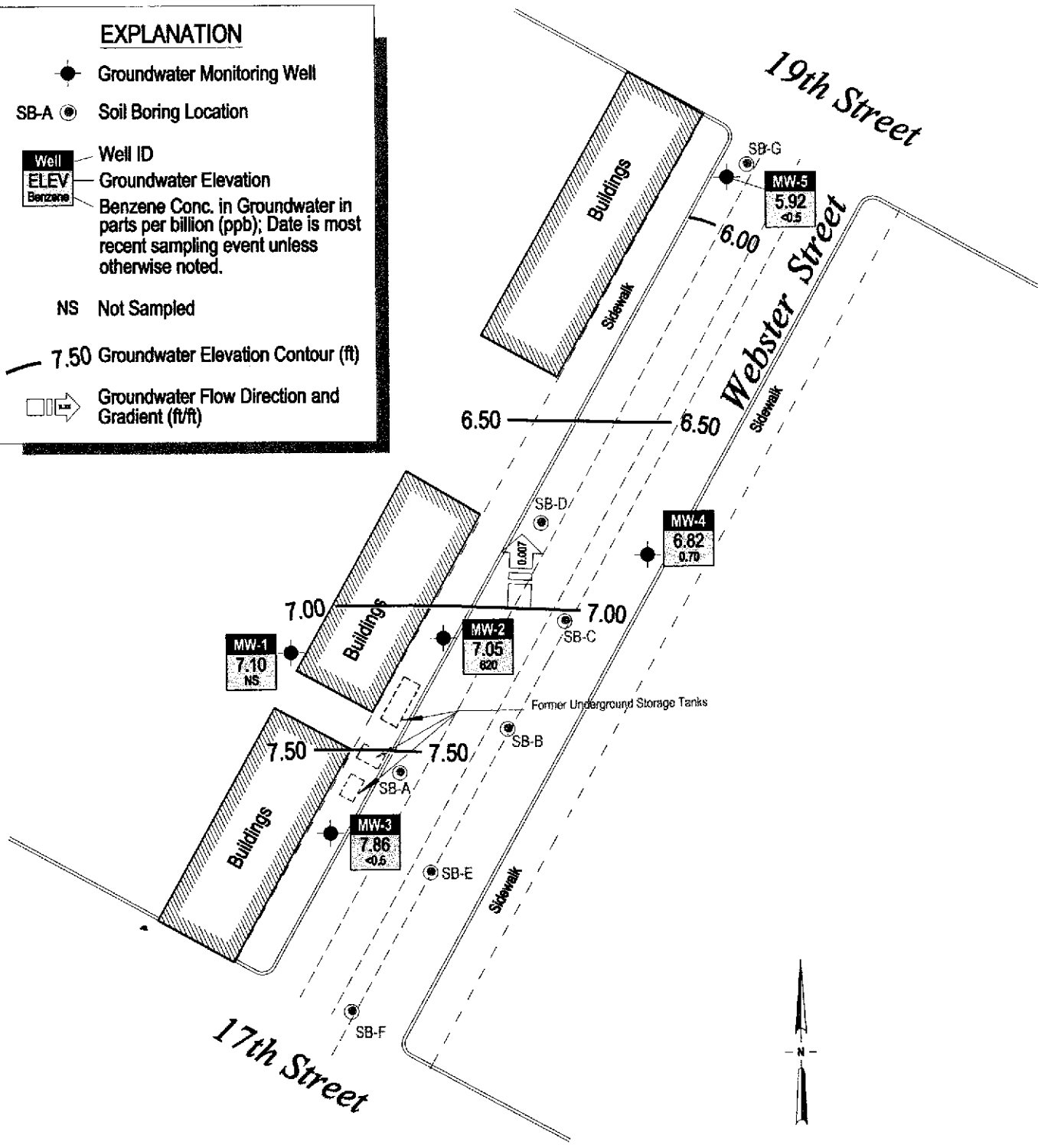
Appendix B – Laboratory Analytical Report

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EXPLANATION

- Groundwater Monitoring Well
- SB-A ● Soil Boring Location
- 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
- 7.50 Groundwater Elevation Contour (ft)
- Groundwater Flow Direction and Gradient (ft/ft)



H:\SB-2004\DOUGLAS\1721 Webster\FIGURES\MQ01-1.MP.DWG

Base map from Piers Environmental Services

Douglas Parking Facility
 1721 Webster Street
 Oakland, California



**Groundwater Elevation Contour
 and Benzene Concentration Map**
 October 25, 2001

FIGURE
1

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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)	Notes
					← (Concentrations in µg/l) →							
MW-1	12/2/1994	29.25	19.42	9.83	nd	nd	nd	nd	nd	-	-	1
	3/6/1995	29.73	20.69	9.04	nd	nd	nd	nd	nd	-	-	1
	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
	2/28/1997	29.81	20.57	9.24	-	-	-	-	-	-	-	2
	9/16/1997	29.81	21.50	8.31	-	-	-	-	-	-	-	2
	2/5/1998	29.81	20.91	8.90	-	-	-	-	-	-	1.90	2
	8/11/1998	29.81	20.50	9.31	-	-	-	-	-	-	0.06	2
	2/8/1999	29.81	21.42	8.39	-	-	-	-	-	-	6.00	2, 3
	2/24/1999	29.81	22.99	6.82	-	-	-	-	-	-	2.00	2, 3
	3/3/1999	29.81	20.84	8.97	-	-	-	-	-	-	3.80	2, 3
	3/10/1999	29.81	20.89	8.92	-	-	-	-	-	-	3.40	2, 3
	3/17/1999	29.81	20.84	8.97	-	-	-	-	-	-	2.80	2, 3
	5/4/1999	29.81	20.80	9.01	-	-	-	-	-	-	3.50	2
	7/20/1999	29.81	21.25	8.56	-	-	-	-	-	-	3.07	2
	10/5/1999	29.81	21.37	8.44	-	-	-	-	-	-	5.40	2
	1/7/2000	29.81	21.65	8.16	-	-	-	-	-	-	2.10	2
	4/6/2000	29.81	21.05	8.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.90	4
	7/31/2000	29.81	21.13	8.68	-	-	-	-	-	-	1.80	2
10/3/2000	29.81	21.69	8.12	-	-	-	-	-	-	1.42	2	
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	-	-	-	-	-	-	-		
MW-2	12/2/1994	27.10	19.50	7.60	61,300	3,000	3,900	160	4,500	-	-	1
	3/6/1995	27.10	18.49	8.61	98,000	8,400	16,000	2,000	2,600	-	-	1
	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	-	-	
	2/28/1997	27.40	18.43	8.97	39,000	4,700	9,600	950	4,200	nd	-	
	9/16/1997	27.40	19.26	8.14	29,000	3,300	5,800	690	2,900	<620	-	

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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)	Notes
					← (Concentrations in µg/l) →							
	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	3, 5
	2/24/1999	27.40	20.76	6.64	-	-	-	-	-	-	>20	3, 5
	3/3/1999	27.40	18.55	8.85	-	-	-	-	-	-	>20	3, 5
	3/10/1999	27.40	20.74	6.66	-	-	-	-	-	-	>20	3, 5
	3/17/1999	27.40	18.57	8.83	-	-	-	-	-	-	>20	3, 5
	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	-	
MW-3	12/2/1994	29.50	22.15	7.35	394,000	1,200	nd	1,800	4,000	-	-	1
	3/6/1995	29.25	20.09	9.16	21,000	400	150	24	62	-	-	1
	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	
	2/17/1999	29.56	20.53	9.03	-	-	-	-	-	-	>20	3, 5
	2/24/1999	29.56	22.53	7.03	-	-	-	-	-	-	>20	3, 5

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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)	Notes
					←————— (Concentrations in µg/l) —————→							
	3/3/1999	29.56	20.28	9.28	-	-	-	-	-	-	>20	3, 5
	3/10/1999	29.56	22.45	7.11	-	-	-	-	-	-	>20	3, 5
	3/17/1999	29.56	20.26	9.30	-	-	-	-	-	-	>20	3, 5
	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	-	
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	3
	2/24/1999	25.29	18.95	6.34	-	-	-	-	-	-	2.20	3
	3/3/1999	25.29	16.80	8.49	-	-	-	-	-	-	4.60	3
	3/10/1999	25.29	16.86	8.43	-	-	-	-	-	-	3.70	3
	3/17/1999	25.29	16.82	8.47	-	-	-	-	-	-	4.30	3
	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	
	1/7/2000	25.29	17.78	7.51	18,000	<2	930	990	2,700	<30	0.98	
	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	

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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)	Notes
	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	-	
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
	3/3/1999	21.97	14.23	7.74	-	-	-	-	-	-	3.40	3
	3/10/1999	21.97	14.32	7.65	-	-	-	-	-	-	3.60	3
	3/17/1999	21.97	14.25	7.72	-	-	-	-	-	-	3.90	3
	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	-	-	-	-	-	-	-	Well inaccessible
	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	-	

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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)	Notes
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	-	

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

1 = 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.

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

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

4 = Sampled well once to confirm well is still not impacted.

5 = Hydrogen peroxide injection occurring per our Remedial Workplan, dated November 11, 1998.

APPENDIX A

Field Data Sheets

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>JR</u>	Well ID: <u>MW-2</u>
Project Number: <u>580-0197</u>	Date: <u>10-25-01</u>	Well Yield: <u>----</u>
Site Address: <u>1721 Webster St. Oakland, CA</u>	Sampling Method:	Well Diameter: <u>2" pvc</u>
	<u>Disposable bailer</u>	Technician(s): <u>SG</u>
Initial Depth to Water: <u>20.35</u>	Total Well Depth: <u>25.70</u>	Water Column Height: <u>5.35</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>0.85</u>	3 Casing Volumes: <u>2.56</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>3</u>
Start Purge Time: <u>12:15</u>	Stop Purge Time: <u>12:29</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
<u>12:20</u>	<u>1</u>	<u>19.2</u>	<u>7.04</u>	<u>810</u>	
<u>12:25</u>	<u>2</u>	<u>19.4</u>	<u>7.19</u>	<u>885</u>	
<u>12:30</u>	<u>3</u>	<u>19.5</u>	<u>7.23</u>	<u>815</u>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-2</u>	<u>10-25-01</u>	<u>12:35</u>	<u>4V00</u>	<u>HCl</u>	<u>TPH, BTE x MTBE</u>	<u>8015/8020 8260</u>
<u>MW-</u>						

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>JR</u>	Well ID: <u>MW-3</u>
Project Number: <u>580-0197</u>	Date: <u>10-25-01</u>	Well Yield: <u>----</u>
Site Address: <u>1721 Webster St. Oakland, Ca</u>	Sampling Method:	Well Diameter: <u>2" pvc</u>
	<u>Disposable bailer</u>	Technician(s): <u>SG</u>
Initial Depth to Water: <u>21.70</u>	Total Well Depth: <u>26.65</u>	Water Column Height: <u>4.95</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>0.79</u>	3 Casing Volumes: <u>2.37</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>NO</u>	Total Gallons Purged: <u>3</u>
Start Purge Time: <u>12:45</u>	Stop Purge Time: <u>12:59</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"	1.47

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
<u>12:50</u>	<u>1</u>	<u>20.7</u>	<u>7.59</u>	<u>1229</u>	
<u>12:55</u>	<u>2</u>	<u>20.1</u>	<u>7.14</u>	<u>1220</u>	
<u>13:00</u>	<u>3</u>	<u>20.3</u>	<u>7.19</u>	<u>1211</u>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-3</u>	<u>10-25-01</u>	<u>13:05</u> <u>13:05</u>	<u>4000</u>	<u>HCl</u>	<u>TPH₃ BTEX MTBE</u>	<u>8015/8020</u> <u>8260</u>

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>JR</u>	Well ID: <u>MW-4</u>
Project Number: <u>580-0197</u>	Date: <u>10-25-01</u>	Well Yield: <u>----</u>
Site Address: <u>1721 Webster St. Oakland, Ca</u>	Sampling Method:	Well Diameter: <u>2" pvc</u>
	<u>Disposable bailer</u>	Technician(s): <u>SG</u>
Initial Depth to Water: <u>18.47</u>	Total Well Depth: <u>29.20</u>	Water Column Height: <u>10.73</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.71</u>	3 Casing Volumes: <u>5.15</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>5</u>
Start Purge Time: <u>11:45</u>	Stop Purge Time: <u>11:59</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"	1.47

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
<u>11:50</u>	<u>1.5</u>	<u>19.5</u>	<u>7.24</u>	<u>1070</u>	
<u>11:55</u>	<u>3</u>	<u>19.9</u>	<u>7.55</u>	<u>1051</u>	
<u>12:00</u>	<u>5</u>	<u>19.7</u>	<u>7.70</u>	<u>1020</u>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-4</u>	<u>10-25-01</u>	<u>12:05</u>	<u>4000</u>	<u>HCl</u>	<u>TPH₃ BTEX MTBE</u>	<u>8015/8020 8260</u>
<u>MW-</u>						

CAMBRIA

WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>JR</u>	Well ID: <u>MW-5</u>
Project Number: <u>580-0197</u>	Date: <u>10-25-01</u>	Well Yield: <u>---</u>
Site Address: <u>1721 Webster St. Oakland, Ca</u>	Sampling Method:	Well Diameter: <u>2" pvc</u>
	<u>Disposable bailer</u>	Technician(s): <u>SA</u>
Initial Depth to Water: <u>16.05</u>	Total Well Depth: <u>24.30</u>	Water Column Height: <u>8.25</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.52</u>	3 Casing Volumes: <u>3.96</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>NO</u>	Total Gallons Purged: <u>4</u>
Start Purge Time: <u>11:15</u>	Stop Purge Time: <u>11:29</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
<u>11:20</u>	<u>1</u>	<u>19.4</u>	<u>7.27</u>	<u>721</u>	
<u>11:25</u>	<u>2</u>	<u>19.7</u>	<u>7.19</u>	<u>925</u>	
<u>11:30</u>	<u>3</u>	<u>19.7</u>	<u>7.23</u>	<u>1070</u>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-5</u>	<u>10-25-01</u>	<u>11:35</u>	<u>4V00a</u>	<u>HCl</u>	<u>TPH₅ BTE x MTBE</u>	<u>8015/8020 8260</u>

APPENDIX B

Laboratory Analytical Report



McCAMPBELL 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 Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #580-0197; Douglas Parking	Date Sampled: 10/25/01
	Client Contact: Ron Scheele	Date Received: 10/30/01
	Client P.O:	Date Extracted: 11/01-11/05/01
		Date Analyzed: 11/01-11/05/01

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

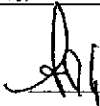
Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
82261	MW-2	W	3800,a	ND<50	620	230	70	400	101
82262	MW-3	W	11,000,b,j	ND<10	ND	3.0	15	70	---
82263	MW-4	W	110,a	ND	0.70	ND	ND	3.3	112
82264	MW-5	W	ND	ND	ND	ND	ND	ND	109
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

* cluttered chromatogram, sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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QC REPORT

EPA 8015m + 8020

Date: 11/01/01

Extraction: EPA 5030

Matrix: Water

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

SampleID: 110101

Instrument: GC-7

Surrogate1	ND	105.0	99.0	100.00	105	99	5.9
Xylenes	ND	30.1	30.9	30.00	100	103	2.6
Ethylbenzene	ND	10.1	10.3	10.00	101	103	2.0
Toluene	ND	10.0	10.1	10.00	100	101	1.0
Benzene	ND	9.4	9.2	10.00	94	92	2.2
MTBE	ND	9.0	9.0	10.00	90	90	0.0
TPH (gas)	ND	99.5	101.8	100.00	99	102	2.3

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

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

RPD means Relative Percent Deviation

