

C A M B R I A

Alameda County

FEB 26 2003

Environmental Health

February 24, 2003

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

NO 129 (accepted in)  
Geotracker  
DH

Re: **Fourth Quarter 2002 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 2002 monitoring report for the above-referenced site. The report describes the fourth quarter 2002 activities and results as well as the anticipated first quarter 2003 activities.

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

Sincerely,

**Cambria Environmental Technology, Inc.**

Mary C. Holland-Ford  
Project Geologist

Attachments: Fourth 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

**Cambria  
Environmental  
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5900 Hollis Street  
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FOURTH QUARTER 2002 MONITORING REPORT

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

February 24, 2003



*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



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Mary C. Holland-Ford  
Project Geologist

  
Robert Clark-Riddell, P.E.  
Principal Engineer

## FOURTH QUARTER 2002 MONITORING REPORT

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

February 24, 2003

### INTRODUCTION



On behalf of Douglas Parking, Cambria Environmental Technology, Inc. (Cambria) is submitting this fourth quarter 2002 groundwater monitoring report for the above-referenced site. Presented below are the fourth quarter 2002 activities and results, and the anticipated first quarter 2003 activities.

### FOURTH QUARTER 2002 ACTIVITIES AND RESULTS


#### Monitoring Activities

*Field Activities:* On October 4, 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 xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020 by McCampbell Analytical, Inc. of Pacheco, California. If detected, MTBE concentrations were confirmed by EPA Method 8260. 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 4, 2002 site visit, groundwater beneath the site flows toward the northeast with an approximate gradient of 0.009 ft/ft, 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 were detected in any site wells. The maximum detected TPHg concentration in groundwater was 8,400 micrograms per liter ( $\mu\text{g/l}$ ) in well MW-3. The maximum detected benzene concentration was 100  $\mu\text{g/l}$  in well MW-2. Groundwater samples from downgradient well MW-5 contained no detectable hydrocarbons above laboratory reporting limits. Although MTBE was detected at a concentration of 8.7  $\mu\text{g/l}$  in well MW-4 by EPA Method 8015M, MTBE was not reported in the confirmation analysis by EPA Method 8260. MTBE was not detected above laboratory reporting limits in the groundwater samples from wells MW-2, MW-3 and MW-5. The analytical results are summarized on Table 1. Benzene concentrations are summarized in Figure 1.

## ANTICIPATED FIRST QUARTER 2003 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

The Alameda County Health Care Services Agency (ACHCSA) requested additional information about the planned feasibility testing. Cambria will conduct feasibility testing upon further discussion with the ACHCSA and pre-approval of costs by the State UST 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

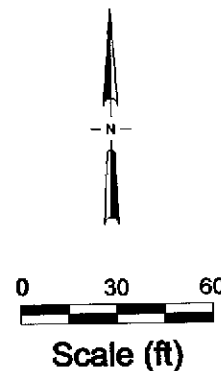
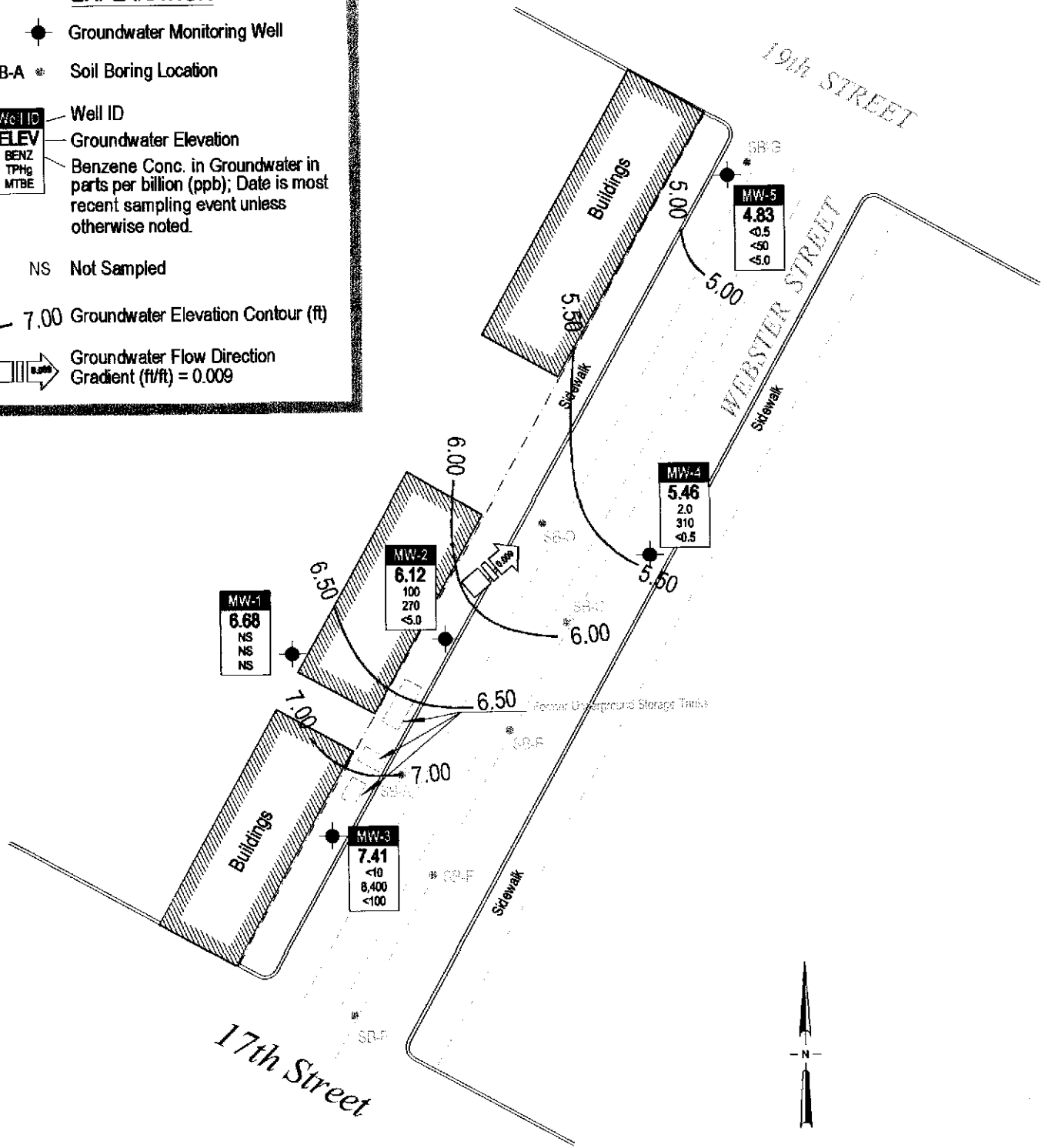
SB-A ● Soil Boring Location

Well ID	Well ID
ELEV	Groundwater Elevation
BENZ	Benzene Conc. in Groundwater in parts per billion (ppb); Date is most recent sampling event unless otherwise noted.
TPH <sub>g</sub>	
MTBE	

NS Not Sampled

— 7.00 Groundwater Elevation Contour (ft)

Groundwater Flow Direction  
 Gradient (ft/ft) = 0.009



FIGURE

1

H:\SB-2004\DCUGLAS\1721 Webster\FIGURES\CM2-HP.DWG

Base map from Piers Environmental Services

## Douglas Parking Facility

1721 Webster Street  
Oakland, California



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## Groundwater Elevation Contours Benzene Concentrations

October 4, 2002

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TABLE



# CAMBRIA

**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	-	-	-	-	-	-	-	
<b>10/4/2002</b>	<b>29.81</b>	<b>23.13</b>	<b>6.68</b>	-	-	-	-	-	-	-	
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	-	-

# CAMBRIA

**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-2	10/2/1996	27.40	19.15	8.25	21,000	2,200	3,400	430	1,600	-	-
(cont'd)	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	-
	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	-
	<b>10/4/2002</b>	<b>27.40</b>	<b>21.28</b>	<b>6.12</b>	<b>270</b>	<b>100</b>	<b>3.4</b>	<b>0.53</b>	<b>10</b>	<b>&lt;5.0</b>	-
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

# CAMBRIA

**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-3	2/8/1999	29.56	20.58	8.98	6,100	<0.5	8.1	18	80	<140	2.20
(cont'd)	2/17/1999	29.56	20.53	9.03	-	-	-	-	-	-	>20
	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	-	
10/4/2002	29.56	22.15	7.41	8,400	<10	<10	<10	42	<100	-	
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
					(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	-
	<b>10/4/2002</b>	<b>25.29</b>	<b>19.83</b>	<b>5.46</b>	<b>310</b>	<b>2.0</b>	<b>2.9</b>	<b>13</b>	<b>16</b>	<b>&lt;0.5</b>	-
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	-

# CAMBRIA

**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	(Concentrations in µg/l)			MTBE →	DO (mg/L)
							Toluene	Ethylbenzene	Xylenes		
MW-5	4/18/2002	21.97	16.59	5.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
(cont'd)	7/9/2002	21.97	16.94	5.03	170	1.0	0.65	2.1	4.0	<15	-
	10/4/2002	21.97	17.14	4.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-
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 80208260

DO = dissolved oxygen

<n = Below detection limit of n µg/L

\* = Well inaccessible

µg/L = micrograms per liter

mg/L = milligrams per liter

ft-msl = feet above mean sea level

TOC = top of casing

nd = not detected

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.

C A M B R I A



**APPENDIX A**

Field Data Sheets

Product Bailing Sheet

Well ID	Order Time	DTP	DTW	DOP	Amount of Product Removed	Casing Dia	Comment
MW-1	1:00		23.13				
MW-2	1:20		21.28				
MW-3	1:15		22.15				
MW-4	1:10		19.83				
MW-5	1:05		17.14				

Project Name: Douglas Parking

Project Number: 580-0197-053

Technician: [Signature]

Date: 10-4-02

WELL SAMPLING FORM

Project Name: Douglas Parking	Cambria Mgr: MHF	Well ID: MW-2
Project Number: 580-0197	Date: 10/04/02	Well Yield:
Site Address: 1721 Webster St. Oakland, Ca	Sampling Method:	Well Diameter: 2" pvc
	Disposable bailer	Technician(s): SG
Initial Depth to Water: 21.28	Total Well Depth: 25.70	Water Column Height: 4.42
Volume/ft: 0.16	1 Casing Volume: 0.70	3 Casing Volumes: 2.10
Purging Device: disposable bailer	Did Well Dewater?: No	Total Gallons Purged: 2
Start Purge Time: 2:55	Stop Purge Time: 3:09	Total Time: 14 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
3:00	.75	21.4	7.03	1219	
3:05	1.50	20.9	7.10	1025	
3:10	2.0	20.9	7.14	1070	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-2	10/04/02	3:15	4VOAs	HCL	TPHg BTEX MTBE	8260



WELL SAMPLING FORM

Project Name: Douglas Parking	Cambria Mgr: MHF	Well ID: MW-3
Project Number: 580-0197	Date: 10/04/02	Well Yield:
Site Address: 1721 Webster St. Oakland, Ca	Sampling Method:  Disposable bailer	Well Diameter: 2" pvc  Technician(s): SG
Initial Depth to Water: 22.15	Total Well Depth: 26.65	Water Column Height: 4.50
Volume/ft: 0.16	1 Casing Volume: 0.72	3 Casing Volumes: 2.16
Purging Device: disposable bailer	Did Well Dewater?: 10	Total Gallons Purged: 2
Start Purge Time: 3:30	Stop Purge Time: 3:44	Total Time: 14 mins

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

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

Time	Casing Volume	Temp.	pH	Cond.	Comments
3:35	.75	20.7	7.25	940	
3:40	1.50	20.8	7.20	817	
3:45	2.0	20.5	7.18	839	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	10/04/02	3:50	4VOAs	HCL	TPHg BTEX MTBE	8260

WELL SAMPLING FORM

Project Name: Douglas Parking	Cambria Mgr: MHF	Well ID: MW-4
Project Number: 580-0197	Date: 00/04/02	Well Yield:
Site Address: 1721 Webster St. Oakland, Ca	Sampling Method:  <b>Disposable bailer</b>	Well Diameter: <b>2" pvc</b>  Technician(s): SG
Initial Depth to Water: <b>19.83</b>	Total Well Depth: <b>29.20</b>	Water Column Height: <b>9.37</b>
Volume/ft: 0.16	1 Casing Volume: <b>1.49</b>	3 Casing Volumes: <b>4.49</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>no</b>	Total Gallons Purged: <b>4.5</b>
Start Purge Time: <b>2:20</b>	Stop Purge Time: <b>2:34</b>	Total Time: <b>14 mins</b>

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.	pH	Cond.	Comments
<b>2:25</b>	<b>1.5</b>	<b>21.7</b>	<b>7.20</b>	<b>815</b>	
<b>2:30</b>	<b>3.0</b>	<b>21.5</b>	<b>7.24</b>	<b>681</b>	
<b>2:35</b>	<b>4.5</b>	<b>21.5</b>	<b>7.22</b>	<b>712</b>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	00/04/02	2:40	4VOAs	HCL	TPHg BTEX MTBE	8260

WELL SAMPLING FORM

Project Name: Douglas Parking	Cambria Mgr: MHF	Well ID: MW-5
Project Number: 580-0197	Date: <del>10</del> /04/02	Well Yield:
Site Address: 1721 Webster St. Oakland, Ca	Sampling Method:  <b>Disposable bailer</b>	Well Diameter: <b>2" pvc</b>
		Technician(s): SG
Initial Depth to Water: <b>17.14</b>	Total Well Depth: <b>24.30</b>	Water Column Height: <b>7.16</b>
Volume/ft: 0.16	1 Casing Volume: <b>1.14</b>	3 Casing Volumes: <b>3.43</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>NO</b>	Total Gallons Purged: <b>3</b>
Start Purge Time: <b>1:45</b>	Stop Purge Time: <b>1:59</b>	Total Time: <b>14mins</b>

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.	pH	Cond.	Comments
<b>1:50</b>	<b>1</b>	<b>19.5</b>	<b>7.09</b>	<b>620</b>	
<b>1:55</b>	<b>2</b>	<b>20.1</b>	<b>7.14</b>	<b>471</b>	
<b>2:00</b>	<b>3</b>	<b>20.4</b>	<b>7.18</b>	<b>552</b>	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	<del>10</del> /04/02	<b>2:05</b>	<b>4VOAs</b>	<b>HCL</b>	<b>TPHg BTEX MTBE</b>	<b>8260</b>

**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME:

RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required?  Yes  No

Report To: *Marcy Holland Ford* Bill To: *Cambria Env. Tech.*

Company: Cambria Environmental Technology Inc.

6262 Hollis Street

Emeryville, CA 94608

E-mail:

Tele: 510-450-1982

Fax: 510-450-8295

Project #: 580-0197-053

Project Name: *Douglas Parking*

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

Sampler Signature: *S. Hill*

Analysis Request

Other

Comments

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	
BTEX 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	

*CONFIRM ALL HITS BY 8260*

**FILE COPY**

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
<i>MW-2</i>		<i>10-4-02</i>	<i>3:15</i>	<i>4</i>	<i>Voa</i>	<i>X</i>					<i>X</i>	<i>X</i>		<i>X</i>			
<i>MW-3</i>		<i>10-4-02</i>	<i>3:50</i>	<i>4</i>	<i>Voa</i>	<i>X</i>					<i>X</i>	<i>X</i>		<i>X</i>			
<i>MW-4</i>		<i>10-4-02</i>	<i>2:40</i>	<i>4</i>	<i>Voa</i>	<i>X</i>					<i>X</i>	<i>X</i>		<i>X</i>			
<i>MW-5</i>		<i>10-4-02</i>	<i>2:05</i>	<i>4</i>	<i>Voa</i>	<i>X</i>					<i>X</i>	<i>X</i>		<i>X</i>			

Relinquished By: <i>S. Hill</i>	Date: <i>10-7-02</i>	Time: <i>4:00</i>	Received By: <i>secure location</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

**CAMBRIA**  
**Supplemental Billing Form**  
**Standard and State Fund Rates 2002**

**FILE COPY**

Date: 10-4-02

Project Name: Douglas Parkins

Employee Name: Sanjiv Gill

Project #: 580-0197 Task 053

Code	Description	Unit	Rate	Notes
00000	AT Compressor	Day	55.00	
00060	Bailer (PVC)	Day	8.00	
00004	Bailer (products thickness)	Day	20.00	
00005	Bailer (Teflon)	Day	20.00	
00051	Generator	Day	60.00	
00023	Hand Auger Kit w/ core sampler/hammer	Day	30.00	
00048	Meter - Combustible Gas/O2 Level	Day	60.00	
00001	Meter - Dissolved Oxygen Meter	Day	40.00	
00008	Meter - Interface	Day	40.00	
00002	Meter - pH, Conductivity, Temperature	Day	40.00	
00052	Meter - Photo-Ionization Detector (PID)	Day	100.00	
00233	Meter - Flame-Ionization Detector (FID)	Day	150.00	
00037	Meter- Turbidity	Day	20.00	
00057	Meter - Vacuum/Pressure Gauges	Day	20.00	
00050	Meter - Vapor Flow Meter	Day	20.00	
00066	Meter - Water Level	Day	25.00	
00058	Pump - DC Purging 2" (3 gpm to 40ft deep)	Day	15.00	
00040	Pump - Hand Purging, 2" (3 gpm to 40 ft deep)	Day	15.00	
00044	Pump - Submersible 2" (8 gpm)	Day	50.00	
00045	Pump - Submersible 4" (40 gpm)	Day	60.00	
00011	Pump - Trash (150 gpm)	Day	55.00	
00235	Traffic Control - Cones	Each 25	8.00	
00037	Traffic Control - Signs, Barricades (no flagmen or lightboards)	Day	30.00	
00241	Report Production (Standard, <1/2 in)	Each	25.00	
00242	Report Production (Oversized, >1/2 in)	Each	50.00	
00056	Bailers ( Disposable) Polypropylene	Each	8.00	
00020	Personal Protective Equipment: Level C (per person/day)	Unit	40.00	
00010	Personal Protective Equipment: Level D (per person /day)	Unit	0.00	
00236	Padlocks	Each	10.00	
00038	Soil Sampling Liners (Brass)	Each	6.00	
00234	Soil Sampling Liners (Stainless Steel)	Each	10.00	
00239	Tedlar Bags (1 Liter)	Each	10.00	
00026	Film	Photo	2.00	
00035	55-Gallon Drum	Each	40.00	
00014	Miscellaneous field supplies (gloves, water, rope, caution tape, etc.)	Unit	25.00	
	Standard			
00061	Mileage	Mile	0.40	
00063	Truck (2WD Pick-up, van)	Day	55.00	
00238	Specialized vehicle (4WD)	Day	75.00	
00015	Per diem	Day	85.00	
	UST Fund			
00067	Mileage - Truck/Auto (2WD Pick-up, van) if miles/day under 120	Mile	0.50	
00063	Truck (2WD Pick-up, van) if miles/day over 120	Day	60.00	
00061	Mileage - Specialized vehicle (4WD) if miles/day under 125	Mile	0.60	
00238	Specialized vehicle (4WD) if miles/day over 125	Day	75.00	
00015	Per diem	Day	85.00	

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](mailto:main@mccampbell.com)

Cambria Env. Technology 6262 Hollis St. Emeryville, CA 94608	Client Project ID: #580-0197-053; Douglas Parking	Date Sampled: 10/04/02
		Date Received: 10/07/02
	Client Contact: Mary Holland Ford	Date Reported: 10/18/02
	Client P.O.:	Date Completed: 01/10/03

**WorkOrder: 0210143**

January 10, 2003

Dear Mary:

Enclosed are:

- 1). the results of 4 analyzed samples from your #580-0197-053; 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









## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0210143

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 4315		Spiked Sample ID: 0210143-004A				
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	101	98	3.46	97.3	98.7	1.49	80	120
MTBE	ND	10	80.8	90.2	10.9	92.3	92.5	0.191	80	120
Benzene	ND	10	93.6	105	11.2	94.4	97.2	2.93	80	120
Toluene	ND	10	99.3	111	11.4	101	109	7.19	80	120
Ethylbenzene	ND	10	102	109	6.45	96.6	104	7.08	80	120
Xylenes	ND	30	103	107	3.17	100	100	0	80	120
%SS:	103	100	99.8	110	9.51	89.9	92.7	3.07	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.



### QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0210143

EPA Method: SW8260B		Extraction: SW5030B		BatchID: 4433		Spiked Sample ID: 0210270-001A				
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
Methyl-t-butyl ether (MTBE)	ND	10	109	107	1.63	115	116	0.784	70	130
%SS1:	104	100	85.4	101	16.9	92.5	87.3	5.73	70	130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

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.

OK

0210170

### McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

### CHAIN OF CUSTODY RECORD

TURN AROUND TIME:

RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required?  Yes  No

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

Company: Cambria Environmental Technology Inc.

6262 Hollis Street

Emeryville, CA 94608

E-mail:

Tele: 510-450-1982

Fax: 510-450-8295

Project #: 580-0197-053

Project Name: Douglas Parkings

Project Location: 1721 Webster St. Oakland, Ca

Sampler Signature: S. Hill

#### Analysis Request

Other

Comments

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

BTEX 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

confirm all hits by 8260

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED			
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other
MW-2		10-4-02	3:15	4	VOL	X					X	X		X
MW-3		10-4-02	3:50	4	VOL	X					X	X		X
MW-4		10-4-02	2:40	4	VOL	X					X	X		X
MW-5		10-4-02	2:05	9	VOL	X					X	X		X

Relinquished By: S. Hill

Date: 10-7-02 Time: 4:00

Received By: secure location

Relinquished By: Travis L...

Date: 10/07/02 Time: 10:00

Received By: Travis Brown #266

Relinquished By: Travis Brown

Date: 10/07/02 Time: 14:00

Received By: Melissa Vella



Remarks:

RECEIVED	PREPARED	DATE	TIME	INITIALS	OTHER
CONFIRMATION	APPROPRIATE				
LABORATORY	CONTAINERS				
INITIALS IN LAB	PRESERVED IN LAB				