

R0129

C A M B R I A

February 4, 2004

Mr. Don Hwang  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502

Re: **Groundwater Monitoring Report – Fourth Quarter 2003**  
Douglas Parking Company  
1721 Webster Street  
Oakland, California  
File No. 4070  
Cambria Project No. 580-0197

Alameda County  
FEB 06 2004  
Environmental Health



Dear Mr. Hwang:

On behalf of Mr. Lee Douglas of Douglas Parking Company, Cambria Environmental Technology, Inc. (Cambria) has prepared this *Groundwater Monitoring Report - Fourth Quarter 2003* for the above-referenced site. The report describes the fourth quarter 2003 activities and results as well as the anticipated first quarter 2004 activities.

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

Sincerely,  
**Cambria Environmental Technology, Inc.**

Mary C. Holland-Ford, R.G.  
Project Geologist

Attachment: Groundwater Monitoring Report – Fourth Quarter 2003

**Cambria  
Environmental  
Technology, Inc.**

cc: Mr. Lee Douglas, Douglas Parking Company, 1721 Webster Street, Oakland, California 94612 (2 copies)

5900 Hollis Street  
Suite A  
Emeryville, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

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GROUNDWATER MONITORING REPORT – FOURTH QUARTER 2003

Douglas Parking Company  
1721 Webster Street  
Oakland, California  
File No. 4070  
Cambria Project No. 580-0917

February 4, 2004



*Prepared for:*

Mr. Lee Douglas  
1721 Webster Street  
Oakland, California 94612


Alameda County  
Environmental Health  
FEB 06 2004

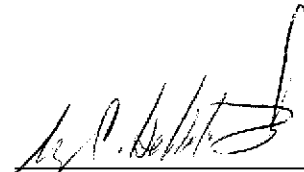
*Prepared by:*

Cambria Environmental Technology, Inc.  
5900 Hollis Street, Suite A  
Emeryville, California 94608

*Written by:*



  
Sanjiv Gill  
Staff Scientist

  
Mary C. Holland-Ford, R.G.  
Project Geologist

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# C A M B R I A

## GROUNDWATER MONITORING REPORT – FOURTH QUARTER 2003

Douglas Parking Company  
1721 Webster Street  
Oakland, California  
File No. 4070  
Cambria Project No. 580-0197

February 4, 2004

### INTRODUCTION



On behalf of Douglas Parking Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this *Groundwater Monitoring Report - Fourth Quarter 2003* for the above-referenced site. Presented below are the fourth quarter 2003 activities and results, and the anticipated first quarter 2004 activities.

### FOURTH QUARTER 2003 ACTIVITIES AND RESULTS

#### Monitoring Activities

**Field Activities:** On October 2, 2003, Cambria gauged depth-to-water and inspected all groundwater monitoring wells for separate-phase hydrocarbons (SPH). Groundwater samples were collected from monitoring wells MW-2 through MW-7. Well MW-1 is not included in the quarterly sampling schedule. Field data sheets are presented as Appendix A. The well gauging data has been submitted to the Geotracker database. See Appendix C for the Geotracker electronic delivery confirmation.

**Sample Analyses:** Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015C, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8021B by McCampbell Analytical, Inc. of Pacheco, California. The laboratory analytical report is included in Appendix B. The analytical data has been submitted to the Geotracker database. See Appendix C for the Geotracker electronic delivery confirmation.

#### Monitoring Results

**Groundwater Flow Direction:** Based on depth-to-water measurements collected on October 2, 2003, groundwater beneath the site flows toward the northeast at a gradient of 0.008 ft/ft (Figure 1). As shown with the rose diagram in Figure 1, the groundwater direction is consistent with historical data. Depth to water and groundwater elevation data are presented in Table 1.

**Hydrocarbon Distribution in Groundwater:** Hydrocarbons were detected in four of the six wells sampled this quarter. Hydrocarbon concentrations remained at similar levels as compared to previous quarter, except for well MW-6, where levels decreased significantly. The maximum TPHg concentration was detected in crossgradient well MW-6 at 16,000 micrograms per liter ( $\mu\text{g/L}$ ). A maximum benzene concentration was detected in well MW-2 at 790  $\mu\text{g/L}$ . No hydrocarbons were detected in groundwater samples from wells MW-5 and MW-7, and no MTBE was detected in any of the wells. The analytical results are summarized in Figure 1 and Table 1.



## ANTICIPATED FIRST QUARTER 2004 ACTIVITIES

### Monitoring Activities

Cambria will gauge all wells, inspect for SPH, and collect groundwater samples from all wells MW-2 through MW-7. Groundwater samples will be analyzed for TPHg by EPA Method 8015C, and BTEX and MTBE by EPA Method 8021B. If MTBE is detected by EPA Method 8021B, the samples will additionally analyzed for MTBE by EPA Method 8260. Following field activities, Cambria will tabulate the data, contour groundwater elevations, construct a Rose diagram, and prepare a quarterly groundwater monitoring report.

### Feasibility Testing

In order to evaluate the effectiveness of a soil vapor extraction and/or air sparge system at the site, Cambria conducted a one-day pilot test on October 4, 2003. Test procedures, observations, and evaluation of results will be included in Cambria's *Soil Vapor Extraction and Air Sparge Pilot Test Report*.

## ATTACHMENTS

Figure 1 – Groundwater Elevation Contours and Hydrocarbon Concentration Map

Table 1 – Groundwater Elevation and Analytical Data

Appendix A – Groundwater Monitoring Field Data Sheets

Appendix B – Laboratory Analytical Report

Appendix C – Geotracker Electronic Delivery Confirmations

**EXPLANATION**

- Groundwater Monitoring Well
- SB-A Soil Boring Location
- |         |
|---------|
| Well ID |
| ELEV    |
| TPH     |
| BENZ    |
| MTBE    |

 Well ID  
Groundwater Elevation  
Concentrations in Groundwater in micrograms per liter ( $\mu\text{g/L}$ )
- NS Not Sampled
- 11.50 Groundwater Elevation Contour (ft)
- \* Not used in contouring
- Groundwater Flow Direction  
Gradient (ft/ft) = 0.026

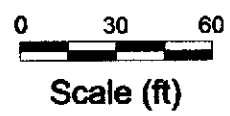
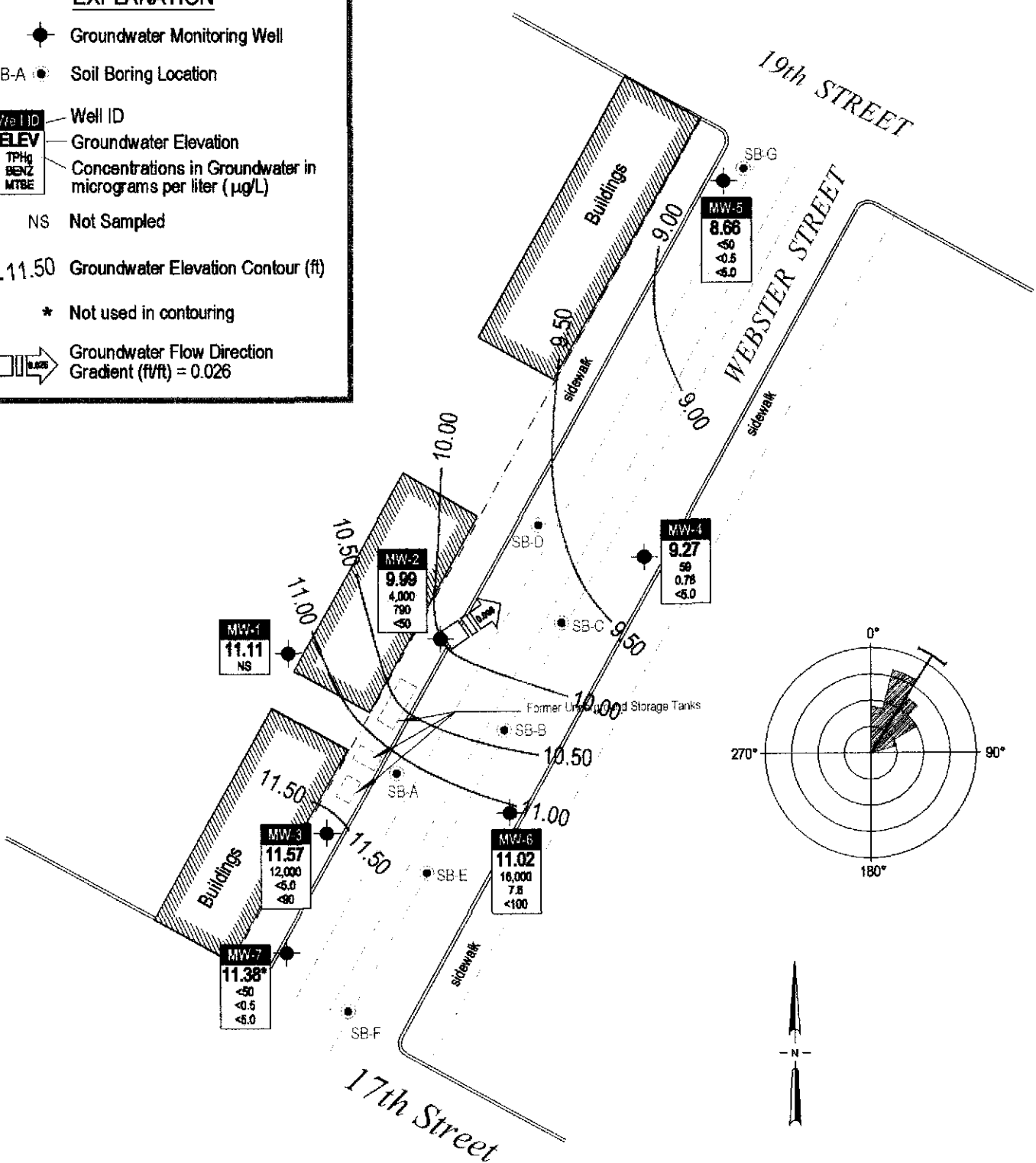


FIGURE  
**1**

H:\88-3064\DOUGLAS\1721 Webster\FIGURES\CAMBS-MP.DWG

Base map from Piers Environmental Services

**Douglas Parking Facility**  
1721 Webster Street  
Oakland, California



**Groundwater Elevation Contours and  
Hydrocarbon Concentration Map**  
October 2, 2003

# CAMBRIA

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

Well ID (TOC)	Date	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-1	12/2/1994	19.42	9.83	nd	nd	nd	nd	nd	-
29.25	3/6/1995	20.69	9.04	nd	nd	nd	nd	nd	-
29.73	7/11/1995	20.65	9.16	nd	nd	nd	nd	nd	-
29.81	5/10/1996	20.80	9.01	nd	nd	nd	nd	nd	-
	10/2/1996	21.35	8.46	-	-	-	-	-	-
	2/28/1997	20.57	9.24	-	-	-	-	-	-
	9/16/1997	21.50	8.31	-	-	-	-	-	-
	2/5/1998	20.91	8.90	-	-	-	-	-	-
	8/11/1998	20.50	9.31	-	-	-	-	-	-
	2/8/1999	21.42	8.39	-	-	-	-	-	-
	2/24/1999	22.99	6.82	-	-	-	-	-	-
	3/3/1999	20.84	8.97	-	-	-	-	-	-
	3/10/1999	20.89	8.92	-	-	-	-	-	-
	3/17/1999	20.84	8.97	-	-	-	-	-	-
	5/4/1999	20.80	9.01	-	-	-	-	-	-
	7/20/1999	21.25	8.56	-	-	-	-	-	-
	10/5/1999	21.37	8.44	-	-	-	-	-	-
	1/7/2000	21.65	8.16	-	-	-	-	-	-
	4/6/2000	21.05	8.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/31/2000	21.13	8.68	-	-	-	-	-	-
	10/3/2000	21.69	8.12	-	-	-	-	-	-
	1/12/2001	22.00	7.81	-	-	-	-	-	-
	4/11/2001	22.16	7.65	-	-	-	-	-	-
	7/6/2001	22.57	7.24	-	-	-	-	-	-
	10/25/2001	22.71	7.10	-	-	-	-	-	-
	3/4/2002	22.53	7.28	-	-	-	-	-	-
	4/18/2002	22.81	7.00	-	-	-	-	-	-
	7/9/2002	22.95	6.86	-	-	-	-	-	-
	10/4/2002	23.13	6.68	-	-	-	-	-	-
	1/12/2003	22.05	7.76	-	-	-	-	-	-
	4/21/2003	21.17	8.64	-	-	-	-	-	-
32.75	7/21/2003	21.39	11.36	-	-	-	-	-	-
	10/2/2003	21.64	11.11	-	-	-	-	-	-
MW-2	12/2/1994	19.50	7.60	61,300	3,000	3,900	160	4,500	-
27.10	3/6/1995	18.49	8.61	98,000	8,400	16,000	2,000	2,600	-
27.40	7/11/1995	18.45	8.95	38,000	3,100	7,500	940	3,700	-
	5/10/1996	18.56	8.84	63,000	7,400	16,000	1,500	6,000	-
	10/2/1996	19.15	8.25	21,000	2,200	3,400	430	1,600	-
	2/28/1997	18.43	8.97	39,000	4,700	9,600	950	4,200	nd
	9/16/1997	19.26	8.14	29,000	3,300	5,800	690	2,900	<620
	2/5/1998	18.66	8.74	10,000	1,000	2,000	170	860	<330
	8/11/1998	18.41	8.99	12,000	1,200	2,300	260	1,400	300
	2/8/1999	19.84	7.56	5,500	740	1,200	150	780	60
	2/17/1999	18.94	8.46	-	-	-	-	-	-
	2/24/1999	20.76	6.64	-	-	-	-	-	-
	3/3/1999	18.55	8.85	-	-	-	-	-	-
	3/10/1999	20.74	6.66	-	-	-	-	-	-
	3/17/1999	18.57	8.83	-	-	-	-	-	-
	5/4/1999	18.55	8.85	90,000	9,200	21,000	1,600	10,000	560
	7/20/1999	18.98	8.42	28,000	2,100	3,700	900	4,200	<860
	10/5/1999	19.10	8.30	11,000	870	180	30	1,400	<110
	1/7/2000	19.41	7.99	15,000	1,300	2,100	440	1,800	<14

# CAMBRIA

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

Well ID (TOC)	Date	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-2 (cont'd)	4/6/2000	18.80	8.60	17,000	1,800	3,100	500	2,200	<50	
	7/31/2000	18.87	8.53	17,000	1,500	2,700	430	2,100	<200	
	10/3/2000	19.45	7.95	27,000	2,500	4,000	660	2,900	<50	
	1/12/2001	19.80	7.60	25,000	2,700	4,100	670	3,000	<200	
	4/11/2001	20.03	7.37	97,000	9,500	21,000	2,200	7,900	<200	
	7/6/2001	20.19	7.21	3,500	500	150	11	420	<5.0	
	10/25/2001	20.35	7.05	3,800	620	230	70	400	<50	
	3/4/2002	20.37	7.03	46,000	7,300	12,000	870	3,200	<500	
	4/18/2002	20.15	7.25	68,000	5,100	8,900	1,100	4,000	<1,000	
	7/9/2002	21.09	6.31	1,000	200	8.9	0.67	82	<10	
	10/4/2002	21.28	6.12	270	100	3.4	0.53	10	<5.0	
	1/12/2003	20.59	6.81	67,000	7,600	13,000	1,400	5,600	<500	
	4/21/2003	19.98	7.42	78,000	7,700	12,000	1,900	6,900	<500	
	30.40	7/21/2003	20.08	10.32	1,800	360	16	<5.0	190	<50
		10/2/2003	20.41	9.99	4,000	790	110	60	350	<50
MW-3 29.50 29.25 29.56	12/2/1994	22.15	7.35	394,000	1,200	nd	1,800	4,000	-	
	3/6/1995	20.09	9.16	21,000	400	150	24	62	-	
	7/11/1995	19.99	9.57	12,000	nd	10	16	99	-	
	5/10/1996	20.24	9.32	8,600	nd	7.6	16	84	-	
	10/2/1996	20.90	8.66	11,000	nd	7.4	19	92	-	
	2/28/1997	20.12	9.44	6,000	nd	4.4	17	88	50	
	9/16/1997	20.97	8.59	6,500	<0.5	1	1	7	<5.0	
	2/5/1998	20.39	9.17	5,400	<0.5	6.3	15	86	<63	
	8/11/1998	19.95	9.61	2,700	<0.5	3.5	3.2	12	<10	
	2/8/1999	20.58	8.98	6,100	<0.5	8.1	18	80	<140	
	2/17/1999	20.53	9.03	-	-	-	-	-	-	
	2/24/1999	22.53	7.03	-	-	-	-	-	-	
	3/3/1999	20.28	9.28	-	-	-	-	-	-	
	3/10/1999	22.45	7.11	-	-	-	-	-	-	
	3/17/1999	20.26	9.30	-	-	-	-	-	-	
	5/4/1999	20.24	9.32	11,000	<2	<2	9.8	140	<10	
	7/20/1999	20.68	8.88	11,000	<0.5	3.1	13	88	<80	
	10/5/1999	20.81	8.75	31,000	62	<0.5	21	170	<90	
	1/7/2000	21.09	8.47	13,000	<0.5	<2	21	140	<80	
	4/6/2000	20.48	9.08	5,300	1.5	1.4	9.8	60	<30	
	7/31/2000	20.62	8.94	7,100	3.5	1.0	12	66	<5.0	
	10/3/2000	21.13	8.43	8,000	<0.5	3.3	11	70	<40	
	1/12/2001	21.45	8.11	11,000	4.3	6.7	11	73	<70	
	4/11/2001	21.69	7.87	10,000	<0.5	<0.5	11	65	<10	
	7/6/2001	21.60	7.96	13,000	5.3	1.6	11	58	<5.0	
	10/25/2001	21.70	7.86	11,000	<0.5	3.0	15	70	<10	
	3/4/2002	21.65	7.91	1,900	1.3	0.8	<0.5	15	<5.0	
	4/18/2002	21.77	7.79	1,500	1.0	0.97	1.3	5.8	<5	
	7/9/2002	22.03	7.53	13,000	6.8	5.7	13	59	<90	
	10/4/2002	22.15	7.41	8,400	<10	<10	<10	42	<100	
	1/12/2003	21.13	8.43	9,000	9.5	5.1	8.5	46	<90	
	4/21/2003	20.63	8.93	10,000	<5.0	<5.0	8.5	32	<50	
32.56	7/21/2003	20.68	11.88	9,600	<2.5	<2.5	7.4	39	48, (<1.0)	
	10/2/2003	20.99	11.57	12,000	<5.0	<5.0	10	40	<90	
MW-4 25.29	5/10/1996	16.98	8.31	14,000	nd	1,200	720	3,100	-	
	10/2/1996	17.65	7.64	12,000	nd	650	580	2,200	-	
	2/28/1997	16.80	8.49	13,000	nd	1,100	750	2,700	110	

# CAMBRIA

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

Well ID (TOC)	Date	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-4 (cont'd)	9/17/1997	17.93	7.36	13,000	<2.5	820	750	2,900	<190	
	2/5/1998	16.78	8.51	13,000	<1.0	690	690	2,900	<170	
	8/11/1998	16.59	8.70	15,000	<5	360	520	1,900	280	
	2/8/1999	17.10	8.19	9,800	<5	680	770	2,200	300	
	2/24/1999	18.95	6.34	-	-	-	-	-	-	
	3/3/1999	16.80	8.49	-	-	-	-	-	-	
	3/10/1999	16.86	8.43	-	-	-	-	-	-	
	3/17/1999	16.82	8.47	-	-	-	-	-	-	
	5/4/1999	16.86	8.43	11,000	46	600	620	1,900	<100	
	7/20/1999	17.30	7.99	13,000	<0.5	470	7.0	2,000	<150	
	10/5/1999	17.43	7.86	18,000	4.4	720	800	2,100	<120	
	1/7/2000	17.78	7.51	18,000	<2	930	990	2,700	<30	
	4/6/2000	17.17	8.12	8,000	31	390	530	1,300	<10	
	7/31/2000	17.21	8.08	6,200	13	170	460	850	<10	
	10/3/2000	18.00	7.29	14,000	42	820	730	2,000	<50	
	1/12/2001	18.20	7.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/11/2001	18.31	6.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/6/2001	18.35	6.94	470	2.3	1.6	0.81	43	<5.0	
	10/25/2001	18.47	6.82	110	0.70	<0.5	<0.5	3.3	<5.0	
	3/4/2002	18.43	6.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/18/2002	18.61	6.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/9/2002	19.50	5.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/4/2002	19.83	5.46	310	2.0	2.9	13	16	<0.5	
	1/12/2003	19.07	6.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/21/2003	18.71	6.58	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	28.29	7/21/2003	18.81	9.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		10/2/2003	<b>19.02</b>	<b>9.27</b>	<b>59</b>	<b>0.78</b>	<b>&lt;0.5</b>	<b>1.1</b>	<b>0.91</b>	<b>&lt;5.0</b>
MW-5 21.97	5/10/1996	14.60	7.37	nd	nd	nd	nd	nd	-	
	10/2/1996	15.25	6.72	nd	nd	nd	nd	nd	-	
	2/28/1997	14.31	7.66	nd	nd	nd	nd	nd	nd	
	9/17/1997	15.18	6.79	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/5/1998	13.64	8.33	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/11/1998	13.92	8.05	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/8/1999	14.19	7.78	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/24/1999	16.18	5.79	-	-	-	-	-	-	
	3/3/1999	14.23	7.74	-	-	-	-	-	-	
	3/10/1999	14.32	7.65	-	-	-	-	-	-	
	3/17/1999	14.25	7.72	-	-	-	-	-	-	
	5/4/1999	14.41	7.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/20/1999	14.44	7.53	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/5/1999	14.79	7.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/7/2000*	15.23	6.74	-	-	-	-	-	-	
	4/6/2000	14.74	7.23	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/31/2000	14.52	7.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/3/2000	15.37	6.60	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/12/2001	15.70	6.27	6,400	13	290	450	1,100	<40	
	4/11/2001	15.78	6.19	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
7/6/2001	15.97	6.00	<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 (TOC)	Date	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-5	10/25/2001	16.05	5.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0
(cont'd)	3/4/2002	16.21	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/18/2002	16.59	5.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/9/2002	16.94	5.03	170	1.0	0.65	2.1	4.0	<15
	10/4/2002	17.14	4.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/12/2003	16.58	5.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/21/2003	15.90	6.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0
24.99	7/21/2003	16.03	8.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/2/2003	16.33	8.66	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-6	6/30/2003	19.60	11.39	68,000	950	6,000	2,400	10,000	<1,000
30.99	7/21/2003	19.67	11.32	120,000	170	1,400	1,100	10,000	<1,000
	10/2/2003	19.97	11.02	16,000	7.6	200	38	1,800	<100
MW-7	6/30/2003	21.40	11.71	170	<0.5	2.1	2.0	8.7	<5.0
33.11	7/21/2003	21.44	11.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/2/2003	21.73	11.38	<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
	10/2/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0

**Notes and Abbreviations:**

\* = Well inaccessible

<nd = Below detection limit

TOC = top of casing elevations in feet above mean sea level

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

Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8021B

MTBE = methyl tertiary butyl ether by EPA Method 8021B, and by EPA Method 8260 in parenthesis

µg/L = micrograms per liter

ft-msl = feet above mean sea level

- = well not sampled

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.

On July 31, 2003, Virgil Chavez Land Surveying of Vallejo, California surveyed monitoring wells using a benchmark in the top of the curb near the SW return of the NW corner of 34th and Broadway

# **APPENDIX A**

Groundwater Monitoring Data Sheets

## Groundwater Monitoring Field Sheet

Well ID	Time	DTP	DTW	Product Thickness	Amount of Product Removed	Casing Diam.	Comment
							DTR
MW-1	6:00		21.64				
MW-2	6:20		20.41				25.74
MW-3	6:15		20.99				26.66
MW-4	6:10		19.02				29.20
MW-5	6:05		16.33				24.32
MW-6	6:25		19.97				27.51
MW-7	6:30		21.73				28.96

Project Name: Douglas parkingProject Number/Task: 580-0197/063Measured By: L. HillDate: 10-2-03

## WELL SAMPLING FORM

Client Name: <u>Douglas Packing</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-2</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Oakland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>SG</u>
Initial Depth to Water: <u>20.41</u>	Total Well Depth: <u>25.74</u>	Water Column Height: <u>5.33</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>0.85</u>	3 Casing Volumes: <u>2.55</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>2.50</u>
Start Purge Time: <u>10:10</u>	Stop Purge Time: <u>10:39</u>	Total Time: <u>29 mins</u>

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>10:20</u>	<u>1.5</u>	<u>19.0</u>	<u>7.15</u>	<u>1319</u>	
<u>10:30</u>	<u>2</u>	<u>18.7</u>	<u>7.19</u>	<u>740</u>	
<u>10:40</u>	<u>2.5</u>	<u>18.9</u>	<u>7.21</u>	<u>622</u>	

Fe = \_\_\_\_\_ mg/L      ORP = \_\_\_\_\_ mV      DO = \_\_\_\_\_ mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-2</u>	<u>10-2-03</u>	<u>10:45</u>	<u>3000</u>	<u>HCl</u>		

## WELL SAMPLING FORM

Site Name: <u>Douglas Parking</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-3</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Oakland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>SG</u>
Initial Depth to Water: <u>20.99</u>	Total Well Depth: <u>26.66</u>	Water Column Height: <u>5.67</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>0.90</u>	3 Casing Volumes: <u>2.70</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>3</u>
Start Purge Time: <u>8:30</u>	Stop Purge Time: <u>8:59</u>	Total Time: <u>29 mins</u>

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>3:40</u>	<u>1</u>	<u>18.9</u>	<u>7.20</u>	<u>1561</u>	
<u>8:50</u>	<u>2</u>	<u>18.9</u>	<u>7.14</u>	<u>1722</u>	
<u>9:00</u>	<u>3</u>	<u>19.1</u>	<u>7.19</u>	<u>1785</u>	

Fe =	mg/L	ORP =	mV	DO =	mg/L
------	------	-------	----	------	------

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-3</u>	<u>10-2-03</u>	<u>9:05</u>	<u>3000</u>	<u>HCl</u>		

## WELL SAMPLING FORM

Site Name: <u>Douglas Parking</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-4</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Oakland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>SH</u>
Initial Depth to Water: <u>19.02</u>	Total Well Depth: <u>29.02</u>	Water Column Height: <u>10.00</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.60</u>	3 Casing Volumes: <u>4.80</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>5</u>
Start Purge Time: <u>7:40</u>	Stop Purge Time: <u>8:09</u>	Total Time: <u>29 mins</u>

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>7:50</u>	<u>1.5</u>	<u>19.1</u>	<u>7.03</u>	<u>612</u>	
<u>8:00</u>	<u>3</u>	<u>18.9</u>	<u>7.10</u>	<u>638</u>	
<u>8:10</u>	<u>5</u>	<u>19.0</u>	<u>7.12</u>	<u>715</u>	

Fe =	mg/L	ORP =	mV	DO =	mg/L
------	------	-------	----	------	------

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-4</u>	<u>10-2-03</u>	<u>8:15</u>	<u>3000</u>	<u>HCl</u>		

## WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-5</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Akland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>SG</u>
Initial Depth to Water: <u>16.33</u>	Total Well Depth: <u>24.32</u>	Water Column Height: <u>7.99</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.27</u>	3 Casing Volumes: <u>3.83</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>NO</u>	Total Gallons Purged: <u>4</u>
Start Purge Time: <u>6:50</u>	Stop Purge Time: <u>7:19</u>	Total Time: <u>29mins</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>7:00</u>	<u>1.5</u>	<u>18.7</u>	<u>7.24</u>	<u>610</u>	
<u>7:10</u>	<u>3</u>	<u>18.9</u>	<u>7.15</u>	<u>690</u>	
<u>7:20</u>	<u>4</u>	<u>18.9</u>	<u>7.18</u>	<u>755</u>	

Fe =	mg/L	ORP =	mV	DO =	mg/L
------	------	-------	----	------	------

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-5</u>	<u>10-2-03</u>	<u>7:25</u>	<u>3000</u>	<u>HCl</u>		

## WELL SAMPLING FORM

Site Name: <u>Douglas Parking</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-6</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Oakland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>SG</u>
Initial Depth to Water: <u>19.97</u>	Total Well Depth: <u>27.51</u>	Water Column Height: <u>7.54</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.20</u>	3 Casing Volumes: <u>3.60</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>3</u>
Start Purge Time: <u>9:20</u>	Stop Purge Time: <u>9:49</u>	Total Time: <u>29 mins</u>

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>9:30</u>	<u>1</u>	<u>18.5</u>	<u>7.13</u>	<u>1055</u>	
<u>9:40</u>	<u>2</u>	<u>18.7</u>	<u>7.18</u>	<u>1528</u>	
<u>9:50</u>	<u>3</u>	<u>18.8</u>	<u>7.14</u>	<u>1641</u>	

Fe =	mg/L	ORP =	mV	DO =	mg/L
------	------	-------	----	------	------

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-6</u>	<u>10-2-03</u>	<u>9:55</u>	<u>3000</u>	<u>HCl</u>		



## WELL SAMPLING FORM

Project Name: <u>Douglas Parking</u>	Cambria Mgr: <u>MHF</u>	Well ID: <u>MW-7</u>
Project Number: <u>580-0197</u>	Date: <u>10-2-03</u>	Well Yield:
Site Address: <u>721 Webster St</u> <u>Oakland, Ca</u>	Sampling Method: <u>disposable bailer</u>	Well Diameter: <u>2" pvc</u>
		Technician(s): <u>Sh</u>
Initial Depth to Water: <u>21.73</u>	Total Well Depth: <u>28.96</u>	Water Column Height: <u>7.23</u>
Volume/ft: <u>0.16</u>	1 Casing Volume: <u>1.15</u>	3 Casing Volumes: <u>3.47</u>
Purging Device: <u>disposable bailer</u>	Did Well Dewater?: <u>no</u>	Total Gallons Purged: <u>3</u>
Start Purge Time: <u>11:00</u>	Stop Purge Time: <u>11:29</u>	Total Time: <u>29 mins</u>

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>11:10</u>	<u>1</u>	<u>18.8</u>	<u>7.10</u>	<u>1050</u>	
<u>11:20</u>	<u>2</u>	<u>18.9</u>	<u>7.13</u>	<u>619</u>	
<u>11:30</u>	<u>3</u>	<u>18.9</u>	<u>7.14</u>	<u>678</u>	

Fe =	mg/L	ORP =	mV	DO =	mg/L
------	------	-------	----	------	------

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<u>MW-7</u>	<u>10-2-03</u>	<u>11:35</u>	<u>3000</u>	<u>HCl</u>		

## **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 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #580-0197/063; Douglas Parking	Date Sampled: 10/02/03
		Date Received: 10/06/03
	Client Contact: Mary C. Holland-Ford	Date Reported: 10/14/03
	Client P.O.:	Date Completed: 10/14/03

**WorkOrder: 0310074**

October 14, 2003

Dear Mary:

Enclosed are:

- 1). the results of 7 analyzed samples from your #580-0197/063; 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: rmain@mcccampbell.com

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #580-0197/063; Douglas Parking	Date Sampled: 10/02/03
		Date Received: 10/06/03
	Client Contact: Mary C. Holland-Ford	Date Extracted: 10/08/03-10/13/03
	Client P.O.:	Date Analyzed: 10/08/03-10/13/03

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0310074

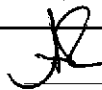
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-2	W	4000,a	ND<50	790	110	60	350	10	92.8
002A	MW-3	W	12,000,b,m	ND<90	ND<5.0	ND<5.0	10	40	10	---#
003A	MW-4	W	59,a	ND	0.78	ND	1.1	0.91	1	112
004A	MW-5	W	ND	ND	ND	ND	ND	ND	1	116
005A	MW-6	W	16,000,a	ND<100	7.6	200	38	1800	10	91.7
006A	MW-7	W	ND	ND	ND	ND	ND	ND	1	108
007A	TB	W	ND	ND	ND	ND	ND	ND	1	107

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L., soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 / mineral spirit?); 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) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

 Angela Rydelius, Lab Manager



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

Matrix: W

WorkOrder: 0310074

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 8819		Spiked Sample ID: 0310074-007A				
	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(btex) <sup>E</sup>	ND	60	104	104	0	104	103	1.56	70	130
MTBE	ND	10	106	100	5.74	98.9	103	3.67	70	130
Benzene	ND	10	113	109	3.60	103	104	1.17	70	130
Toluene	ND	10	113	111	2.27	104	105	0.734	70	130
Ethylbenzene	ND	10	115	112	2.17	106	106	0	70	130
Xylenes	ND	30	117	113	2.90	110	107	3.08	70	130
%SS:	107	100	105	104	1.52	102	104	1.58	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.

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

\* 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.

<sup>E</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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.

**McC Campbell Analytical Inc.**

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

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0310074

## Client:

Cambria Env. Technology  
 5900 Hollis St, Suite A  
 Emeryville, CA 94608

TEL: (510) 420-0700  
 FAX: (510) 420-3394  
 ProjectNo: #580-0197/063; Douglas Parking  
 PO:

Date Received: 10/06/2003

Date Printed: 10/06/2003

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests	
					<>	N8021B/8015C
0310074-001	MW-2	Water	10/02/2003 10:45:00	<input type="checkbox"/>	A	A
0310074-002	MW-3	Water	10/02/2003 09:05:00	<input type="checkbox"/>		A
0310074-003	MW-4	Water	10/02/2003 08:15:00	<input type="checkbox"/>		A
0310074-004	MW-5	Water	10/02/2003 07:25:00	<input type="checkbox"/>		A
0310074-005	MW-6	Water	10/02/2003 09:55:00	<input type="checkbox"/>		A
0310074-006	MW-7	Water	10/02/2003 11:35:00	<input type="checkbox"/>		A
0310074-007	TB	Water	10/02/2003	<input type="checkbox"/>		A

Prepared by: Melissa Valles

## Comments:

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.

## **APPENDIX C**

Geotracker Electronic Delivery Confirmations

## AB2886 Electronic Delivery

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Your EDF file has been successfully uploaded!

**Confirmation Number:** 8672530233

**Date/Time of Submittal:** 11/18/2003 2:35:44 PM

**Facility Global ID:** T0600100140

**Facility Name:** DOUGLAS PARKING COMPANY

**Submittal Title:** 4th Qtr 2003, GW Analytical Data

**Submittal Type:** GW Monitoring Report

Logged in as CAMBRIA-EM (AUTH\_RP)

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### Submittal Report For DOUGLAS PARKING COMPANY:

page 1 of 1

Title	Type	Submitted	Submittal Status	Confirmation #	
GEO_MAP	GEO_MAP	2/20/2003	AWAITING APPROVAL	3624601066	<a href="#">Delete Submittal</a>
4QM02	GWM_R	2/21/2003	RECEIVED: 5/1/2003 10:25:33 AM	8550371170	
Douglas, Webster 1QM03 geo_well	GEO_WELL	5/8/2003	AWAITING APPROVAL	2780792057	<a href="#">Delete Submittal</a>
Douglas 1QM03	GWM_R	5/8/2003	RECEIVED: 11/17/2003 7:53:01 AM	1654575943	
Douglas 2QM03 geo_well	GEO_WELL	6/16/2003	AWAITING APPROVAL	1198094010	<a href="#">Delete Submittal</a>
Douglas 2QM03	GWM_R	6/16/2003	RECEIVED: 11/17/2003 7:53:01 AM	1484272301	
3QM03 Douglas geo_well	GEO_WELL	8/11/2003	AWAITING APPROVAL	6691258072	<a href="#">Delete Submittal</a>
Douglas Well Installation geo_well	GEO_WELL	8/12/2003	AWAITING APPROVAL	6636875748	<a href="#">Delete Submittal</a>
Douglas Well Installation	GEO_Z	8/12/2003	AWAITING APPROVAL	4522968888	<a href="#">Delete Submittal</a>
Douglas Well Installation	GEO_XY	8/12/2003	AWAITING APPROVAL	3449859440	<a href="#">Delete Submittal</a>
Well Installation June 2003	SWI_R	8/12/2003	RECEIVED: 11/17/2003 7:53:01 AM	1194068014	
Douglas Well Installation	SWI_R	8/12/2003	RECEIVED: 11/17/2003 7:53:01 AM	6043362438	
Douglas Well Installation	SWI_R	8/12/2003	RECEIVED: 11/17/2003 7:53:01 AM	7916301786	
GEO_MAP	GEO_MAP	8/13/2003	AWAITING APPROVAL	4094619572	<a href="#">Delete Submittal</a>
3QM03	GWM_R	9/10/2003	AWAITING APPROVAL	6144687175	<a href="#">Delete Submittal</a>
4th Qtr 2003, GW Depth Data for 1721 Webster St., Oakland	GEO_WELL	11/18/2003	AWAITING APPROVAL	2191395401	<a href="#">Delete Submittal</a>
4th Qtr 2003, GW Analytical Data	GWM_R	11/18/2003	AWAITING APPROVAL	8672530233	<a href="#">Delete Submittal</a>

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