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**1626 Vallejo Street**  
**San Francisco, CA 94123-5116**

February 9, 2002

Mr. Thomas Peacock  
Supervising HMS, LOP  
ACHCSA  
1131 Harbor Bay Parkway  
Alameda, CA 94501  
(510) 567-6700 / FAX 337-9335  
tpeacock@co.alameda.ca.us

SUBJECT: IVQ01 Monitoring Report  
1432 Harrison Street, Oakland, CA 94612  
SITE ID 498

Dear Mr. Peacock:

Attached is the IVQ01 groundwater monitoring data for the above site. If you have a question, please contact me.

Sincerely yours,



Mark Borsuk

C A M B R I A

January 31, 2002

Mr. Mark Borsuk  
1626 Vallejo St.  
San Francisco, CA 94123-5116

Re: **Groundwater Monitoring Report  
Fourth Quarter 2001**  
1432 Harrison Street  
Oakland, California  
Cambria Project #540-0188



Dear Mr. Borsuk:

As you requested, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report for the above-referenced site. Presented in the report are the fourth quarter 2001 activities and results and the anticipated first quarter 2002 activities. Attached are two additional copies for submittal to the regulatory agency.

If you have any questions or comments regarding this report, please call me at (510) 450-1983.

Sincerely,

**Cambria Environmental Technology, Inc.**

*Ron Scheele*

Ron Scheele, RG  
Senior Geologist

Attachments: Groundwater Monitoring Report, Fourth Quarter 2001

Oakland, CA  
San Ramon, CA  
Sonoma, CA

**Cambria  
Environmental  
Technology, Inc.**

1144 65th Street  
Suite B  
Oakland, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

C A M B R I A

**GROUNDWATER MONITORING REPORT**

**FOURTH QUARTER 2001**

**1432 Harrison Street  
Oakland, California  
Cambria Project #540-0188**

**January 31, 2002**

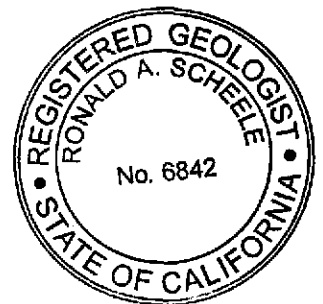


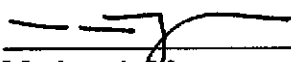
*Prepared for:*


Mr. Mark Borsuk  
1626 Vallejo St.  
San Francisco, CA 94123-5116

*Prepared by:*

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



  
\_\_\_\_\_  
Matthew A. Meyers  
Staff Geologist

  
\_\_\_\_\_  
Ron Scheele, RG  
Senior Geologist

# GROUNDWATER MONITORING REPORT

## FOURTH QUARTER 2002

1432 Harrison Street  
Oakland, California  
Cambria Project #540-0188-030

January 31, 2002

### INTRODUCTION

On behalf of Mr. Mark Borsuk, Esq., Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report for the above-referenced site (see Figure 1). Presented below are the fourth quarter 2001 activities and results and the anticipated first quarter 2002 activities.

### FOURTH QUARTER 2001 ACTIVITIES AND RESULTS

#### Monitoring Activities

*Field Activities:* On October 25, 2001, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) wells MW-1 through MW-6 (see Figure 1). Groundwater samples were collected from all wells not containing SPH. Field Data Sheets are presented as Appendix A.

*Sample Analyses:* Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8020. Any samples containing MTBE were further analyzed for MTBE using EPA Method 8260. Analytical results are included as Appendix B. Groundwater elevations are shown on Figure 1.

#### Monitoring Results

*Groundwater Flow Direction:* Based on depth-to-water measurements collected during Cambria's October 25, 2001 site visit, groundwater flow beneath the site is divided. On the south side of the former USTs, groundwater flows toward the south-southwest at a rate of 0.020 feet/feet, while on the north side of the former USTs, groundwater flows toward the north-northeast at a rate of 0.015 feet/feet (Figure 1). This is consistent with historical groundwater flow rates and directions.

**Hydrocarbon Distribution in Groundwater:** Hydrocarbon concentrations detected this quarter are consistent with previous sampling events. No SPH were detected in any of the wells. The maximum TPHg and benzene concentrations were detected in well MW-1 at 160,000 and 22,000 micrograms per liter ( $\mu\text{g/L}$ ), respectively. No MTBE concentrations were detected in any of the wells at the site.

### **Corrective Action Activities**

**Remediation System:** Cambria has completed installation and startup of a soil vapor extraction/air sparging (SVE/AS) system during the fourth quarter 2001. A System Startup Report dated January 17, 2002 was prepared and submitted to the appropriate agencies.

### **ANTICIPATED FIRST QUARTER 2002 ACTIVITIES**

**Groundwater Sampling:** Cambria will gauge all wells, check the wells for SPH, and collect groundwater samples from wells MW-1, MW-2, MW-4, MW-5, and MW-6. Groundwater samples will be analyzed for TPHg by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8020. Any samples containing MTBE will be confirmed by EPA Method 8260. Cambria will prepare a groundwater monitoring report summarizing the monitoring activities and results.

**Remediation System:** Cambria will perform operation and maintenance of the remediation system during the first quarter 2002. Cambria will also evaluate the performance of the remediation system and combine the results in a 1<sup>st</sup> Quarter 2001, Groundwater Monitoring and System Progress Report. Included in the report will be tables summarizing the concentration, flow, and vacuum of system and individual wells, along with the analytical results.

Cambria also wishes to reduce the sampling frequency of wells MW-3 and MW-6. Both wells have had a no detectable hydrocarbon concentrations during the last 6 sampling events. Cambria plans to reduce the sampling frequency to an annual basis, if there is no objection to our request.

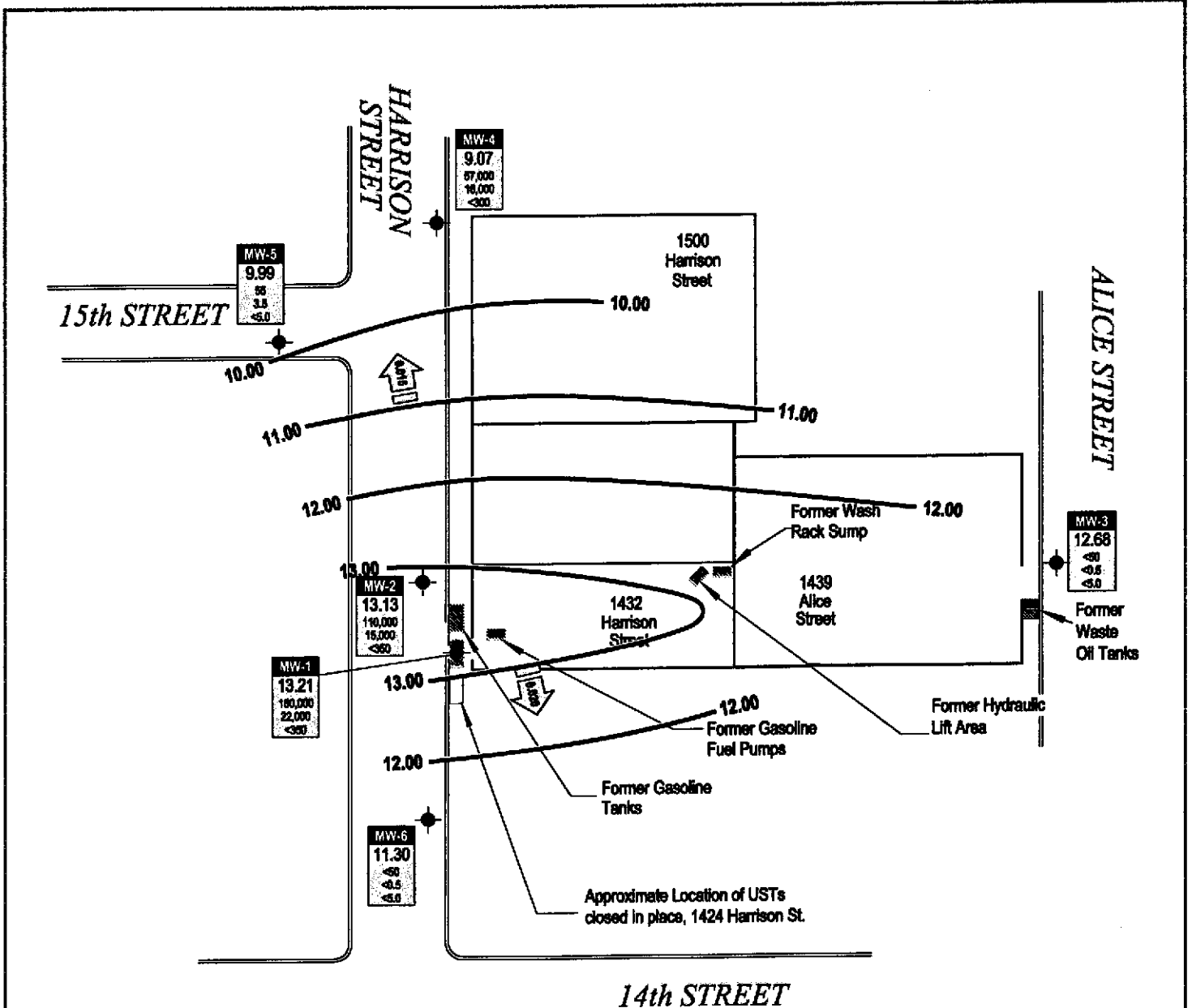
### **APPENDIXES**

Figure 1 - Groundwater Elevation and Analytical Summary

Table 1 - Groundwater Elevations and Analytical Data

Appendix A - Groundwater Monitoring Field Data Sheets

Appendix B - Laboratory Analytical Results



**EXPLANATION**

- Groundwater monitoring well
- Groundwater elevation contour, in feet above msl, dashed where inferred
- Groundwater flow direction and gradient
- Well designation
- Groundwater elevation, in feet above mean sea level (msl)
- Hydrocarbons in groundwater, in ug/l. MTBE analysis by EPA Method 8020.

Scale (ft)

FIGURE 1

M:\33-200\04\K-1\65\FIGURES\MQ01-2.NP.DWG

**1432 Harrison Street**

Oakland, California



**Groundwater Elevation and Analytical Summary**

October 25, 2001

# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes	
TOC (ft)		(ft)	(ft)	(ft)	← (µg/L) →							
MW-1	8/1/94	--	--	--	170,000	35,000	51,000	2,400	13,000	--	--	
	12/21/94	34.95	19.53	15.42	180,000	41,000	64,000	3,100	100,000	--	--	
	3/13/95	34.95	18.66	16.29	150,000	31,000	45,000	2,500	17,000	--	--	
	6/27/95	34.95	18.20	16.75	71,000	17,000	18,000	1,600	7,700	--	--	
	7/7/95	34.95	18.35	16.60	71,000	17,000	18,000	1,600	7,700	--	--	
	9/28/95	34.95	18.20	16.75	110,000	27,000	34,000	1,700	14,000	--	--	
	12/20/95	34.95	19.96	14.99	120,000	33,000	43,000	2,300	15,000	--	--	
	3/26/96	34.95	19.27	15.68	140,000	29,000	36,000	1,900	13,000	<200*	d	
	6/20/96	34.95	18.64	16.31	110,000	30,000	38,000	2,200	13,000	<200*	--	
	9/26/96	34.95	19.35	15.60	170,000	28,000	40,000	2,200	15,000	ND**	--	
	10/28/96	34.95	19.58	15.37	--	--	--	--	--	--	--	
	12/12/96	34.95	19.68	15.27	110,000	36,000	47,000	2,500	16,000	ND*	--	
	3/31/97	34.95	18.80	16.15	160,000	24,000	39,000	1,900	13,000	ND*	--	
	6/27/97	34.95	19.26	15.69	130,000	25,000	36,000	2,000	14,000	ND*	--	
	9/9/97	34.95	19.70	15.25	99,000	22,000	27,000	1,600	13,000	270*	--	
	12/18/97	34.95	19.25	15.70	160,000	30,000	44,000	2,200	15,000	ND***	--	
	3/12/98	34.95	17.52	17.43	190,000	20,000	49,000	2,500	18,000	ND***	--	
	6/22/98	34.95	18.63	16.32	90,000	19,000	40,000	2,100	16,000	--	--	
	9/18/98	34.95	18.60	16.35	190,000	29,000	48,000	2,400	17,000	--	--	
	12/23/98	34.95	19.18	15.77	140,000	24,000	44,000	2,000	8,200	--	--	
	3/29/99	34.95	18.52	16.43	181,000	22,200	40,100	1,844	12,200	--	--	
	6/23/99	34.95	18.60	16.35	80,000	20,000	33,000	1,600	11,000	--	--	
	9/24/99	34.95	19.05	15.90	117,000	15,100	20,700	1,550	11,800	--	--	
	12/23/99	34.95	19.95	15.00	186,000	25,900	39,000	1,990	12,400	--	--	
	3/21/00	34.95	18.48	16.47	210,000	35,000	42,000	2,200	13,000	<3,000	a	
	7/3/00	34.95	18.95	16.00	200,000	33,000	46,000	2,200	15,000	<200*	a	
	9/7/00	34.95	19.45	15.50	Free Product present (Sheen). No sample taken.							
	12/5/00	34.95	19.90	15.05	220,000	42,000	57,000	2,700	17,000	<200	a	
	3/6/01	34.95	18.20	16.75	180,000	27,000	39,000	2,000	13,000	<1200 (<20)	a,l	
	6/8/01	34.95	20.14	14.81	170,000	28,000	40,000	1,900	13,000	<200	a	
	8/27/01	34.95	21.19	13.76	130,000	24,000	33,000	1,600	11,000	<350	a	
	10/25/01	34.95	21.74	13.21	160,000	22,000	28,000	1,500	10,000	<350	a	
MW-2	8/1/94	--	--	--	130,000	28,000	35,000	3,000	12,000	--	--	

# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID	Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
TOC (ft)		(ft)	(ft)	(ft)	←			(µg/L)	→		
	12/21/94	35.18	19.91	15.27	200	140,000	200,000	3,500	22,000	--	--
	3/13/95	35.18	19.15	16.03	500	9,200	23,000	7,000	36,000	--	--
	6/27/95	35.18	18.74	16.44	120,000	23,000	30,000	2,700	13,000	--	--
	7/7/95	35.18	18.80	16.38	120,000	23,000	30,000	2,700	13,000	--	--
	9/28/95	35.18	19.30	15.88	110,000	23,000	29,000	2,500	11,000	--	--
	12/20/95	35.18	20.24	14.94	83,000	980	1,800	2,200	10,000	--	--
	3/26/96	35.18	19.69	15.49	150,000	23,000	32,000	2,800	12,000	<200*	d
	6/20/96	35.18	19.20	15.98	94,000	15,000	23,000	2,400	12,000	<200*	--
	9/26/96	35.18	19.80	15.38	150,000	20,000	29,000	2,800	12,000	ND**	--
	10/28/96	35.18	20.18	15.00	--	--	--	--	--	--	--
	12/12/96	35.18	20.17	15.01	58,000	3,100	11,000	1,700	8,100	220*	--
	3/31/97	35.18	19.67	15.51	38,000	6,000	7,900	690	3,300	ND*	--
	6/27/97	35.18	19.68	15.50	62,000	13,000	16,000	1,300	6,000	ND*	--
	9/9/97	35.18	20.20	14.98	81,000	16,000	18,000	1,800	8,600	ND***	--
	12/18/97	35.18	19.80	15.38	110,000	18,000	26,000	2,200	9,500	ND***	--
	3/12/98	35.18	18.07	17.11	120,000	16,000	26,000	2,200	9,400	ND***	--
	6/22/98	35.18	18.29	16.89	38,000	9,800	9,500	1,500	6,000	--	--
	9/18/98	35.18	19.09	16.09	68,000	12,000	16,000	1,400	5,900	--	--
	12/23/98	35.18	19.67	15.51	180,000	16,000	22,000	2,200	8,300	--	--
	3/29/99	35.18	18.97	16.21	16,600	1,380	1,920	373	1,840	--	--
	6/23/99	35.18	18.25	16.93	41,000	10,000	9,400	1,100	5,000	--	--
	9/24/99	35.18	19.60	15.58	40,600	4,880	3,490	1,090	4,560	--	--
	12/23/99	35.18	20.21	14.97	61,900	6,710	9,320	1,150	5,360	--	--
	3/21/00	35.18	18.93	16.25	98,000	14,000	21,000	1,600	6,900	<1600	a
	7/3/00	35.18	19.38	15.80	140,000	18,000	33,000	2,600	11,000	<200*	a
	9/7/00	35.18	19.83	15.35	110,000	17,000	21,000	2,200	9,700	<100***	a,l
	12/5/00	35.18	20.30	14.88	130,000	19,000	28,000	2,500	11,000	<200	a
	3/6/01	35.18	19.57	15.61	32,000	3,400	3,400	580	2,500	<200	a
	6/8/01	35.18	20.59	14.59	72,000	9,400	9,200	1,300	5,800	<200	a
	8/27/01	35.18	21.79	13.39	110,000	17,000	28,000	2,600	11,000	<950	a
	10/25/01	35.18	22.05	13.13	110,000	15,000	18,000	2,000	8,700	<350	a
MW-3	8/1/94	--	--	--	<50	<0.5	<0.5	<0.5	<2.0	--	--
	12/21/94	33.97	18.82	15.15	<50	<0.5	<0.5	<0.5	<0.5	--	e



# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID <i>TOC (ft)</i>	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	(µg/L)						Notes
					TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
	3/13/95	33.97	17.86	16.11	<50	<0.5	<0.5	<0.5	<0.5	--	f,g
	7/7/95	33.97	18.25	15.72	--	--	--	--	--	--	h
	9/28/95	33.97	18.00	15.97	--	--	--	--	--	--	--
	12/20/95	33.97	18.74	15.23	--	--	--	--	--	--	--
	3/26/96	33.97	18.25	15.72	--	--	--	--	--	--	--
	6/20/96	33.97	18.35	15.62	--	--	--	--	--	--	--
	9/26/96	33.97	19.12	14.85	--	--	--	--	--	--	--
	10/28/96	33.97	19.11	14.86	--	--	--	--	--	--	--
	12/12/96	33.97	18.61	15.36	--	--	--	--	--	--	--
	3/31/97	33.97	18.35	15.62	--	--	--	--	--	--	--
	6/27/97	33.97	18.81	15.16	--	--	--	--	--	--	--
	9/9/97	33.97	19.18	14.79	--	--	--	--	--	--	--
	12/18/97	33.97	18.64	15.33	--	--	--	--	--	--	--
	3/12/98	33.97	17.56	16.41	--	--	--	--	--	--	--
	6/22/98	33.97	18.64	15.33	--	--	--	--	--	--	--
	9/18/98	33.97	18.33	15.64	--	--	--	--	--	--	--
	12/23/98	33.97	18.60	15.37	--	--	--	--	--	--	--
	3/29/99	33.97	17.85	16.12	--	--	--	--	--	--	--
	6/23/99	33.97	18.67	15.30	--	--	--	--	--	--	--
	9/24/99	33.97	18.64	15.33	--	--	--	--	--	--	--
	12/23/99	33.97	19.32	14.65	--	--	--	--	--	--	--
	3/21/00	33.97	17.89	16.08	--	--	--	--	--	--	--
	7/3/00	33.97	18.40	15.57	--	--	--	--	--	--	--
	9/7/00	33.97	18.75	15.22	--	--	--	--	--	--	--
	12/5/00	33.97	19.03	14.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/01	33.97	18.12	15.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/01	33.97	20.02	13.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	8/27/01	33.97	21.09	12.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/01	33.97	21.29	12.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
MW-4	10/28/96	30.77	19.32	11.45	10,000	3,900	420	400	360	<200*	--
	12/12/96	30.77	19.42	11.35	11,000	4,200	410	420	260	32*	--
	3/31/97	30.77	18.67	12.10	ND	ND	ND	ND	ND	ND*	--

# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID <i>TOC (ft)</i>	Date	Top of Casing	Depth to	Groundwater	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		Elevation (ft)	Groundwater (ft)	Elevation (ft)							
					← (µg/L) →						
	6/27/97	30.77	19.08	11.69	160	49	1.2	ND	5.9	ND*	--
	9/9/97	30.77	19.33	11.44	7,400	5,000	410	230	470	33*	--
	12/18/97	30.77	19.17	11.60	710	170	8.0	ND	39	ND***	--
	3/12/98	30.77	17.68	13.09	1,300	410	21	ND	57	ND***	--
	6/22/98	30.77	17.63	13.14	ND	ND	ND	ND	ND	--	--
	9/18/98	30.77	18.58	12.19	ND	42	1.6	ND	4.8	--	--
	12/23/98	30.77	19.01	11.76	1,900	1,000	76	50	120	--	--
	3/29/99	30.77	18.35	12.42	ND	ND	ND	ND	ND	--	--
	6/23/99	30.77	17.58	13.19	ND	ND	ND	ND	ND	--	--
	9/24/99	30.77	19.05	11.72	9,150	3,270	131	34	537	--	--
	12/23/99	30.77	19.41	11.36	12,200	5,360	275	424	592	--	--
	3/21/00	30.77	18.42	12.35	45,000	16,000	1,100	1,400	1,900	1400* (<35)***	a,l
	7/3/00	30.77	18.82	11.95	33,000	10,000	720	840	1,800	<200*	a
	9/7/00	30.77	19.21	11.56	26,000	8,800	800	740	1,500	<50***	a,l,m
	12/5/00	30.77	19.60	11.17	41,000	11,000	840	930	1,900	<200	a
	3/6/01	30.77	18.24	12.53	1,100	400	5.7	<0.5	20	<5.0	a
	6/8/01	30.77	20.91	9.86	92	19	<0.5	<0.5	1	<5.0	a
	8/27/01	30.77	21.63	9.14	49,000	17,000	1700	1,700	3,200	<260	a
	10/25/01	30.77	21.70	9.07	57,000	16,000	1,500	1,600	2,600	<300	a
MW-5	10/28/96	31.61	19.88	11.73	90	4.0	0.6	<0.50	<0.50	16*	--
	12/12/96	31.61	20.09	11.52	230	5.6	0.9	ND	0.9	3.6*	--
	3/31/97	31.61	19.24	12.37	90	3.1	ND	ND	ND	ND*	--
	6/27/97	31.61	19.16	12.45	ND	ND	ND	ND	ND	ND*	--
	9/9/97	31.61	19.93	11.68	ND	ND	ND	ND	ND	ND*	--
	12/18/97	31.61	19.77	11.84	ND	ND	ND	ND	ND	ND***	--
	3/12/98	31.61	19.77	11.84	79	2.3	ND	0.8	ND	ND*	--
	6/22/98	31.61	18.08	13.53	ND	ND	ND	ND	ND	--	--
	9/18/98	31.61	19.12	12.49	ND	ND	ND	ND	ND	--	--
	12/23/98	31.61	19.60	12.01	ND	0.8	0.9	ND	ND	--	--
	3/29/99	31.61	18.88	12.73	ND	ND	ND	ND	ND	--	--
	6/23/99	31.61	18.05	13.56	ND	ND	ND	ND	ND	--	--
	9/24/99	31.61	19.61	12.00	ND	ND	ND	ND	ND	--	--

# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID	Date	Top of Casing	Depth to	Groundwater	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		Elevation	Groundwater	Elevation							
<i>TOC (ft)</i>		(ft)	(ft)	(ft)	←————— (µg/L) —————→						
	12/23/99	31.61	20.01	11.60	ND	ND	ND	ND	ND	--	--
	3/21/00	31.61	19.05	12.56	140	<0.5	<0.5	<0.5	<0.5	<5.0	k
	7/3/00	31.61	19.40	12.21	85	8.1	3.1	1.6	7.8	<5.0*	a
	9/7/00	31.61	19.62	11.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/00	31.61	20.25	11.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/01	31.61	19.07	12.54	91	5.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/01	31.61	20.77	10.84	290	22.0	0.8	<0.5	<0.5	<5.0	a
	8/27/01	31.61	21.33	10.28	660	24.0	2.2	1.3	4.0	<25	a
	10/25/01	31.61	21.62	9.99	55	3.5	<0.5	<0.5	<0.5	<5.0	a
MW-6	10/28/96	32.89	20.02	12.87	<50	<0.50	<0.50	<0.50	<0.50	<2.0*	--
	12/12/96	32.89	20.18	12.71	ND	ND	ND	ND	ND	ND*	--
	3/31/97	32.89	19.81	13.08	--	--	--	--	--	--	--
	6/27/97	32.89	19.76	13.13	--	--	--	--	--	--	--
	9/9/97	32.89	20.06	12.83	ND	ND	ND	ND	ND	ND*	--
	12/18/97	32.89	19.90	12.99	ND	ND	ND	ND	ND	--	--
	3/12/98	32.89	18.00	14.89	ND	ND	ND	ND	ND	ND*	--
	6/22/98	32.89	18.43	14.46	ND	ND	ND	ND	ND	--	--
	9/18/98	32.89	19.10	13.79	ND	ND	ND	ND	ND	--	--
	12/23/98	32.89	19.61	13.28	ND	ND	ND	ND	ND	--	--
	3/29/99	32.89	18.92	13.97	ND	ND	ND	ND	ND	--	--
	6/23/99	32.89	18.41	14.48	ND	ND	ND	ND	ND	--	--
	9/24/99	32.89	19.61	13.28	ND	ND	ND	ND	ND	--	--
	12/23/99	32.89	20.30	12.59	ND	ND	ND	ND	ND	--	--
	3/21/00	32.89	18.97	13.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	7/3/00	32.89	19.46	13.43	59	5.1	2.3	1.1	5.3	<5.0*	a
	9/7/00	32.89	19.95	12.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/5/00	32.89	20.50	12.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	3/6/01	32.89	19.54	13.35	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	6/8/01	32.89	20.92	11.97	<50	<0.5	<0.5	<0.5	<0.5	<5.1	--
	8/27/01	32.89	21.37	11.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	10/25/01	32.89	21.59	11.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--

# CAMBRIA

**Table 1. Groundwater Elevations and Analytical Data - 1432 Harrison St., Oakland, CA.**

Well ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE	Notes
					←				→		
Trip Blank	3/21/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	9/7/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--

**Abbreviations**

TPHg = Total petroleum hydrocarbons as gasoline by EPA method Modified 8015.

Benzene, toluene, ethylbenzene, xylenes by EPA method 8020.

-- = Not Sampled/Not Analyzed

<n = Not detected in sample above n µg/l.

ND = Not detected at minimum quantitation limit. See laboratory reports.

µg/l = micrograms per liter

MTBE = Methyl tert-butyl ether

\* = MTBE by EPA Method 8020

\*\* = MTBE by EPA Method 8240

\*\*\* = MTBE by EPA Method 8260

VOCs = volatile organic compounds

**Notes**

a = Unmodified or weakly modified gasoline is significant.

b = Lighter than water immiscible sheen is present.

c = Liquid sample that contains greater than ~5 vol. % sediment.

d = MTBE result confirmed by secondary column or GC/MS analysis.

e = Sample analyzed for purgeable hydrocarbons by EPA method 8010, no purgeable halocarbons were detected.

f = Sample analyzed for VOCs by EPA method 8240, no non-BTEX compounds were detected.

g = Sample analyzed for Total Petroleum Hydrocarbons as motor oil (TPHmo) by EPA method Modified 8015, no TPHmo was detected.

h = Analytic sampling discontinued. Approved by Alameda County Department of Environmental Health.

i = Lighter than gasoline range compounds are significant.

j = Gasoline range compounds having broad chromatographic peaks are significant.

k = No recognizable pattern.

l = Sample diluted due to high organic content.

m = Liquid sample that contains greater than 5 vol. % sediment.

C A M B R I A



**APPENDIX A**

Groundwater Monitoring Field Data Sheets

## WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	13:55		21.74		25.05	
MW-2	14:00		22.05		25.40	
MW-3	13:45		21.29		23.96	
MW-4	14:05		21.70		24.50	
MW-5	14:10		21.62		28.34	
MW-6	13:50		28.59		28.00	

Project Name: BorsukProject Number: 180-0214Measured By: S. HillDate: 10-25-01

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW- 1</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>---</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	Disposable bailer	Technician(s): <b>SG</b>
Initial Depth to Water: <b>21.74</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>3</b>
Start Purge Time: <b>15:20</b>	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
<b>15:30</b>	1				
	2				
	3				

*dewatered*

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<b>MW- 1</b>	<b>10-25-01</b>	<b>15:35</b>	<b>400a</b>	<b>HCl</b>	<b>TPHS BTEX MTBE</b>	<b>8015/8020 8260</b>
<b>MW-</b>						

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW- 2</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>---</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SC</b>
Initial Depth to Water: <b>22.05</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes: <b>1</b>
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>2</b>
Start Purge Time: <b>15:45</b>	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
<b>15:50</b>	1				
	2				
	3				

*dewatered*

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<b>MW- 2</b>	<b>10-25-01</b>	<b>15:55</b>	<b>4Voa</b>	<b>HCl</b>	<b>TPHs BTEX MTBE</b>	<b>8015/8020 8260</b>
<b>MW-</b>						



# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-3</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>---</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SC</b>
Initial Depth to Water: <b>21.29</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>2</b>
Start Purge Time: <b>14:30</b>	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
<b>14:35</b>	1				
	2				
	3				
					<b>dewatered</b>

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<b>MW-3</b>	<b>10-25-01</b>	<b>14:40</b>	<b>4Voa</b>	<b>HCl</b>	<b>TPHs BTEX MTBE</b>	<b>8015/8020 8260</b>
<b>MW-</b>						

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-4</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>----</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SC</b>
Initial Depth to Water: <b>21.70</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>2</b>
Start Purge Time: <b>16:10</b>	Stop Purge Time:	Total Time:

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

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.63
6"	1.47

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
<b>16:20</b>	1				
	2				
	3				
					<b>dewatered</b>

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<b>MW-4</b>	<b>10-25-01</b>	<b>16:25</b>	<b>4Voa</b>	<b>HCl</b>	<b>TPHs BTEX MTBE</b>	<b>8015/8020 8260</b>
<b>MW-</b>						

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-5</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>---</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SC</b>
Initial Depth to Water: <b>21.62</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>3</b>
Start Purge Time: <b>16:35</b>	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
<b>16:50</b>	1				
	2				
	3				

*dewatered*

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-	10-25-01	16:55	4Voa	HCl	TPHs BTEX MTBE	8015/8020 8260
MW-						

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Borsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-6</b>
Project Number: <b>540-0188</b>	Date: <b>10-25-01</b>	Well Yield: <b>---</b>
Site Address: <b>1432 Harrison St. Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SC</b>
Initial Depth to Water: <b>21.59</b>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged: <b>3</b>
Start Purge Time: <b>14:55</b>	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
<b>15:05</b>	1				
	2				
	3				

dewatered

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<b>MW-6</b>	<b>10-25-01</b>	<b>15:10</b>	<b>4Voa</b>	<b>HCl</b>	<b>TPHs, BTEX MTBE</b>	<b>8015/8020 8260</b>
<b>MW-</b>						

C A M B R I A



**APPENDIX B**

Laboratory Analytical Results



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](mailto:main@mccampbell.com)

Cambria Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #540-0188; Borsuk	Date Sampled: 10/25/01
		Date Received: 10/30/01
	Client Contact: Ron Scheele	Date Extracted: 10/30/01
	Client P.O:	Date Analyzed: 10/30/01

11/06/01

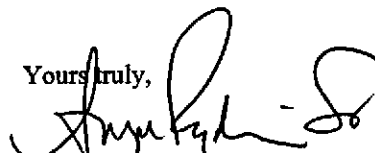
Dear Ron:

Enclosed are:

- 1). the results of 6 samples from your #540-0188; Borsuk 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. McCampbell 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,



Edward Hamilton, Lab Director





McCAMPBELL ANALYTICAL INC.

110 2nd Ave. 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)

## 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

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

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

RPD means Relative Percent Deviation



