

R0266  
Peacock

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

**AUG 30 2001**

August 26, 2001

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: IIQ01 Monitoring Report  
1432 Harrison Street, Oakland, CA 94612  
SITE ID 498

Dear Mr. Peacock:

Attached is the IIQ01 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

August 21, 2001

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

AUG 30 2001

Re: **Groundwater Monitoring Report  
Second 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 second quarter 2001 activities and results and the anticipated third quarter 2001 activities. Attached are 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, RG  
Senior Geologist

Attachments: Groundwater Monitoring Report, Second 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**

**SECOND QUARTER 2001**

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

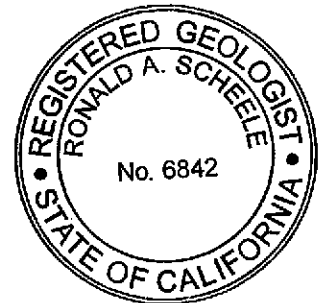
**August 21, 2001**

*Prepared for:*


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

*Prepared by:*

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



  
\_\_\_\_\_  
Jason D. Olson  
Senior Staff Environmental Scientist


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

## SECOND QUARTER 2001

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

August 21, 2001

## 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 second quarter 2001 activities and results and the anticipated third quarter 2001 activities.

## SECOND QUARTER 2001 ACTIVITIES AND RESULTS

## Monitoring Activities

*Field Activities:* On June 8, 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 tert 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 June 8, 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 0.021 feet/feet, while on the north side of the former USTs, groundwater flows toward the north-northeast at a rate of 0.019 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 the previous sampling event. No SPH were detected in any of the wells. The maximum TPHg and benzene concentrations were detected in well MW-1 at 170,000 and 28,000 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 received UST Fund Pre-Approval for additional air permitting and electrical power costs, and has begun the air permitting process related to the installation of the proposed soil vapor extraction (SVE) remediation system. Due to Bay Area Air Quality Management District requirements regarding source proximity to school sites, the air permitting process is being subjected to a full public input period, which may cause unforeseen delays. Cambria has also met with PG&E engineers and TEC Accutite to discuss the SVE system installation.

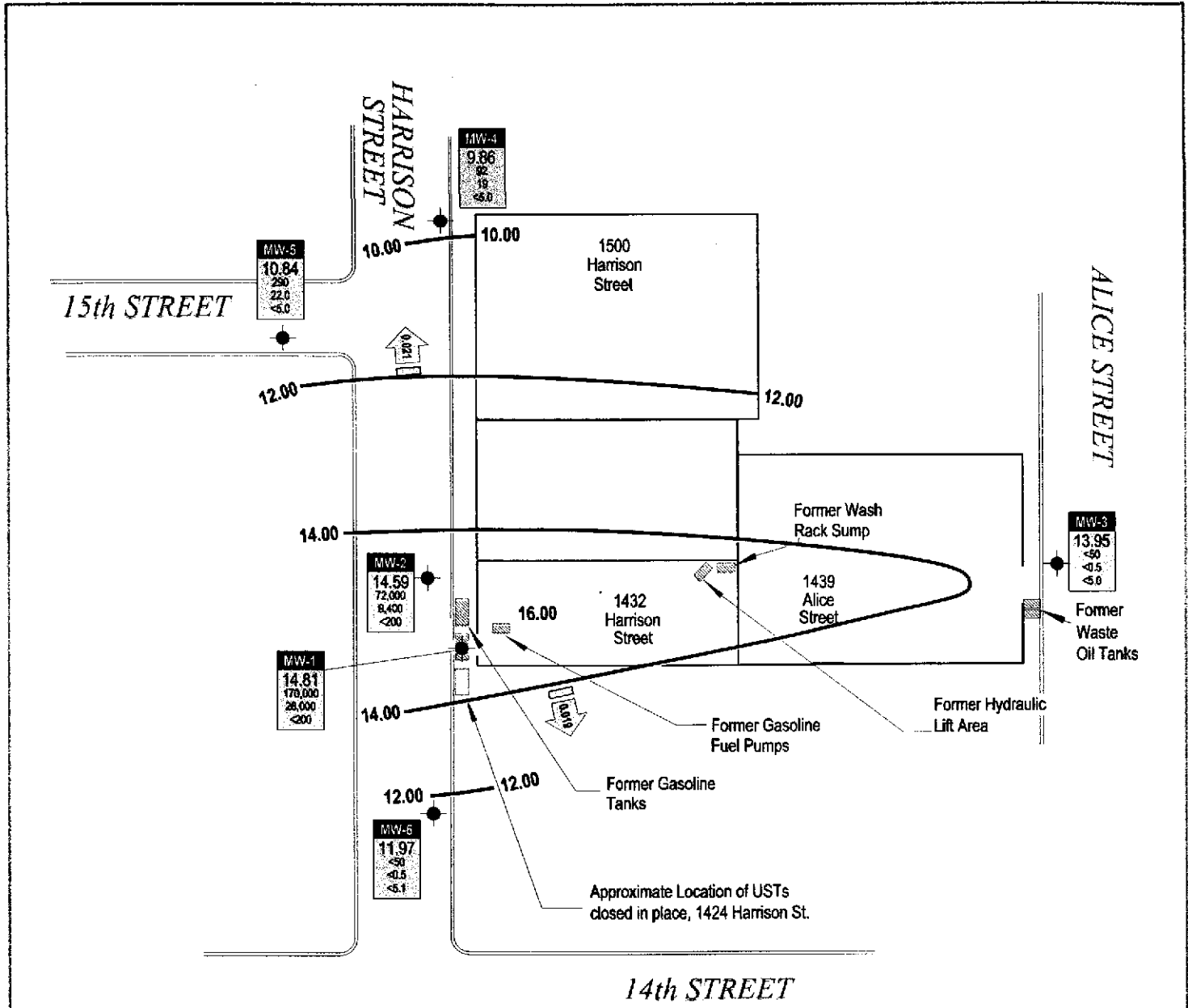
### ANTICIPATED THIRD QUARTER 2001 ACTIVITIES

**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:** SVE system installation is currently scheduled for September. System startup activities will commence after system installation and permitting activities have been completed.

### APPENDIXES

- Figure 1- Groundwater Elevation Contours
- Table 1 - Groundwater Elevation and Analytical Data
- Appendix A - 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 ID     |
| ELEV        |
| TH          |
| Hydrocarbon |
| MTBE        |

 Well designation
- |             |
|-------------|
| ELEV        |
| TH          |
| Hydrocarbon |
| MTBE        |

 Groundwater elevation, in feet above mean sea level (msl)
- Hydrocarbons in groundwater, in ug/l. MTBE analysis for wells MW-2 and MW-4 by EPA Method 8260, all others by EPA Method 8020.

Scale (ft)

**FIGURE 1**

**1432 Harrison Street**

**Groundwater Elevation Contours**

Oakland, California



June 8, 2001

H:\33-2004\CAK-18\FIGURES\FIG01.MXD DWS

# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
MW-1	08/01/94	--	--	--	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	--	--
	03/13/95	34.95	18.66	16.29	150,000	31,000	45,000	2,500	17,000	--	--
	06/27/95	34.95	18.20	16.75	71,000	17,000	18,000	1,600	7,700	--	--
	07/07/95	34.95	18.35	16.60	71,000	17,000	18,000	1,600	7,700	--	--
	09/28/95	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	--	--
	03/26/96	34.95	19.27	15.68	140,000	29,000	36,000	1,900	13,000	<200*	d
	06/20/96	34.95	18.64	16.31	110,000	30,000	38,000	2,200	13,000	<200*	--
	09/26/96	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*	--
	03/31/97	34.95	18.80	16.15	160,000	24,000	39,000	1,900	13,000	ND*	--
	06/27/97	34.95	19.26	15.69	130,000	25,000	36,000	2,000	14,000	ND*	--
	09/09/97	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***	--
	03/12/98	34.95	17.52	17.43	190,000	20,000	49,000	2,500	18,000	ND***	--
	06/22/98	34.95	18.63	16.32	90,000	19,000	40,000	2,100	16,000	--	--
	09/18/98	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	--	--
	03/29/99	34.95	18.52	16.43	181,000	22,200	40,100	1,844	12,200	--	--
	06/23/99	34.95	18.60	16.35	80,000	20,000	33,000	1,600	11,000	--	--
	09/24/99	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	--	--	
03/21/00	34.95	18.48	16.47	210,000	35,000	42,000	2,200	13,000	<3,000	a	
07/03/00	34.95	18.95	16.00	200,000	33,000	46,000	2,200	15,000	<200*	a	
09/07/00	34.95	19.45	15.50	Free Product present (Sheen). No sample taken.							--
12/05/00	34.95	19.90	15.05	220,000	42,000	57,000	2,700	17,000	<200	a	
03/06/01	34.95	18.20	16.75	180,000	27,000	39,000	2,000	13,000	<1200 (<20)	a,l	
06/08/01	34.95	20.14	14.81	170,000	28,000	40,000	1,900	13,000	<200	a	
MW-2	08/01/94	--	--	--	130,000	28,000	35,000	3,000	12,000	--	--
	12/21/94	35.18	19.91	15.27	200	140,000	200,000	3,500	22,000	--	--

# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
	03/13/95	35.18	19.15	16.03	500	9,200	23,000	7,000	36,000	--	--
	06/27/95	35.18	18.74	16.44	120,000	23,000	30,000	2,700	13,000	--	--
	07/07/95	35.18	18.80	16.38	120,000	23,000	30,000	2,700	13,000	--	--
	09/28/95	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	--	--
	03/26/96	35.18	19.69	15.49	150,000	23,000	32,000	2,800	12,000	<200*	d
	06/20/96	35.18	19.20	15.98	94,000	15,000	23,000	2,400	12,000	<200*	--
	09/26/96	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*	--
	03/31/97	35.18	19.67	15.51	38,000	6,000	7,900	690	3,300	ND*	--
	06/27/97	35.18	19.68	15.50	62,000	13,000	16,000	1,300	6,000	ND*	--
	09/09/97	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***	--
	03/12/98	35.18	18.07	17.11	120,000	16,000	26,000	2,200	9,400	ND***	--
	06/22/98	35.18	18.29	16.89	38,000	9,800	9,500	1,500	6,000	--	--
	09/18/98	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	--	--
	03/29/99	35.18	18.97	16.21	16,600	1,380	1,920	373	1,840	--	--
	06/23/99	35.18	18.25	16.93	41,000	10,000	9,400	1,100	5,000	--	--
	09/24/99	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	--	--
	03/21/00	35.18	18.93	16.25	98,000	14,000	21,000	1,600	6,900	<1600	a
	07/03/00	35.18	19.38	15.80	140,000	18,000	33,000	2,600	11,000	<200*	a
	09/07/00	35.18	19.83	15.35	110,000	17,000	21,000	2,200	9,700	<100***	a,l
	12/05/00	35.18	20.30	14.88	130,000	19,000	28,000	2,500	11,000	<200	a
	03/06/01	35.18	19.57	15.61	32,000	3,400	3,400	580	2,500	<200	a
	06/08/01	35.18	20.59	14.59	72,000	9,400	9,200	1,300	5,800	<200	a
MW-3	08/01/94	--	--	--	<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
	03/13/95	33.97	17.86	16.11	<50	<0.5	<0.5	<0.5	<0.5	--	f,g
	07/07/95	33.97	18.25	15.72	--	--	--	--	--	--	h
	09/28/95	33.97	18.00	15.97	--	--	--	--	--	--	--



# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
	12/20/95	33.97	18.74	15.23	--	--	--	--	--	--	--
	03/26/96	33.97	18.25	15.72	--	--	--	--	--	--	--
	06/20/96	33.97	18.35	15.62	--	--	--	--	--	--	--
	09/26/96	33.97	19.12	14.85	--	--	--	--	--	--	--
	10/28/96	33.97	19.11	14.86	--	--	--	--	--	--	--
	12/12/96	33.97	18.61	15.36	--	--	--	--	--	--	--
	03/31/97	33.97	18.35	15.62	--	--	--	--	--	--	--
	06/27/97	33.97	18.81	15.16	--	--	--	--	--	--	--
	09/09/97	33.97	19.18	14.79	--	--	--	--	--	--	--
	12/18/97	33.97	18.64	15.33	--	--	--	--	--	--	--
	03/12/98	33.97	17.56	16.41	--	--	--	--	--	--	--
	06/22/98	33.97	18.64	15.33	--	--	--	--	--	--	--
	09/18/98	33.97	18.33	15.64	--	--	--	--	--	--	--
	12/23/98	33.97	18.60	15.37	--	--	--	--	--	--	--
	03/29/99	33.97	17.85	16.12	--	--	--	--	--	--	--
	06/23/99	33.97	18.67	15.30	--	--	--	--	--	--	--
	09/24/99	33.97	18.64	15.33	--	--	--	--	--	--	--
	12/23/99	33.97	19.32	14.65	--	--	--	--	--	--	--
	03/21/00	33.97	17.89	16.08	--	--	--	--	--	--	--
	07/03/00	33.97	18.40	15.57	--	--	--	--	--	--	--
	09/07/00	33.97	18.75	15.22	--	--	--	--	--	--	--
	12/05/00	33.97	19.03	14.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	03/06/01	33.97	18.12	15.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	06/08/01	33.97	20.02	13.95	<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*	--
	03/31/97	30.77	18.67	12.10	ND	ND	ND	ND	ND	ND*	--
	06/27/97	30.77	19.08	11.69	160	49	1.2	ND	5.9	ND*	--
	09/09/97	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***	--
	03/12/98	30.77	17.68	13.09	1,300	410	21	ND	57	ND***	--
	06/22/98	30.77	17.63	13.14	ND	ND	ND	ND	ND	--	--

# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
	09/18/98	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	--	--
	03/29/99	30.77	18.35	12.42	ND	ND	ND	ND	ND	--	--
	06/23/99	30.77	17.58	13.19	ND	ND	ND	ND	ND	--	--
	09/24/99	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	--	--
	03/21/00	30.77	18.42	12.35	45,000	16,000	1,100	1,400	1,900	1400* (<35)***	a,l
	07/03/00	30.77	18.82	11.95	33,000	10,000	720	840	1,800	<200*	a
	09/07/00	30.77	19.21	11.56	26,000	8,800	800	740	1,500	<50***	a,l,m
	12/05/00	30.77	19.60	11.17	41,000	11,000	840	930	1,900	<200	a
	03/06/01	30.77	18.24	12.53	1,100	400	5.7	<0.5	20	<5.0	a
	<b>06/08/01</b>	<b>30.77</b>	<b>20.91</b>	<b>9.86</b>	<b>92</b>	<b>19</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>1</b>	<b>&lt;5.0</b>	<b>a</b>
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*	--
	03/31/97	31.61	19.24	12.37	90	3.1	ND	ND	ND	ND*	--
	06/27/97	31.61	19.16	12.45	ND	ND	ND	ND	ND	ND*	--
	09/09/97	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***	--
	03/12/98	31.61	19.77	11.84	79	2.3	ND	0.8	ND	ND*	--
	06/22/98	31.61	18.08	13.53	ND	ND	ND	ND	ND	--	--
	09/18/98	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	--	--
	03/29/99	31.61	18.88	12.73	ND	ND	ND	ND	ND	--	--
	06/23/99	31.61	18.05	13.56	ND	ND	ND	ND	ND	--	--
	09/24/99	31.61	19.61	12.00	ND	ND	ND	ND	ND	--	--
	12/23/99	31.61	20.01	11.60	ND	ND	ND	ND	ND	--	--
	03/21/00	31.61	19.05	12.56	140	<0.5	<0.5	<0.5	<0.5	<5.0	k
	07/03/00	31.61	19.40	12.21	85	8.1	3.1	1.6	7.8	<5.0*	a
	09/07/00	31.61	19.62	11.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/05/00	31.61	20.25	11.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	03/06/01	31.61	19.07	12.54	91	5.5	<0.5	<0.5	<0.5	<5.0	--
	<b>06/08/01</b>	<b>31.61</b>	<b>20.77</b>	<b>10.84</b>	<b>290</b>	<b>22.0</b>	<b>0.8</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;5.0</b>	<b>a</b>

# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
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*	--
	03/31/97	32.89	19.81	13.08	--	--	--	--	--	--	--
	06/27/97	32.89	19.76	13.13	--	--	--	--	--	--	--
	09/09/97	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	--	--
	03/12/98	32.89	18.00	14.89	ND	ND	ND	ND	ND	ND*	--
	06/22/98	32.89	18.43	14.46	ND	ND	ND	ND	ND	--	--
	09/18/98	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	--	--
	03/29/99	32.89	18.92	13.97	ND	ND	ND	ND	ND	--	--
	06/23/99	32.89	18.41	14.48	ND	ND	ND	ND	ND	--	--
	09/24/99	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	--	--
	03/21/00	32.89	18.97	13.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	07/03/00	32.89	19.46	13.43	59	5.1	2.3	1.1	5.3	<5.0*	a
	09/07/00	32.89	19.95	12.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	--
	12/05/00	32.89	20.50	12.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	03/06/01	32.89	19.54	13.35	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	06/08/01	32.89	20.92	11.97	<50	<0.5	<0.5	<0.5	<0.5	<5.1	--
Trip Blank	03/21/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	09/07/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--

# CAMBRIA

**Table 1. Groundwater Elevation and Analytic Data - 1432 Harrison St., Oakland, CA.**

Well/Boring ID	Date	Top of Casing Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (8260) (µg/l)	Notes
----------------	------	------------------------------	---------------------------	----------------------------	-------------	----------------	----------------	---------------------	----------------	--------------------	-------

**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**

Field Data Sheets

## WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
6 MW-1	4:55		20.14		25.05	
5 MW-2	4:50		20.59		25.40	
1 MW-3	4:30		20.02		23.90	
3 MW-4	4:40		20.91		24.50	
2 MW-5	4:35		20.77		28.34	
4 MW-6	4:45		20.92		28.00	

Project Name: BorsukProject Number: 540-0188-033Measured By: R. J. W.Date: 6-8-01

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Bossuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW- MW-1</b>
Project Number: <b>540-0188</b>	Date: <b>6-8-01</b>	Well Yield: <b>----</b>
Site Address: <b>1432 Harrison St Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>4" pvc</b>
	Disposable bailer	Technician(s): <b>SG</b>
Initial Depth to Water: <b>20.14</b>	Total Well Depth: <b>25.05</b>	Water Column Height: <b>4.91</b>
Volume/ft: <b>0.65</b>	1 Casing Volume: <b><del>0.78</del> 3.19</b>	3 Casing Volumes: <b>9.57</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>no</b>	Total Gallons Purged: <b>10</b>
Start Purge Time: <b>10:05</b>	Stop Purge Time: <b>10:19</b>	Total Time: <b>19 mins</b>

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

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.55
6"	1.47

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
10:10	3	19.4	7.03	720	stions odor
10:15	6	20.1	6.94	824	
10:20	10	20.41	6.90	892	
					DO = 0.22 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	6-8-01	10:25	VOA	MC1	TPMS BTEX MTBE	8020/8015 8260
MW-						

# 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>6-8-01</b>	Well Yield: <b>----</b>
Site Address: <b>M32 Harrison St Oakland, Ca</b>	Sampling Method:	Well Diameter: <b>2" pvc</b>
	<b>Disposable bailer</b>	Technician(s): <b>SA</b>
Initial Depth to Water: <b>20.59</b>	Total Well Depth: <b>25.40</b>	Water Column Height: <b>4.81</b>
Volume/ft: <b>0.16</b>	1 Casing Volume: <b>0.76</b>	3 Casing Volumes: <b>2.30</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>NO</b>	Total Gallons Purged: <b>3</b>
Start Purge Time: <b>9:10</b>	Stop Purge Time: <b>9:54</b>	Total Time: <b>44 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. C	pH	Cond. uS	Comments
9:25	1	20.1	6.92	751	very slow recharge well almost dewatered but recovered 80% + did bail 3 casing volumes
9:40	2	20.2	6.98	890	
9:55	3	20.1	7.00	874	
					DO = 0.27 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 2	6-8-01	10:00	VOA	HCl	TPHs BTEX MTBE	8015/8020 8260
MW-						



# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Boxsuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-6</b>
Project Number: <b>540-D188</b>	Date: <b>6-8-01</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>SG</b>
Initial Depth to Water: <b>20.92</b>	Total Well Depth: <b>28.00</b>	Water Column Height: <b>7.08</b>
Volume/ft: <b>0.16</b>	1 Casing Volume: <b>1.13</b>	3 Casing Volumes: <b>3.39</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>no</b>	Total Gallons Purged: <b>4</b>
Start Purge Time: <b>8:20</b>	Stop Purge Time: <b>8:49</b>	Total Time: <b>29 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. C	pH	Cond. uS	Comments
8:30	1	19.1	7.92	920	slow recharge but bailor did not dewater
8:40	2	19.8	7.90	1051	
8:50	3	19.6	7.90	1020	
					DO = 0.91 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-6	6-8-01	8:55	VOA	MCI	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-4</b>
Project Number: <b>540-0188</b>	Date: <b>6-8-01</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>SG</b>
Initial Depth to Water: <b>20.91</b>	Total Well Depth: <b>24.50</b>	Water Column Height: <b>3.59</b>
Volume/ft: <b>0.16</b>	1 Casing Volume: <b>0.57</b>	3 Casing Volumes: <b>1.72</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>NO</b>	Total Gallons Purged: <b>2</b>
Start Purge Time: <b>7:15</b>	Stop Purge Time: <b>8:59</b>	Total Time: <b>44mins</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. C	pH	Cond. uS	Comments
7:30	1	19.9	7.20	1220	very slow recharge water level near DTB very slow baling while well recharged DO: 0.75mg/l
7:45	1.5	20.3	7.94	1351	
8:00	2	20.1	7.81	1369	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	6-8-01	8:05	VOA	HCl	TPH <sub>3</sub> BTEX MTBE	8015/8020 2260
MW-						

# CAMBRIA

## WELL SAMPLING FORM

Project Name: <b>Bossuk</b>	Cambria Mgr: <b>RAS</b>	Well ID: <b>MW-5</b>
Project Number: <b>540-0188</b>	Date: <b>6-8-01</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>SG</b>
Initial Depth to Water: <b>20.77</b>	Total Well Depth: <b>28.34</b>	Water Column Height: <b>7.57</b>
Volume/ft: <b>0.16</b>	1 Casing Volume: <b>1.21</b>	3 Casing Volumes: <b>3.63</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>no</b>	Total Gallons Purged: <b>4</b>
Start Purge Time: <b>6:15</b>	Stop Purge Time: <b>6:54</b>	Total Time: <b>39 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. C	pH	Cond. uS	Comments
6:30	1	19.3	7.29	690	water level dropped near DTA well did no dewater but recharge very slowly
6:45	2	19.1	7.51	620	
6:55	3	19.3	7.55	638	
					DO = 0.71 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	6-8-01	7:00	VOA	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-3</b>
Project Number: <b>540-0188</b>	Date: <b>6-8-01</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>SS</b>
Initial Depth to Water: <b>20.02</b>	Total Well Depth: <b>23.90</b>	Water Column Height: <b>3.88</b>
Volume/ft: <b>0.16</b>	1 Casing Volume: <b>0.62</b>	3 Casing Volumes: <b>1.86</b>
Purging Device: <b>disposable bailer</b>	Did Well Dewater?: <b>NO</b>	Total Gallons Purged: <b>2</b>
Start Purge Time: <b>5:30</b>	Stop Purge Time: <b>5:59</b>	Total Time: <b>29 min</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. C	pH	Cond. uS	Comments
5:40	1	19.7	7.20	620	very slow recovery well did not dewater but water level was very low with rising
5:50	1.5	19.9	7.55	699	
6:00	2	20.2	7.62	659	
					DO = 0.91 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	6-8-01	6:05	VOA	HCl	TPHs BTEX MTBE	8015/8020 8260
MW-						

C A M B R I A



**APPENDIX B**

Laboratory Analytical Results



McCAMPBELL ANALYTICAL INC.

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<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: #540-0988-033; Borsuk	Date Sampled: 06/08/01
		Date Received: 06/08/01
	Client Contact: Ron Scheele	Date Extracted: 06/08/01
	Client P.O:	Date Analyzed: 06/08/01

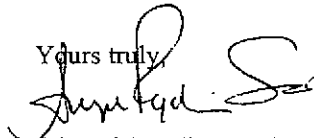
06/15/2001

Dear Ron:

Enclosed are:

- 1). the results of 6 samples from your #540-0988-033; 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.

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Cambria Environmental Technology 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #540-0988-033; Borsuk	Date Sampled: 06/08/01
	Client Contact: Ron Scheele	Date Received: 06/08/01
	Client P.O:	Date Extracted: 06/08/01
		Date Analyzed: 06/08/01

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\***

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)*	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
69358	MW-1	W	170,000,a	ND<200	28,000	40,000	1900	13,000	101
69359	MW-2	W	72,000,a	ND<200	9400	9200	1300	5800	100
69360	MW-3	W	ND	ND	ND	ND	ND	ND	105
69361	MW-4	W	92,a	ND	19	ND	ND	0.89	104
69362	MW-5	W	290,a	ND	22	0.82	ND	ND	107
69363	MW-6	W	ND	ND	ND	ND	ND	ND	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

\* cluttered chromatogram; sample peak coelutes with surrogate peak

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



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## QC REPORT

Date: 06/08/01-06/09/01 Matrix: Water

Extraction: TTLC

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		MSD
SampleID: 60201		Instrument:				GC-7	
Surrogate1	0.000	101.0	93.0	100.00	101	93	8.2
Xylenes	0.000	29.7	27.9	30.00	99	93	6.2
Ethyl Benzene	0.000	9.2	8.7	10.00	92	87	5.6
Toluene	0.000	9.9	8.7	10.00	99	87	12.9
Benzene	0.000	9.1	8.3	10.00	91	83	9.2
MTBE	0.000	8.7	8.3	10.00	87	83	4.7
GAS	0.000	97.1	95.1	100.00	97	95	2.1
SampleID: 61201		Instrument:				GC-2 A	
Surrogate1	0.000	103.0	102.0	100.00	103	102	1.0
TPH (diesel)	0.000	8225.0	8150.0	7500.00	110	109	0.9

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

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

RPD means Relative Percent Deviation



