CAMBRIA

April 13, 2001

Mr. Barney Chan
Alameda County Department of Environmental Health
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

3749

Re: **First Quarter 2001 Monitoring Report**
Former Arco Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116

- Still high contamination in well & upgradient.
- Air sparging will have "small" effect but extraction would bring offsite contamination onsite.

Dear Mr. Chan:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. (Cambria) is submitting this first quarter 2001 groundwater monitoring report for the above-referenced site. Presented in the report are the first quarter 2001 activities and results and the anticipated second quarter 2001 activities.

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: First Quarter 2001 Monitoring Report

cc: Mr. Bo K. Gin, 288 11th Street, Oakland, CA 94706

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

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

CAMBRIA

FIRST QUARTER 2001 MONITORING REPORT

706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116

April 13, 2001

Prepared for:

Mr. Bo K. Gin
288 11th Street
Oakland, CA 94706

Prepared by:

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

REGISTERED GEOLOGIST
RONALD A. SCHEELE
No. 6842
STATE OF CALIFORNIA

Jason Olson
Senior Staff Environmental Scientist

Ron Scheele, RG
Senior Geologist

CAMBRIA

FIRST QUARTER 2001 MONITORING REPORT

706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116

April 13, 2001

INTRODUCTION

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. (Cambria) is submitting this first quarter 2001 groundwater monitoring report for the above-referenced site. Presented below are the first quarter 2001 activities and results and the anticipated second quarter 2001 activities.

FIRST QUARTER 2001 ACTIVITIES

Monitoring Activities

Field Activities: On January 29, 2001, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) wells MW-1 through MW-7 (see Figure 1). Groundwater samples were collected from scheduled 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. Samples containing MTBE were further analyzed for MTBE using EPA Method 8260. Laboratory analytical results are included as Appendix B. Groundwater elevations are shown on Figure 1.

Monitoring Results

Groundwater Flow Direction: Groundwater flow this quarter is anomalous compared with historic trends. Historically, groundwater on the site flows in a southerly direction, with a nearly uniform gradient across the site. Based on depth-to-water measurements collected during Cambria's January 29, 2001 site visit, groundwater flow beneath the site is divided. Groundwater immediately north of MW-1 flows towards a local depression (north) at a rate of 0.02 ft/ft. Groundwater south of MW-1 flows towards the south at a rate of 0.008 feet/feet (Figure 1).

Hydrocarbon Distribution in Groundwater: Hydrocarbon concentrations detected this quarter are consistent with historic data, with the exception of MTBE, which has decreased significantly in wells MW-1 and MW-2 but remained stable in MW-4 located adjacent to the former Shell station. No SPH were detected in any of the wells. The maximum TPHg and benzene concentrations were detected in well MW-2 at 110,000 and 8,200 micrograms per liter (µg/L), respectively. The maximum MTBE concentration was detected in well MW-4 at 8,000 µg/L, adjacent to the former Shell service station.

Corrective Action Activities

Cambria operated the air sparging system during the first quarter. Air was injected into air sparge wells SP-3, SP-4, and SP-5 at a rate of approximately 5 to 6 cfm and at pressures ranging from 4 to 10 psi.

ANTICIPATED SECOND QUARTER 2001 ACTIVITIES

Monitoring Activities

Cambria will gauge all wells, check the wells for SPH, and collect groundwater samples from scheduled wells that do not contain SPH. 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.

Corrective Action Activities

Cambria plans to continue operation of the air sparging system during the second quarter 2001.

APPENDIXES

Figure 1 – Groundwater Elevation and Hydrocarbon Concentration Map
Table 1 – Groundwater Analytical Data
Appendix A – Field Data Sheets
Appendix B – Laboratory Analytical Report

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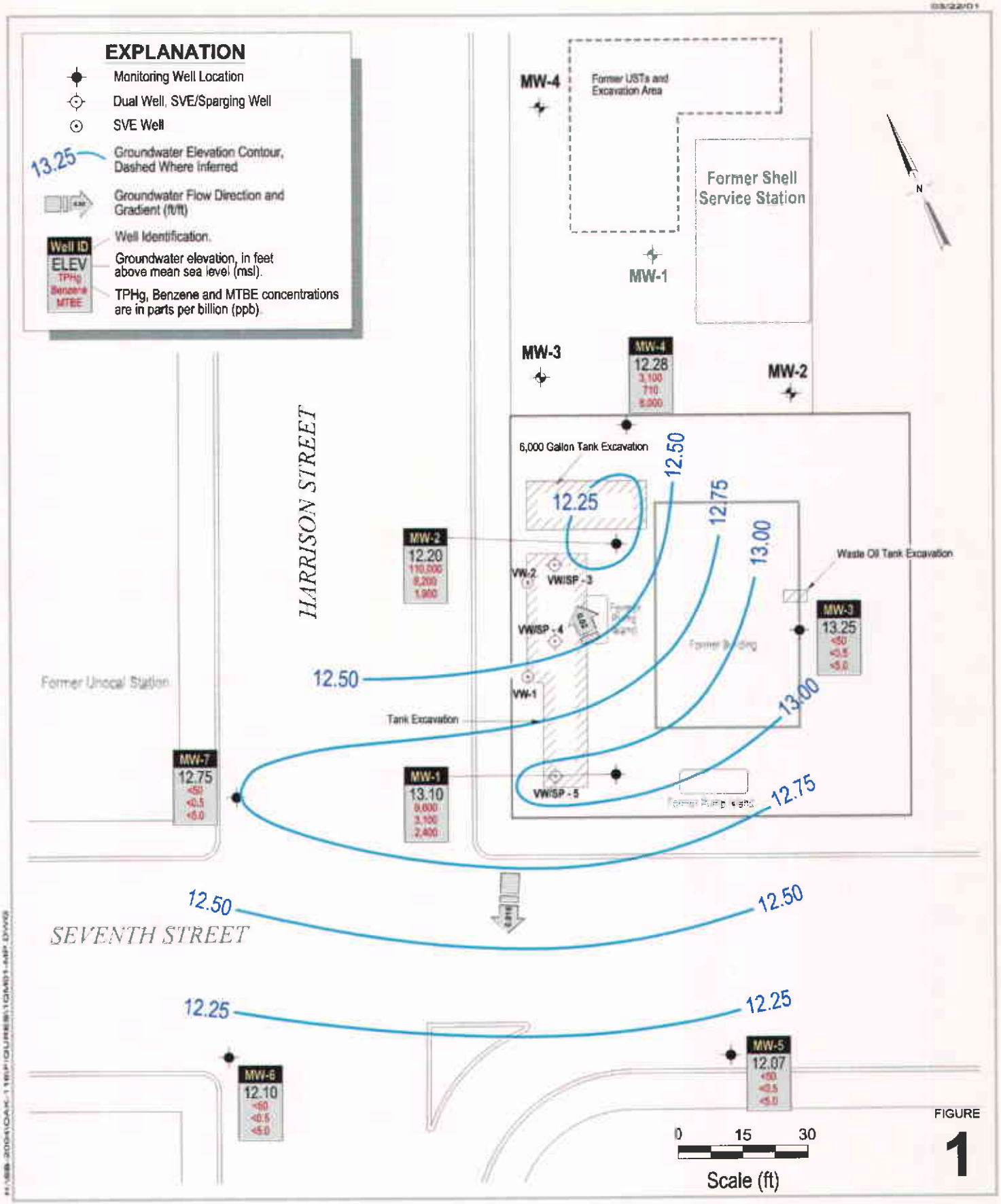

FIGURE

1

Former Arco Station

706 Harrison Street

Oakland, California

CAMBRIA

Groundwater Elevation Contour Map

January 29, 2001

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Table 1. Groundwater Elevation and Analytic Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID TOC Elevation Monitoring Frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (8020) (ug/l)	MTBE (8260) (ug/l)	Notes
MW-1	8/13/93	17.40	11.75	20,000	8,500	640	280	440	-	-	
29.15	12/14/93	17.27	11.88	17,000	9,200	1,200	4,400	540	-	-	
Quarterly	4/15/94	17.00	12.15	9,500	3,600	530	160	280	-	-	
	12/29/94	16.40	12.75	-	-	-	-	-	-	-	
	7/19/96	15.83	13.32	17,000	5,200	1,100	330	530	-	-	sheen/odor
	1/27/97	13.58	15.57	30,000	9,800	1,300	790	880	400	-	b, sheen/odor
	6/18/97	16.11	13.04	19,000	5,600	1,400	510	770	1,200	800	a, b
	9/18/97	16.62	12.53	48,000	18,000	4,400	1,000	1,700	<640	-	b
	12/10/97	15.93	13.22	22,000	4,900	1,300	580	650	460	260	a, b, odor
	2/18/98	11.56	17.59	16,000	5,000	750	400	780	1,800	-	b
	5/12/98	13.53	15.62	19,000	4,600	810	450	770	5,500	-	b, c
	8/18/98	15.19	13.96	12,000	3,600	1,300	300	570	5,100	3,700	a, b
	11/24/98	15.67	13.48	13,000	3,600	890	330	380	6,100	-	b
	2/4/99	15.31	13.84	20,000	5,900	830	450	500	4,900	-	b
	5/18/99	14.95	14.20	23,000	7,000	1,600	520	830	6,100	-	b
	8/27/99	15.84	13.31	19,000	5,800	1,700	410	710	1,800	2,100	a, b
	11/18/99	16.39	12.76	20,000	4,900	630	410	580	4,900	3,600	b
	2/29/00	13.43	15.72	12,000	2,800	24	290	170	3,100	3,400	a
	5/25/00	15.08	14.07	12,000	2,200	120	330	260	9,100	12,000	a, b
	8/9/00	16.09	13.06	13,000	2,500	44	310	140	16,000	-	b
	11/9/00	15.90	13.25	11,000	2,500	140	380	150	11,000	12,000	b
	1/29/01	**16.05**	**13.10**	**9,600**	**3,100**	**100**	**77**	**200**	**2,600**	**2,400**	**b**
MW-2	8/13/93	17.05	13.46	34,000	6,800	10,000	740	3,900	-	-	
30.51	12/14/93	18.28	12.23	16,000	3,200	4,200	500	1,700	-	-	
Quarterly	4/15/94	18.10	12.41	23,000	2,500	4,200	470	1,800	-	-	
	12/29/94	17.40	13.11	-	-	-	-	-	-	-	
	7/19/96	16.72	13.79	90,000	7,300	14,000	1,600	7,300	-	-	odor

Table 1. Groundwater Elevation and Analytic Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID TOC Elevation Monitoring Frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (8020) (ug/l)	MTBE (8260) (ug/l)	Notes
	1/27/97	14.89	15.62	63,000	7,100	13,000	1,600	7,100	500	-	b, odor
	6/18/97	17.12	13.39	52,000	5,100	10,000	1,400	6,000	<200	-	b
	9/18/97	17.63	12.88	110,000	9,400	23,000	2,600	13,000	<890	-	b, sheen/odor
	12/10/97	16.98	13.53	39,000	2,600	5,300	940	3,900	780	320	b, odor
	2/18/98	12.61	17.90	85,000	9,000	19,000	2,300	11,000	2,400	-	b
	5/12/98	14.45	16.06	110,000	9,500	21,000	2,500	12,000	<1,200	-	b
	8/18/98	16.14	14.37	64,000	6,000	13,000	1,700	7,800	2,000	1,300	a, b
	11/24/98	16.70	13.81	78,000	5,300	14,000	2,300	11,000	<2,000	-	b, g
	2/4/99	18.39	12.12	66,000	5,800	16,000	2,600	12,000	3,000	-	b, g
	5/18/99	15.90	14.61	78,000	6,700	17,000	2,400	10,000	4,300	-	b
	8/27/99	16.79	13.72	91,000	7,400	17,000	2,300	11,000	1,200	1,000	a, b
	11/18/99	17.32	13.19	180,000	7,000	20,000	3,300	16,000	<6,000	1,700	b,g
	2/29/00	14.37	16.14	86,000	5,500	13,000	2,000	9,500	3,500	4,700	a
	5/25/00	16.01	14.50	110,000	6,300	14,000	2,400	10,000	7,500	6,500	a, b, g
	8/9/00	17.02	13.49	77,000	5,000	13,000	2,000	8,600	5,900	-	b
	11/9/00	17.00	13.51	70,000	4,800	12,000	1,900	8,000	9,400	8,300	b
	1/29/01	**18.31**	**12.20**	**110,000**	**8,200**	**21,000**	**2,800**	**13,000**	**2,500**	**1,900**	**b,g**
MW-3	8/13/93	17.05	12.72	<50	<0.50	<0.50	<0.50	<1.5	-	-	
29.77	12/14/93	17.70	12.07	<50	<0.50	<0.50	<0.50	<1.5	-	-	
Bi-annually	4/15/94	17.40	12.37	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	12/29/94	16.80	12.97	-	-	-	-	-	-	-	
	7/19/96	16.28	13.49	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/97	13.83	15.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/97	16.53	13.24	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	9/18/97	17.07	12.70	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/97	16.15	13.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/98	11.80	17.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

Table 1. Groundwater Elevation and Analytic Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID TOC Elevation Monitoring Frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (8020) (ug/l)	MTBE (8260) (ug/l)	Notes
	5/12/98	13.85	15.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/98	15.57	14.20	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/98	16.04	13.73	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/99	17.80	11.97	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/99	15.29	14.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/99	16.15	13.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/99	16.77	13.00	-	-	-	-	-	-	-	
	2/29/00	13.71	16.06	<50	2	<0.5	<0.5	<0.5	<5.0	-	
	5/25/00	15.46	14.31	-	-	-	-	-	-	-	
	8/9/00	16.46	13.31	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/00	16.25	13.52	-	-	-	-	-	-	-	
	1/29/01	**16.52**	**13.25**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	-	
MW-4	12/16/94	18.10	13.08	2,500	32	6.5	4.5	17	-	-	
31.18	12/29/94	17.95	13.23	-	-	-	-	-	-	-	
Quarterly	7/19/96	17.38	13.80	3,300	520	39	67	60	-	-	
	1/27/97	15.25	15.93	4,500	860	55	100	91	1,100	-	b
	6/18/97	17.61	13.57	2,700	700	52	81	76	2,200	2,300	a, b
	9/18/97	18.01	13.17	3,900	760	38	56	64	<170	-	b
	12/10/97	17.45	13.73	12,000	1,800	120	210	210	2,900	2,600	a, b
	2/18/98	13.09	18.09	1,700	210	8	6.7	16	200	-	b
	5/12/98	14.78	16.40	2,100	300	15	36	34	920	-	b, c
	8/18/98	16.59	14.59	4,700	1,000	130	110	150	5,200	4,900	a, b
	11/24/98	17.18	14.00	3,000	810	44	76	94	4,800	-	b
	2/4/99	18.90	12.28	2,800	770	50	69	69	3,100	-	b
	5/18/99	16.30	14.88	4,000	780	57	7.7	79	4,800	-	b
	8/27/99	17.21	13.97	4,100	870	51	74	99	3,300	4,100	a, b
	11/18/99	17.77	13.41	3,000	760	43	67	65	5,100	5,400	b

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	2/29/00	14.85	16.33	4,600	1,000	64	94	170	4,100	4,600	a
	5/25/00	16.45	14.73	2,600	540	39	59	41	3,500	5,300	a, b
	8/9/00	17.47	13.71	4,400	930	66	98	79	9,400	-	b
	11/9/00	17.45	13.73	4,200	630	34	54	44	7,800	9,400	b
	1/29/01	**18.90**	**12.28**	**3,100**	**710**	**34**	**66**	**51**	**9,400**	**8,000**	**b**
MW-5	12/16/94	16.07	11.97	<50	1.1	<0.5	<0.5	2.4	-	-	
28.04	12/29/94	16.10	11.94	-	-	-	-	-	-	-	
Bi-annually	7/19/96	15.49	12.55	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/97	13.60	14.44	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/97	15.55	12.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	9/18/97	16.16	11.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/97	15.41	12.63	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/98	10.93	17.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/98	13.25	14.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/98	14.75	13.29	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/98	15.15	12.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/99	14.61	13.43	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/99	14.15	13.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/99	15.43	12.61	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/99	15.97	12.07	-	-	-	-	-	-	-	
	2/29/00	13.16	14.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/25/00	14.72	13.32	-	-	-	-	-	-	-	--
	8/9/00	15.68	12.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/00	15.39	12.65	-	-	-	-	-	-	-	
	1/29/01	**15.97**	**12.07**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	-	

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Well ID TOC Elevation Monitoring Frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (8020) (ug/l)	MTBE (8260) (ug/l)	Notes
MW-6	12/16/94	17.74	11.36	-	-	-	-	-	-	-	
29.1	12/29/94	17.40	11.70	-	-	-	-	-	-	-	
Bi-annually	7/19/96	16.60	12.50	<50	<0.5	<0.5	<0.5	<0.5	-	-	
	1/27/97	14.88	14.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/97	16.73	12.37	51	22	<0.5	<0.5	<0.5	<5.0	-	c
	9/18/97	17.24	11.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	12/10/97	16.56	12.54	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/18/98	12.93	16.17	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/98	14.35	14.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/98	15.94	13.16	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/98	16.46	12.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	2/4/99	18.25	10.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/99	15.73	13.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/27/99	15.64	13.46	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/99	17.04	12.06	-	-	-	-	-	-	-	
	2/29/00	14.55	14.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/25/00	15.86	13.24	-	-	-	-	-	-	-	
	8/9/00	16.80	12.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/00	16.60	12.50	-	-	-	-	-	-	-	
	1/29/01	**17.00**	**12.10**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	-	
MW-7	12/16/94	17.07	12.60	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
29.67	12/29/94	17.65	12.02	-	-	-	-	-	-	-	
Bi-annually	7/19/96	16.44	13.23	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	1/27/97	15.09	14.58	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	6/18/97	16.59	13.08	73	<0.5	0.55	<0.5	<0.5	<5.0	-	d
	9/18/97	17.06	12.61	94	<0.5	<0.5	<0.5	<0.5	<5.0	-	e, f
	12/10/97	16.58	13.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

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Table 1. Groundwater Elevation and Analytic Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID TOC Elevation Monitoring Frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft-msl)	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (8020) (ug/l)	MTBE (8260) (ug/l)	Notes
	2/18/98	12.60	17.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/12/98	14.81	14.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	8/18/98	15.67	14.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/24/98	16.30	13.37	200	<0.5	<0.5	<0.5	<0.5	<5.0	-	d
	2/4/99	15.99	13.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	5/18/99	15.42	14.25	200	<0.5	<0.5	<0.5	<0.5	<5.0	-	d
	8/27/99	16.35	13.32	140	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/18/99	16.81	12.86	--	--	--	--	--	--	-	
	2/29/00	14.16	15.51	100	<0.5	<0.5	<0.5	<0.5	<5.0	-	f
	5/25/00	15.54	14.13	--	--	--	--	--	--	-	
	8/9/00	16.56	13.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	
	11/9/00	16.45	13.22	-	-	-	-	-	-	-	
	1/29/01	**16.92**	**12.75**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**-**	
Trip Blank	11/9/00	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	

Abbreviations and Analyses:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
Benzene, ethylbenzene, toluene and xylenes by EPA Method 8020.
MTBE = Methyl tert-butyl ether by EPA Method 8020 and/or 8260.
•g/L = Micrograms per liter
TOC = Top of casing elevation with respect to mean sea level
• = not sampled

Notes

a = Result in parentheses indicates MTBE by EPA Method 8260.
b = Analytical laboratory notes that unmodified or weakly modified gasoline is significant.
c = Analytical laboratory notes that lighter gasoline range compounds are significant.
d = Analytical laboratory notes that isolated peaks are present.
e = Analytical laboratory notes that heavier gasoline range compounds are significant.
f = Analytical laboratory notes hydrocarbons with no recognizable patterns are present.
g = Analytical laboratory notes lighter than water immiscible sheen is present.
Data prior to 12/16/94 provided by previous consultant.

ATTACHMENT A

Field Data Sheets

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	9:50		16.05		24.20	
MW-2	9:53		18.31		25.50	
MW-3	9:43		16.52		27.55	
MW-4	9:46		18.90		25.40	
MW-5	9:40		15.97		27.80	
MW-6	9:35		17.00		25.85	
MW-7	9:30		16.92		27.50	

Project Name: Bo Gin

Project Number: 230-0116

Measured By: Sanjiv Gill

Date: 1-29-01

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW- 1
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St. Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 16.05	Total Well Depth: 24.20	Water Column Height: 8.15
Volume/ft: 0.16	1 Casing Volume: 1.30	3 Casing Volumes: 3.91
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 4
Start Purge Time: 10:50	Stop Purge Time: 10:54	Total Time: 4 min

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
10:51	1 1.5	16.7	7.05	1612	
10:53	2 2.5	16.5	7.15	759	
10:55	3 4	17.4	7.13	794	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 1	1-29-01	13:00	4 voa	HCl	TPHg BTEX MTBE	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW- 2
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 18.31	Total Well Depth: 25.50	Water Column Height: 7.19
Volume/ft: 0.16	1 Casing Volume: 1.15	3 Casing Volumes: 3.45
Purging Device: disposable bailers	Did Well Dewater?: no	Total Gallons Purged: 3.50
Start Purge Time: 12:10	Stop Purge Time: 12:14	Total Time: 4 mins

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

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

Time		Casing Volume	Temp. C	pH	Cond. uS	Comments
12:11	1	1.5	15.1	6.68	800	
12:13	2	2	16.7	6.36	848	
12:15	3	3.5	16.1	6.19	870	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 2	1-29-01	12:20	4 voa	HCl	TPHg BTEX MTBE	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW- 3
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 16.52	Total Well Depth: 27.55	Water Column Height: 11.03
Volume/ft: 0.16	1 Casing Volume: 1.76	3 Casing Volumes: 5.29
Purging Device: disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 5.0
Start Purge Time: 12:30	Stop Purge Time: 12:34	Total Time: 4 mins

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

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

Time	Casing Volume		Temp. C	pH	Cond. uS	Comments
12:31	1	1.5	13.9	6.98	626	
12:32	2	3	13.3	6.82	533	
12:35	3	5	13.7	6.51	531	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 3	1-29-01	12:40	4 VOA	HCl	TPHg BTEX MTBE	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW- 4
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 18.90	Total Well Depth: 25.40	Water Column Height: 6.50
Volume/ft: 0.16	1 Casing Volume: 1.04	3 Casing Volumes: 3.12
Purging Device: disposable bailers	Did Well Dewater?: no	Total Gallons Purged: 3
Start Purge Time: 11:45	Stop Purge Time: 11:49	Total Time: 4 mins

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
11:47	1	~~7.03~~ 13.2	7.03	1031	
11:48	2	18.7	7.31	734	
11:50	3	17.7	7.35	739	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	1-29-01	11:55	4 VOA	HCl	TPHg BTEX MTBE	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gia	Cambria Mgr: RAS	Well ID: MW- 5
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St. Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 15.97	Total Well Depth: 27.80	Water Column Height: 11.83
Volume/ft: 0.16	1 Casing Volume: 1.89	3 Casing Volumes: 5.67
Purging Device: disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 5.50
Start Purge Time: 11:05	Stop Purge Time: 11:10	Total Time: 5 mins

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
1107	1 1.5	17.1	7.15	832	
11:09	2 3	16.1	7.54	725	
11:11	3 5.5	16.6	7.13	721	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 5	1-29-01	11:16	4 voa	HCl	TPHg BTEX MTBE	8015/ 8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW- 6
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 16.60	Total Well Depth: 25.85	Water Column Height: 9.25
Volume/ft: 0.16	1 Casing Volume: 1.48	3 Casing Volumes: 4.44
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 4.50
Start Purge Time: 10:30	Stop Purge Time: 10:36	Total Time: 6 mins

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

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

Time		Casing Volume	Temp. C	pH	Cond. uS	Comments
10:32	1	1.5	17.6	7.33	538	
10:34	2	3	18.2	7.08	565	
10:37	3	4	18.7	6.98	533	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 6	1-29-01	10:42	4 voa	HCl	TPHg BTEX MTBE	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Bo Gin	Cambria Mgr: RAS	Well ID: MW-7
Project Number: 230-0116	Date: 1-29-01	Well Yield: -----
Site Address: 706 Harrison St, Oakland, Ca	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 16.92	Total Well Depth: 27.50	Water Column Height: 10.58
Volume/ft: 0.16	1 Casing Volume: 1.69	3 Casing Volumes: 5.0
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5
Start Purge Time: 10:00	Stop Purge Time: 10:06	Total Time: 6 mins

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
10:02	1 1.5	14.9	7.38	1561	
10:04	2 3	16.2	7.36	1393	
10:07	3 5	16.0	7.16	1368	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-7	1-29-01	10:12	4 voa	HCl	TPHg BTEX MTBE	8015/8020
MW-						

ATTACHMENT B

Laboratory Analytical Report

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology 6262 Hollis St. Emeryville, CA 94608	Client Project ID: #230-0116; Bo Gin	Date Sampled: 01/29/01
		Date Received: 01/30/01
	Client Contact: Ron Scheele	Date Extracted: 01/30/01
	Client P.O:	Date Analyzed: 01/30/01

02/06/01

Dear Ron:

Enclosed are:

1). the results of 7 samples from your **#230-0116; Bo Gin** 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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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #230-0116; Bo Gin	Date Sampled: 01/29/01
6262 Hollis St.		Date Received: 01/30/01
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 01/30-02/05/01
	Client P.O:	Date Analyzed: 01/30-02/05/01

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

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

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
58951	MW-1	W	9600,a	2600	3100	100	77	200	108
58952	MW-2	W	110,000,a,h	2500	8200	21,000	2800	13,000	105
58953	MW-3	W	ND	ND	ND	ND	ND	ND	104
58954	MW-4	W	3100,a	9400	710	34	66	51	103
58955	MW-5	W	ND	ND	ND	ND	ND	ND	107
58956	MW-6	W	ND	ND	ND	ND	ND	ND	90
58957	MW-7	W	ND	ND	ND	ND	ND	ND	109
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

cluttered chromatogram; sample peak coelutes with surrogate peak

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

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110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology 6262 Hollis St. Emeryville, CA 94608	Client Project ID: #230-0116; Bo Gin	Date Sampled: 01/29/01
		Date Received: 01/30/01
	Client Contact: Ron Scheele	Date Extracted: 02/01-02/02/01
	Client P.O:	Date Analyzed: 02/01-02/02/01

Methyl tert-Butyl Ether *

EPA method 8260 modified

Lab ID	Client ID	Matrix	MTBE*	% Recovery Surrogate
58951	MW-1	W	2400	105
58952	MW-2	W	1900	98
58954	MW-4	W	8000	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	1.0 ug/L	
		S	5.0 ug/kg	

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

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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QC REPORT

Date: 01/30/01 Matrix: Water

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 121800				Instrument: GC-3			
Surrogate1	0.000	100.0	108.0	100.00	100	108	7.7
Xylenes	0.000	28.5	28.7	30.00	95	96	0.7
Ethyl Benzene	0.000	9.6	9.8	10.00	96	98	2.1
Toluene	0.000	9.8	10.2	10.00	98	102	4.0
Benzene	0.000	9.9	10.3	10.00	99	103	4.0
MTBE	0.000	11.4	10.9	10.00	114	109	4.5
GAS	0.000	83.4	80.2	100.00	83	80	4.0
SampleID: 121800				Instrument: GC-2 A			
Surrogate1	0.000	109.0	108.0	100.00	109	108	0.9
TPH (diesel)	0.000	8050.0	7500.0	7500.00	107	100	7.1
SampleID: 122000				Instrument: IR-1			
Surrogate1	0.000	96.4	95.3	100.00	96	95	1.1
TRPH	0.000	32.3	32.6	23.70	136	138	0.9

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

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation

McCAMPBELL ANALYTICAL INC.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

VOCs (EPA 8240/8260)

Date: 01/31/01-02/01/01 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 13101					Instrument: GC-10		
Surrogate	0.000	91.0	92.0	100.00	91	92	1.1
tert-Amyl Methyl Ether	0.000	101.0	108.0	100.00	101	108	6.7
Methyl tert-Butyl Ether	0.000	102.0	107.0	100.00	102	107	4.8
Ethyl tert-Butyl Ether	0.000	102.0	106.0	100.00	102	106	3.8
Di-isopropyl Ether	0.000	104.0	107.0	100.00	104	107	2.8
Toluene	0.000	96.0	96.0	100.00	96	96	0.0
Benzene	0.000	98.0	100.0	100.00	98	100	2.0
Chlorobenzene	0.000	101.0	102.0	100.00	101	102	1.0
Trichloroethane	0.000	96.0	87.0	100.00	96	87	9.8
1,1-Dichloroethene	0.000	113.0	117.0	100.00	113	117	3.5

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

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

RPD means Relative Percent Deviation

24263 ZC. 298

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☑ 5 DAY

Report To: Ron Scheele Bill To: Cambria Env
Company: Cambria Environmental Technology
~~1144 65th Street, Suite C~~ 6262 Hollis St.
Oakland, CA 94608 Emeryville, CA 94608
Tele: (510) ~~420-0700~~ 450-1983 Fax: (510) ~~420-9170~~ 450-8295
Project #: 230-0116- Project Name: BO Gin
Project Location: 706 Harrison St. Oakland, Ca
Sampler Signature: L. Hill

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 (8260) MTBE	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1		1-29-01	13:00	4	VOA	X					X	X			X								X								MW-1
MW-2		1-29-01	12:20	4	VOA	X					X	X			X								X								MW-2
MW-3		1-29-01	12:40	4	VOA	X					X	X			X																
MW-4		1-29-01	11:55	4	VOA	X					X	X			X								X								MW-4
MW-5		1-29-01	11:16	4	VOA	X					X	X			X																
MW-6		1-29-01	10:42	4	VOA	X					X	X			X																
MW-7		1-29-01	10:12	4	VOA	X					X	X			X																
		1																													

Confirm MTBE by 8260

SAMPLE ID	Lab ID
MW-1	58951
MW-2	58952
MW-3	58953
MW-4	58954
MW-5	58955
MW-6	58956
MW-7	58957

Relinquished By:	Date:	Time:	Received By:
L. Hill	1/30	1215	Ken Brown
Ken Brown	1/30	1215	Maria Venegas
Relinquished By:	Date:	Time:	Received By:

Remarks:
ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION ✓
APPROPRIATE ✓
CONTAINERS

VOAS | O&G | METALS | OTHER