CAMBRIA

March 30, 2000

Mr. Larry Seto
Alameda County Department of
Environmental Health
UST Local Oversight Program
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Re: **First Quarter 2000 Monitoring Report**
Former Arco Service Station
706 Harrison Street
Oakland, California
STID 3749
Cambria Project #230-0116-116

STID 3749

Dear Mr. Seto:

On behalf of Mr. Bo K. Gin, Cambria Environmental Technology, Inc. (Cambria) is submitting this first quarter 2000 groundwater monitoring report for the above-referenced site. Presented below are the first quarter 2000 activities, the current hydrocarbon distribution in groundwater, recommendations, and the anticipated second quarter 2000 activities.

FIRST QUARTER 2000 ACTIVITIES

Quarterly Groundwater Sampling: On February 29, 2000, Cambria gauged and inspected for separate phase hydrocarbons (SPH) in all site groundwater monitoring wells. Cambria also collected groundwater samples from all monitoring wells. The groundwater samples were sent to McCampbell Analytical of Pacheco, California. Table 1 summarizes groundwater elevation data and analytical results for the subject site. Figure 1 presents the groundwater elevation contours and benzene and methyl tert-butyl ether (MTBE) concentrations for the site. The groundwater sampling laboratory analytical results are included as Attachment A, and water sampling field sheets are included as Attachment B.

Remediation System: Due to the high water levels submerging the vapor extraction well screens, Cambria shut off the Soil Vapor Extraction system on February 29, 2000. Cambria is still injecting air into wells VW/SP-3, VW/SP-4, and VW/SP-5 to increase dissolved oxygen concentrations, thereby enhancing aerobic biodegradation.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Cambria Environmental Technology, Inc.

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

HYDROCARBON DISTRIBUTION IN GROUNDWATER

No measurable liquid-phase hydrocarbons (LPH) were detected in any of the site wells. Hydrocarbon concentrations remained consistent with historic data with a maximum benzene concentration, TPHg concentration, and MTBE concentration of 5,500 parts per billion (ppb), 86,000 ppb, and 4,700 ppb, respectively in source area well MW-2. The current benzene and MTBE distribution in groundwater for the site are shown on Figure 1.

During the third quarter 1999, the maximum MTBE concentration in groundwater beneath the upgradient neighboring site was 16,000 ppb in monitoring well MW-1, located approximately 5 feet downgradient of the extent of excavation of the former underground storage tank pit. This is one order of magnitude greater than historic concentrations for the subject site. MTBE from the neighboring site appears to be impacting groundwater beneath the subject site.

ANTICIPATED SECOND QUARTER 2000 ACTIVITIES

Quarterly Groundwater Sampling: As requested by the ACDEH, Cambria will gauge each monitoring well, measure the thickness of any detected SPH, and collect groundwater samples from selected wells. Cambria will tabulate the data and prepare a quarterly monitoring report.

***Remediation System*:** Cambria will prepare a letter requesting regulatory closure.

CLOSING

We appreciate the opportunity to provide environmental services on behalf of Mr. Bo K. Gin. Please call David Elias at (510) 420-3307 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Mark Erickson
Staff Engineer

David Elias, RG
Senior Geologist

REGISTERED GEOLOGIST
DAVID CARL ELIAS
No. 6584
STATE OF CALIFORNIA

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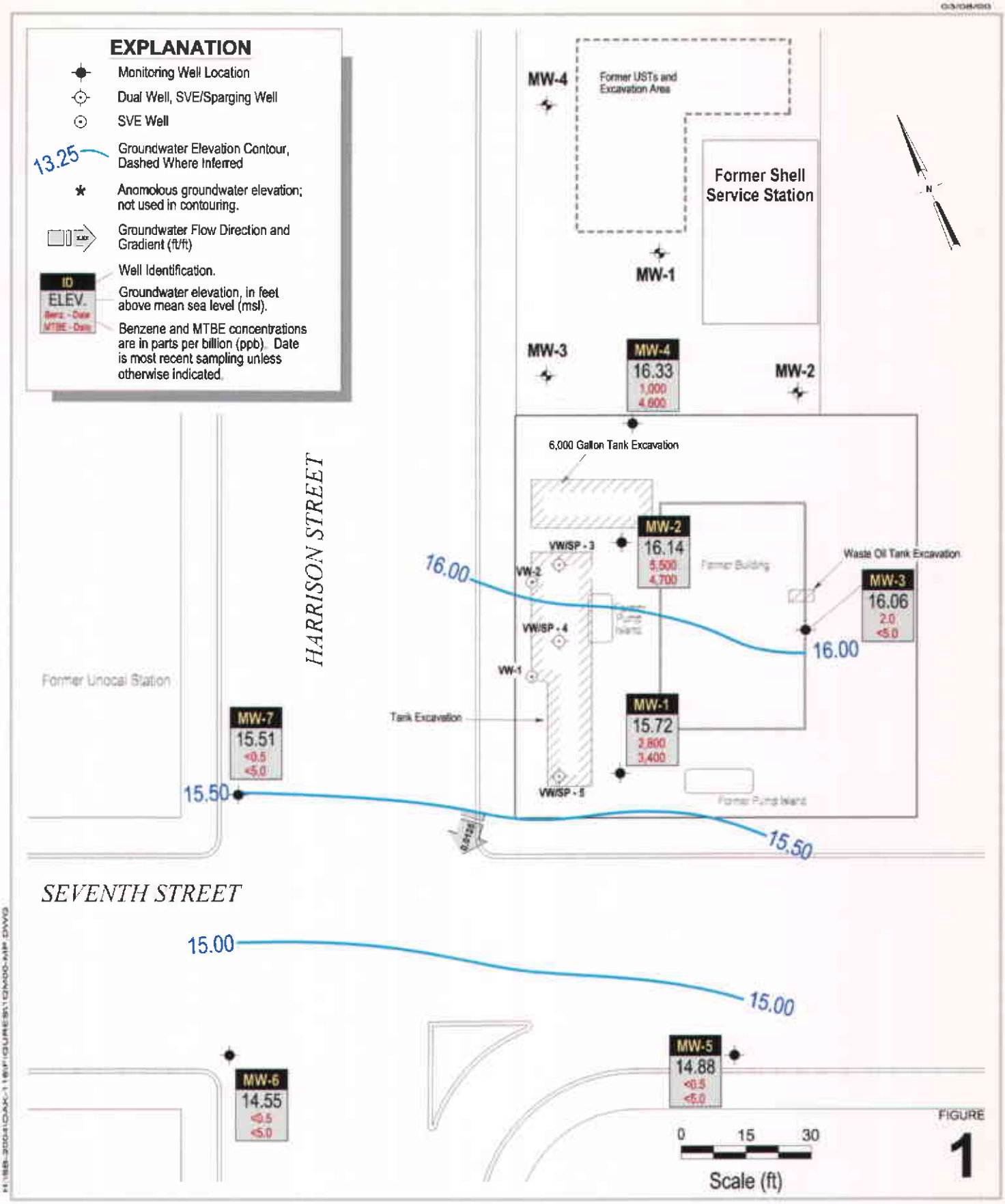
Attachments: A - Analytical Results for Groundwater Sampling
B - Water Sampling Field Sheets

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



Former Arco Station

706 Harrison Street

Oakland, California

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Groundwater Elevation Contour Map

February 29, 2000

CAMBRIA

Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID *TOC* monitoring frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE[a]	Notes
				<----------Concentrations in parts per billion (µg/L)---------->						
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
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
	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

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Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID *TOC* monitoring frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE[a]	Notes
				<----------Concentrations in parts per billion (µg/L)---------->						
	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**
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	-	
Biannually	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	
	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	

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Table 1. Groundwater Analytical Data - Former Arco Station - 706 Harrison Street, Oakland, California

Well ID *TOC* monitoring frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE[a]	Notes
				<----------Concentrations in parts per billion (µg/L)---------->						
	11/18/99	16.77	13.00	--	--	--	--	--	--	
	2/29/00	**13.71**	**16.06**	**<50**	**2.0**	**<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	8.0	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
	2/29/00	**14.85**	**16.33**	**4,600**	**1,000**	**64**	**94**	**170**	**4,100 (4,600)**	**a**
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	-	-	-	-	-	-	
Biannually	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	

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Well ID *TOC* monitoring frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE[a]	Notes
				<----------Concentrations in parts per billion (µg/L)---------->						
	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**	
MW-6	12/16/94	17.74	11.36	-	-	-	-	-	-	
29.10	12/29/94	17.40	11.70	-	-	-	-	-	-	
Biannually	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**	
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	-	-	-	-	-	-	

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Well ID *TOC* monitoring frequency	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE[a]	Notes
				<----------Concentrations in parts per billion (µg/L)---------->						
Biannually	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	
	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	-	-	-	-	-	-	a, d
	2/29/00	**14.16**	**15.51**	**100**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**f**

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 8260.
µg/L = Micrograms per liter
TOC = Top of casing elevation with respect to mean sea level

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.

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ATTACHMENT A

Analytical Results for Groundwater Sampling

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	Client Project ID: #230-0116; BO GIN	Date Sampled: 02/29/00
1144 65th Street, Suite C		Date Received: 03/01/00
Oakland, CA 94608	Client Contact: Mark Erickson	Date Extracted: 03/01-03/06/00
	Client P.O:	Date Analyzed: 03/01-03/06/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
32048	MW-1	W	12,000,a	3100	2800	24	290	170	105
32049	MW-2	W	86,000,a	3500	5500	13,000	2000	9500	101
32050	MW-3	W	ND	ND	2.0	ND	ND	ND	100
32051	MW-4	W	4600,a	4100	1000	64	94	170	114
32052	MW-5	W	ND	ND	ND	ND	ND	ND	101
32053	MW-6	W	ND	ND	ND	ND	ND	ND	104
32054	MW-7	W	100,f	ND	ND	ND	ND	ND	109
32055	TB	W	ND	ND	ND	ND	ND	ND	100
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

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	Client Project ID: #230-0116; BO GIN	Date Sampled: 02/29/00
1144 65th Street, Suite C		Date Received: 03/01/00
Oakland, CA 94608	Client Contact: Mark Erickson	Date Extracted: 03/07-03/08/00
	Client P.O:	Date Analyzed: 03/07-03/08/00

Methyl tert-Butyl Ether *

EPA method 8260 modified

Lab ID	Client ID	Matrix	MTBE*	% Recovery Surrogate
32048	MW-1	W	3400	105
32049	MW-2	W	4700	108
32051	MW-4	W	4600	109
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

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

QC REPORT

Date: 03/01/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 3100				Instrument: GC-3			
Surrogate1	0.000	101.0	100.0	100.00	101	100	1.0
Xylenes	0.000	324.0	320.0	300.00	108	107	1.2
Ethyl Benzene	0.000	106.0	105.0	100.00	106	105	0.9
Toluene	0.000	108.0	107.0	100.00	108	107	0.9
Benzene	0.000	111.0	110.0	100.00	111	110	0.9
MTBE	0.000	84.0	81.0	100.00	84	81	3.6
GAS	0.000	994.7	964.6	1000.00	99	96	3.1
SampleID: 3200				Instrument: GC-2 A			
Surrogate1	0.000	113.0	112.0	100.00	113	112	0.9
TPH (diesel)	0.000	295.0	298.0	300.00	98	99	1.0
SampleID: 3100				Instrument: IR-1			
Surrogate1	0.000	89.9	87.9	100.00	90	88	2.2
TRPH	0.000	25.3	23.8	23.70	107	100	6.1

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

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

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 03/07/00-03/08/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 31000					Instrument: GC-10		
Methyl tert-Butyl Ether	0.000	88.0	92.0	100.00	88	92	4.4
Trichloroethane	0.000	93.0	97.0	100.00	93	97	4.2
Chlorobenzene	0.000	106.0	105.0	100.00	106	105	0.9
Benzene	0.000	100.0	102.0	100.00	100	102	2.0
Tolune	0.000	100.0	102.0	100.00	100	102	2.0
Surrogate	0.000	108.0	112.0	100.00	108	112	3.6
1,1-Dichloroethene	0.000	104.0	111.0	100.00	104	111	6.5
Ethyl tert-Butyl Ether	0.000	91.0	93.0	100.00	91	93	2.2
Surrogate	0.000	99.0	99.0	100.00	99	99	0.0
tert-Amyl Methyl Ether	0.000	88.0	90.0	100.00	88	90	2.2
Surrogate	0.000	99.0	99.0	100.00	99	99	0.0
Di-isopropyl Ether	0.000	101.0	105.0	100.00	101	105	3.9
Ethyl tert-Butyl Ether	0.000	91.0	93.0	100.00	91	93	2.2
Methyl tert-Butyl Ether	0.000	88.0	92.0	100.00	88	92	4.4
tert-Amyl Methyl Ether	0.000	88.0	90.0	100.00	88	90	2.2
Di-isopropyl Ether	0.000	101.0	105.0	100.00	101	105	3.9

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

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

RPD means Relative Percent Deviation

CAMBRIA

ATTACHMENT B

Water Sampling Field Sheets

CAMBRIA

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	11:23		13.43'		25.82'	
MW-2	11:26		14.37'		25.55'	
MW-3	11:24		13.71'		27.77'	
MW-4	11:27		14.85'		29.12'	
MW-5	11:02		13.16'		28.13'	
MW-6	11:06		14.55'		26.10'	
MW-7	11:08		14.16'		28.80'	

Project Name: BP 6th

Project Number: 230-0116

Measured By: MJE.

Date: 2/29/00

CAMBRIA

WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-1
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **pvc**
		Technician(s): **ME**
Initial Depth to Water: 13.43'	Total Well Depth: 25.82'	Water Column Height: 12.39'
Volume/ft: 0.16	1 Casing Volume: 1.98 GAL	3 Casing Volumes: 5.94 GAL
Purging Device: **disposable bailer**	Did Well Dewater?: NO.	Total Gallons Purged: 6.5 GAL
Start Purge Time: 1:30	Stop Purge Time: 1:45	Total Time: 15 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
1:34	1	19.2	6.9	634	ODOROUS
1:38	2	19.4	7.1	642	GREYISH PURGE
1:42	3	19.3	6.8	635	WATER

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 1	**2/29/00**	2:30	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-2
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: **" pvc**
		Technician(s): **ME**
Initial Depth to Water: 14.37'	Total Well Depth: 25.55'	Water Column Height: 11.181
Volume/ft: 0.16 gal/ft	1 Casing Volume: 1.78 gal	3 Casing Volumes: 5.4 gal
Purging Device: **disposable bailer**	Did Well Dewater?: ND	Total Gallons Purged: 5.75 gal
Start Purge Time: 2:35	Stop Purge Time: 2:50	Total Time: 15 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
2:38	1	20.3	6.9	597	ODOROUS
2:42	2	20.0	6.9	516	GREYISH WATER
2:47	3	19.6	6.7	598	
2:49	3	19.9	6.4	602	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 2	**2/29/00**	3:20	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-3
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2 **" pvc**
		Technician(s): **ME**
Initial Depth to Water: 13.71'	Total Well Depth: 27.77'	Water Column Height: 14.06
Volume/ft: 0.16	1 Casing Volume: 2.24 gal	3 Casing Volumes: 6.75 gal
Purging Device: **disposable bailer**	Did Well Dewater?: NO.	Total Gallons Purged: 7.0 gal
Start Purge Time: 1:47	Stop Purge Time: 2:04	Total Time: 17 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
1:53	1	18.5	7.2	514	
1:57	2	18.7	7.1	516	
2:01	3	18.5	7.0	413	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	**2/29/00**	2:55	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-4
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: **" pvc**
		Technician(s): **ME**
Initial Depth to Water: 14.85'	Total Well Depth: 29.12'	Water Column Height: 14.27'
Volume/ft: 0.16	1 Casing Volume: 2.28 gal	3 Casing Volumes: 6.84 gal
Purging Device: **disposable bailer**	Did Well Dewater?: NO.	Total Gallons Purged: 7.0 gal
Start Purge Time: 2:07	Stop Purge Time: 2:21	Total Time: 14 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
2:11	1	18.9	6.7	604	
2:15	2	18.9	6.8	592	
2:19	3	18.9	6.7	569	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 4	**2/29/00**	3:05	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-5
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2" **pvc** Technician(s): **ME**
Initial Depth to Water: 13.16'	Total Well Depth: 28.13'	Water Column Height: 14.97'
Volume/ft: 0.16	1 Casing Volume: 2.4 gal	3 Casing Volumes: 7.2 gal
Purging Device: **disposable bailer**	Did Well Dewater?: NO.	Total Gallons Purged: 7.5 gal
Start Purge Time: 11:48	Stop Purge Time: 12:02	Total Time: 14 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
11:50	1	19.0	7.5	473	
11:55	2	18.6	7.6	410	
11:58	3	18.6	7.1	505	
12:00	3	18.7	6.9	549	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-5	**2/29/00**	1:00	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-6
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " **pvc** Technician(s): **ME**
Initial Depth to Water: 14.55'	Total Well Depth: 26.10'	Water Column Height: 11.55'
Volume/ft: 0.16	1 Casing Volume: 1.848 gal	3 Casing Volumes: 5.54 gal
Purging Device: **disposable bailer**	Did Well Dewater?: NO.	Total Gallons Purged: 5.75 gal
Start Purge Time: 12:09	Stop Purge Time: 12:21	Total Time: 12 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
12:11	1	18.9	7.0	463	
12:14	2	19.6	7.0	513	
12:18	3	19.1	7.0	516	
12:20	3	19.3	6.7	503	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 6	**2/29/00**	1:15	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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WELL SAMPLING FORM

Project Name: **Bo Gin**	Cambria Mgr: **DCE**	Well ID: MW-7
Project Number: **230-0116**	Date: **2/29/00**	Well Yield: ----------
Site Address: **706 Harrison Street Oakland, CA**	Sampling Method: **Disposable bailer**	Well Diameter: 2 " **pvc**
		Technician(s): **ME**
Initial Depth to Water: 14.16	Total Well Depth: 28.80'	Water Column Height: 14.64'
Volume/ft: 0.16	1 Casing Volume: 2.34 gal	3 Casing Volumes: 7.02 gal
Purging Device: **disposable bailer**	Did Well Dewater?:	Total Gallons Purged: 7.25 gal
Start Purge Time: 12:34	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
12:36	1	19.7	6.9	617	BROWNISH GREEN
12:42	2	19.6	6.7	597	PURGE WATER
12:46	3	19.4	6.9	613	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 7	**2/29/00**	1:25	**4 voa's**	**HCL**	**TPHg, BTEX, MTBE* Confirm MTBE Hits**	**8020 8015 8260**

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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: Mark Enderson Bill To: CAMBRIA ENV. TECH

Company: Cambria Environmental Technology
1144 65th Street, Suite C
Oakland, CA 94608

Tele: (510) 420-0700 Fax: (510) 420-9170

Project #: 230-0116 Project Name: 80 GIN.

Project Location: 706 HARRISON ST. OAKLAND, CA.

Sampler Signature: [signature]

	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		2/29	2:30	4	VOAs	X					X	X			X								X									32048
+	MW-2			3:20																				X									32049
+	MW-3			2:55																													32050
+	MW-4			3:05																				X									32051
+	MW-5			1:00																													32052
+	MW-6			1:15																													32053
+	MW-7			1:25																													32054
✓	TB				1	VOA						X	X			X																	32055

NEEDS MTBE-51 GC-12
MTBE by 8260 48, 49, 51
Set up 3/7

ICE/ ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

Relinquished By:	Date:	Time:	Received By:
[signature]	2/1/00	10:45	B. Buttò
B. Buttò	3/1	11:25	Maria Venegas
Relinquished By:	Date:	Time:	Received By:

Remarks:

* CONFIRM MTBE BY 8260. POSITIVE HITS ONLY!

L:MV

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