· CAMBRIA

RO 271

August 10, 2001

Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

AUG 27 2001

Re: **Groundwater Monitoring and System Progress Report**
Second Quarter 2001
Former Exxon Service Station
3055 35th Avenue
Oakland, California
Cambria Project #130-0105

Dear Mr. Chan:

On behalf of Mr. Lynn Worthington of Golden Empire Properties, Cambria Environmental Technology, Inc. (Cambria) has prepared this groundwater monitoring and system progress report for the above-referenced site. Presented in the report are the second quarter 2001 activities and the anticipated third 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: Groundwater Monitoring and System Progress Report, Second Quarter 2001

cc: Mr. Lynn Worthington, Golden Empire Properties, Inc. 5942 MacArthur Boulevard, Suite B, Oakland, CA 94605
Mr. Robert Cave, BAAQMD, Permit Services Division, 939 Ellis Street, San Francisco, CA 94109
Ms. Marie Kulka, Source Control Division, EBMUD, 375 11th Street, Oakland, CA 94607

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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Tel (510) 420-0700
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CAMBRIA

GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

SECOND QUARTER 2001

Former Exxon Service Station
3055 35th Avenue
Oakland, California
Cambria Project #130-0105

AUG 27 2001

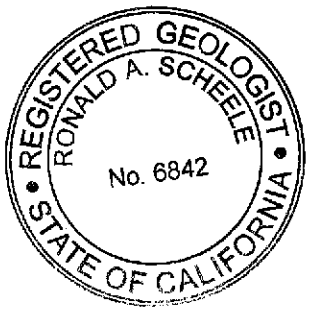
August 10, 2001

Prepared for:

Mr. Lynn Worthington
Golden Empire Properties, Inc.
5942 MacArthur Boulevard, Suite B
Oakland, CA 94605

Prepared by:

Cambria Environmental Technology, Inc.
6262 Hollis Street
Emeryville, California 94608



Jason Olson
Senior Staff Environmental Scientist

Ron Scheele, RG
Senior Geologist

CAMBRIA

GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

SECOND QUARTER 2001

Former Exxon Service Station
3055 35th Avenue
Oakland, California
Cambria Project #130-0105

August 10, 2001

INTRODUCTION

On behalf of Mr. Lynn Worthington of Golden Empire Properties, Cambria Environmental Technology, Inc. (Cambria) has prepared this groundwater monitoring and system progress report for the above-referenced site (see Figure 1). Presented in the report are the second quarter 2001 groundwater monitoring and corrective action activities and the anticipated third quarter 2001 activities.

SECOND QUARTER 2001 ACTIVITIES

Monitoring Activities

Field Activities: On June 6, 2001, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) monitoring wells MW-1, MW-2, MW-3 and MW-4 (Figure 1). Groundwater samples were collected from all scheduled wells not containing SPH. Field data sheets are presented in Appendix A.

Sample Analyses: Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) by modified EPA Method 8015, and benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020. The groundwater analytical results are summarized in Table 1. The laboratory analytical report is presented as Appendix B.

Monitoring Results

Groundwater Flow Direction: Based on depth-to-water measurements collected during Cambria's June 6, 2001 site visit, groundwater beneath the site flows to the west-northwest at a gradient of 0.012 ft/ft (Figure 1). Since 1994, the primary groundwater flow direction has been toward the northwest with a change towards the southwest usually occurring during the fourth and/or second quarters. Groundwater elevation data is presented in Table 1.

Hydrocarbon Distribution in Groundwater: Hydrocarbon concentrations detected this quarter are consistent with the previous sampling event with the exception of MW-2, which showed an increase in hydrocarbon concentrations. No SPH were detected in any of the wells. The maximum TPHg and TPHd concentrations were detected in well MW-2 at 110,000 and 48,000 micrograms per liter (μg/l), respectively. The maximum benzene concentration was detected in well MW-4 at 22,000 μg/l. MTBE concentrations were below detection limits in all sampled wells. Analytical results are summarized in Table 1.

Corrective Action Activities

System Design: The dual phase extraction (DPE) remediation system consists of a skid mounted all-electric catalytic oxidizer, a 300 cfm positive-displacement blower, a 150-gallon moisture knockout with automatic float controls, a 1 hp centrifugal transfer pump, and two 1000-lb carbon vessels connected in series. Nine wells are connected to the remediation system (RW-5 through RW-13). See Figure 2 for the location of remediation enclosure and wells.

Remediation System Operations and Maintenance Activities: From April 5 to June 21, 2001 Cambria performed soil vapor extraction system operation and maintenance activities. During operation and maintenance activities, individual well flow, vacuum, and hydrocarbon concentration measurements were collected from all remediation system wells and from the catalytic oxidizer/blower. During site visits, system operation parameters were also recorded in specialized field forms for future system optimization and agency inspection. As per the Bay Area Air Quality Management (BAAQMD) permit, a catalytic oxidizer operating temperature greater than 600 degrees Fahrenheit was maintained and system operation parameters were continuously measured using a chart recorder. System influent and effluent vapor samples were collected and submitted for laboratory analysis on April 5, May 3, and June 4, 2001. Groundwater treatment system influent and effluent samples were collected on June 4, 2001. Table 2 summarizes soil vapor extraction system operations and analytical results. Table 3 summarizes groundwater extraction system operations and analytical results. The analytical laboratory reports are included as Attachment C.

Remediation System Performance: The DPE system operated continuously during April and May, and intermittently in June due to a faulty knockout tank float switch. Influent vapor concentrations ranged from 240 to 2,800 parts per million by volume (ppmv) and the hydrocarbon recovery rate ranged from 6.1 to 39.2 lbs/day, during the second quarter. Despite the large amount of hydrocarbons removal, no significant improvement was observed in the monitoring wells at the site due to the low permeability soil. Effluent vapor concentrations were 34 parts per million by volume (ppmv) during the April 5, 2001 sampling event, and below laboratory detection limits during subsequent sampling

events in the second quarter. Soil vapor sample results indicated that the catalytic oxidizer was operating within permit requirements.

Groundwater sample results indicated that the groundwater extraction portion of the DPE system was operating within permit requirements. Effluent groundwater concentrations for TPHg and BTEX were below laboratory detection limits during the April 13 and June 4, 2001 sampling events, indicating that no hydrocarbons were discharged to the sanitary sewer system.

To date, a total of 2,259 pounds of hydrocarbons have been destroyed by vapor extraction and 0.116 pounds of hydrocarbons have been removed by groundwater extraction.

ANTICIPATED THIRD QUARTER 2001 ACTIVITIES

Monitoring Activities

Cambria will gauge the site wells, check the wells for SPH, and collect groundwater samples from all wells not containing SPH. Groundwater samples will be analyzed for TPHg and TPHd by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8020. Cambria will prepare a groundwater monitoring report summarizing the monitoring activities and results.

Corrective Action Activities:

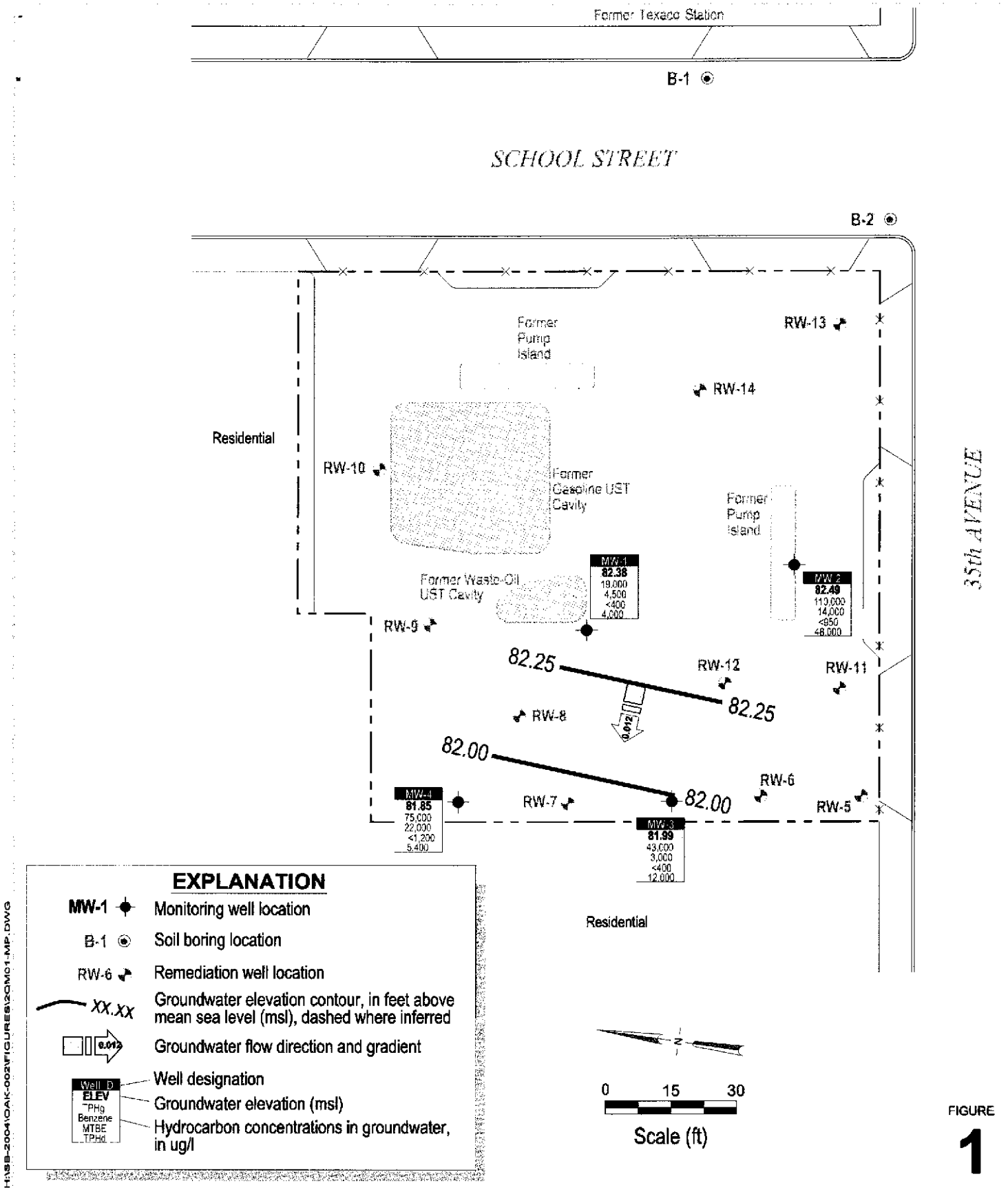
Due to low permeability soil conditions at the site, Cambria plans to begin DPE operations on the four groundwater monitoring wells (MW-1 through MW-4) in September. Stingers will be removed from nearby remediation wells and extended into the monitoring wells in an effort to help maximize hydrocarbon removal and site cleanup. Cambria will continue to perform DPE operation and maintenance activities twice per month during the third quarter. Soil vapor samples will be collected on a monthly basis, groundwater influent and effluent samples will be collected on an as needed basis, and system operation and performance will be evaluated and submitted to the BAAQMD for the third quarter 2001 as part of the groundwater monitoring report. Records will be kept for a period of two years for possible future BAAQMD inspection.

ATTACHMENTS

Figure 1 – Groundwater Monitoring Field Data Sheets
Figure 2 – Remediation System Layout

Table 1 – Groundwater Elevation and Analytical Data
Table 2 – DPE System Performance and Analytical Results - Soil Vapor Extraction
Table 3 – DPE System Performance and Analytical Results - Groundwater Extraction

Appendix A – Water Sampling Field Notes
Appendix B – Analytical Results for Quarterly Groundwater Sampling
Appendix C – Analytical Results for DPE System Operation



H:\SB-2004\OAK-002\FIGURES\2QM01-MP.DWG

FIGURE
1

Former Exxon Station
3055 35th Avenue
Oakland, California

CAMBRIA

Groundwater Elevation Contour Map
June 6, 2001

CAMBRIA

Table 1. Groundwater Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID (TOC)	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)
					<---------- Concentrations in parts per billion (µg/L) ---------->								
MW-1	05/25/94	16.79	Sheen	84.06	120,000	25,000	<50,000	22,000	17,000	2,800	16,000	---	---
100.85	07/19/94	20.77	---	80.08	---	---	---	---	---	---	---	---	---
	08/18/94	21.04	Sheen	79.81	925,000	---	---	16,500	6,200	1,000	9,400	---	---
	11/11/94	15.80	---	85.05	57,000	---	---	14,000	4,400	1,400	6,400	---	---
	02/27/95	15.53	---	85.32	45,000	---	---	2,900	2,500	760	4,100	---	---
	05/23/95	15.29	---	85.56	22,000	---	---	9,900	990	790	2,000	---	---
	08/22/95	20.90	---	79.95	23,000	---	---	6,900	340	1,200	1,900	---	---
	11/29/95	22.19	---	78.66	37,000	---	---	9,900	530	1,600	2,900	---	---
	02/21/96	11.69	---	89.16	33,000	4,300	---	10,000	480	1,000	1,800	3,300	---
	05/21/96	14.62	---	86.23	36,000	8,500	---	8,500	1,400	1,300	2,800	1,900	---
	08/22/96	22.30	---	78.55	41,000	6,200	---	8,600	1,300	1,500	2,900	<200	8.0
	11/27/96	17.24	Sheen	83.61	38,000	6,100	---	9,600	950	1,600	3,100	<400	5.6
	03/20/97	16.65	---	84.20	33,000	10,000	---	6,100	560	970	2,200	<400	8.5
	06/25/97	19.77	---	81.08	31,000	7,400[a]	---	7,400	440	890	1,800	<400	3.7
	09/17/97	20.12	---	80.73	32,000[d]	3,500[e]	---	9,100	550	1,000	2,000	<1,000	2.1
	12/22/97	12.95	---	87.90	26,000[d]	5,800[e]	---	7,900	370	920	1,500	<790	0.7
	03/18/98	12.34	Sheen	88.51	30,000[d]	4,200[e,f]	---	7,800	820	840	2,000	<1,100	1.3
	07/14/98	17.34	---	83.51	41,000[d]	8,900[e,f]	---	8,200	1,100	1,200	3,000	<200	1.8
	09/30/98	19.90	---	80.95	37,000	3,300	---	11,000	950	1,200	2,800	<20	2.0
	12/08/98	15.62	---	85.23	22,000	3,700	---	3,000	1,200	730	3,100	<900	---
	03/29/99	11.98	---	88.87	36,000[d]	6,800[e]	---	12,000	750	1,300	2,400	950	0.50
	06/29/99	20.77	---	80.08	28,000[d]	3,500[e]	---	7,300	420	810	1,700	<1,300	0.10
	09/28/99	19.68	---	81.17	13,000[d]	3,600 [e,f]	---	3,200	130	320	1,100	<210	0.55
	12/10/99	17.02	---	83.83	25,000[d]	2,900 [e,f]	---	5,400	130	620	1,400	<1,000	1.03
	03/23/00	12.76	---	88.09	21,000[d]	3,300[f]	---	4,700	140	470	1,100	<350	---
	09/07/00	19.45	---	81.40	40,000[d,g]	12,000[e,g]	---	3,700	1,400	910	4,900	<50	0.17
	12/05/00	18.60	---	82.25	26,000[a]	3,400[e]	---	7,900	150	580	810	<300	0.35
	03/07/01	16.19	---	84.66	13,000	2,400	---	2,700	43	69	300	<100	0.49
	06/06/01	**18.47**	**---**	**82.38**	**19,000**	**4,000**	**---**	**4,500**	**130**	**270**	**430**	**<400**	**0.39**

Table 1. Groundwater Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID (TOC)	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)
					<---------- Concentrations in parts per billion (µg/L) ---------->								
MW-2	05/25/94	15.65	---	84.35	61,000	6,900	<5,000	9,900	7,400	960	4,600	---	---
100.00	07/19/94	19.81	---	80.19	---	---	---	---	---	---	---	---	---
	08/18/94	20.37	---	79.63	88,000	---	---	10,750	10,500	1,850	9,600	---	---
	11/11/94	15.52	---	84.48	54,000	---	---	5,900	6,700	1,300	7,500	---	---
	02/27/95	14.46	Sheen	85.54	44,000	---	---	5,100	5,300	930	6,400	---	---
	05/23/95	14.17	---	85.83	33,000	---	---	8,200	5,600	900	6,600	---	---
	08/22/95	19.80	---	80.20	38,000	---	---	6,400	5,000	1,100	5,600	---	---
	11/29/95	21.05	---	78.95	46,000	---	---	7,100	5,300	1,300	6,000	---	---
	02/21/96	10.53	---	89.47	59,000	---	---	8,000	6,000	1,800	8,900	4,500	---
	05/21/96	13.47	---	86.53	51,000	3,400	---	8,200	5,200	1,300	6,600	2,400	---
	08/22/96	19.12	---	80.88	37,000	5,700	---	5,100	3,500	960	4,500	<200	3.0
	11/27/96	16.61	Sheen	83.39	54,000	10,000	---	9,800	7,000	1,800	7,900	<2,000	3.1
	03/20/97	15.39	---	84.61	27,000	6,100	---	3,700	2,300	580	2,800	<400	8.1
	06/25/97	18.62	---	81.38	42,000	7,800[b]	---	7,400	3,800	1,200	5,700	<200	0.9
	09/17/97	19.05	Sheen	80.95	41,000[d]	8,900[e]	---	5,200	3,400	1,300	5,900	<700	1.2
	12/22/97	14.09	---	85.91	47,000[d]	6,100[e]	---	8,500	4,600	1,800	8,400	<1,200	1.2
	03/18/98	10.83	Sheen	89.17	58,000[d]	7,000[e,f]	---	9,300	6,100	1,800	8,200	<1,100	1.1
	07/14/98	16.07	---	83.93	42,000[d]	5,300[e,f]	---	6,000	3,000	1,000	4,800	<200	1.5
	09/30/98	18.71	---	81.29	22,000	2,400	---	3,600	1,300	720	3,200	<30	1.8
	12/08/98	14.80	---	85.20	32,000	3,100	---	9,200	680	1,100	2,300	<2,000	---
	03/29/99	11.81	---	88.19	28,000[d]	7,500[e,f]	---	4,400	1,600	950	4,100	410	1.86
	06/29/99	19.54	---	80.46	28,000[d]	3,300[e]	---	3,500	1,100	690	3,100	<1,000	0.41
	09/28/99	18.61	---	81.39	15,000[d]	3,400[e,f]	---	1,200	540	230	2,300	<36	1.18
	12/10/99	16.53	---	83.47	17,000[d]	2,500[e,f]	---	1,300	780	420	2,700	<40	0.17
	03/23/00	13.56	---	86.44	25,000[d]	3,100[i]	---	1,900	1,100	660	3,700	<500	---
	09/07/00	18.25	---	81.75	62,000[d,g]	32,000[e,g]	---	5,300	2,300	1,500	8,400	<100	0.39
	12/05/00	17.45	---	82.55	60,000[d,g]	87,000[e,f,g]	---	5,100	2,200	1,600	9,000	<200	0.31
	03/07/01	15.68	---	84.32	34,000	3,900	---	1,200	770	620	4,300	<200	0.44
	06/06/01	**17.51**	**---**	**82.49**	**110,000**	**48,000**	**---**	**14,000**	**9,000**	**1,900**	**12,000**	**<950**	**0.24**

Table 1. Groundwater Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID (TOC)	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)
					<---------- Concentrations in parts per billion (µg/L) ---------->								
MW-3	05/25/94	13.93	Sheen	82.94	56,000	14,000	<50,000	14,000	14,000	1,300	11,000	---	---
96.87	07/19/94	17.04	---	79.83	---	---	---	---	---	---	---	---	---
	08/18/94	17.75	---	79.12	116,000	---	---	28,300	26,000	2,400	15,000	---	---
	11/11/94	17.80	---	79.07	89,000	---	---	1,600	1,900	1,900	14,000	---	---
	02/27/95	11.86	Sheen	85.01	250,000	---	---	22,000	26,000	7,800	21,000	---	---
	05/23/95	11.60	Sheen	85.27	310,000	---	---	18,000	17,000	4,500	2,800	---	---
	08/22/95	17.10	---	79.77	74,000	---	---	14,000	13,000	1,900	11,000	---	---
	11/29/95	16.34	---	80.53	220,000	---	---	25,000	25,000	3,500	19,000	---	---
	02/21/96	7.92	---	88.95	60,000	---	---	10,000	7,800	1,500	8,800	3,400	---
	05/21/96	10.86	Sheen	86.01	69,000	13,000	---	17,000	9,400	1,700	9,400	2,600	---
	08/22/96	16.50	---	80.37	94,000	16,000	---	17,000	15,000	2,100	12,000	330	2.0
	11/27/96	13.47	Sheen	83.40	82,000	24,000	---	14,000	13,000	2,400	13,000	<1,000	2.4
	03/20/97	12.86	---	84.01	56,000	11,000	---	9,900	6,900	1,300	8,000	3,500	9.0
	06/25/97	15.98	---	80.89	49,000	7,700[b]	---	9,700	7,100	1,300	7,000	220	5.8
	09/17/97	16.34	Sheen	80.53	78,000[d]	15,000[e]	---	11,000	9,900	1,800	10,000	<1,200	0.7
	12/22/97	10.71	Sheen	86.16	49,000[d]	14,000[e]	---	7,300	5,300	1,400	7,500	<1,100	3.1
	03/18/98	8.41	Sheen	88.46	120,000[d]	20,000[e,f]	---	21,000	19,000	2,600	15,000	<1,600	1.6
	07/14/98	13.51	---	83.36	94,000[d,g]	65,000[e,f,g]	---	18,000	14,000	1,900	11,000	<1,400	1.8
	09/30/98	16.14	---	80.73	91,000	9,800	---	17,000	13,000	2,100	12,000	<1300	2.0
	12/08/98	11.20	---	85.67	51,000	4,200	---	8,000	6,800	1,400	7,500	<1,100	---
	03/29/99	7.95	---	88.92	39,000[d]	4,600[e]	---	8,900	4,400	940	4,500	810	0.56
	06/29/99	16.98	---	79.89	71,000[d]	6,900[e]	---	12,000	7,300	1,400	8,400	<1,700	0.19
	09/28/99	15.99	---	80.88	60,000[d]	7,800[e]	---	9,400	9,200	1,000	9,900	200	0.53
	12/10/99	13.31	---	83.56	53,000[d]	5,300[e,f]	---	8,000	6,400	1,100	8,100	<200	0.48
	03/23/00	8.98	---	87.89	77,000[d,g]	11,000[g,j]	---	10,000	9,400	1,600	11,000	<430	---
	09/07/00	15.61	---	81.26	100,000[d,g]	19,000[e,f,g]	---	17,000	12,000	1,600	11,000	<500	---
	12/05/00	14.80	---	82.07	110,000[d,g]	17,000[e,g]	---	17,000	11,000	1,900	12,000	<750	0.37
	03/07/01	14.27	---	82.60	60,000	13,000	---	7,000	4,600	900	7,100	<350	0.49
	06/06/01	**14.88**	**---**	**81.99**	**43,000**	**12,000**	**---**	**3,000**	**1,000**	**770**	**5,200**	**<400**	**1.71**

Table 1. Groundwater Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID (TOC)	Date	GW Depth (ft)	SPH (ft)	GW Elev. (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)
					<---------- Concentrations in parts per billion (µg/L) ---------->								
MW-4	03/20/97	13.75	---	83.59	47,000	3,100	---	11,000	4,500	1,100	5,200	3,400	8.4
97.34	06/25/97	16.15	---	81.19	61,000	5,800[b]	---	16,000	6,100	1,500	5,900	780[c]	1.4
	09/17/97	17.10	---	80.24	60,000[d]	4,400[e]	---	17,000	4,900	1,500	5,700	<1,500	1.5
	12/22/97	9.21	---	88.13	43,000[d]	3,100[e]	---	13,000	3,900	1,100	4,200	<960	3.7
	03/18/98	9.54	---	87.80	58,000[d]	5,500[e,f]	---	14,000	4,700	1,400	5,700	<1,200	0.8
	07/14/98	14.15	---	83.19	73,000[d]	2,900[e,f]	---	22,000	7,000	1,800	7,300	<200	1.0
	09/30/98	16.84	---	80.50	39,000	2,100	---	12,000	2,700	1,000	3,400	510	1.1
	12/08/98	13.45	---	83.89	27,000	1,600	---	8,900	1,600	730	2,300	<1,500	---
	03/29/99	9.10	---	88.24	48,000[d]	2,400[e,f,h]	---	15,000	3,000	1,300	5,000	1,300	1.32
	06/29/99*	---	---	---	---	---	---	---	---	---	---	---	---
	09/28/99	16.58	---	80.76	24,000[d]	3,200[e,f]	---	7,500	1,200	190	2,200	210	14.29[#]
	12/10/99	13.99	---	83.35	47,000[d]	3,100[e,f]	---	12,000	1,800	1,000	4,400	<100	0.62
	03/23/00	10.22	---	87.12	40,000[d]	3,100[e,f]	---	11,000	1,600	910	3,100	690	---
	09/07/00	16.40	---	80.94	43,000[d]	5,900[e]	---	10,000	1,100	1,100	3,400	<450	1.04
	12/05/00	15.55	---	81.79	69,000[d,g]	2,600[e,g]	---	16,000	1,300	1,300	3,400	<200	0.35
	03/20/01	14.03	---	83.31	46,000	---	---	13,000	1,000	900	2,800	<350	0.39
	06/06/01	**15.49**	**---**	**81.85**	**75,000**	**5,400**	**---**	**22,000**	**1,800**	**1,900**	**6,400**	**<1,200**	**2.22**
Trip Blank	07/14/98	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	09/30/98	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	12/08/98	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	03/29/99	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	06/29/99	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	03/23/00	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---
	09/07/00	---	---	---	<50	---	---	<0.5	1.1	<0.5	1.1	<5.0	---

Table 1. Groundwater Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	GW	SPH	GW	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO
(TOC)		Depth (ft)	(ft)	Elev. (ft)	<---------- Concentrations in parts per billion (µg/L) ---------->								(mg/L)

Abbreviations:

TOC = Top of casing elevation relative to an aribitrary datum

GW = Groundwater

SPH = Separate-phase hydrocarbons

--- = not observed/not analyzed

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

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method 8015

Benzene, Ethylbenzene, Toluene, and Xylenes by EPA Method 8020

MTBE = Methyl Tertiary-Butyl Ether by EPA Method 8020

DO = Dissolved oxygen

µg/L = Micrograms per liter, equivalent to parts per billion in water

mg/L = Milligrams per liter, equivalent to parts per million in water

* = Well inaccessible during site visit

Notes:

a = Result has an atypical pattern for diesel analysis

b = Result appears to be a lighter hydrocarbon than diesel

c = There is a >40% difference between primary and confirmation analysis

d = Unmodified or weakly modified gasoline is significant

e = Gasoline range compounds are significant

f = Diesel range compounds are significant; no recognizable pattern

g = lighter than water immiscible sheen is present

h = one to a few isolated peaks present

i = medium boiling point pattern does not match diesel (stoddard solvent)

j = aged diesel? is significant

TOC Elevation of Well MW-4 surveyed relative to an arbitrary site datum by David Hop, Licensed Surveyor on April 19, 1997

= abnormally high reading due to added hydrogen peroxide

Table 2. DPE System Performance and Analytical Results - Soil Vapor Extraction - Golden Empire Properties (Worthington), 3055 35th Street, Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	Total Well Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (ppmv)	System Inlet Temp. (degree F)	System Flow Rate (after dilution) (scfm)	System Influent HC Conc. [1] (ppmv)	System Effluent HC Conc. [2] (ppmv)		HC Removal Rate [3] (lbs/day)	Emission Rate (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal (lbs)
							TPHg	TPHg	Benz	TPHg	TPHg	Benz		
6/24/00	0	--	--	--	--	--	--	--	--	--	--	--	--	0
9/28/00	454	20%	175	420	789	175	420	22	0.24	23.6	1.24	0.012	95	0
10/12/00	696	72%	88	360	950	88	360	<10	<0.15	10.1	<0.28	<0.004	*	238
11/9/00	1251	83%	55	590	820	55	590	<10	<0.15	10.5	<0.18	<0.002	*	472
1/23/01	1313	3%	--	--	--	--	--	--	--	--	--	--	*	499
3/28/01	0	--	Replacement System Startup		--	--	--	--	--	--	--	--	--	499
4/5/01	194	101%	68	1,800	908	68	1,800	34	0.52	39.2	0.74	0.010	98	499
5/3/01	863	100%	29	2,800	1000	29	2,800	<10	<0.15	25.8	<0.09	<0.001	*	1909
6/4/01	1114	33%	79	240	820	79	240	<10	<0.15	6.1	<0.25	<0.003	*	2179
7/2/01	1429	47%	--	--	--	--	--	--	--	--	--	--	--	2259

Table 2. DPE System Performance and Analytical Results - Soil Vapor Extraction - Golden Empire Properties (Worthington), 3055 35th Street, Oakland, California

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	Total Well Flow Rate (prior to dilution) (scfm)	Total Well HC Conc. (ppmv)	System Inlet Temp. (degree F)	System Flow Rate (after dilution) (scfm)	System Influent HC Conc. [1] (ppmv)	System Effluent HC Conc. [2] (ppmv)		HC Removal Rate [3] (lbs/day)	Emission Rate (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal (lbs)
							TPHg	TPHg	Benz	TPHg	TPHg	Benz		

Notes and Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline

Benz = Benzene

HC Conc. = Hydrocarbon Concentrations

ppmv = Parts per million by volume. Analytical lab results converted from micrograms per liter (ug/l) to ppmv assumes the molecular weight of gasoline to be equal to that of hexane. at 1 atmosphere of pressure and 20 degrees Celsius.

[1] TPHg and benzene concentrations based on lab results by Modified EPA Methods 8015 and 8020.

[2] The hydrocarbon removal/emission rate is based on the Bay Area Air Quality Management's District's (BAAQMD) Procedures for Soil Vapor Extraction where Rate = concentration (ppmv) x flow rate (scfm) x 1 lb-mole/386x$10^6$$ft^3$ x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene) x 1440 min/day.

[3] Gasoline Removal = The previous removal rates multiplied by the interval days of operation plus the previous total removal amount. The total TPHg removal is based on lab analytical results.

* As per BAAQMD permit conditions, system destruction efficiency need not be calculated for effluent TPHg concentrations less than 10 ppmv

Table 3. DPE System Performance and Analytical Results - Groundwater Extraction - Golden Empire Properties (Worthington), 3055 35th Street, Oakland, California

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate (gpm)	Sample ID	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	HCs Removed Per Period (lbs)	Total HCs Removed (lbs)
10/20/00	878	0	0	NC	Inf Eff	-- --	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	--	--
10/30/00	1004	--	50	NC	Inf Eff	-- --	170 <0.5	140 <0.5	16 <0.5	200 <0.5	--	--
11/9/00	1,251	--	50	NC	Inf Eff	760 <50	120 <0.5	86 <0.5	4.2 <0.5	84 <0.5	NC	NC
12/15/00	1,267	760a	50	NC	--	--	--	--	--	--	--	--
1/23/01	1,313	3,790	3,080	1.1	In Mid Eff	3,000 <50 <50	440 <0.5 <0.5	360 <0.5 <0.5	57 <0.5 <0.5	350 <0.5 <0.5	0.019	0.019
3/28/01	0	3,970	3,210	NC	Replacement System Startup			--	--	--	--	0.019
4/13/01	378	17,366	16,606	35.4	IN EF-1	360 <50	45 <0.5	39 <0.5	5.1 <0.5	43 <0.5	--	0.019
6/4/01	1,114	36,058	35,298	25.4	IN Mid EF	54 <50 <50	<0.5 <0.5 <0.5	0.69 <0.5 <0.5	<0.5 <0.5 <0.5	3.1 <0.5 <0.5	0.096	0.116

Table 3. DPE System Performance and Analytical Results - Groundwater Extraction - Golden Empire Properties (Worthington), 3055 35th Street, Oakland, California

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate (gpm)	Sample ID	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	HCs Removed Per Period (lbs)	Total HCs Removed (lbs)
6/21/01	1,163	36,671	35,911	30.9	--	--	--	--	--	--	0.0003	0.116
						Sewer Effluent Discharge Limits: (ug/L)	5.0	5.0	5.0	5.0		

Notes:

TPHg = Total Petroleum Hydrocarbons as Gasoline
BTEX = Benzene, Toluene, Ethylbenzene, Total Xylenes
MTBE = Methyl tert-butyl ether
ug/l = micrograms per liter
a = Malfunctioning totalizer replaced 12/15/00 (intial reading at 760 gallons)

ND = non detect
<n = below noted practical laboratory quantitation limits
Inf = Influent Sample
Eff = Effluent Sample
NC = Not calculated, insufficient data

CAMBRIA

APPENDIX A

Groundwater Monitoring Field Data Sheets

CAMB: A

WELL DEPTH MEASUREMENTS

Well ID	Time	Product Depth	Water Depth	Product Thickness	Well Depth	Comments
MW-1	6:55		18.47		27.13	4"
MW-2	6:50		17.51		27.45	4"
MW-3	6:48		14.88		25.00	2"
MW-4	6:45		15.49		30.10	2"

Project Name: Worthington

Project Number: 130-0105

Measured By: R. Zeff

Date: 6-6-01

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CAMBRIA

WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: RAS	Well ID: MW- 1
Project Number: 130-0105	Date: 6-6-01	Well Yield: -----
Site Address: 3055 35th Ave Oakland CA	Sampling Method: Disposable bailer	Well Diameter: 4" pvc
		Technician(s): SG
Initial Depth to Water: 18.47	Total Well Depth: 27.13	Water Column Height: 8.66
Volume/ft: 0.65	1 Casing Volume: 5.62	3 Casing Volumes: 16.88
Purging Device: 4" PVC bailer	Did Well Dewater?: NO	Total Gallons Purged: 16
Start Purge Time: 7:15	Stop Purge Time: 7:29	Total Time: 14 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
7:20	1 6	16.9	7.65	1224	
7:25	2 12	16.8	7.71	1392	
7:30	3 16	16.5	7.73	1341	
					DO= 0.39 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 1	6-6-01	7:35	VOA Amber	HCl	TPHg BTEX MTBE TPHd	8015/8020
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: RAS	Well ID: MW- 2
Project Number: 130-0105	Date: 6-6-01	Well Yield: -----
Site Address: 3055 35th AVE, Oakland, CA	Sampling Method: Disposable bailer	Well Diameter: 4" pvc
		Technician(s):
Initial Depth to Water: 17.51	Total Well Depth: 27.45	Water Column Height: 9.94
Volume/ft: 0.65	1 Casing Volume: 6.46	3 Casing Volumes: 19.38
Purging Device: 4" pve bailer	Did Well Dewater?: no	Total Gallons Purged: 20
Start Purge Time: 7:45	Stop Purge Time: 7:59	Total Time: 14 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
7:50	7	16.8	7.14	1055	
7:55	14	16.5	7.19	1090	
8:00	20	16.5	7.27	1072	
					DO = 0.24 mg/L

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

CAMBRIA

WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: RAS	Well ID: MW- 4
Project Number: 130-0105	Date: 6-6-01	Well Yield: -----
Site Address: 3055 35th Ave, Oakland CA	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 15.49	Total Well Depth: 30.10	Water Column Height: 14.61
Volume/ft: 0.16	1 Casing Volume: 2.33	3 Casing Volumes: 7.01
Purging Device: disposable bails	Did Well Dewater?: no	Total Gallons Purged: 7
Start Purge Time: 9:35	Stop Purge Time: 9:49	Total Time: 14 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
9:40	1 2.5	17.3	7.79	925	
9:45	2 5	16.2	7.36	903	
9:50	3 7	16.4	7.39	920	
					DO = 1.71 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 4	6-6-01	9:55	VOA Amber	HCl	TPHs BTEX MTBE TPHd	8015/8020
MW-						

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WSM 5/31/94

.CAMBRIA

WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: RAS	Well ID: MW- 3
Project Number: 130-0105	Date: 6-6-01	Well Yield: -----
Site Address: 3055 35th Ave, Oakland CA	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): SG
Initial Depth to Water: 14.88	Total Well Depth: 25.00	Water Column Height: 10.12
Volume/ft: .16	1 Casing Volume: 1.61	3 Casing Volumes: 4.85
Purging Device: disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 5
Start Purge Time: 8:40	Stop Purge Time: 8:54	Total Time: 14 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
8:45	1 1.5	18.0	7.80	1029	
8:50	2 3	17.3	7.50	975	
8:55	3 5	17.1	7.26	977	
					DO = 2.22

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 3	6-6-01	9:00	voa Amber	HCl	TPHg BTEX MTBE TPHd	8015/8020
MW-						

CAMBRIA

APPENDIX B

Analytical Results for Quarterly 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 6262 Hollis Street Emeryville, CA 94608	Client Project ID: #130-0105; Worthington	Date Sampled: 06/06/2001
		Date Received: 06/07/2001
	Client Contact: Ron Scheele	Date Extracted: 06/07/2001
	Client P.O:	Date Analyzed: 06/07/2001

06/14/01

Dear Ron:

Enclosed are:

1). the results of **4** samples from your **#130-0105; Worthington** 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 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: #130-0105; Worthington	Date Sampled: 06/06/2001
6262 Hollis Street		Date Received: 06/07/2001
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 06/08/2001
	Client P.O:	Date Analyzed: 06/08/2001

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
69298	MW-1	W	19,000,a	ND<400	4500	130	270	430	105
69299	MW-2	W	110,000,a,h	ND<950	14,000	9000	1900	12,000	107
69300	MW-3	W	43,000,a,h	ND<400	3000	1000	770	5200	103
69301	MW-4	W	75,000,a	ND<1200	22,000	1800	1900	6400	104
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: #130-0105; Worthington	Date Sampled: 06/06/2001
6262 Hollis Street		Date Received: 06/07/2001
Emeryville, CA 94608	Client Contact: Ron Scheele	Date Extracted: 06/08-06/12/2001
	Client P.O:	Date Analyzed: 06/08-06/12/2001

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
69298	MW-1	W	4000,d	106
69299	MW-2	W	48,000,d,h	95
69300	MW-3	W	12,000,d,h	92
69301	MW-4	W	5400,d	114
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Telephone : 925-798-1620 Fax : 925-798-1622
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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

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

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

RPD means Relative Percent Deviation

261902C487.doc

CAMPBELL ANALYTICAL INC.

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

Company: Cambria Environmental Technology
Bill To: Cambria Env.
Report To: Ron Scheels
~~1144 65th Street, Suite C~~ 3232 Mollis St.
~~Oakland, CA~~ 94608 Emeryville, Ca 94608
Tele: (510) ~~420-0700~~ 450-1983 Fax: (510) 420-9170
Project #: 130-0105 Project Name: Worthington
Project Location: 3055 35th Ave. Oakland, Ca
Sampler Signature: J. Hall

CHAIN OF CUSTODY RECORD

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

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED 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	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		6-6-01	7:35	5	VOA Amber	X					X	X			X	X															69298
MW-2		6-6-01	8:05	5	VOA Amber	X					X	X			X	X															69299
MW-3		6-6-01	9:00	5	VOA Amber	X					X	X			X	X															69300
MW-4		6-6-01	9:55	5	VOA Amber	X					X	X			X	X															69301

Relinquished By:	Date:	Time:	Received By:
J. Hall	6-6-01	12:30	secure location
Relinquished By:	Date:	Time:	Received By:
	6-7-01	0920	DHL Worldwide
Relinquished By:	Date:	Time:	Received By:
Gilbert Hollbrook	6-7-01	20:30	Gilbert Hollbrook

Received in Lab by: 06/07/01

Remarks:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ___

PRESERVATION APPROPRIATE ✓
CONTAINERS ___

VOAS	O&G	METALS	OTHER

(2)

CAMBRIA

APPENDIX C

Analytical Results for DPE System Operation

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 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #130-0105-336; Worthington	Date Sampled: 04/05/01
		Date Received: 04/06/01
	Client Contact: Ron Scheele	Date Extracted: 04/06/01
	Client P.O:	Date Analyzed: 04/06/01

04/13/2001

Dear Ron:

Enclosed are:

1). the results of **2** samples from your **#130-0105-336; Worthington** 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 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: #130-0105-336; Worthington	Date Sampled: 04/05/01
1144 65th Street, Suite C		Date Received: 04/06/01
Oakland, CA 94608	Client Contact: Ron Scheele	Date Extracted: 04/06/01
	Client P.O:	Date Analyzed: 04/06/01

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	Ethylben-zene	Xylenes	% Recovery Surrogate
65007	IN	Air	1800,a	ND<20	29	31	4.5	25	117
65008	EF	Air	34,a	ND	0.52	0.65	0.13	0.88	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		Air	10 uL/L	1.5	0.15	0.15	0.15	0.25	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

% ppm (mg/L) to ppmv (uL/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

* water and vapor samples are reported in uL/L(ppmv), 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 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: 04/06/01-04/07/01 Matrix: Air

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 32601				Instrument:		GC-12	
Surrogate1	0.000	111.0	97.0	100.00	111	97	13.5
Xylenes	0.000	33.9	32.3	30.00	113	108	4.8
Ethyl Benzene	0.000	11.6	10.4	10.00	116	104	10.9
Toluene	0.000	11.5	10.2	10.00	115	102	12.0
Benzene	0.000	11.2	9.9	10.00	112	99	12.3
MTBE	0.000	10.3	8.6	10.00	103	86	18.0
GAS	0.000	93.4	90.6	100.00	93	91	3.1

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

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

RPD means Relative Percent Deviation

25324 ZC 357

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: Same
Company: Cambria Environmental Technology
1144 65th Street, Suite C
Oakland, CA 94608
Tele: (510) ~~420-0700~~ 450-1983 Fax: (510) ~~420-9170~~ 450-8295
Project #: 130-0105-376 Project Name: Worthington
Project Location: Worthington
Sampler 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	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Comments
IN	Worthington	4-5-01	10:30a	1	VOA			X							X															65007
EF	Worthington	4-5-01	10:30a	1	VOA			X							X															65008

Relinquished By: Greg Batteg (IN SECURE AREA)	Date: 4-5	Time: 1110	Received By: 4-6 DAVID WELDEN
Relinquished By:	Date:	Time:	Received By: G Bee
Relinquished By: G Bee	Date:	Time:	Received By: Yan Cao @ MAI 4/6/01 17:50

Remarks: Fax Results ASAP. Report in PPMV.
Reporting limit of 10 ppmv. (20 ml injection Vol.)

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 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #130-0105-336; Worthington	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Ron Scheele	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13/01

04/20/01

Dear Ron:

Enclosed are:

1). the results of **2** samples from your **#130-0105-336; Worthington** 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

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http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #130-0105-336; Worthington	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Ron Scheele	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13/01

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
65414	IN	W	360,a	9.1	45	39	5.1	43	111
65415	EF-1	W	ND	ND	ND	ND	ND	ND	104
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.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

Date: 04/13/01-04/14/01 Matrix: Water

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 41301				Instrument:		GC-7	
Surrogate1	0.000	97.0	96.0	100.00	97	96	1.0
Xylenes	0.000	27.5	27.0	30.00	92	90	1.8
Ethyl Benzene	0.000	8.8	8.9	10.00	88	89	1.1
Toluene	0.000	8.9	9.0	10.00	89	90	1.1
Benzene	0.000	8.5	8.7	10.00	85	87	2.3
MTBE	0.000	9.4	9.5	10.00	94	95	1.1
GAS	0.000	95.1	94.1	100.00	95	94	1.1
SampleID: 41301				Instrument:		GC-11 A	
Surrogate1	0.000	102.0	104.0	100.00	102	104	1.9
TPH (diesel)	0.000	6900.0	7000.0	7500.00	92	93	1.4

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

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

RPD means Relative Percent Deviation

25416zc368.doc

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: same

Company: Cambria Environmental Technology

1144 65th Street, Suite C

Oakland, CA 94608

Tele: (510) ~~420-0700~~ 450-1983 Fax: (510) ~~420-9170~~ 450-8295

Project #: 130-0105-336 Project Name: Worthington

Project Location: Worthington

Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
IN	Worth	4-13		3	VOAs	X								
EF-1	Worth	4-13		3	VOAs	X								
EF-2	Worth	4-13		3	VOAs	X								

Analysis Request

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	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
X														
X														
X														

Other | Comments

65414
65415
65416

ICE/t* ____ PRESERVATION ____
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓

VOAs	O&G	METALS	OTHER

Relinquished By:	Date:	Time:	Received By:
Greg Bentley	4-13	1055	David Wecker
David Wecker			Ken Cook @ MAC 4/13/01 11:50am

Remarks: Only run EF-2 if hits detected in EF-1.

TB-LV

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 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: #130-0105-366; Worthington	Date Sampled: 05/03/01
		Date Received: 05/04/01
	Client Contact: Ron Scheele	Date Extracted: 05/04/01
	Client P.O:	Date Analyzed: 05/04/01

05/11/2001

Dear Ron:

Enclosed are:

1). the results of **2** samples from your **#130-0105-366; Worthington** 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 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: #165-1534-42	Date Sampled: 05/03/01
1144 65th Street, Suite C		Date Received: 05/04/01
Oakland, CA 94608	Client Contact: Ron Scheele	Date Extracted: 05/04/01
	Client P.O:	Date Analyzed: 05/04-05/07/01

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	Ethylben-zene	Xylenes	% Recovery Surrogate
66837	IN	Air	2800,a	ND<55	86	84	2.7	17	---#
66838	EF	Air	ND	ND	ND	ND	ND	ND	104

+ ppm (mg/L) to ppmv (uL/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		Air	10 uL/L	1.5	0.15	0.15	0.15	0.25	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in uL/L(ppmv), 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 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: 05/04/01-05/05/01 Matrix: Air

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 43001				Instrument:		GC-3	
Surrogate1	0.000	102.0	101.0	100.00	102	101	1.0
Xylenes	0.000	25.8	25.7	30.00	86	86	0.4
Ethyl Benzene	0.000	8.5	8.5	10.00	85	85	0.0
Toluene	0.000	8.8	8.8	10.00	88	88	0.0
Benzene	0.000	8.9	8.9	10.00	89	89	0.0
MTBE	0.000	10.3	10.1	10.00	103	101	2.0
GAS	0.000	79.8	79.5	100.00	80	79	0.4

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

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

RPD means Relative Percent Deviation

25728 EC 383

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: Same
Company: Cambria Environmental Technology
1144 65th Street, Suite C
Oakland, CA 94608
Tele: (510) ~~420-0700~~ 450-1983 Fax: (510) ~~420-9170~~ 450-8295
Project #: 165-15-34-42 Project Name:
Project Location: OLY-DC
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
IN	OLY-DC	5-30	11:00	1	BAG			X						
EP	OLY-DC	5-30	11:00	1	BAG			X						

Analysis Request																Other				Comments
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	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						
X																				66837
X																				66838

VOAS | O&G | METALS | OTHER

ICE/t ___
GOOD CONDITION ___
HEAD SPACE ABSENT ___
PRESERVATION APPROPRIATE ___
CONTAINERS ___

Relinquished By:	Date:	Time:	Received By:
Greg Bentley	5-4	1320	X333
X333			

Remarks: Report in ppmv. Fax results ASAP
Reporting limit of 10ppmv. (20ml injection Volume)

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 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: Golden Empire Properties	Date Sampled: 06/04/01
		Date Received: 06/05/01
	Client Contact: Ron Scheele	Date Extracted: 06/05/01
	Client P.O:	Date Analyzed: 06/05/01

06/12/01

Dear Ron:

Enclosed are:

1). the results of **5** samples from your **Golden Empire Properties** 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 1144 65th Street, Suite C Oakland, CA 94608	Client Project ID: Golden Empire Properties	Date Sampled: 06/04/01
		Date Received: 06/05/01
	Client Contact: Ron Scheele	Date Extracted: 06/05-06/08/01
	Client P.O:	Date Analyzed: 06/05-06/08/01

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
69044	IN	W	54,b	---	ND	0.69	ND	3.1	94
69045	Mid	W	ND	---	ND	ND	ND	ND	99
69046	EF	W	ND	---	ND	ND	ND	ND	102
69047	IN	Air	240,a	---	4.5	3.2	0.53	3.6	113
69048	EF	Air	ND	---	ND	ND	ND	0.54	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W/Air	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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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

Date: 06/05/01 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	94.0	102.0	100.00	94	102	8.2
Xylenes	0.000	28.8	30.9	30.00	96	103	7.0
Ethyl Benzene	0.000	8.9	9.5	10.00	89	95	6.5
Toluene	0.000	9.1	10.0	10.00	91	100	9.4
Benzene	0.000	8.5	9.3	10.00	85	93	9.0
MTBE	0.000	9.2	10.4	10.00	92	104	12.2
GAS	0.000	98.3	98.3	100.00	98	98	0.1

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

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

RPD means Relative Percent Deviation

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QC REPORT

Date: 06/05/01 Matrix: Air

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 60201					Instrument:		GC-7
Surrogate1	0.000	94.0	102.0	100.00	94	102	8.2
Xylenes	0.000	28.8	30.9	30.00	96	103	7.0
Ethyl Benzene	0.000	8.9	9.5	10.00	89	95	6.5
Toluene	0.000	9.1	10.0	10.00	91	100	9.4
Benzene	0.000	8.5	9.3	10.00	85	93	9.0
MTBE	0.000	9.2	10.4	10.00	92	104	12.2
GAS	0.000	98.3	98.3	100.00	98	98	0.1

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

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

RPD means Relative Percent Deviation

MCCAMPBELL

CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

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

CHAIN OF CUSTODY

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Page 1 of

Cambria Manager: Ron Scheele

Cambria Sampler: Greg Bentley

Client: Golden Empire Properties

Site Address: Worthington

LAB:

SAMPLE ID	DATE	TIME	MATRIX	# OF SAMPLES	BTEX/MTBE TPHg	COMMENTS
IN	6-4-01	6:15P	Water	3	X	69044
Mid	"	"	"	3	"	69045
EF	"	"	"	3	"	69046
IN	"	"	Air	1	"	69047
EF	"	"	Air	1	"	69048

ICE/4° ✓
GOOD CONDITION
HEAD SPACE ABSENT ✓

PRESERVATION ✓ VOAS | O&G | METALS | OTHER
APPROPRIATE CONTAINERS ✓

Relinquished by: Greg Bentley
Received by: Secured location
Time/Date: 5:30P / 6-4-01

Relinquished by: TCQ
Received by: B. Bullock
Time/Date: 6-5 11-

Relinquished by: B. Bullock
Received by: SV
Time/Date: 6-5 11:40

Relinquished by:
Received by:
Time/Date:

TB. NP