

R0271

# C A M B R I A

October 29, 2004

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

**Re: Groundwater Monitoring and System Progress Report  
Third Quarter 2004**

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



ALAMEDA COUNTY  
RECEIVED OCTOBER 29 2004  
NOV 04 2004  
CAMBRIA ENVIRONMENTAL TECHNOLOGY INC.

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 – Third Quarter 2004*. Presented in the report are the third quarter 2004 activities and the anticipated fourth quarter 2004 activities.

If you have any questions or comments regarding this report, please call me at (510) 420-3361.

Sincerely,  
**Cambria Environmental Technology, Inc.**

Subbarao Nagulapathy  
Project Engineer

Attachments: Groundwater Monitoring and System Progress Report - Third Quarter 2004

cc: Mr. Lynn Worthington, Golden Empirc Properties, Inc. 5942 MacArthur Boulevard, Suite B, Oakland, California 94605

**Cambria  
Environmental  
Technology, Inc.**

5900 Hollis Street  
Suite A  
Emeryville, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

# C A M B R I A

## GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

THIRD QUARTER 2004

*Alameda County  
NOV 04 2004*

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

**October 29, 2004**



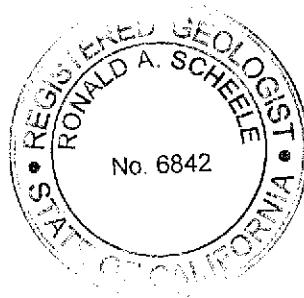
*Prepared for:*

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

*Prepared by:*

Cambria Environmental Technology, Inc.  
5900 Hollis Street, Suite A  
Emeryville, California 94608

*for W. Fennell*  
Rowan Fennell  
Staff Scientist



*Ron Scheele*  
Ron Scheele, R.G.  
Senior Geologist

# C A M B R I A

## GROUNDWATER MONITORING AND SYSTEM PROGRESS REPORT

### THIRD QUARTER 2004

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

**October 29, 2004**



### 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 third quarter 2004 groundwater monitoring and corrective action activities and the anticipated fourth quarter 2004 activities.

### THIRD QUARTER 2004 ACTIVITIES

#### **Monitoring Activities**

**Field Activities:** On September 27, 2004, Cambria conducted quarterly monitoring activities. Cambria gauged and inspected for separate-phase hydrocarbons (SPH) in all monitoring and remediation wells (Figure 1). Groundwater samples were collected from wells MW-1 through MW-4. Groundwater monitoring field data sheets are presented in Appendix B. The monitoring data has been submitted to the GeoTracker database. See Appendix E for the GeoTracker electronic delivery confirmation.

**Sample Analyses:** Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) with silica gel clean-up by modified EPA Method 8015, and benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. The laboratory analytical report is presented as Appendix C. The analytical data has been submitted to the GeoTracker database. See Appendix E for the GeoTracker electronic delivery confirmation.

## Monitoring Results

**Groundwater Flow Direction:** Based on depth to water measurements collected during Cambria's September 27, 2004 site visit, groundwater beneath the site generally flows towards the southwest, similar to previous quarters. The TPE system had been extracting from wells MW-2, MW-3, and RW-5 prior to the monitoring event. Groundwater monitoring data is presented in Table 1.

**Hydrocarbon Distribution in Groundwater:** Hydrocarbon concentrations were detected in all four sampled wells. TPHg concentrations ranged from 770 micrograms per liter ( $\mu\text{g}/\text{L}$ ) to 7,800  $\mu\text{g}/\text{L}$ , with the highest concentration detected in well MW-1. Benzene concentrations ranged from 20  $\mu\text{g}/\text{L}$  to 1,800  $\mu\text{g}/\text{L}$ , with the highest concentration detected in well MW-1. TPHd concentration ranged from 980  $\mu\text{g}/\text{L}$  to 1,700  $\mu\text{g}/\text{L}$ , with the highest concentration detected in both MW-1 and MW-3. MTBE was detected above laboratory detection limits in well MW-2, at a concentration of 1,600  $\mu\text{g}/\text{L}$ , and in well MW-3, at a concentration of 250  $\mu\text{g}/\text{L}$ . TPHg, benzene, and TPHd remained similar to previous quarters. Since the start of TPE remediation in June 2000, monitoring wells have exhibited decreasing hydrocarbon concentration trends (see Appendix A for individual well concentration trend graphs). Analytical results are summarized in Table 1 and shown on Figure 1.

## Corrective Action Activities

**System Design and Modifications:** The TPE remediation system consists of a trailer mounted all-electric catalytic oxidizer, a 20-horsepower liquid-ring vacuum pump, a 150-gallon moisture knockout with automatic float controls, a 1-horsepower centrifugal transfer pump, a particulate filter, and two 1000-pound liquid phase carbon vessels connected in series. Ten wells are connected to the remediation system (RW-5 through RW-14) via an underground, 4-inch diameter, PVC trunk line with 1-inch and 2-inch diameter branch lines. See Figure 1 for the location of the remediation enclosure and wells. Wells RW-5 through RW-14, and MW-1 through MW-4 have 1-inch diameter, flexible, suction hose stingers which are sealed at the wellhead to allow simultaneous extraction of soil vapor and groundwater from the well.

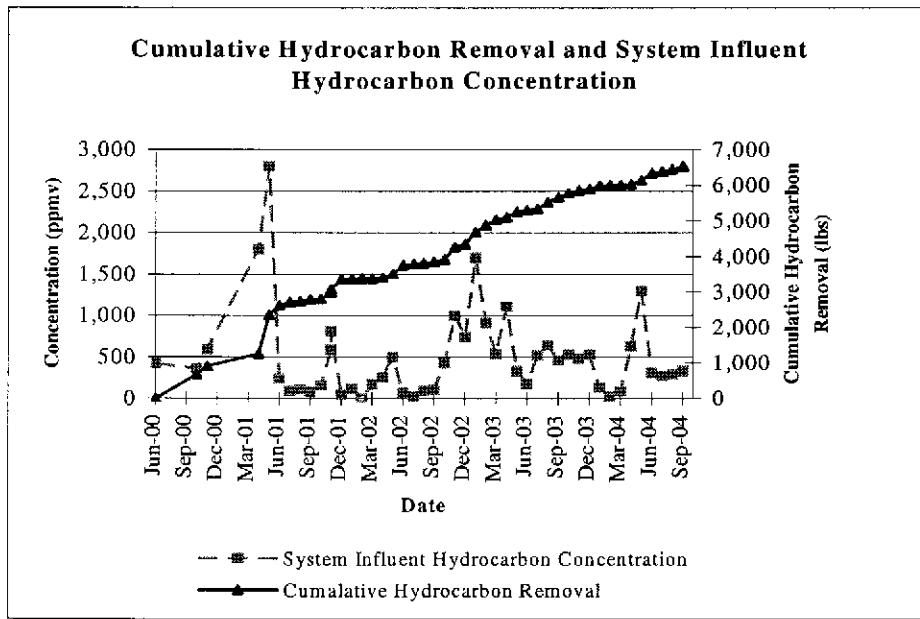
**Remediation System Operation and Maintenance Activities:** During the third quarter, Cambria performed TPE system operation and maintenance (O&M) activities approximately three times per month. During O&M activities, flow, vacuum, and hydrocarbon concentration measurements were collected from the TPE system (see Tables 2, 3, and 4). During O&M site visits, system parameters were recorded in specialized field forms for future system optimization and agency inspection. System influent and effluent vapor samples were collected and submitted for laboratory analysis on a monthly basis. As per the Bay Area Air Quality Management District (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 July 1, August 12, and September 20, 2004. Vapor sample results were below laboratory detection limits indicating that the catalytic oxidizer was achieving proper destruction efficiency and operating within air permit requirements. Table 2 summarizes TPE system operations and soil vapor analytical results.

Groundwater treatment system influent and effluent samples were collected on July 1, August 12, and September 20, 2004. System effluent groundwater concentrations for TPHg and BTEX were below laboratory detection limits indicating that the groundwater treatment system was effective at meeting the wastewater discharge permit requirements. In a letter dated August 10, 2004, the East Bay Municipal Utility District (EBMUD) reported that no wastewater discharge violations were noted during a facility inspection and sampling event on May 27, 2004. EBMUD's report is included in Appendix F. Table 3 summarizes groundwater extraction system parameters and analytical results. The system analytical laboratory reports are included in Appendix D.

**Remediation System Performance:** From July 1 through September 29, 2004, the TPE system operated for a total of 1,391 hours. The TPE system automatically shutdown once during the quarter due to a high water alarm. The TPE system was manually shutdown in early September to evaluate repairs required to reduce excessive noise generated by the system. System influent vapor concentrations ranged during the quarter from 270 parts per million by volume (ppmv) to 330 ppmv. Influent hydrocarbon vapor concentrations fluctuated during the quarter due to a lower groundwater table and optimization events. Due to the lower groundwater table, soil vapor extraction flow rates increased and system vacuum levels decreased. Several wells were closed and stinger depths were adjusted to compensate for seasonal fluctuations in the groundwater table and subsurface permeability. Groundwater elevation data from the September 27, 2004 quarterly monitoring event was used to determine optimum stinger depths. Individual TPE well parameters are summarized in Table 4.

Hydrocarbon removal rates for soil vapor extraction ranged from 2.6 to 2.8 pounds per day during the quarter. Hydrocarbon removal rates remained similar to the previous quarter due to relatively low influent hydrocarbon concentrations. As of September 27, 2004, approximately 6,545 pounds of petroleum hydrocarbons have been removed and destroyed by soil vapor extraction (see graph below and Table 2).



From July 1 to September 29, 2004, approximately 41,035 gallons of groundwater were extracted and treated onsite using granular activated carbon. The groundwater extraction rate ranged from 0.4 to 0.8 gallons per minute throughout the quarter. Groundwater extraction rates were lower than the previous quarter due to a lower groundwater table. Influent groundwater TPHg concentrations ranged from Non-Detect (less than 50 µg/L) to 320 µg/L during the quarter. Influent groundwater concentrations fluctuated during the quarter and were less than previous quarters. As of September 29, 2004, approximately 1,447,419 gallons of hydrocarbon impacted groundwater have been extracted and treated by aqueous-phase carbon. Approximately 11.1 pounds of hydrocarbons have been removed by the groundwater treatment system.

## ANTICIPATED FOURTH QUARTER 2004 ACTIVITIES

### Monitoring Activities

During the fourth quarter, Cambria will gauge the site wells, check the wells for SPH, and collect groundwater samples from all monitoring wells not containing SPH. Groundwater samples will be analyzed for TPHg and TPHd with silica gel clean-up by Modified EPA Method 8015 and BTEX and MTBE by EPA Method 8021B. Cambria will summarize groundwater monitoring activities and results in the *Groundwater Monitoring and System Progress Report – Fourth Quarter 2004*.

### **Corrective Action Activities**

After receiving approval from the Alameda County Health Care Services Agency (ACHCSA), Cambria shutdown and removed the TPE remediation system from the site on September 30, 2004. Due to low hydrocarbon removal rates, Cambria wishes to implement an alternative and more cost effective remedial technique in order to complete cleanup of the site. Cambria has requested ACHCSA to provide written request for the preparation of a Corrective Action Plan (CAP) Addendum in which Cambria will propose an alternative remedial technique. The CAP Addendum will include a work plan to implement the selected remedial alternative which will accelerate site cleanup in accordance with revised cleanup goals.



### **ATTACHMENTS**

Figure 1 – Groundwater Elevation and Analytical Summary Map – September 27, 2004

Table 1 – Groundwater Elevations and Analytical Data

Table 2 – TPE System Performance and Analytical Results - Soil Vapor Extraction

Table 3 – TPE System Performance and Analytical Results - Groundwater Extraction

Table 4 – TPE Well Parameters

Appendix A – TPHg and Benzene Concentration Trend Graphs

Appendix B – Groundwater Monitoring Field Data Sheets

Appendix C – Analytical Results for Groundwater Sampling

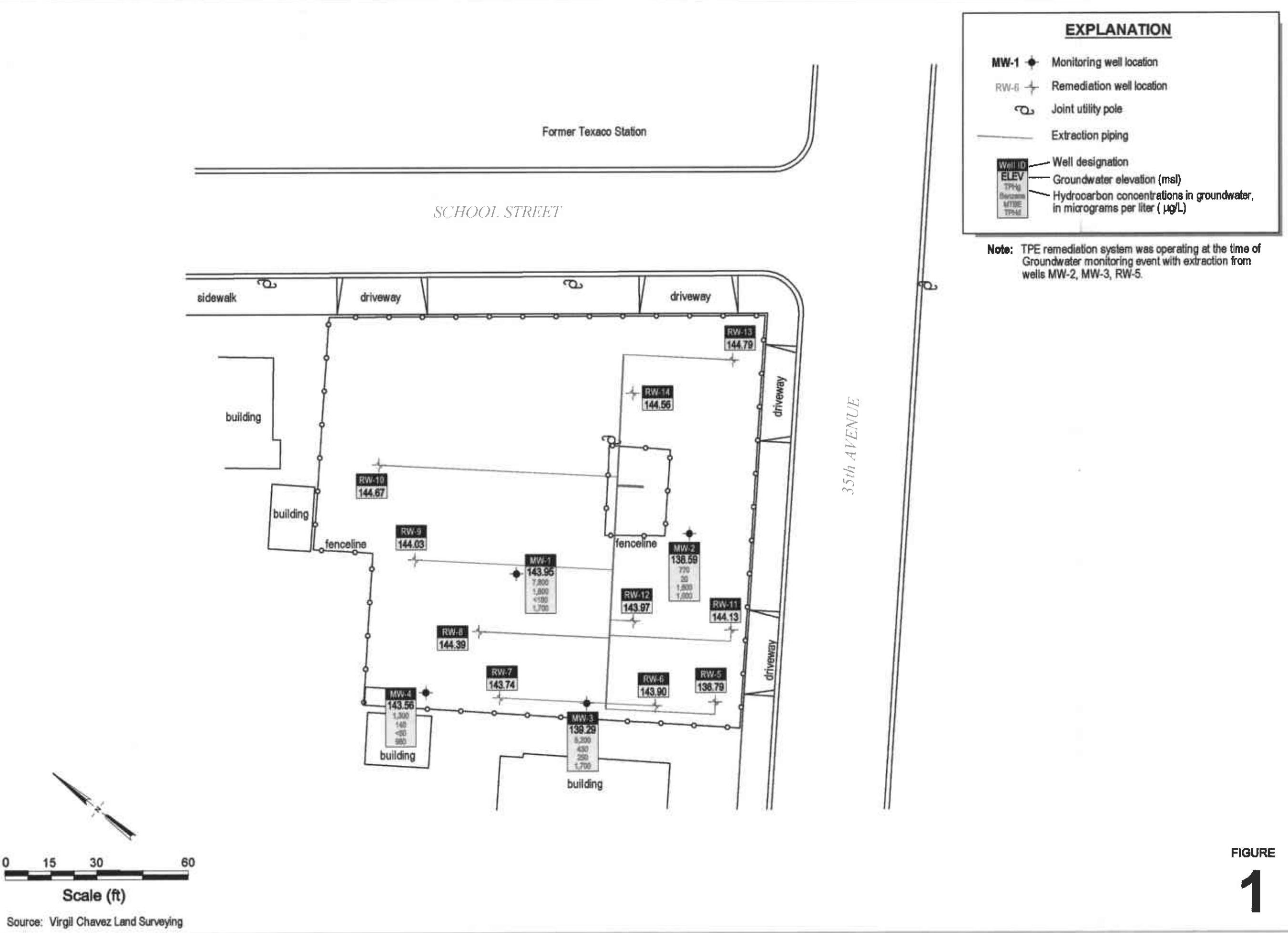
Appendix D – Analytical Results for TPE System Operation

Appendix E – GeoTracker Electronic Delivery Confirmations

Appendix F – EBMUD Wastewater Discharge Inspection Report

**Former Exxon Station**  
3055 35th Avenue  
Oakland, California

**FIGURE 1**



# CAMBRIA

**Table 1. Groundwater Elevations 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	Concentrations in micrograms per liter ( $\mu\text{g/L}$ )					DO (mg/L)	TPE System Status
								Benzene	Toluene	Ethylbenzene	Xylenes	MTBE		
MW-1	5/25/94	16.79	Sheen	84.06	120,000	25,000	<50,000	22,000	17,000	2,800	16,000	--	--	--
<i>100.85</i>	7/19/94	20.77	---	80.08	--	--	--	--	--	--	--	--	--	--
	8/18/94	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	--	--	--
	2/27/95	15.53	---	85.32	45,000	--	--	2,900	2,500	760	4,100	--	--	--
	5/23/95	15.29	---	85.56	22,000	--	--	9,900	990	790	2,000	--	--	--
	8/22/95	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	--	--	--
	2/21/96	11.69	---	89.16	33,000	4,300	--	10,000	480	1,000	1,800	3,300	--	--
	5/21/96	14.62	---	86.23	36,000	8,500	--	8,500	1,400	1,300	2,800	1,900	--	--
	8/22/96	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	
	3/20/97	16.65	---	84.20	33,000	10,000	--	6,100	560	970	2,200	<400	8.5	
	6/25/97	19.77	---	81.08	31,000	7,400 <sup>f</sup>	--	7,400	440	890	1,800	<400	3.7	
	9/17/97	20.12	---	80.73	32,000 <sup>d</sup>	3,500 <sup>e</sup>	--	9,100	550	1,000	2,000	<1,000	2.1	
	12/22/97	12.95	---	87.90	26,000 <sup>d</sup>	5,800 <sup>e</sup>	--	7,900	370	920	1,500	<790	0.7	
	3/18/98	12.34	Sheen	88.51	30,000 <sup>d</sup>	4,200 <sup>e,f</sup>	--	7,800	820	840	2,000	<1,100	1.3	
	7/14/98	17.34	---	83.51	41,000 <sup>d</sup>	8,900 <sup>e,f</sup>	--	8,200	1,100	1,200	3,000	<200	1.8	
	9/30/98	19.90	---	80.95	37,000	3,300	--	11,000	950	1,200	2,800	<20	2.0	
	12/8/98	15.62	---	85.23	22,000	3,700	--	3,000	1,200	730	3,100	<900	--	
	3/29/99	11.98	---	88.87	36,000 <sup>d</sup>	6,800 <sup>e</sup>	--	12,000	750	1,300	2,400	950	0.50	
	6/29/99	20.77	---	80.08	28,000 <sup>d</sup>	3,500 <sup>e</sup>	--	7,300	420	810	1,700	<1,300	0.10	
	9/28/99	19.68	---	81.17	13,000 <sup>d</sup>	3,600 <sup>e,f</sup>	--	3,200	130	320	1,100	<210	0.55	
	12/10/99	17.02	---	83.83	25,000 <sup>d</sup>	2,900 <sup>e,f</sup>	--	5,400	130	620	1,400	<1,000	1.03	
	3/23/00	12.76	---	88.09	21,000 <sup>d</sup>	3,300 <sup>e</sup>	--	4,700	140	470	1,100	<350	--	
	9/7/00	19.45	---	81.40	40,000 <sup>d,k</sup>	12,000 <sup>e,g</sup>	--	3,700	1,400	910	4,900	<50	0.17	
	12/5/00	18.60	---	82.25	26,000 <sup>d</sup>	3,400 <sup>e</sup>	--	7,900	150	580	810	<300	0.35	Not operating
	3/7/01	16.19	---	84.66	13,000	2,400	--	2,700	43	69	300	<100	0.49	Not operating
	6/6/01	18.47	---	82.38	19,000	4,000	--	4,500	130	270	430	<400	0.39	Not operating
	8/30/01	21.70	---	79.15	8,800 <sup>a</sup>	1,400 <sup>d</sup>	--	2,100	45	91	240	<130	0.27	Operating
	12/7/01	26.55	---	74.30	8,700 <sup>d</sup>	1,900 <sup>e,f</sup>	--	1,300	160	38	730	<20	0.59	Operating
	3/11/02	17.13	---	83.72	9,400 <sup>d</sup>	1,400 <sup>e</sup>	--	2,100	200	74	470	<20	0.39	Operating
	6/10/02	24.10	---	76.75	4,200 <sup>d</sup>	900 <sup>e,k</sup>	--	830	170	110	460	<100	---	Operating
	9/26/02	20.30	---	80.55	7,800 <sup>d</sup>	1,300 <sup>e,l,k</sup>	--	1,300	190	200	760	<100	0.70	Operating
	11/21/02	21.55	---	79.30	83,000 <sup>d,a</sup>	200,000 <sup>e,a</sup>	--	7,100	1,700	3,000	13,000	<1,000	0.49	Operating
	1/13/03	14.80	---	86.05	20,000 <sup>d</sup>	5,300 <sup>e,f</sup>	--	2,300	480	300	2,100	<500	0.33	Not operating
	4/25/03	20.90	---	79.95	4,200 <sup>d</sup>	320 <sup>e</sup>	--	580	81	59	470	<50	--	Operating
	5/30/03	16.65	---	84.20	---	---	--	---	---	---	---	---	---	Not operating
	9/3/03	24.16	---	76.69	14,000 <sup>d</sup>	36,000 <sup>e,f</sup>	--	300	50	33	480	<50	--	Operating
	12/2/03	24.12	---	76.73	7,100 <sup>d,a</sup>	9,300 <sup>e,d,a</sup>	--	1,400	230	160	820	<100	--	Operating
	3/18/04	17.70	---	83.15	3,600 <sup>d</sup>	1,100 <sup>e,f</sup>	--	650	59	38	370	<90	--	Operating
<i>167.02</i>	6/16/04	19.20	---	147.82	8,100 <sup>d</sup>	2,300 <sup>e,f</sup>	--	1,500	69	22	1,000	<100	--	Not operating
	9/27/04	23.07	---	143.95	7,800 <sup>d</sup>	1,700 <sup>e</sup>	--	1,800	110	120	670	<180	0.28	Not operating

# CAMBRIA

**Table 1. Groundwater Elevations 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 Concentrations in micrograms per liter ( $\mu\text{g/L}$ ) ----->	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DO (mg/L)	TPE System Status
								----->	----->	----->	----->	----->		
<i>100.00</i>	MW-2	5/25/94	15.65	---	84.35	61,000	6,900	<5,000	9,900	7,400	960	4,600	---	---
		7/19/94	19.81	---	80.19	---	---	---	---	---	---	---	---	---
		8/18/94	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	---	---
		2/27/95	14.46	Sheen	85.54	44,000	---	---	5,100	5,300	930	6,400	---	---
		5/23/95	14.17	---	85.83	33,000	---	---	8,200	5,600	900	6,600	---	---
		8/22/95	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	---	---
		2/21/96	10.53	---	89.47	59,000	---	---	8,000	6,000	1,800	8,900	4,500	---
		5/21/96	13.47	---	86.53	51,000	3,400	---	8,200	5,200	1,300	6,600	2,400	---
		8/22/96	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
		3/20/97	15.39	---	84.61	27,000	6,100	---	3,700	2,300	580	2,800	<400	8.1
		6/25/97	18.62	---	81.38	42,000	7,880 <sup>b</sup>	---	7,400	3,800	1,200	5,700	<200	0.9
		9/17/97	19.05	Sheen	80.95	41,000 <sup>d</sup>	8,900 <sup>e</sup>	---	5,200	3,400	1,300	5,900	<700	1.2
		12/22/97	14.09	---	85.91	47,000 <sup>d</sup>	6,100 <sup>e</sup>	---	8,500	4,600	1,800	8,400	<1,200	1.2
		3/18/98	10.83	Sheen	89.17	58,000 <sup>d</sup>	7,000 <sup>e,f</sup>	---	9,300	6,100	1,800	8,200	<1,100	1.1
		7/14/98	16.07	---	83.93	42,000 <sup>d</sup>	5,300 <sup>e,f</sup>	---	6,000	3,000	1,000	4,800	<200	1.5
		9/30/98	18.71	---	81.29	22,000	2,400	---	3,600	1,300	720	3,200	<30	1.8
		12/8/98	14.80	---	85.20	32,000	3,100	---	9,200	680	1,100	2,300	<2,000	---
		3/29/99	11.81	---	88.19	28,000 <sup>d</sup>	7,500 <sup>e,f</sup>	---	4,400	1,600	950	4,100	410	1.86
		6/29/99	19.54	---	80.46	28,000 <sup>d</sup>	3,300 <sup>e</sup>	---	3,500	1,100	690	3,100	<1,000	0.41
		9/28/99	18.61	---	81.39	15,000 <sup>d</sup>	3,400 <sup>e,f</sup>	---	1,200	540	230	2,300	<36	1.18
		12/10/99	16.53	---	83.47	17,000 <sup>d</sup>	2,500 <sup>e,f</sup>	---	1,300	780	420	2,700	<40	0.17
		3/23/00	13.56	---	86.44	25,000 <sup>d</sup>	3,100 <sup>i</sup>	---	1,900	1,100	660	3,700	<500	---
		9/7/00	18.25	---	81.75	62,000 <sup>d,g</sup>	32,000 <sup>e,h</sup>	---	5,300	2,300	1,500	8,400	<100	0.39
		12/5/00	17.45	---	82.55	60,000 <sup>d,h</sup>	87,000 <sup>e,f,g</sup>	---	5,100	2,200	1,600	9,000	<200	0.31
		3/7/01	15.68	---	84.32	34,000	3,900	---	1,200	770	620	4,300	<200	0.44
		6/6/01	17.51	---	82.49	110,000	48,000	---	14,000	9,000	1,900	12,000	<950	0.24
		8/30/01	21.00	---	79.00	43,000 <sup>a,b</sup>	15,000 <sup>d,h</sup>	---	3,100	720	980	5,500	<200	---
		12/7/01	24.45	---	75.55	4,100 <sup>d</sup>	750 <sup>e,f</sup>	---	510	88	8.2	580	<20	0.47
		3/11/02	16.95	---	83.05	4,700 <sup>d</sup>	590 <sup>e</sup>	---	1,200	150	30	310	<50	0.24
		6/10/02	18.59	---	81.41	14,000 <sup>d</sup>	2,000 <sup>e</sup>	---	2,600	710	150	2,000	<800	---
		9/26/02	20.39	---	79.61	4,800 <sup>d</sup>	660 <sup>e</sup>	---	770	200	140	740	<50	0.29
		11/21/02	18.75	---	81.25	210,000 <sup>d,h</sup>	350,000 <sup>e,g,h</sup>	---	14,000	23,000	4,400	28,000	<1,700	0.43
		1/13/03	13.60	---	86.40	32,000 <sup>d,k</sup>	14,000 <sup>e,f,g,k</sup>	---	4,500	1,600	920	3,600	<1000	0.39
		4/25/03	19.05	---	80.95	3,800 <sup>d</sup>	310 <sup>e</sup>	---	460	78	72	410	310	---
		5/30/03	15.23	---	84.77	---	---	---	---	---	---	---	---	Not operating
		9/3/03	23.57	---	76.43	2,900 <sup>d</sup>	2,300 <sup>e</sup>	---	240	57	68	380	770	---
		12/2/03	23.17	---	76.83	2,400 <sup>d,g</sup>	3,300 <sup>e,f,g</sup>	---	91	20	14	250	890	---
		3/18/04	15.78	---	84.22	4,200 <sup>d</sup>	870 <sup>e,f</sup>	---	730	39	<5.0	480	2,300	---
<i>166.14</i>	6/16/04	18.15	---	147.99	15,000 <sup>d</sup>	9,800 <sup>d,f</sup>	---	800	210	290	1,800	2,000	---	Not operating
	9/27/04	27.55**	---	138.59	770 <sup>d</sup>	1,000 <sup>e,f,k</sup>	---	20	7.9	10	140	1,600	0.79	Operating

# CAMBRIA

**Table 1. Groundwater Elevations 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	Concentrations in micrograms per liter ( $\mu\text{g/L}$ )						DO (mg/L)	TPE System Status
								Benzene	Toluene	Ethylbenzene	Xylenes	MTBE			
MW-3	5/25/94	13.93	Sheen	82.94	56,000	14,000	<50,000	14,000	14,000	1,300	11,000	---	---	---	
96.87	7/19/94	17.04	---	79.83	---	---	---	---	---	---	---	---	---	---	
	8/18/94	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	---	---	---	
	2/27/95	11.86	Sheen	85.01	250,000	---	---	22,000	26,000	7,800	21,000	---	---	---	
	5/23/95	11.60	Sheen	85.27	310,000	---	---	18,000	17,000	4,500	2,800	---	---	---	
	8/22/95	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	---	---	---	
	2/21/96	7.92	---	88.95	60,000	---	---	10,000	7,800	1,500	8,800	3,400	---	---	
	5/21/96	10.86	Sheen	86.01	69,000	13,000	---	17,000	9,400	1,700	9,400	2,600	---	---	
	8/22/96	16.50	---	80.37	94,800	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	---	
	3/20/97	12.86	---	84.01	56,000	11,000	---	9,900	6,900	1,300	8,000	3,500	9.0	---	
	6/25/97	15.98	---	80.89	49,000	7,700 <sup>b</sup>	---	9,200	7,100	1,300	7,000	220	5.8	---	
	9/17/97	16.34	Sheen	80.53	78,000 <sup>d</sup>	15,000 <sup>e</sup>	---	11,000	9,900	1,800	10,000	<1,200	0.7	---	
	12/22/97	10.71	Sheen	86.16	49,000 <sup>d</sup>	14,000 <sup>e</sup>	---	7,300	5,300	1,400	7,500	<1,100	3.1	---	
	3/18/98	8.41	Sheen	88.46	120,000 <sup>d</sup>	20,000 <sup>e,f</sup>	---	21,000	19,000	2,600	15,000	<1,600	1.6	---	
	7/14/98	13.51	---	83.36	94,000 <sup>e,g</sup>	65,000 <sup>e,f,g</sup>	---	18,000	14,000	1,900	11,000	<1,400	1.8	---	
	9/30/98	16.14	---	80.73	91,000	9,800	---	17,000	13,000	2,100	12,000	<1300	2.0	---	
	12/8/98	11.20	---	85.67	51,000	4,200	---	8,000	6,800	1,400	7,500	<1,100	---	---	
	3/29/99	7.95	---	88.92	39,000 <sup>d</sup>	4,600 <sup>e</sup>	---	8,900	4,400	940	4,500	810	0.56	---	
	6/29/99	16.98	---	79.89	71,000 <sup>d</sup>	6,900 <sup>e</sup>	---	12,000	7,300	1,400	8,400	<1,700	0.19	---	
	9/28/99	15.99	---	80.88	60,000 <sup>d</sup>	7,800 <sup>e</sup>	---	9,400	9,200	1,000	9,900	200	0.53	---	
	12/10/99	13.31	---	83.56	53,000 <sup>d</sup>	5,300 <sup>e,f</sup>	---	8,000	6,400	1,100	8,100	<200	0.48	---	
	3/23/00	8.98	---	87.89	77,000 <sup>e,g</sup>	11,000 <sup>e,i</sup>	---	10,000	9,400	1,600	11,000	<430	---	---	
	9/7/00	15.61	---	81.26	100,000 <sup>e,g</sup>	19,000 <sup>e,f,g</sup>	---	17,000	12,000	1,600	11,000	<500	---	---	
	12/5/00	14.80	---	82.07	110,000 <sup>e,g</sup>	17,000 <sup>e,k</sup>	---	17,000	11,000	1,900	12,000	<750	0.37	Not operating	
	3/7/01	14.27	---	82.60	60,000	13,000	---	7,000	4,600	900	7,100	<350	0.49	Not operating	
	6/6/01	14.88	---	81.99	43,000	12,000	---	3,000	1,000	770	5,200	<400	1.71	Not operating	
	8/30/01	12.43	---	84.44	95,000 <sup>e,h</sup>	190,000 <sup>e,k</sup>	---	6,900	10,000	2,700	15,000	<250	0.24	Operating	
	12/7/01	24.65	---	72.22	25,000 <sup>d</sup>	3,900 <sup>e,f</sup>	---	2,500	1,700	64	2,200	<200	0.19	Operating	
	3/11/02	14.69	---	82.18	30,000 <sup>d</sup>	2,800 <sup>e,k</sup>	---	5,000	2,400	190	1,800	<1,300	0.30	Operating	
	6/10/02	22.94	---	73.93	9,000 <sup>d</sup>	990 <sup>e,k</sup>	---	1,800	1,300	96	1,000	<300	---	Operating	
	9/26/02	18.85	---	78.02	50,000 <sup>e,g</sup>	130,000 <sup>e,g</sup>	---	3,900	5,400	820	6,600	<500	0.19	Operating	
	11/21/02	17.85	0.05	79.06	37,000 <sup>e,g</sup>	120,000 <sup>e,g</sup>	---	4,000	660	1,200	5,100	<1,700	0.28	Operating	
	1/13/03	11.43	---	85.44	21,000 <sup>e,g</sup>	6,300 <sup>e,f,g,k</sup>	---	2,400	2,300	390	3,000	<500	0.31	Not operating	
	4/25/03	18.30	---	78.57	12,000 <sup>d</sup>	1,200 <sup>e</sup>	---	1,800	850	150	1,200	<500	---	Operating	
	5/30/03	13.30	---	83.57	---	---	---	---	---	---	---	---	---	Not operating	
	9/3/03	21.65	---	75.22	8,100 <sup>d</sup>	3,300 <sup>e</sup>	---	220	170	66	560	<50	---	Operating	
	12/2/03	17.70	---	79.17	30,000 <sup>e,g</sup>	8,400 <sup>e,f,g</sup>	---	2,900	2,100	530	3,600	<500	---	Operating	
	3/18/04	16.49	---	80.38	15,000 <sup>d</sup>	2,300 <sup>e,f</sup>	---	2,600	990	260	1,700	<300	---	Operating	
162.94	6/16/04	15.40	---	147.54	23,000 <sup>d</sup>	8,800 <sup>e,f</sup>	---	2,100	1,300	360	2,800	<1,000	---	Operating	
	9/27/04	23.65	---	139.29	5,200 <sup>d</sup>	1,700 <sup>e,f</sup>	---	430	220	100	680	250	0.55	Operating	

# CAMBRIA

**Table 1. Groundwater Elevations 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	Concentrations in micrograms per liter ( $\mu\text{g/L}$ )						DO (mg/L)	TPE System Status
								Benzene	Toluene	Ethylbenzene	Xylenes	MTBE			
MW-4	3/20/97	13.75	---	83.59	47,000	3,100	---	11,000	4,500	1,100	5,200	3,400	8.4		
97.34	6/25/97	16.15	---	81.19	61,000	5,800 <sup>b</sup>	---	16,000	6,100	1,500	5,900	780 <sup>c</sup>	1.4		
	9/17/97	17.10	---	80.24	60,000 <sup>d</sup>	4,400 <sup>e</sup>	---	17,000	4,900	1,500	5,700	<1,500	1.5		
	12/22/97	9.21	---	88.13	43,000 <sup>d</sup>	3,100 <sup>f</sup>	---	13,000	3,900	1,100	4,200	<960	3.7		
	3/18/98	9.54	---	87.80	58,000 <sup>d</sup>	5,500 <sup>e,f</sup>	---	14,000	4,700	1,400	5,700	<1,200	0.8		
	7/14/98	14.15	---	83.19	73,000 <sup>d</sup>	2,900 <sup>e,f</sup>	---	22,000	7,000	1,800	7,300	<200	1.0		
	9/30/98	16.84	---	80.50	39,000	2,100	---	12,000	2,700	1,000	3,400	510	1.1		
	12/8/98	13.45	---	83.89	27,000	1,600	---	8,900	1,600	730	2,300	<1,500	---		
	3/29/99	9.10	---	88.24	48,000 <sup>d</sup>	2,400 <sup>e,f,h</sup>	---	15,000	3,000	1,300	5,000	1,300	1.32		
	06/29/99*	---	---	---	---	---	---	---	---	---	---	---	---		
	9/28/99	16.58	---	80.76	24,000 <sup>d</sup>	3,200 <sup>e,f</sup>	---	7,500	1,200	190	2,200	210	14.29 <sup>i</sup>		
	12/10/99	13.99	---	83.35	47,000 <sup>d</sup>	3,100 <sup>e,f</sup>	---	12,000	1,800	1,000	4,400	<100	0.62		
	3/23/00	10.22	---	87.12	40,000 <sup>d</sup>	3,100 <sup>e,f</sup>	---	11,000	1,600	910	3,100	690	---		
	9/7/00	16.40	---	80.94	43,000 <sup>d</sup>	5,900 <sup>e</sup>	---	10,000	1,100	1,100	3,400	<450	1.04		
	12/5/00	15.55	---	81.79	69,000 <sup>d,k</sup>	2,600 <sup>e,g</sup>	---	16,000	1,300	1,300	3,400	<200	0.35	Not operating	
	3/20/01	14.03	---	83.31	46,000	---	---	13,000	1,000	900	2,800	<350	0.39	Not operating	
	6/6/01	15.49	---	81.85	75,000	5,400	---	22,000	1,800	1,900	6,400	<1,200	2.22	Not operating	
	8/30/01	18.00	---	79.34	43,000 <sup>d</sup>	3,200 <sup>d</sup>	---	6,400	630	510	2,600	<200	0.32	Operating	
	12/7/01	23.45	---	73.89	32,000 <sup>d,g</sup>	11,000 <sup>e,f,h</sup>	---	4,500	740	310	2,300	<200	0.21	Operating	
	3/11/02	14.95	---	82.39	15,000 <sup>d</sup>	1,600 <sup>e,f,k</sup>	---	3,700	500	92	790	<500	0.30	Operating	
	6/10/02	22.30	---	75.04	9,400 <sup>d</sup>	3,400 <sup>e</sup>	---	1,400	50	<5.0	690	<200	---	Operating	
	9/26/02	17.93	---	79.41	21,000 <sup>d</sup>	800 <sup>e</sup>	---	3,300	1,300	450	2,900	<500	0.24	Operating	
	11/21/02	17.55	---	79.79	5,700 <sup>d</sup>	2,400 <sup>e,k</sup>	---	1,400	290	63	640	550	---	Operating	
	1/13/03	11.75	---	85.59	35,000 <sup>d,g</sup>	15,000 <sup>e,f,k</sup>	---	5,100	1,500	510	4,500	<800	0.28	Not operating	
	4/25/03	19.37	---	77.97	6,600 <sup>d</sup>	2,200 <sup>e,f</sup>	---	960	130	100	560	<170	---	Operating	
	5/30/03	13.56	---	83.78	---	---	---	---	---	---	---	---	---	Not operating	
	9/3/03	21.65	---	75.69	29,000 <sup>d</sup>	27,000 <sup>e,f</sup>	---	2,200	380	280	2,300	65	---	Operating	
	12/2/03	19.17	---	78.17	13,000 <sup>d</sup>	5,800 <sup>e,f</sup>	---	1,300	180	120	1,900	<250	---	Operating	
	3/18/04	14.92	---	82.42	5,300 <sup>d</sup>	1,500 <sup>e</sup>	---	1,300	55	37	440	<180	---	Operating	
163.49	6/16/04	16.02	---	147.47	9,100 <sup>d</sup>	3,400 <sup>e,f</sup>	---	940	96	120	800	<50	---	Not operating	
	9/27/04	19.93	---	143.56	1,300 <sup>d</sup>	980 <sup>e,f,k</sup>	---	140	10	11	81	<50	0.68	Not operating	
Trip Blank	7/14/98	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	9/30/98	---	---	---	<50	<50	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	12/8/98	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	3/29/99	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	6/29/99	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	3/23/00	---	---	---	<50	---	---	<0.5	<0.5	<0.5	<0.5	<5.0	---		
	9/7/00	---	---	---	<50	---	---	<0.5	1.1	<0.5	1.1	<5.0	---		

# CAMBRIA

**Table 1. Groundwater Elevations 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	Concentrations in micrograms per liter ( $\mu\text{g/L}$ )					DO (mg/L)	TPE System Status
								Benzene	Toluene	Ethylbenzene	Xylenes	MTBE		
RW-5 <i>I62.34</i>	6/16/04 9/27/04	14.73 <b>25.55**</b>	---	147.61 <b>136.79</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Operating</b>
RW-6 <i>I62.36</i>	6/16/04 9/27/04	14.80 <b>18.46</b>	---	147.56 <b>143.90</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-7 <i>I62.72</i>	6/16/04 9/27/04	15.22 <b>18.98</b>	---	147.50 <b>143.74</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-8 <i>I64.13</i>	6/16/04 9/27/04	16.41 <b>19.74</b>	---	147.72 <b>144.39</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-9 <i>I63.86</i>	6/16/04 9/27/04	16.03 <b>19.83</b>	---	147.83 <b>144.03</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-10 <i>I63.02</i>	6/16/04 9/27/04	15.03 <b>18.35</b>	---	147.99 <b>144.67</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-11 <i>I62.57</i>	6/16/04 9/27/04	14.75 <b>18.44</b>	---	147.82 <b>144.13</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-12 <i>I63.06</i>	6/16/04 9/27/04	15.30 <b>19.09</b>	---	147.76 <b>143.97</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-13 <i>I64.34</i>	6/16/04 9/27/04	15.83 <b>19.55</b>	---	148.51 <b>144.79</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>
RW-14 <i>I63.76</i>	6/16/04 9/27/04	15.41 <b>19.20</b>	---	148.35 <b>144.56</b>	---	---	---	---	---	---	---	---	---	Not operating <b>Not operating</b>

**Abbreviations:**

TOC = Top of casing elevation measured in feet relative to surveyor's datum.

All site wells were re-surveyed by Virgil Chavez Land Surveying on June 2, 2004 to the CA State Coordinate System, Zone III (NAD83). Benchmark elevation = 177.397 feet (NGVD 29)

GW Depth = Groundwater depth measured from TOC.

GW Elev. = Groundwater elevation

ft = Measured in feet

SPH = Separate-phase hydrocarbons depth measured from TOC.

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, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020

MTBE = Methyl Tertiary Butyl Ether by EPA Method 8020

DO = Dissolved oxygen

$\mu\text{g/L}$  = Micrograms per liter, equivalent to parts per billion in water

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

TPE = Two-phase extraction

--- = Not observed/not analyzed

\* = Well inaccessible during site visit

\*\* = No water in well due to system operating in well, value reflects total well depth

# = abnormally high reading due to added hydrogen peroxide

**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

k = Oil range compounds are significant

# CAMBRIA

**Table 2. TPE System Performance and Analytical Results - Soil Vapor Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	System Inlet Temp. (degrees F)	System Flow Rate (acfm)	System Vacuum ("Hg)	System Flow Rate (scfm)	System Influent HC Conc. <sup>1</sup> (ppmv)		System Effluent HC Conc. <sup>1</sup> (ppmv)		HC Removal Rate <sup>2</sup> (lbs/day)	Emission Rate <sup>2</sup> (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal <sup>3</sup> (lbs)
							TPHg	TPhg	Benz	Benz		TPHg	Benz		
6/24/2000	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0
9/28/2000	454	20%	789	--	--	175.0	420	22	0.24	23.6	1.24	0.012	95	446	
10/12/2000	696	72%	950	--	--	87.5	360	<10	<0.15	10.1	<0.28	<0.004	*	684	
11/9/2000	1,251	83%	820	--	--	55.4	590	<10	<0.15	10.5	<0.18	<0.002	*	918	
1/23/2001	1,313	3%	--	--	--	--	--	--	--	--	--	--	--	945	
3/28/2001	0	--	--	--	--	--	--	--	--	--	--	--	--	945	
4/5/2001	194	101%	908	85	6.0	67.9	1,800	34	0.52	39.2	0.74	0.010	98	1,261	
5/3/2001	863	100%	1000	54	14	28.7	2,800	<10	<0.15	25.8	<0.09	<0.001	*	2,355	
6/4/2001	1,114	33%	820	101	6.5	79.0	240	<10	<0.15	6.1	<0.25	<0.003	*	2,625	
7/2/2001	1,429	47%	804	109	10.0	72.5	92	26	0.34	2.1	<0.61	<0.007	72	2,705	
7/10/2001	1,621	100%	900	150	8.0	109.9	92	<10	<0.15	3.2	<0.35	<0.005	*	2,722	
8/2/2001	1,759	25%	940	79	5.0	65.4	110	<10	<0.15	2.3	<0.21	<0.003	*	2,740	
9/7/2001	2,301	63%	854	141	12.0	84.4	81	34	0.52	2.2	<0.92	<0.013	58	2,793	
10/3/2001	2,470	27%	854	230	9.0	160.7	160	<10	0.31	8.3	<0.52	<0.015	*	2,808	
11/6/2001	3,015	67%	955	97	8.5	69.1	590	31	0.43	13.1	<0.69	<0.009	95	2,995	

# CAMBRIA

**Table 2. TPE System Performance and Analytical Results - Soil Vapor Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	System Inlet Temp. (degrees F)	System Flow Rate (acfmin)	System Vacuum ("Hg)	System Flow Rate (scfm)	System Influent HC Conc. <sup>1</sup> (ppmv)		System Effluent HC Conc. <sup>1</sup> (ppmv)		HC Removal Rate <sup>2</sup> (lbs/day)	Emission Rate <sup>1</sup> (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal <sup>3</sup> (lbs)
							TPHg	TPhg	Benz	TPHg	TPHg	Benz	TPHg		
11/14/2001	3,184	88%	860	69	10.0	45.9	810	<10	<0.15	11.9	<0.15	<0.002	*	3,087	
12/6/2001	3,710	100%	806	53	11.0	33.5	50	<10	<0.15	0.5	<0.11	<0.001	*	3,349	
1/7/2002	4,472	99%	841	42	10.5	27.2	120	<10	<0.15	1.0	<0.09	<0.001	*	3,366	
2/4/2002	4,938	69%	817	78	10.5	50.6	<5	<10	<0.15	0.1	<0.16	<0.002	*	3,386	
3/5/2002	5,396	66%	665	26	10.5	16.9	170	<10	<0.15	0.9	<0.05	<0.001	*	3,388	
4/2/2002	6,068	100%	670	67	12.5	39.0	260	<10	<0.15	3.3	<0.13	<0.002	*	3,413	
5/6/2002	6,886	100%	667	76	10.0	50.2	500	<10	<0.15	8.1	<0.16	<0.002	*	3,524	
6/5/2002	7,608	100%	751	72	8.5	51.2	73	<10	<0.15	1.2	<0.16	<0.002	*	3,767	
7/2/2002	8,253	100%	736	80	9.0	55.9	26	<15	<0.15	0.5	<0.27	<0.002	*	3,799	
8/6/2002	7	100%	739	140	13.0	79.1	97	<10	<0.15	2.5	<0.25	<0.003	*	3,815	
9/10/2002	528	76%	723	150	11.5	92.3	103	<10	<0.15	3.0	<0.30	<0.004	*	3,869	
10/2/2002	938	100%	723	125	8.5	89.5	430	<10	<0.15	12.3	<0.29	<0.004	*	3,921	
11/6/2002	1,614	100%	658	105	13.5	57.6	1,000	<10	<0.15	18.5	<0.18	<0.003	*	4,269	
12/5/2002	1,720	65%	675	115	14.0	61.1	740	<10	<0.15	14.5	<0.20	<0.003	*	4,350	

# CAMBRIA

**Table 2. TPE System Performance and Analytical Results - Soil Vapor Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	System Inlet Temp. (degrees F)	System Flow Rate (acfm)	System Vacuum ("Hg)	System Flow Rate (scfm)	System Influent HC Conc. <sup>1</sup> (ppmv)		System Effluent HC Conc. <sup>1</sup> (ppmv)		HC Removal Rate <sup>2</sup> (lbs/day)	Emission Rate <sup>2</sup> (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal <sup>3</sup> (lbs)
							TPHg	TPHg	TPHg	Benz		TPHg	Benz		
1/8/2003	2,279	69%	675	30	16.0	13.9	1700	<10	<0.15		7.6	<0.04	<0.001	*	4,688
2/4/2003	2,896	95%	671	48	18.0	19.1	910	<10	<0.15		5.6	<0.06	<0.001	*	4,884
3/4/2003	3,571	100%	657	47	17.0	20.3	540	<10	<0.15		3.5	<0.07	<0.001	*	5,041
4/2/2003	3,990	60%	705	38	18.0	15.1	1110	<10	<0.15		5.4	<0.05	<0.001	*	5,102
5/7/2003	4,719	87%	700	58	21.5	16.3	330	<10	<0.15		1.7	<0.05	<0.001	*	5,265
6/2/2003	5,200	77%	698	60	18.0	23.9	178	<10	<0.15		1.4	<0.08	<0.001	*	5,300
7/3/2003	5,882	92%	700	77	16.0	35.8	520	<10	<0.15		6.0	<0.11	<0.002	*	5,339
8/7/2003	6,655	92%	667	65	15.0	32.4	640	<10	<0.15		6.6	<0.10	<0.001	*	5,531
9/3/2003	7,130	73%	681	79	14.5	40.7	460	<10	<0.15		6.0	<0.13	<0.002	*	5,662
10/7/2003	7,613	59%	680	37	20.0	12.2	530	<10**	<0.15**		2.1	<0.04	<0.001	*	5,783
11/17/2003	8,442	84%	701	51	18.5	19.4	480	<10	<0.15		3.0	<0.06	<0.001	*	5,855
12/2/2003	8,803	100%	815	62	16.0	28.8	530	<10	<0.15		4.9	<0.09	<0.001	*	5,900
1/6/2004	9,292	58%	828	21	19.5	7.3	134	<10	<0.15		0.3	<0.02	<0.000	*	6,000
2/19/2004	9,780	46%	676	53	18.0	21.1	25	<10	<0.15		0.2	<0.07	<0.001	*	6,006
3/18/2004	10,338	83%	688	60	20.0	19.7	88	<10	<0.15		0.6	<0.06	<0.001	*	6,010

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**Table 2. TPE System Performance and Analytical Results - Soil Vapor Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	System Uptime (per interval) (%)	System Inlet Temp. (degrees F)	System Flow Rate (acfmin)	System Vacuum ("Hg)	System Flow Rate (scfm)	System Influent HC Conc. <sup>1</sup> (ppmw)		System Effluent HC Conc. <sup>1</sup> (ppmv)		HC Removal Rate <sup>2</sup> (lbs/day)	Emission Rate <sup>2</sup> (lbs/day)		TPHg Destruction Efficiency (%)	Gasoline Cumulative Removal <sup>3</sup> (lbs)
							TPHg	TPHg	Benz	TPHg	TPHg	Benz	TPHg		
4/12/2004	10,937	100%	765	54	20.0	17.9	630	<10	<0.15	3.6	<0.06	<0.001	*	6,024	
5/17/2004	11,713	92%	762	75	20.0	24.8	1300	<25	<0.25	10.4	<0.20	<0.002	98	6,141	
6/10/2004	12,187	82%	720	62	17.5	25.7	310	<10	<0.15	2.6	<0.08	<0.001	*	6,346	
7/1/2004	12,574	77%	760	75	17	32.3	270	<10	<0.15	2.8	<0.10	<0.001	*	6,387	
8/12/2004	13,246	67%	784	58	15.0	28.9	290	<10	<0.15	2.7	<0.09	<0.001	*	6,465	
9/20/2004	13,753	54%	720	75	20.0	24.8	330	<10	<0.15	2.6	<0.08	<0.001	*	6,522	
9/29/2004	13,965	98%	--	--	--	--	--	--	--	--	--	--	--	6,545	

**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 ( $\mu\text{g/l}$ ) to ppmv assumes the molecular weight of gasoline to be equal to that of hexane at 1 atmosphere of pressure and 20 degrees Celsius.

<sup>1</sup> TPHg and benzene concentrations based on lab results by Modified EPA Methods 8015 and 8020.

<sup>2</sup> 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/386x10<sup>6</sup>ft<sup>3</sup> x molecular weight (86 lb/lb-mole for TPHg, 78 lb/lb-mole for benzene) x 1440 min/day.

<sup>3</sup> Gasoline Cumulative 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

\*\* Effluent sample collected on 10/13/03.

The TPE system was modified on August 6, 2002, and the PD blower was replaced with a liquid-ring blower. The previous system hour meter was also replaced at a total reading of 9089 hours. In addition, all previous flow rate measurements were converted from acfmin to scfm adjusting the Hydrocarbon Removal Rates and Gasoline Cumulative Removal.

# CAMBRIA

**Table 3. TPE System Performance and Analytical Results - Groundwater Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate Per Period (gpm)	Sample ID	TPHg ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethylbenzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	HCs Removed Per Period (lbs)	Total HC <sub>s</sub> Removed (lbs)
10/20/2000	878	0	0	NC	Inf Eff	— —	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	--	--
10/30/2000	1004	--	50	NC	Inf Eff	-- --	170 <0.5	140 <0.5	16 <0.5	200 <0.5	--	--
11/9/2000	1,251	--	50	NC	Inf Eff	760 <50	120 <0.5	86 <0.5	4.2 <0.5	84 <0.5	NC	NC
12/15/2000	1,267	760a	50	NC	--	--	--	--	--	--	--	--
1/23/2001	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	0.02	0.02
3/28/2001	0	3,970	3,210	NC	Replacement Catox System Startup			--	--	--	0.00	0.02
4/13/2001	378	17,366	16,606	0.6	IN EF-1	360 <50	45 <0.5	39 <0.5	5.1 <0.5	43 <0.5	0.34	0.36
6/4/2001	1,114	36,058	35,298	0.4	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	0.06	0.42
7/2/2001	1,429	39,433	38,673	0.2	IN Mid EF	<50 <50 <50	2.5 <0.5 <0.5	1 <0.5 <0.5	<0.5 <0.5 <0.5	5 <0.5 <0.5	0.00	0.42
9/7/2001	2,301	48,566	47,806	0.2	INF EFF-1 EFF-2	4,600 <50 --	24 <0.5 --	57 <0.5 --	15 <0.5 --	140 <0.5 --	0.00	0.42
11/16/2001	3,184	61,892	61,132	0.3	INF EFF-1 EFF-2	1100 <50 --	57 <0.5 --	42 <0.5 --	6.5 <0.5 --	110 <0.5 --	0.51	0.93

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**Table 3. TPE System Performance and Analytical Results - Groundwater Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate Per Period (gpm)	Sample ID	TPHg ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethylbenzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	HCs Removed Per Period (lbs)	Total HC <sub>s</sub> Removed (lbs)
12/6/2001	3,710	80,094	79,334	0.6	INF EFF-1 EFF-2	410 <50 --	31 <0.5 --	14 <0.5 --	3.2 <0.5 --	48 <0.5 --	0.17	1.10
1/7/2002	4,472	132,337	131,577	1.1	INF EFF-1 EFF-2	120 <50 --	17 <0.5 --	7.7 <0.5 --	1.5 <0.5 --	13 <0.5 --	0.18	1.28
2/4/2002	4,938	164,774	164,014	1.2	INF EFF-1 EFF-2	140 <50 --	18 <0.5 --	5.1 <0.5 --	0.86 <0.5 --	12 <0.5 --	0.03	1.31
3/5/2002	5,396	208,997	208,237	1.6	INF EFF-1 EFF-2	170 <50 --	22 <0.5 --	12 <0.5 --	1.8 <0.5 --	24 <0.5 --	0.05	1.36
4/2/2002	6,068	263,563	262,803	1.4	INF EFF-1 EFF-2	160 <50 --	15 <0.5 --	17 <0.5 --	3.3 <0.5 --	20 <0.5 --	0.08	1.44
5/6/2002	6,886	306,763	306,005	0.9	INF EFF-1 EFF-2	100 <50 --	3.5 <0.5 --	1.7 <0.5 --	1.0 <0.5 --	4.0 <0.5 --	0.06	1.50
6/5/2002	7,608	340,020	339,260	0.8	INF EFF-1 EFF-2	<50 <50 --	2.8 <0.5 --	1.4 <0.5 --	<0.5 <0.5 --	2.5 <0.5 --	0.03	1.52
7/2/2002	8,253	361,717	360,957	0.6	INF EFF-1 EFF-2	<50 <50 --	1.5 <0.5 --	<0.5 <0.5 --	<0.5 <0.5 --	0.94 <0.5 --	0.01	1.53
8/6/2002*	7	383,750	382,990	0.4	INF EFF-1 EFF-2	<50 <50 --	1.8 <0.5 --	0.92 <0.5 --	<0.5 <0.5 --	2.0 <0.5 --	0.01	1.54

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**Table 3. TPE System Performance and Analytical Results - Groundwater Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate Per Period (gpm)	Sample ID	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	HCs Removed Per Period (lbs)	Total HC's Removed (lbs)
9/10/2002	528	392,405	391,645	0.3	INF EFF-1 EFF-2	570 <50 --	15 <0.5 --	17 <0.5 --	2.9 <0.5 --	30 <0.5 --	0.00	1.55
10/2/2002	938	400,145	399,385	0.3	INF EFF-1 EFF-2	2,300 <50 --	230 <0.5 --	190 <0.5 --	38 <0.5 --	280 <0.5 --	0.03	1.55
11/6/2002	1,614	419,850	419,090	0.5	INF EFF-1 EFF-2	4,400 <50 --	120 <0.5 --	150 <0.5 --	27 <0.5 --	380 <0.5 --	0.38	1.93
12/5/2002	1,720	424,899	424,139	0.8	INF EFF-1 EFF-2	8,900 <50 --	140 <0.5 --	200 <0.5 --	33 <0.5 --	470 <0.5 --	0.19	2.11
1/8/2003	2,279	473,395	472,635	1.4	INF EFF-1 EFF-2	3,500 <50 --	120 <0.5 --	300 <0.5 --	48 <0.5 --	700 <0.5 --	3.60	5.72
2/4/2003	2,896	554,336	553,576	2.2	INF EFF-1 EFF-2	1,100 <50 <50	51 <0.5 <0.5	74 <0.5 <0.5	14 <0.5 <0.5	190 <0.5 <0.5	2.36	8.08
3/4/2003	3,571	614,530	613,770	1.5	INF EFF-1 EFF-2	860 <50 --	30 <0.5 --	59 <0.5 --	11 <0.5 --	180 <0.5 --	0.55	8.63
4/2/2003	3,990	666,175	665,415	2.1	INF EFF-1 EFF-2	1,300 <50 <50	39 <0.5 <0.5	82 <0.5 <0.5	23 <0.5 <0.5	270 1.1 <0.5	0.37	9.00
5/7/2003	4,719	752,060	751,300	2.0	INF EFF-1 EFF-2	450 120 <50	22 3.7 <0.5	16 2.1 <0.5	4.5 0.52 <0.5	79 13 <0.5	0.93	9.93

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**Table 3. TPE System Performance and Analytical Results - Groundwater Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate Per Period (gpm)	Sample ID	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	HCs Removed Per Period (lbs)	Total HCs Removed (lbs)
6/2/2003	5,200	795,697	794,937	1.5	INF EFF-1 EFF-2	370 70 <50	18 1.6 <0.5	12 0.86 <0.5	3.7 <0.5 <0.5	61 5.5 <0.5	0.16	10.10
7/3/2003	5,882	841,095	840,335	1.1	INF EFF-1 EFF-2	140 61 <50	6.3 0.56 <0.5	4.9 0.62 <0.5	1.1 <0.5 <0.5	16 1.6 <0.5	0.14	10.24
8/7/2003	6,655	894,425	893,665	2.2	INF EFF-1 EFF-2	320 <50 --	4.4 <0.5 --	2.8 <0.5 --	1.0 <0.5 --	14 <0.5 --	0.06	10.30
9/3/2003	7,130	914,715	913,955	0.7	INF EFF-1 EFF-2	310 69 <50	21 3.5 <0.5	17 2.4 <0.5	2.0 <0.5 <0.5	44 7.7 <0.5	0.05	10.35
10/2/2003	7,496	924,985	924,225	0.5	INF EFF-1 EFF-2	460 140 <50	34 7.7 <0.5	25 5.2 <0.5	2.3 0.59 <0.5	64 16 <0.5	0.03	10.38
11/17/2003	8,442	963,324	962,564	0.7	INF EFF-1 EFF-2	300 <50 <50	21 <0.5 <0.5	7.9 <0.5 <0.5	2.2 <0.5 <0.5	37 0.94 <0.5	0.15	10.53
12/2/2003	8,803	981,348	980,588	0.8	INF EFF-1 EFF-2	220 <50 --	3.5 <0.5 --	1.4 <0.5 --	1.6 <0.5 --	11 <0.5 --	0.05	10.57
1/6/2004	9,292	1,040,555	1,039,795	2.0	INF EFF-1 EFF-2	330 50 <50	18 <0.5 <0.5	4.9 <0.5 <0.5	1.5 <0.5 <0.5	35 1.8 <0.5	0.11	10.68
2/19/2004	9,780	1,112,086	1,111,326	2.4	INF EFF-1 EFF-2	57 <50 --	4.9 <0.5 --	0.79 <0.5 --	0.7 <0.5 --	4.9 <0.5 --	0.20	10.88

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**Table 3. TPE System Performance and Analytical Results - Groundwater Extraction - Former Exxon Service Station, 3055 35th Street, Oakland, California**

Date	Hour Meter Readings (hrs)	Water Meter Readings (gallons)	Total Groundwater Extracted (gallons)	System Flow Rate Per Period (gpm)	Sample ID	TPHg ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethylbenzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	HCs Removed Per Period (lbs)	Total HCs Removed (lbs)
3/18/2004	10,338	1,190,955	1,190,195	2.4	INF EFF-1 EFF-2	95 $<50$ --	11 $<0.5$ --	2.2 $<0.5$ --	1.4 $<0.5$ --	12 $<0.5$ --	0.04	10.92
4/12/2004	10,937	1,285,010	1,284,250	2.6	INF EFF-1 EFF-2	67 $<50$ --	4.6 $<0.5$ --	1.5 $<0.5$ --	0.58 $<0.5$ --	11 $<0.5$ --	0.07	10.99
5/6/2004	11,445	1,343,030	1,342,270	1.9	INF EFF-1 EFF-2	110 $<50$ --	5.8 $<0.5$ --	3.4 $<0.5$ --	0.88 $<0.5$ --	17 $<0.5$ --	0.03	11.02
6/10/2004	12,187	1,388,823	1,388,063	1.0	INF EFF-1 EFF-2	53 $<50$ --	2.6 $<0.5$ --	1.1 $<0.5$ --	$<0.5$ $<0.5$ --	7.6 $<0.5$ --	0.04	11.07
7/1/2004	12,574	1,407,144	1,406,384	0.8	INF EFF-1	$<50$ $<50$	1.4 $<0.5$	0.87 $<0.5$	$<0.5$ $<0.5$	5.8 $<0.5$	0.01	11.07
8/12/2004	13,246	1,428,140	1,427,380	0.5	INF EFF-1 EFF-2	260 $<50$ --	3.3 $<0.5$ --	3.2 $<0.5$ --	1.2 $<0.5$ --	24 $<0.5$ --	0.01	11.08
9/20/2004	13,753	1,439,625	1,438,865	0.4	INF EFF-1 EFF-2	320 -- $<50$	9.1 -- $<0.5$	7.0 -- $<0.5$	2.7 -- $<0.5$	39 -- $<0.5$	0.02	11.11
9/29/2004	13,965	1,448,179	1,447,419	0.7	INF	--	--	--	--	--	0.02	11.13
Sewer Effluent Discharge Limits: ( $\mu\text{g/L}$ )							5.0	5.0	5.0	5.0		

**Notes:**

TPHg = Total Petroleum Hydrocarbons as Gasoline

$\mu\text{g/L}$  = micrograms per liter

a = Malfunctioning totalizer replaced 12/15/00 (initial reading at 760 gallons)

\* = TPE system upgrade. Previous system hour meter = 9089

ND = non detect

$<n$  = below noted practical laboratory quantitation limits

Inf = Influent Sample

Eff = Effluent Sample

NC = Not calculated, insufficient data

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus (inches of H2O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
MW-1	11/6/2001	open		80	--	--	--	28
	11/12/2001	open		125	--	--	--	28
	11/14/2001	open		85	--	--	--	28
	11/21/2001	open		95	--	--	--	28
	12/6/2001	open		115	--	--	--	28
	12/19/2001	open		110	--	--	--	25
	1/17/2002	open		130	--	--	--	25
	2/4/2002	open		105	--	--	--	28
	2/14/2002	closed		--	--	--	--	--
	3/25/2002	open		130	--	--	--	21
	4/2/2002	open		130	--	--	--	21
	4/5/2002	open		135	50	--	--	21
	4/19/2002	open		130	49	--	--	22
	5/6/2002	open		100	42	--	--	22
	5/21/2002	open		105	49	--	--	23.5
	6/19/2002	open		90	42	--	--	24
	6/28/2002	open		95	47	--	--	25
	7/10/2002	open		97	41	--	--	25
	7/26/2002	closed		--	--	--	--	--
	8/6/2002	open		--	--	--	--	21.5
	8/26/2002	open		95	47	--	--	21.5
	9/16/2002	open		105	--	--	--	21.5
	9/20/2002	open		85	40	--	--	21.5
	10/2/2002	open		75	22	--	--	21.5
	10/11/2002	open		110	32	--	--	21.5
	10/16/2002	open		125	103	5.0	1475	21.5
	10/31/2002	open		150	70	--	--	21.5
	11/6/2002	open		155	101	--	--	21.5
	11/22/2002	open		145-160	115	--	--	21.5
	12/5/2002	open		140	91	--	--	21.5
	12/20/2002	open		>150	--	--	--	19.5
	1/8/2003	open		>150	135	--	--	19.5
	1/13/2003	closed		>150	140	6.0	80	20
	1/30/2003	open		>150	150	--	--	21
	2/4/2003	open		>150	140	--	--	21
	2/12/2003	open		140	--	--	--	21
	3/4/2003	open		150	110	--	--	21
	3/13/2003	open		>150	150	--	--	21
	3/17/2003	open		>150	--	--	--	21
	3/25/2003	open		>150	130	--	--	21
	4/2/2003	open		>150	>150	--	--	21
	4/11/2003	open		>150	104	--	--	21
	4/25/2003	open		>150	--	--	--	21.5
	5/7/2003	open		>150	109	--	--	20
	5/14/2003	open		>150	--	--	--	20
	5/22/2003	open		135	--	--	--	20
	5/30/2003	open		>150	130	5.3	30	21.5
	6/3/2003	open		>150	--	--	--	21.5
	6/13/2003	open		130	--	--	--	21.5
	6/23/2003	open		120	64	--	--	21.5
	7/3/2003	open		135	--	--	--	21.5
	7/11/2003	open		125	--	--	--	22.5
	8/7/2003	open		145	70	--	--	22.5
	8/15/2003	open		130	60	--	--	22.5
	8/26/2003	open		>150	120	--	--	24
	10/13/2003	open		>150	>150	--	--	24
	12/2/2003	open		140	--	--	--	24.5
	12/15/2003	open		>150	150	--	--	24.5
	1/6/2004	open		>150	--	--	--	23.5
	1/13/2004	open		>150	--	--	--	20
	1/23/2004	open		>150	112	--	--	17
	3/1/2004	open		>150	--	--	--	16.5
	3/18/2004	open		>150	145	10.1	10	21
	3/18/2004	open		>150	135	7.8	20	23
	4/12/2004	open		>150	125	--	--	23
	4/29/2004	open		>150	--	--	--	21
	5/6/2004	open		>150	110	--	--	22
	5/27/2004	open		>150	100	--	--	22
	6/10/2004	open		>150	97	--	--	22
	7/1/2004	open		>150	--	--	--	24.5
	8/12/2004	closed		--	--	--	--	--
	9/27/2004	open		>100	--	--	--	24.5
	9/29/2004	closed		--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus Vacuum (inches of H <sub>2</sub> O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
						Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)	
MW-2	11/6/2001	open		80	--	--	--	27
	11/12/2001	open		125	--	--	--	27
	11/14/2001	open		85	--	--	--	27
	11/21/2001	open		95	--	--	--	27
	12/6/2001	open		115	--	--	--	28
	12/19/2001	closed		--	--	--	--	--
	2/4/2002	open		105	--	--	--	28
	2/14/2002	closed		--	--	--	--	--
	3/25/2002	open		130	--	--	--	21
	4/2/2002	open		130	--	--	--	21
	4/5/2002	open		135	70	--	--	21
	4/19/2002	open		130	55	--	--	22
	5/6/2002	closed		--	--	--	--	--
	6/28/2002	open		95	52	--	--	22
	7/10/2002	open		97	51	--	--	22
	7/26/2002	open		92	19	--	--	25.5
	8/6/2002	open		--	--	--	--	21.5
	8/26/2002	open		95	35	--	--	21.5
	9/16/2002	open		105	--	--	--	21.5
	9/20/2002	open		85	30	--	--	21.5
	10/2/2002	open		75	72	--	--	21.5
	10/11/2002	open		110	60	--	--	21.5
	10/16/2002	open		125	108	8.5	2030	21.5
	10/31/2002	open		150	65	--	--	21.5
	11/6/2002	open		155	95	--	--	21.5
	11/22/2002	closed		--	--	--	--	--
	1/13/2003	open		>150	130	5.0	385	19
	1/22/2003	open		>150	--	--	--	19
	1/24/2003	open		>150	140	--	--	20
	1/30/2003	open		>150	120	--	--	20
	2/4/2003	open		>150	75	--	--	21
	2/12/2003	open		140	--	--	--	21
	3/4/2003	open		150	93	--	--	21
	3/13/2003	open		>150	140	--	--	20
	3/17/2003	open		>150	--	--	--	20
	3/25/2003	open		>150	97	--	--	19
	4/2/2003	open		>150	130	--	--	19
	4/11/2003	open		>150	75	--	--	19
	4/25/2003	open		>150	50	--	--	20
	5/7/2003	open		>150	90	--	--	19
	5/14/2003	open		>150	--	--	--	20
	5/22/2003	open		135	--	--	--	20
	5/30/2003	open		>150	87	5.4	29	20.5
	6/3/2003	open		>150	--	--	--	20.5
	6/13/2003	open		130	--	--	--	20.5
	6/23/2003	open		120	62	--	--	20.5
	7/3/2003	open		135	--	--	--	20
	7/11/2003	open		125	--	--	--	21.5
	8/7/2004	open		145	55	--	--	21.5
	8/15/2003	open		130	68	--	--	21.5
	8/26/2003	open		>150	115	--	--	23
	9/19/2003	open		130	--	--	--	23.5
	10/13/2003	open		>150	>150	--	--	23.5
	12/2/2003	open		140	--	--	--	24
	12/15/2003	open		>150	120	--	--	24
	1/6/2004	open		>150	--	--	--	23
	1/13/2004	open		>150	--	--	--	20.5
	1/23/2004	open		>150	>150	--	--	16
	2/11/2004	open		>150	--	--	--	15.5
	3/1/2004	open		>150	--	--	--	15
	3/18/2004	open		>150	95	10.8	30	20
	3/18/2004	open		>150	80	9.7	35	22
	4/12/2004	open		>150	100	--	--	22
	4/29/2004	open		>150	--	--	--	20
	5/6/2004	open		>150	90	--	--	21
	5/17/2004	open		>150	--	--	--	26
	5/27/2004	open		>150	90	--	--	26
	6/10/2004	open		>150	80	--	--	26
	7/1/2004	open		>150	--	--	--	28
	8/12/2004	open		>100	--	--	--	28
	9/27/2004	open		>100	--	--	--	28
	9/29/2004	closed		--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus Vacuum (inches of H2O)	Flow Rate (cfm)	Hydrocarbon		Stinger Depth (ft below TOC)
						Vapor Concentration (ppmv)		
MW-3	11/6/2001	open		80	--	--	--	25
	11/12/2001	open		125	--	--	--	25
	11/14/2001	open		85	--	--	--	25
	11/21/2001	open		95	--	--	--	25
	12/6/2001	open		115	--	--	--	25
	12/19/2001	open		110	--	--	--	25
	1/17/2002	open		130	--	--	--	25
	2/4/2002	open		105	--	--	--	25
	2/14/2002	closed		--	--	--	--	--
	5/6/2002	open		100	28	--	--	20
	5/21/2002	open		105	7	--	--	22
	6/19/2002	open		90	10	--	--	24
	6/28/2002	open		95	11	--	--	24
	7/10/2002	open		97	6	--	--	23
	7/26/2002	open		92	7	--	--	23
	8/6/2002	open		--	--	--	--	19
	8/26/2002	open		95	44	--	--	19
	9/16/2002	open		105	--	--	--	19
	9/20/2002	open		85	50	--	--	19
	10/2/2002	open		75	29	--	--	19
	10/11/2002	open		110	25	--	--	19
	10/16/2002	open		125	115	17	1286	19
	10/31/2002	open		150	70	--	--	19
	11/6/2002	open		155	89	--	--	19
	11/22/2002	open		145-160	92	--	--	19
	12/5/2002	open		140	86	--	--	19.5
	12/20/2002	open		>150	--	--	--	18
	1/8/2003	open		>150	145	--	--	18
	1/13/2003	open		>150	150	5.6	700	17
	1/22/2003	open		>150	--	--	--	17
	1/24/2003	open		>150	>150	--	--	17
	1/30/2003	open		>150	>150	--	--	17
	2/4/2003	open		>150	140	--	--	18
	2/12/2003	open		140	--	--	--	18
	3/4/2003	open		150	120	--	--	18
	3/13/2003	open		>150	>150	--	--	18
	3/17/2003	open		>150	--	--	--	18
	3/25/2003	open		>150	145	--	--	18
	4/2/2003	open		>150	>150	--	--	18
	4/11/2003	open		>150	120	--	--	18
	4/25/2003	open		>150	95	--	--	19.5
	5/7/2003	open		>150	110	--	--	19.5
	5/14/2003	open		>150	--	--	--	19.5
	5/22/2003	open		135	--	--	--	19.5
	5/30/2003	open		>150	105	10	88	18.3
	6/3/2003	open		>150	--	--	--	18.3
	6/13/2003	open		130	--	--	--	18.3
	6/23/2003	open		120	65	--	--	18.3
	7/3/2003	open		135	--	--	--	19
	8/7/2003	open		145	64	--	--	19
	8/15/2003	open		130	65	--	--	19
	8/26/2003	open		>150	105	--	--	22
	10/13/2003	closed		>150	>150	--	--	22
	12/2/2003	open		140	--	--	--	22
	12/15/2003	open		>150	140	--	--	22
	1/6/2004	open		>150	--	--	--	21
	1/23/2004	open		>150	130	--	--	14.5
	3/18/2004	open		>150	75	11.9	40	20.5
	4/12/2004	open		>150	125	--	--	20.5
	5/6/2004	open		>150	140	--	--	21.5
	5/17/2004	open		>150	--	--	--	22.5
	5/27/2004	open		>150	130	--	--	23
	6/10/2004	open		>150	116	--	--	23
	7/1/2004	open		>150	--	--	--	23
	8/12/2004	open		>100	--	--	--	23
	9/27/2004	open		>100	--	--	--	23
	9/29/2004	closed		--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus Vacuum (inches of H2O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
MW-4	11/6/2001	open		80	--	--	--	25
	11/12/2001	open		125	--	--	--	25
	11/14/2001	open		85	--	--	--	25
	11/21/2001	open		95	--	--	--	25
	12/6/2001	open		115	--	--	--	25
	12/19/2001	open		110	--	--	--	25
	1/17/2002	open		130	--	--	--	25
	2/4/2002	open		105	--	--	--	25
	2/14/2002	closed		--	--	--	--	--
	5/6/2002	open		100	26	--	--	20
	5/21/2002	open		105	31	--	--	21
	6/19/2002	open		90	26	--	--	21
	6/28/2002	closed		--	--	--	--	--
	7/26/2002	open		92	14	--	--	24.5
	8/6/2002	open		--	--	--	--	19
	8/26/2002	open		95	39	--	--	19
	9/16/2002	open		105	--	--	--	19
	9/20/2002	open		85	35	--	--	19
	10/2/2002	open		75	34	--	--	19
	10/11/2002	open		110	31	--	--	19
	10/16/2002	open		125	100	4.7	1780	19
	10/31/2002	open		150	60	--	--	19
	11/6/2002	open		155	82	--	--	19
	11/22/2002	open		145-160	82	--	--	19
	12/5/2002	open		140	77	--	--	19.5
	12/20/2002	open		>150	--	--	--	18
	1/8/2003	open		>150	130	--	--	18
	1/13/2003	closed		>150	130	6.5	150	17
	1/24/2003	open		>150	130	--	--	19
	1/30/2003	open		>150	135	--	--	19
	2/4/2003	open		>150	120	--	--	19
	2/12/2003	open		140	--	--	--	19
	3/4/2003	open		150	104	--	--	19
	3/13/2003	open		>150	150	--	--	19
	3/17/2003	open		>150	--	--	--	19
	3/25/2003	open		>150	110	--	--	19
	4/2/2003	open		>150	150	--	--	19
	4/11/2003	open		>150	80	--	--	19
	4/25/2003	open		>150	55	--	--	19
	5/7/2003	open		>150	95	--	--	19
	5/14/2003	open		>150	--	--	--	19
	5/22/2003	open		135	--	--	--	18
	5/30/2003	open		>150	110	4.6	410	18.5
	6/3/2003	open		>150	--	--	--	18.5
	6/13/2003	open		130	--	--	--	18.5
	6/23/2003	open		120	45	--	--	18.5
	7/3/2003	open		135	--	--	--	18.5
	7/11/2003	open		125	--	--	--	19.5
	8/7/2003	open		145	65	--	--	19.5
	8/15/2003	open		130	70	--	--	19.5
	8/26/2003	open		>150	100	--	--	22
	9/19/2003	open		130	--	--	--	22
	10/13/2003	open		>150	>150	--	--	22
	12/2/2003	open		140	--	--	--	19.5
	12/15/2003	open		>150	130	--	--	21
	1/6/2004	open		>150	--	--	--	20
	1/23/2004	open		>150	111	--	--	14.5
	3/18/2004	open		>150	78	6.8	40	20
	4/12/2004	open		>150	100	--	--	20
	5/6/2004	open		>150	107	--	--	21
	5/17/2004	open		>150	--	--	--	22
	5/27/2004	open		>150	100	--	--	22
	6/10/2004	open		>150	121	--	--	20
	7/1/2004	open		>150	--	--	--	24
	7/29/2004	closed		--	--	--	--	--
	9/27/2004	open		>100	--	--	--	24
	9/29/2004	closed		--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger Vacuum (inches of H <sub>2</sub> O)	Well Annulus Vacuum (inches of H <sub>2</sub> O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
						Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)	
RW-5	5/24/2000	--	80	--	--	--	--	11.64
	10/6/2000	--	100	--	--	--	--	--
	11/29/2000	open	>100	--	--	4320	--	--
	3/29/2001	open	54	--	--	650	--	--
	4/14/2001	open	100	--	--	--	--	--
	4/26/2001	open	85	--	--	--	--	15
	5/3/2001	open	80	--	--	--	--	15
	5/23/2001	open	10	--	--	--	--	15
	6/4/2001	open	50	--	--	--	--	15
	6/21/2001	open	65	--	--	--	--	15
	7/2/2001	open	55	--	--	--	--	15
	7/16/2001	open	45	--	--	--	--	16
	8/2/2001	open	35	--	--	--	--	--
	8/10/2001	open	20	--	--	--	--	--
	8/15/2001	open	20	--	--	--	--	--
	8/27/2001	open	65	--	--	--	--	--
	9/7/2001	closed	--	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--	--
	12/6/2001	closed	--	--	--	--	--	--
	12/19/2001	open	110	--	--	--	--	20
	1/17/2002	open	130	--	--	--	--	20
	2/4/2002	closed	--	--	--	--	--	--
	3/25/2002	open	130	--	--	--	--	16
	4/2/2002	open	130	--	--	--	--	16
	4/5/2002	open	135	90	--	--	--	16
	4/19/2002	open	130	72	--	--	--	18
	5/6/2002	open	100	43	--	--	--	18
	5/21/2002	open	105	55	--	--	--	19
	6/19/2002	open	90	33	--	--	--	19.5
	6/28/2002	open	95	48	--	--	--	20
	7/10/2002	closed	--	--	--	--	--	--
	8/6/2002	open	--	--	--	--	--	19
	8/26/2002	open	95	27	--	--	--	19
	9/16/2002	open	103	--	--	--	--	19
	9/20/2002	open	85	22	--	--	--	19
	10/2/2002	open	75	32	--	--	--	19
	10/11/2002	open	110	28	--	--	--	19
	10/16/2002	open	125	38	62	240	--	19
	10/31/2002	open	150	44	--	--	--	19
	11/6/2002	open	155	50	--	--	--	19
	11/22/2002	open	145-160	26	--	--	--	20
	12/5/2002	open	140	26	--	--	--	20
	12/20/2002	open	>150	--	--	--	--	18
	1/8/2003	open	>150	130	--	--	--	18
	1/13/2003	open	>150	115	5.5	1750	--	17
	1/22/2003	open	>150	--	--	--	--	17
	1/24/2003	open	>150	140	--	--	--	17
	1/30/2003	open	>150	140	--	--	--	17
	2/4/2003	open	>150	128	--	--	--	18
	2/12/2003	open	140	--	--	--	--	18
	3/4/2003	open	150	105	--	--	--	18
	3/13/2003	open	>150	145	--	--	--	18
	3/17/2003	open	>150	--	--	--	--	18
	3/25/2003	open	>150	90	--	--	--	18
	4/2/2003	open	>150	125	--	--	--	18
	4/11/2003	open	>150	102	--	--	--	18
	4/25/2003	open	>150	85	--	--	--	19
	5/7/2003	open	>150	90	--	--	--	19
	5/14/2003	open	>150	--	--	--	--	16
	5/22/2003	open	135	--	--	--	--	16
	5/30/2003	open	>150	93	5.7	102	--	16.8
	6/3/2003	open	>150	--	--	--	--	16.8
	6/13/2003	open	130	--	--	--	--	16.8
	6/23/2003	open	120	62	--	--	--	16.8
	7/3/2003	open	135	--	--	--	--	17
	7/11/2003	open	125	--	--	--	--	18
	8/7/2004	open	145	61	--	--	--	18
	8/15/2003	open	130	75	--	--	--	18
	8/26/2003	open	>150	105	--	--	--	22
	10/2/2003	closed	--	--	--	--	--	--
	10/13/2003	open	>150	--	--	--	--	22
	12/15/2003	open	>150	140	--	--	--	22
	1/6/2004	open	>150	--	--	--	--	21
	1/13/2004	open	>150	--	--	--	--	19.5
	1/23/2004	open	>150	>150	--	--	--	12.5
	3/18/2004	open	>150	110	7.6	25	--	19
	4/12/2004	open	>150	100	--	--	--	19
	5/6/2004	open	>150	60	--	--	--	20
	5/17/2004	open	>150	--	--	--	--	21
	5/27/2004	open	>150	30	--	--	--	22
	6/10/2004	open	>150	21	--	--	--	26
	7/1/2004	open	>150	--	--	--	--	26
	8/12/2004	open	>100	--	--	--	--	26
	9/27/2004	open	>100	--	--	--	--	26
	9/29/2004	closed	--	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus	Flow	Hydrocarbon	
			Vacuum (inches of H <sub>2</sub> O)	Vacuum (inches of H <sub>2</sub> O)	Rate (cfm)	Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)
RW-6	5/24/2000	--	80	--	--	--	11.78
	10/6/2000	--	--	--	--	--	--
	11/29/2000	open	>100	--	--	260	--
	3/29/2001	open	54	--	--	2050	--
	4/14/2001	open	100	--	--	--	20
	4/26/2001	closed	--	--	--	--	--
	6/4/2001	open	50	--	--	--	15
	6/21/2001	open	65	--	--	--	15
	7/2/2001	open	55	--	--	--	15
	7/16/2001	open	45	--	--	--	16
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	9/14/2001	closed	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	3/11/2002	open	130	--	--	--	16
	3/25/2002	open	130	--	--	--	16
	4/2/2002	open	12	--	--	--	16
	4/5/2002	open	135	85	--	--	16
	4/19/2002	open	130	75	--	--	18
	5/6/2002	closed	--	--	--	--	--
	7/10/2002	open	97	54	--	--	20
	7/26/2002	open	92	39	--	--	20
	8/6/2002	open	--	--	--	--	19
	8/26/2002	open	95	34	--	--	19
	9/16/2002	open	105	--	--	--	19
	9/20/2002	open	85	45	--	--	19
	10/2/2002	open	75	30	--	--	19
	10/11/2002	open	110	--	--	--	19
	10/16/2002	open	125	54	34	644	19
	10/31/2002	closed	--	--	--	--	--
	11/22/2002	open	145-160	70	--	--	19.5
	12/5/2002	open	140	69	--	--	19.5
	12/20/2002	open	>150	--	--	--	18
	1/8/2003	open	>150	135	--	--	18
	1/13/2003	open	>150	110	4.5	1550	17
	1/22/2003	open	>150	--	--	--	17
	1/24/2003	open	>150	150	--	--	17
	1/30/2003	open	>150	140	--	--	17
	2/4/2003	open	>150	125	--	--	18
	2/12/2003	open	140	--	--	--	18
	3/4/2003	open	150	108	--	--	18
	3/13/2003	open	>150	150	--	--	18
	3/17/2003	open	>150	--	--	--	18
	3/25/2003	open	>150	110	--	--	18
	4/2/2003	open	>150	145	--	--	18
	4/11/2003	open	>150	99	--	--	18
	4/25/2003	open	>150	85	--	--	19
	5/7/2003	open	>150	100	--	--	19
	5/14/2003	open	>150	--	--	--	19
	5/22/2003	open	135	--	--	--	19
	5/30/2003	open	>150	75	5.2	289	17
	6/3/2003	open	>150	--	--	--	17
	6/13/2003	open	130	--	--	--	17
	6/23/2003	open	120	59	--	--	17
	7/3/2003	open	135	--	--	--	17
	7/11/2003	open	125	--	--	--	18
	8/7/2003	open	145	61	--	--	18
	8/15/2003	open	130	66	--	--	18
	8/26/2003	open	>150	120	--	--	22
	9/19/2003	open	130	--	--	--	21
	10/7/2003	closed	--	--	--	--	--
	12/15/2003	open	>150	150	--	--	21
	1/6/2004	open	>150	--	--	--	20
	1/13/2004	open	>150	--	--	--	19
	1/23/2004	open	>150	>150	--	--	13
	3/1/2004	open	>150	--	--	--	12.5
	3/18/2004	open	>150	120	6.5	35	15.5
	4/12/2004	open	>150	115	--	--	15.5
	5/6/2004	open	>150	110	--	--	17
	5/17/2004	open	>150	--	--	--	22
	5/27/2004	open	>150	100	--	--	22
	6/10/2004	closed	--	--	--	--	--
	7/1/2004	open	>150	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus	Flow	Hydrocarbon	
			Vacuum (inches of H2O)	Vacuum (inches of H2O)	Rate (cfm)	Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)
RW-7	5/24/2000	--	80	--	--	--	12.5
	10/6/2000	--	--	--	--	--	--
	11/29/2000	open	>100	--	--	0	--
	3/29/2001	open	54	--	--	52	--
	4/14/2001	open	100	--	--	--	20
	4/26/2001	open	85	--	--	--	15
	5/3/2001	open	80	--	--	--	15
	5/23/2001	open	10	--	--	--	15
	6/4/2001	open	50	--	--	--	15
	6/21/2001	open	65	--	--	--	15
	7/2/2001	open	55	--	--	--	15
	7/16/2001	open	45	--	--	--	16
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--
	10/16/2002	closed	125	19	35	36	19
	1/8/2003	closed	--	--	--	--	--
	1/13/2003	closed	>150	135	4.5	25	17
	4/2/2003	closed	--	--	--	--	--
	7/3/2003	closed	--	--	--	--	--
	10/2/2003	closed	--	--	--	--	--
	1/6/2004	closed	--	--	--	--	--
	3/31/2004	closed	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--
RW-8	5/24/2000	--	--	--	--	--	--
	10/6/2000	--	--	--	--	--	--
	11/29/2000	open	>100	--	--	44	--
	3/29/2001	open	54	--	--	60	--
	4/14/2001	open	100	--	--	--	20
	4/26/2001	open	85	--	--	--	15
	5/3/2001	open	80	--	--	--	15
	5/23/2001	open	10	--	--	--	15
	6/4/2001	open	50	--	--	--	15
	6/21/2001	open	65	--	--	--	--
	7/2/2001	open	55	--	--	--	--
	7/16/2001	open	45	--	--	--	--
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	3/11/2002	closed	--	--	--	--	18
	4/2/2002	closed	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--
	10/16/2002	open	125	33	29	15	19
	10/31/2002	closed	--	--	--	--	--
	1/8/2003	closed	--	--	--	--	--
	1/13/2003	closed	>150	140	4.0	5	18
	4/2/2003	closed	--	--	--	--	--
	5/30/2003	closed	>150	>150	6.7	5	18.8
	7/3/2003	closed	--	--	--	--	--
	10/2/2004	closed	--	--	--	--	--
	1/6/2004	closed	--	--	--	--	--
	3/31/2004	closed	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus	Flow	Hydrocarbon		Stinger Depth (ft below TOC)
			Vacuum (inches of H <sub>2</sub> O)	Vacuum (inches of H <sub>2</sub> O)	Rate (cfm)	Vapor Concentration (ppmv)		
RW-9	5/24/2000	--	--	--	--	--	--	12.5
	10/6/2000	--	--	--	--	--	--	--
	11/29/2000	--	>100	--	--	43	--	--
	3/29/2001	open	54	--	--	90	--	--
	4/14/2001	open	100	--	--	--	--	--
	4/26/2001	open	85	--	--	--	--	--
	5/3/2001	open	80	--	--	--	--	--
	5/23/2001	open	10	--	--	--	--	--
	6/4/2001	open	50	--	--	--	--	--
	6/21/2001	open	65	--	--	--	--	--
	7/2/2001	open	55	--	--	--	--	--
	7/16/2001	open	45	--	--	--	--	--
	8/2/2001	open	35	--	--	--	--	--
	8/10/2001	open	20	--	--	--	--	--
	8/15/2001	open	20	--	--	--	--	--
	8/27/2001	open	65	--	--	--	--	--
	9/7/2001	closed	--	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--	--
	2/14/2002	open	125	--	--	--	20	--
	3/5/2002	open	115	--	--	--	20	--
	3/11/2002	closed	--	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--	--
	5/6/2002	open	100	38	--	--	20	--
	5/21/2002	open	105	56	--	--	20	--
	6/19/2002	open	90	47	--	--	20	--
	6/28/2002	closed	--	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--	--
	8/6/2002	open	--	--	--	--	19	--
	8/26/2002	open	95	15	--	--	19	--
	9/20/2002	closed	--	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--	--
	10/16/2002	closed	125	12	56	12	19	--
	1/8/2003	open	>150	120	--	--	16	--
	1/13/2003	open	>150	150	4.0	225	17	--
	1/22/2003	open	>150	--	--	--	17	--
	1/24/2003	open	>150	>150	--	--	17	--
	1/30/2003	open	>150	140	--	--	17	--
	2/4/2003	open	>150	135	--	--	17	--
	2/12/2003	open	140	--	--	--	17	--
	3/4/2003	open	150	105	--	--	17	--
	3/13/2003	open	>150	>150	--	--	18	--
	3/17/2003	open	>150	--	--	--	18	--
	3/25/2003	open	>150	120	--	--	18	--
	4/2/2003	open	>150	>150	--	--	18	--
	4/11/2003	open	>150	105	--	--	18	--
	4/25/2003	open	>150	85	--	--	18	--
	5/7/2003	open	>150	110	--	--	18	--
	5/14/2003	open	>150	--	--	--	18	--
	5/22/2003	open	135	--	--	--	18	--
	5/30/2003	open	>150	125	5.3	40	18.5	--
	6/3/2003	open	>150	--	--	--	18.5	--
	6/13/2003	open	130	--	--	--	18.5	--
	6/23/2003	open	120	24	--	--	18.5	--
	7/3/2003	open	135	--	--	--	18.5	--
	7/11/2003	open	125	--	--	--	19.5	--
	7/29/2003	closed	--	--	--	--	--	--
	12/23/2003	open	>150	--	--	--	20	--
	1/6/2004	open	>150	--	--	--	19	--
	1/23/2004	open	>150	120	--	--	14	--
	2/19/2004	open	>150	--	--	--	13	--
	3/18/2004	open	>150	120	8.8	60	18	--
	4/12/2004	open	>150	120	--	--	18	--
	5/6/2004	open	>150	112	--	--	18	--
	5/17/2004	closed	--	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus	Flow	Hydrocarbon	
			Vacuum (inches of H <sub>2</sub> O)	Vacuum (inches of H <sub>2</sub> O)	Rate (cfm)	Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)
RW-10	5/24/2000	--	--	--	--	--	--
	10/6/2000	--	--	--	--	--	--
	11/29/2000	--	>100	--	--	>10,000	--
	3/29/2001	open	54	--	--	850	--
	4/14/2001	open	100	--	--	--	--
	4/26/2001	open	85	--	--	--	--
	5/3/2001	open	80	--	--	--	--
	5/23/2001	open	10	--	--	--	--
	6/4/2001	open	50	--	--	--	--
	6/21/2001	open	65	--	--	--	--
	7/2/2001	open	55	--	--	--	--
	7/16/2001	open	45	--	--	--	--
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	2/14/2002	open	125	--	--	--	20
	3/5/2002	open	115	--	--	--	20
	3/11/2002	open	--	--	--	--	20
	3/25/2002	closed	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--
	5/6/2002	open	100	31	--	--	20
	5/21/2002	open	105	70	--	--	20
	6/19/2002	open	90	56	--	--	20
	6/28/2002	closed	--	--	--	--	--
	8/6/2002	open	--	--	--	--	19
	8/26/2002	closed	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--
	10/16/2002	closed	125	38	48	18	19
	1/8/2003	closed	--	--	--	--	--
	1/13/2003	closed	>150	135	3.2	90	17
	1/24/2003	open	>150	>150	--	--	16
	1/30/2003	open	>150	>150	--	--	16
	2/4/2003	open	>150	>150	--	--	16
	2/12/2003	open	140	--	--	--	16
	3/4/2003	open	150	139	--	--	16
	3/13/2003	open	>150	>150	--	--	16
	3/17/2003	open	>150	--	--	--	16
	3/25/2003	open	>150	>150	--	--	16
	4/2/2003	open	>150	>150	--	--	16
	4/11/2003	open	>150	124	--	--	16
	4/25/2003	open	>150	85	--	--	16
	5/7/2003	open	>150	125	--	--	16
	5/14/2003	open	>150	--	--	--	16
	5/22/2003	open	135	--	--	--	16
	5/30/2003	open	>150	45	54.5	5	16
	6/3/2003	closed	--	--	--	--	--
	10/2/2004	closed	--	--	--	--	--
	1/6/2004	closed	--	--	--	--	--
	1/23/2004	open	>150	131	--	--	14
	2/19/2004	open	>150	--	--	--	13
	3/18/2004	open	>150	120	9.0	102	16
	4/12/2004	open	>150	>150	--	--	16
	4/29/2004	open	>150	--	--	--	17
	5/6/2004	open	>150	135	--	--	17
	5/17/2004	closed	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus Vacuum (inches of H <sub>2</sub> O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
RW-11	5/24/2000	--	80	--	--	--	--	11.65
	10/6/2000	--	--	--	--	--	--	--
	11/29/2000	--	>100	--	--	2280	--	--
	3/29/2001	open	54	--	--	784	--	--
	4/14/2001	open	100	--	--	--	--	--
	4/26/2001	open	85	--	--	--	--	15
	5/3/2001	open	80	--	--	--	--	15
	5/23/2001	open	10	--	--	--	--	15
	6/4/2001	open	50	--	--	--	--	20
	6/21/2001	open	65	--	--	--	--	15
	7/2/2001	open	55	--	--	--	--	15
	7/16/2001	open	45	--	--	--	--	16
	8/2/2001	open	35	--	--	--	--	--
	8/10/2001	open	20	--	--	--	--	--
	8/15/2001	open	20	--	--	--	--	--
	8/27/2001	open	65	--	--	--	--	--
	9/7/2001	closed	--	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--	--
	10/16/2002	closed	125	86	24	255	--	19
	10/31/2002	open	150	62	--	--	--	19
	11/6/2002	open	155	45	--	--	--	19
	11/22/2002	open	145-160	77	--	--	--	19.5
	12/5/2002	open	140	65	--	--	--	19.5
	12/20/2002	open	>150	--	--	--	--	18
	1/8/2003	open	>150	110	--	--	--	18
	1/13/2003	open	>150	125	7.0	180	--	16
	1/22/2003	open	>150	--	--	--	--	17
	1/24/2003	open	>150	155	--	--	--	17
	1/30/2003	open	>150	150	--	--	--	17
	2/4/2003	open	>150	142	--	--	--	17
	2/12/2003	open	140	--	--	--	--	17
	3/4/2003	open	150	106	--	--	--	17
	3/13/2003	open	>150	155	--	--	--	17
	3/17/2003	open	>150	--	--	--	--	17
	3/25/2003	open	>150	115	--	--	--	17
	4/2/2003	open	>150	148	--	--	--	17
	4/11/2003	open	>150	97	--	--	--	17
	4/25/2003	open	>150	90	--	--	--	20
	5/7/2003	open	>150	140	--	--	--	20
	5/14/2003	open	>150	--	--	--	--	20
	5/22/2003	open	135	--	--	--	--	20
	5/30/2003	open	>150	82	6.5	26	--	17
	6/3/2003	open	>150	--	--	--	--	17
	6/13/2003	open	130	--	--	--	--	17
	6/23/2003	open	120	55	--	--	--	17
	7/3/2003	open	135	--	--	--	--	17
	7/11/2003	open	--	--	--	--	--	18
	8/7/2003	open	145	44	--	--	--	18
	8/15/2004	closed	--	--	--	--	--	--
	1/6/2004	open	>150	--	--	--	--	12
	1/23/2004	open	>150	>150	--	--	--	12
	3/18/2004	open	>150	120	7.5	33	--	16
	4/12/2004	open	>150	130	--	--	--	16
	5/6/2004	open	>150	130	--	--	--	19
	5/17/2004	open	>150	--	--	--	--	18
	5/27/2004	open	>150	120	--	--	--	20
	6/10/2004	closed	--	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--	--

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Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus Vacuum (inches of H <sub>2</sub> O)	Flow Rate (cfm)	Hydrocarbon Vapor Concentration (ppmv)		Stinger Depth (ft below TOC)
						Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)	
RW-12	5/24/2000	--	--	--	--	--	--	--
	10/6/2000	--	--	--	--	--	--	--
	11/29/2000	open	>100	--	--	24	--	--
	3/29/2000	open	54	--	--	72	--	--
	4/14/2001	open	100	--	--	--	--	--
	4/26/2001	open	85	--	--	--	15	--
	5/3/2001	open	80	--	--	--	15	--
	5/23/2001	open	10	--	--	--	15	--
	6/4/2001	open	50	--	--	--	15	--
	6/21/2001	open	65	--	--	--	15	--
	7/2/2001	open	55	--	--	--	15	--
	7/16/2001	open	45	--	--	--	16	--
	8/2/2001	open	35	--	--	--	--	--
	8/10/2001	open	20	--	--	--	--	--
	8/15/2001	open	20	--	--	--	--	--
	8/27/2001	open	65	--	--	--	--	--
	9/7/2001	closed	--	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--	--
	3/25/2002	open	130	--	--	--	16	--
	4/2/2002	open	130	--	--	--	16	--
	4/5/2002	open	135	97	--	--	16	--
	4/19/2002	open	130	75	--	--	18	--
	5/6/2002	closed	--	--	--	--	--	--
	6/28/2002	open	95	16	--	--	20	--
	7/10/2002	open	97	5	--	--	20	--
	7/26/2002	open	92	5	--	--	20	--
	8/6/2002	open	--	--	--	--	19	--
	8/26/2002	open	95	6	--	--	19	--
	9/16/2002	open	105	--	--	--	19	--
	9/20/2002	open	85	6	--	--	19	--
	10/2/2002	open	75	4	--	--	19	--
	10/11/2002	open	110	4	--	--	19	--
	10/16/2002	closed	125	1	20	75	19	--
	1/8/2003	closed	--	--	--	--	--	--
	1/13/2003	closed	>150	115	4.5	20	17	--
	1/30/2003	open	>150	145	--	--	17	--
	2/4/2003	open	>150	135	--	--	17	--
	2/12/2003	open	140	--	--	--	17	--
	3/4/2003	open	150	115	--	--	17	--
	3/13/2003	open	>150	>150	--	--	17	--
	3/17/2003	open	>150	--	--	--	17	--
	3/25/2003	open	>150	150	--	--	17	--
	4/2/2003	open	>150	>150	--	--	17	--
	4/11/2003	open	>150	74	--	--	17	--
	4/25/2003	open	>150	20	--	--	17	--
	5/7/2003	open	>150	115	--	--	17	--
	5/14/2003	open	>150	--	--	--	17	--
	5/22/2003	open	>150	--	--	--	17	--
	5/30/2003	open	>150	10	43	4	17.5	--
	6/3/2003	closed	--	--	--	--	--	--
	7/3/2003	closed	--	--	--	--	--	--
	10/2/2003	closed	--	--	--	--	--	--
	1/6/2004	closed	--	--	--	--	--	--
	1/23/2004	open	>150	>150	--	--	13	--
	3/18/2004	open	>150	130	7.2	31	17	--
	4/12/2004	open	>150	130	--	--	17	--
	4/29/2004	open	>150	--	--	--	18	--
	5/6/2004	open	>150	130	--	--	19	--
	5/17/2004	closed	--	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--	--

# CAMBRIA

Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Hydrocarbon			Stinger Depth (ft below TOC)
				Vacuum (inches of H <sub>2</sub> O)	Well Annulus (inches of H <sub>2</sub> O)	Flow Rate (cfm)	
RW-13	5/24/2000	—	80	--	--	--	12.59
	10/6/2000	—	--	--	--	--	--
	11/29/2000	—	>100	--	--	77	--
	3/29/2001	open	54	--	--	124	--
	4/14/2001	open	100	--	--	--	--
	4/26/2001	open	85	--	--	--	--
	5/3/2001	open	80	--	--	--	--
	5/23/2001	open	10	--	--	--	--
	6/4/2001	open	50	--	--	--	--
	6/21/2001	open	65	--	--	--	--
	7/2/2001	open	55	--	--	--	--
	7/16/2001	open	45	--	--	--	--
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	10/5/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	2/14/2002	open	125	--	--	--	20
	3/5/2002	open	115	--	--	--	20
	3/11/2002	open	--	--	--	--	16
	3/25/2002	closed	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--
	10/16/2002	closed	125	29	41	7	21.5
	1/8/2003	closed	--	--	--	--	--
	1/13/2003	closed	>150	110	8.0	2	16
	4/2/2003	closed	--	--	--	--	--
	7/3/2003	closed	--	--	--	--	--
	10/2/2003	closed	--	--	--	--	--
	1/6/2004	closed	--	--	--	--	--
	3/31/2004	closed	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--

# CAMBRIA

Table 4. TPE Well Parameters - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

Well ID	Date	Well Status (open/closed)	System/Stinger	Well Annulus	Flow	Hydrocarbon	
			Vacuum (inches of H <sub>2</sub> O)	Vacuum (inches of H <sub>2</sub> O)	Rate (cfm)	Vapor Concentration (ppmv)	Stinger Depth (ft below TOC)
RW-14	5/24/2000	--	80	--	--	--	12.33
	10/6/2000	--	100	--	--	--	--
	11/29/2000	--	>100	--	--	5830	--
	3/29/2001	open	54	--	--	120	--
	4/14/2001	open	100	--	--	--	--
	4/26/2001	open	85	--	--	--	--
	5/3/2001	open	80	--	--	--	--
	5/23/2001	open	10	--	--	--	--
	6/4/2001	open	50	--	--	--	--
	6/21/2001	open	65	--	--	--	--
	7/2/2001	open	55	--	--	--	--
	7/16/2001	open	45	--	--	--	--
	8/2/2001	open	35	--	--	--	--
	8/10/2001	open	20	--	--	--	--
	8/15/2001	open	20	--	--	--	--
	8/27/2001	open	65	--	--	--	--
	9/7/2001	closed	--	--	--	--	--
	10/3/2001	closed	--	--	--	--	--
	1/17/2002	closed	--	--	--	--	--
	2/14/2002	open	125	--	--	--	20
	3/5/2002	open	115	--	--	--	20
	3/11/2002	closed	--	--	--	--	--
	4/2/2002	closed	--	--	--	--	--
	7/10/2002	closed	--	--	--	--	--
	10/2/2002	closed	--	--	--	--	--
	10/16/2002	open	125	80	14	535	19
	10/31/2002	open	150	18	--	--	19
	11/6/2002	closed	--	--	--	--	--
	1/8/2003	open	>150	140	--	--	14
	1/13/2003	closed	>150	90	7.0	35	16
	4/2/2003	closed	--	--	--	--	--
	5/30/2003	open	>150	78	5.5	55	17.5
	6/3/2003	open	>150	--	--	--	17.5
	6/13/2003	open	130	--	--	--	18
	6/23/2003	open	120	58	--	--	18
	7/3/2003	open	135	--	--	--	17.5
	7/11/2003	open	125	--	--	--	19
	8/7/2003	open	145	55	--	--	19
	8/15/2003	open	130	30	--	--	19
	8/26/2003	closed	--	--	--	--	--
	12/23/2003	open	>150	--	--	--	20
	1/16/2004	open	>150	--	--	--	15
	1/23/2004	open	>150	110	--	--	14
	3/18/2004	open	>150	105	9.5	30	16.5
	4/12/2004	open	>150	140	--	--	16.5
	5/6/2004	closed	--	--	--	--	--
	7/1/2004	closed	--	--	--	--	--
	8/12/2004	closed	--	--	--	--	--
	9/29/2004	closed	--	--	--	--	--

Notes:

-- = Data not available or not collected

TOC = Top of well casing

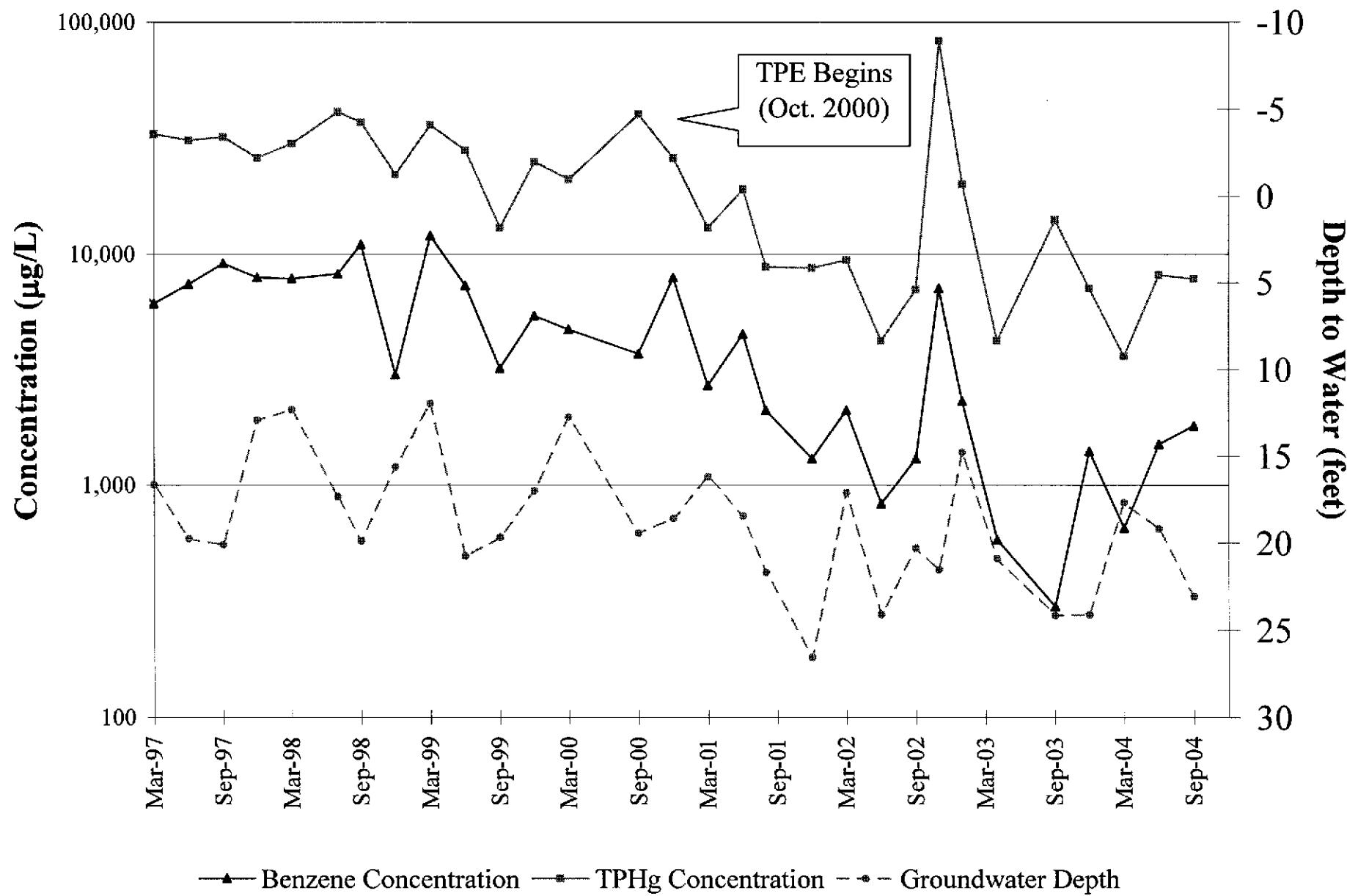
C A M B R I A



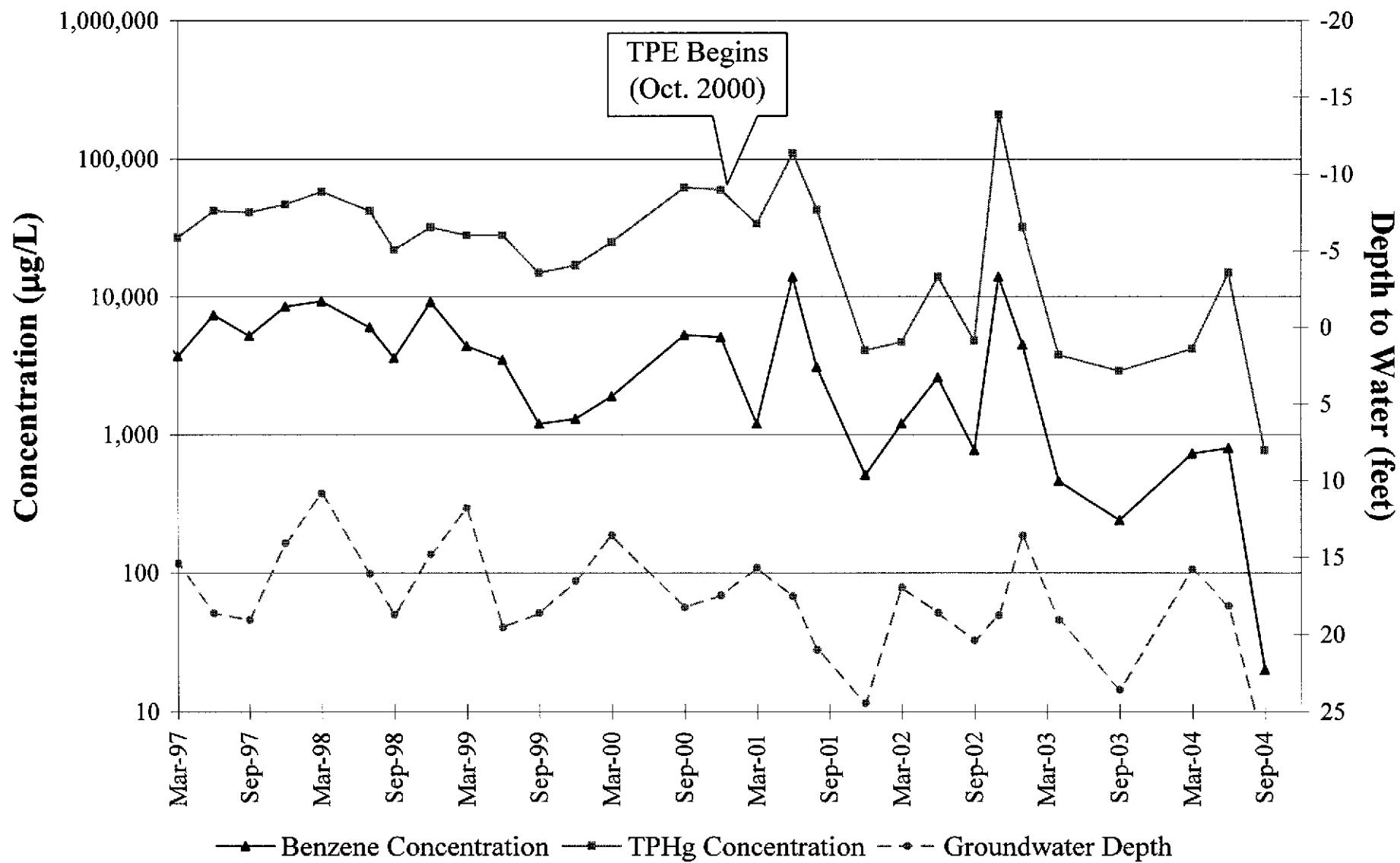
## Appendix A

### TPHg and Benzene Concentration Trend Graphs

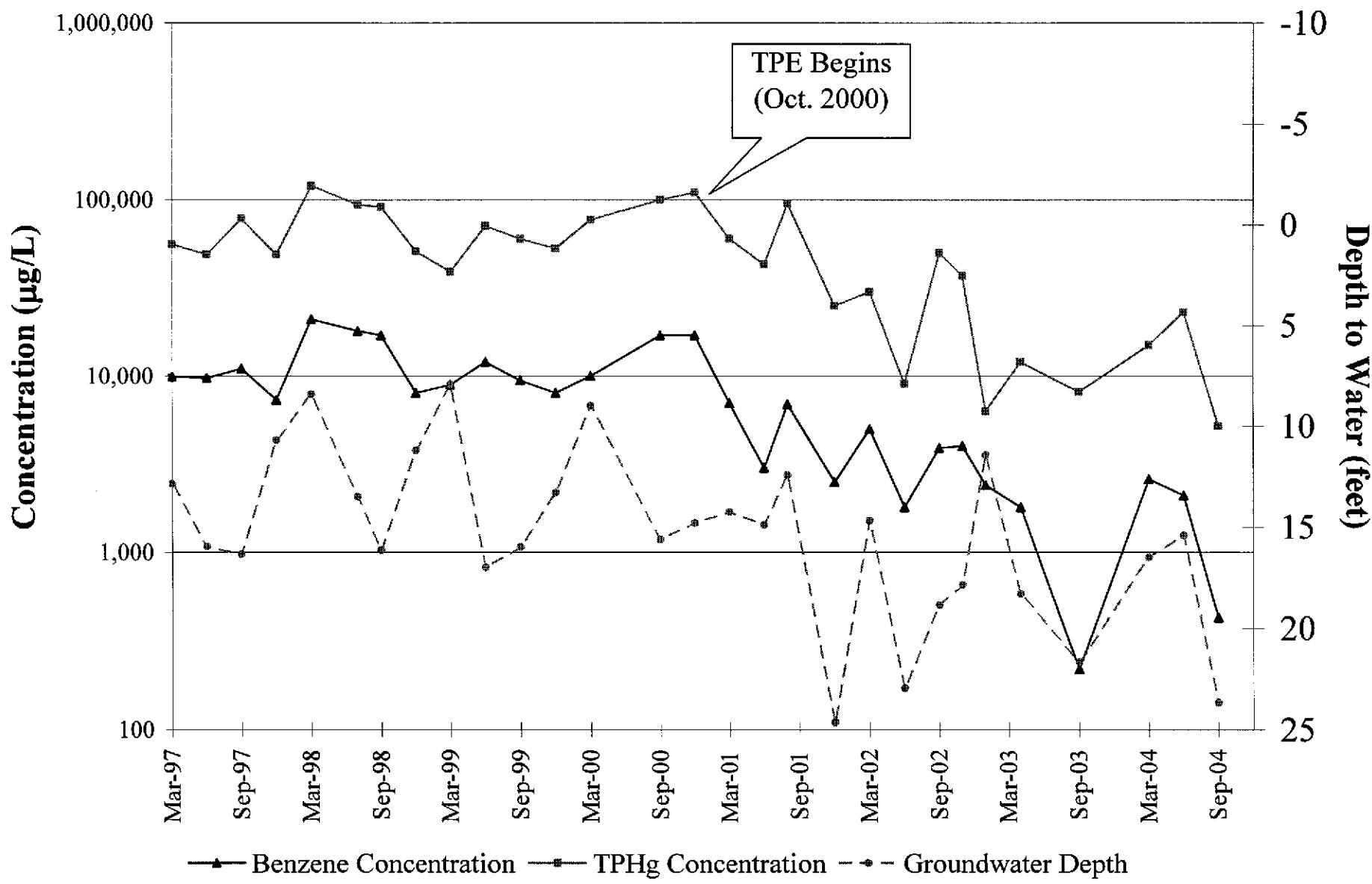
## TPHg and Benzene Concentration Trends Well MW-1 (March 1997 to Present)



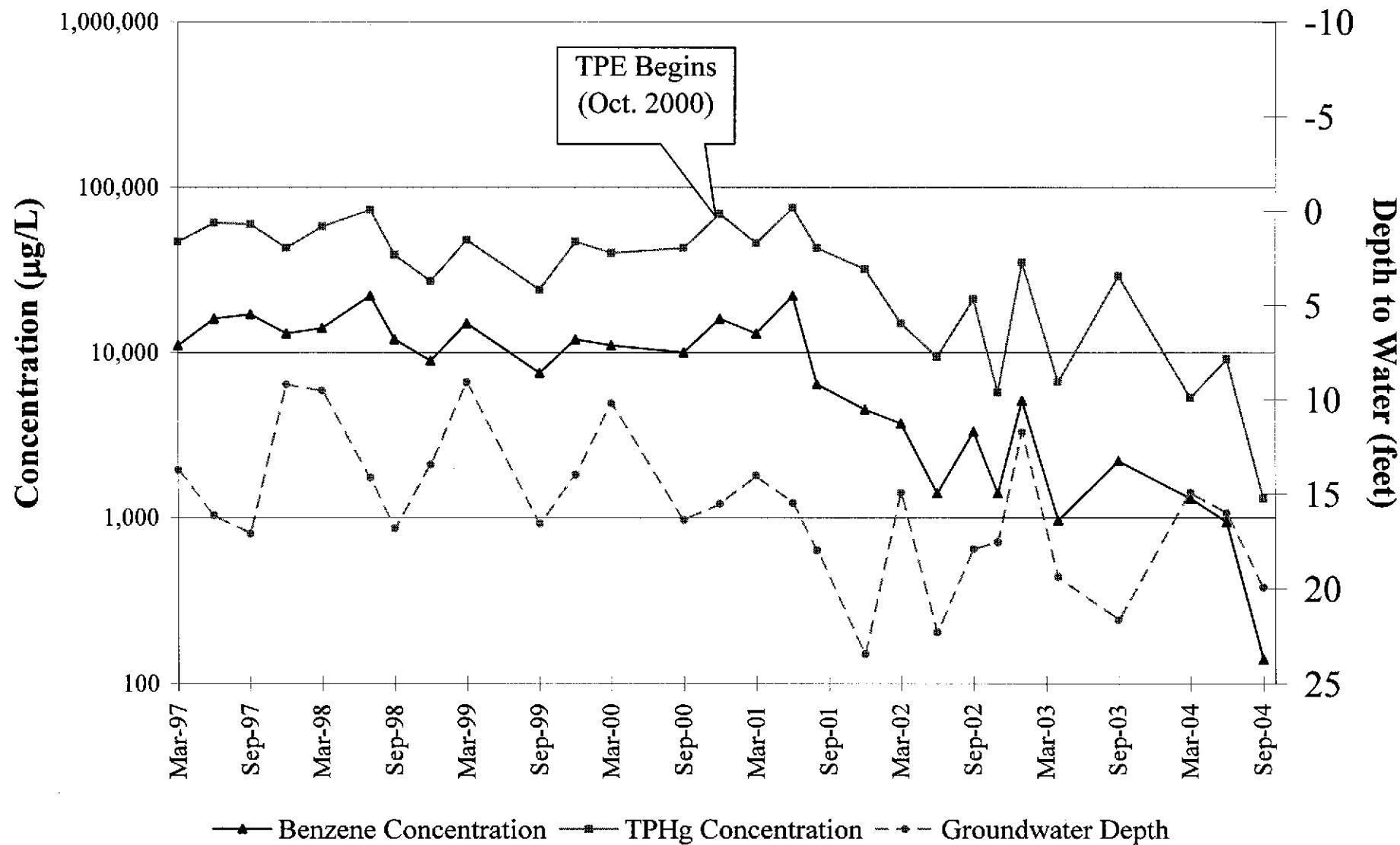
## TPHg and Benzene Concentration Trends Well MW-2 (March 1997 to Present)



## TPHg and Benzene Concentration Trends Well MW-3 (March 1997 to Present)



## TPHg and Benzene Concentration Trends Well MW-4 (March 1997 to Present)



C A M B R I A



## **Appendix B**

### **Groundwater Monitoring Field Data Sheets**

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## Groundwater Monitoring Field Sheet

Project Name: Worthington

Project Number/Task: 130 - 0105

Technician: \_\_\_\_\_

Date: 9-27-04

## Groundwater Monitoring Field Sheet

Well ID	Time	DTP	DTW	Depth to Bottom	Product Thickness	Amount of Product Removed	Casing Diam.	Comments
RW-5	3:56		no water 18.46	25.55				Connected to System
RW-6	3:54			18.46				
RW-7	3:52			18.98				
RW-8	3:40			19.74				
RW-9	3:45			19.83				
RW-10	3:50			18.35				
RW-11	3:42			18.44				
RW-12	3:52			19.09				
RW-13	3:55			19.55				
RW-14	3:50			19.20				

Project Name: WashingtonProject Number/Task: 130-0105 /Technician: J. HillDate: 9-27-04

## WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: SN	Well ID: MW-1
Project Number: 13-0105	Date: 9-27-04	Well Yield:
Site Address: 3055 35th Ave Oakland, CA	Sampling Method: disposable liner	Well Diameter: 4" pvc
Initial Depth to Water: 23.07	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: system	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	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
	purged 15 mins	with system			

Fe = mg/L      ORP = mV      DO = 0.98 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-1	9-27-04	4:30				

## WELL SAMPLING FORM

Project Name: <i>Worthington</i>	Cambria Mgr: <i>SN</i>	Well ID: <i>MW-2</i>
Project Number: <i>13-0105</i>	Date: <i>9-27-04</i>	Well Yield:
Site Address: <i>3055 35th Ave Oakland, CA</i>	Sampling Method:	Well Diameter: <i>4"</i> pvc
	<i>disposable liner</i>	Technician(s): <i>SG</i>
Initial Depth to Water: <i>—</i>	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: <i>System</i>	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	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
<i>purged 15 mins</i>	<i>with system</i>				<i>connected to system stinger at 27.5°C no water, stinger taken out of well for recharge to sample well</i>

Fe = *mg/L*      ORP = *mV*      DO = *0.79 mg/L*

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
<i>MW-2</i>	<i>9-27-04</i>	<i>5:00</i>				

## WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: SN	Well ID: MW-3
Project Number: 13-0105	Date: 9-27-04	Well Yield:
Site Address: 3055 35th Ave Oakland, CA	Sampling Method:	Well Diameter: 2" pvc
	Technician(s): SG	
Initial Depth to Water: 23.65	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: system	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	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
	purged 15 mins	with system			

Fe = mg/L      ORP = mV      DO = 0.55 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-3	9-27-04	5:30				

## WELL SAMPLING FORM

Project Name: Worthington	Cambria Mgr: SN	Well ID: MW-4
Project Number: 13-0105	Date: 9-27-04	Well Yield:
Site Address: 3055 35 <sup>th</sup> Ave Oakland, CA	Sampling Method:	Well Diameter: 2" pvc
	disposable bailes	Technician(s):
Initial Depth to Water: 19.43	Total Well Depth:	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: system	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	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
	purged 15 mins	with system			

Fe = mg/L      ORP = mV      DO = 0.68 mg/L

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-4	9-27-04	5:55				

## McCAMPBELL ANALYTICAL, INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1621

Report To: Matt Meyer

Bill To: Cambria

Report to Hall Meyer Co.  
Company, Comptia, F. J.

Company: Cambria Environmental Technology Inc

5900 Hollis Street STE - A

Emeryville, CA 94608

E-mail

Tele: 510-420-3214

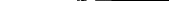
Fax: 510-420-9171

Project #: 170-A10

Project #: 130-010

Project Location: 300

Project Location: 3055 35<sup>th</sup> Ave Oakland, CA  
Sampler Signature: 

Sampler Signature: 

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME:     RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required?  Yes  No

RUSH 24 HOUR 48 HOUR 5 DAY

Company: Cambria Environmental Technology Inc.							Bill To: Cambria		Analysis Request		Other		Comments			
5900 Hollis Street STE - A Emeryville, CA 94608							E-mail:									
Tele: 510-420-3314 Fax: 510-420-9170																
Project #: 130-0105 Project Name: Northington																
Project Location: 3055 35th Ave Oakland, CA																
Sampler Signature: J. Hall																
SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	MATRIX		METHOD PRESERVED									
		Date	Time		Type	Containers		Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other
MW-1		9-27-04	4:30	4	Vac Any	X				X	X			BTEX & TPH as Gas (602/8020 + 8015)/MTBE		
MW-2			5:00	4		X				X	X			TPH as Diesel (8015) with Silica gel		
MW-3			5:30	4		X				X	X			Total Petroleum Oil & Grease (5520 E&P/B&F)		
MW-4		↓	5:55	4	↓	X				X	X			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		
														LUF 5 Metals		
														Lead (7240/7421/239/2460/10)		
														RCI		
Relinquished By: <i>J. Hall</i>							Date: 9-27-04 Time: 12:35		Received By: <i>Jeff Vell</i>		Remarks:					
Relinquished By:							Date: Time:		Received By:							
Relinquished By:							Date: Time:		Received By:							

C A M B R I A



## **Appendix C**

### **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  
Website: www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105; Worthington	Date Sampled: 09/27/04
		Date Received: 09/29/04
	Client Contact: Matt Meyers	Date Reported: 10/05/04
	Client P.O.:	Date Completed: 10/05/04

**WorkOrder: 0409458**

October 05, 2004

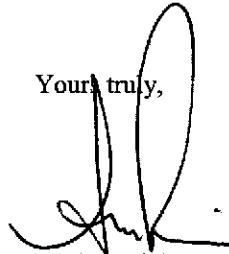
Dear Matt:

Enclosed are:

- 1). the results of 4 analyzed 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,  
  
Angela Rydelius, Lab Manager



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105; Worthington	Date Sampled: 09/27/04
		Date Received: 09/29/04
	Client Contact: Matt Meyers	Date Extracted: 10/02/04-10/04/04

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0409458

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

 Angela Rydelius, Lab Manager



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105; Worthington	Date Sampled: 09/27/04
		Date Received: 09/29/04
	Client Contact: Matt Meyers	Date Extracted: 09/29/04
	Client P.O.:	Date Analyzed: 09/30/04

**Diesel Range (C10-C23) Extractable Hydrocarbons with Silica Gel Clean-Up\***

Extraction method: SW3510C

Analytical methods: SW8015C

Work Order: 0409458

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0409458-001B	MW-1	W	1700,d	10	97.0
0409458-002B	MW-2	W	1000,d,b,g	1	102
0409458-003B	MW-3	W	1700,d,b	1	105
0409458-004B	MW-4	W	980,d,b,g	1	101

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/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) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS Certification No. 1644

Angela Rydelius, Lab Manager



McCampbell Analytical, Inc.

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0409458

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 13380		Spiked Sample ID: 0409457-001A				
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) <sup>£</sup>	ND	60	89.2	95	6.23	91.2	92.9	1.85	70	130
MTBE	ND	10	101	106	5.03	89.4	94	5.02	70	130
Benzene	ND	10	99.9	105	5.07	94.8	95.2	0.424	70	130
Toluene	ND	10	93.9	103	9.06	106	106	0	70	130
Ethylbenzene	ND	10	90.5	103	12.4	116	116	0	70	130
Xylenes	ND	30	84.7	89.7	5.74	117	120	2.82	70	130
%SS:	101	10	100	104	4.08	98	97	1.24	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644


 QA/QC Officer



**McCAMPBELL ANALYTICAL, INC.**

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

## QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0409458

EPA Method: SW8015C		Extraction: SW3510C		BatchID: 13374		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	114	114	0	70	130
%SS:	N/A	2500	N/A	N/A	N/A	102	102	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644



QA/QC Officer

**McCAMPBELL ANALYTICAL, INC.**


110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0409458

ClientID: CETE

**Report to:**

Matt Meyers  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105; Worthington  
PO:

**Bill to:**

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days

*Date Received:* 9/29/04  
*Date Printed:* 9/29/04

Sample ID	ClientSamplID	Matrix	Collection Date	Hold	Requested Tests (See legend below)															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
0409458-001	MW-1	Water	9/27/04 4:30:00 PM	<input type="checkbox"/>	A	A	B													
0409458-002	MW-2	Water	9/27/04 5:00:00 PM	<input type="checkbox"/>	A		B													
0409458-003	MW-3	Water	9/27/04 5:30:00 PM	<input type="checkbox"/>	A		B													
0409458-004	MW-4	Water	9/27/04 5:55:00 PM	<input type="checkbox"/>	A		B													

**Test Legend:**

1	G-MBTEX_W
6	
11	

2	PREDF REPORT
7	
12	

3	TPH(D)WSG_W
8	
13	

4	
9	
14	

5	
10	
15	

Prepared by: Melissa Valles

**Comments:**

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

0409458

## McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

Report To: Matt Meyers

Bill To: Cambria

Company: Cambria Environmental Technology Inc.

5700 Hollis Street STE - A

Emeryville, CA 94608

E-mail:

Tele: 510-420-3314

Fax: 510-420-9170

Project #: 130-0105

Project Name: Northington

Project Location: 3055 35<sup>th</sup> Ave Oakland, CA

Sampler Signature: J. MN

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:    

RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required?  Yes  No

## Analysis Request

Other

Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type	MATRIX	METHOD PRESERVED	BTEX & TPH as Gas (602/8020 + 801/5) MTBE TPH as Diesel (8015) w/ Vn Service Cleancut	Total Petroleum Oil & Grease (5520 E&FB&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 / PNAs by EPA 625 / 8270 / 8310 CAM-17 Metals LÜFT 5 Metals Lead (7240/7421/239.2/60/0)	RCI
		Date	Time								
MN-1		9-27-04	4:30	4	Vac Amp	X		X X	X X	EPA 601 / 8010	
MN-2			5:00	4	X			X X	X X	EPA 624 / 8240 / 8260	
MN-3			5:30	4	X			X X	X X	EPA 625 / 8270	
MN-4			5:55	4	X			X X	X X	PAH's / PNAs by EPA 625 / 8270 / 8310	

Relinquished By:

Date: 9-27-04

Time: 12:35

Received By: JP Vell

Relinquished By:

Date:

Time:

Received By:

Relinquished By:

Date:

Time:

Received By:

Remarks:

ICM ✓  
 GOOD CONDITION ✓  
 HEAD SPACE ABSENT ✓  
 DECHLORINATED IN LAB ✓  
 APPROPRIATE CONTAINERS ✓  
 PRESERVED IN LAB ✓  
 VOAS O&G METALS OTHER ✓  
 PRESERVATION ✓

C A M B R I A



## **Appendix D**

### **Analytical Results for TPE System Operation**



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 07/01/04
	Client Contact: Gretchen Hellmann	Date Received: 07/02/04
	Client P.O.:	Date Reported: 07/12/04
		Date Completed: 07/12/04

**WorkOrder: 0407061**

July 12, 2004

Dear Gretchen:

Enclosed are:

- 1). the results of 2 analyzed samples from your #130-0105-356; 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,

Angela Rydelius, Lab Manager



## **McCampbell Analytical, Inc.**

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 07/01/04
		Date Received: 07/02/04
	Client Contact: Gretchen Hellmann	Date Extracted: 07/06/04-07/10/04
	Client P.O.:	Date Analyzed: 07/06/04-07/10/04

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0407061

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0407061

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12224		Spiked Sample ID: 0407049-006A				
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) <sup>E</sup>	ND	60	94.7	97.4	2.87	98.8	97.9	0.898	70	130
MTBE	ND	10	107	115	7.57	116	117	0.815	70	130
Benzene	ND	10	112	117	4.17	113	114	0.760	70	130
Toluene	ND	10	108	114	5.47	109	109	0	70	130
Ethylbenzene	ND	10	109	113	3.98	109	110	1.14	70	130
Xylenes	ND	30	95	96.7	1.74	95.3	96	0.697	70	130
%SS:	98.4	10	109	108	0.485	106	103	3.40	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

<sup>E</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

**McCAMPBELL ANALYTICAL, INC.**

110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0407061

ClientID: CETE

## Report to:

Gretchen Hellmann  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORTHINGTON  
PO:

## Bill to:

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 7/02/2004

Date Printed: 7/02/2004

Sample ID	ClientSamplID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0407061-001	INF	Water	07/01/2004	<input type="checkbox"/>	A														
0407061-002	EFF-1	Water	07/01/2004	<input type="checkbox"/>	A														
0407061-003	EFF-2	Water	07/01/2004	<input checked="" type="checkbox"/>	A														

Test Legend:

1	G-MBTEX_W	2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Elisa Venegas

## Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

040706

## McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:      
RUSH 24 HOUR 48 HOUR 5 DAYEDF Required?  Yes  No

Report To: Gretchen Hellmann Bill To: SAME										Analysis Request				Other		Comments						
Company: Cambria Environmental Technology, Inc. 5900 Hollis Street Suite A Emeryville, CA 94608 E-mail: ghellmann@cambria-env.com																						
Tele: 510 420-3305 Fax: 510 420-9170																						
Project #: 130-0105-356 Project Name: WORTHINGTON																						
Project Location: 3055 35 <sup>th</sup> Avenue, Oakland, California																						
Sampler Signature:																						
SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	MATRIX		METHOD PRESERVED															
		Date	Time		Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other	BTEX & TPH as Gas (602/8020 + 8015)/ 	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)					
INF	System	7/1/04	5pm	3	V	X			X	X		X	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/2392/6010)	RCI
EFF-1	System	7/1/04		3	V	X			X	X		X										
EFF-2	System	7/1/04		3	V	X			X	X		X										
Relinquished By:										Received By:				Remarks: DO NOT ANALYZE OR REPORT RESULTS FOR MTBE								
Date: 7/1/04 Time: 6pm														Only analyze EFF-2 if TPHg or BTEX is detected in EFF-1								
Relinquished By:										Received By:				Please email results.								
Date: 7/2/04 Time: 9:25 AM										Received By:												
Relinquished By:										Received By:												
Date: 7/2/04 Time: 4:00 PM										Received By:												

ICE<sup>14</sup>  
 GOOD CONDITION  
 HEAD SPACE ABSENT  
 DECHLORINATED IN LAB  
 APPROPRIATE CONTAINERS  
 PRESERVED IN LAB  
 VOAS O&G METALS OTHER  
 PRESERVATION



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 07/01/04
	Client Contact: Gretchen Hellmann	Date Received: 07/02/04
	Client P.O.:	Date Reported: 07/09/04
		Date Completed: 07/09/04

**WorkOrder: 0407058**

July 09, 2004

Dear Gretchen:

Enclosed are:

- 1). the results of 2 analyzed samples from your #130-0105-356; 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,

Angela Rydelius, Lab Manager



## **McCampbell Analytical, Inc.**

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 07/01/04
		Date Received: 07/02/04
	Client Contact: Gretchen Hellmann	Date Extracted: 07/02/04-07/03/04
	Client P.O.:	Date Analyzed: 07/02/04-07/03/04

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0407058

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

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A

WorkOrder: 0407058

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12224		Spiked Sample ID: N/A				
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	uL/L	uL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) <sup>£</sup>	N/A	60	N/A	N/A	N/A	98.8	97.9	0.898	70	130
MTBE	N/A	10	N/A	N/A	N/A	116	117	0.815	70	130
Benzene	N/A	10	N/A	N/A	N/A	113	114	0.760	70	130
Toluene	N/A	10	N/A	N/A	N/A	109	109	0	70	130
Ethylbenzene	N/A	10	N/A	N/A	N/A	109	110	1.14	70	130
Xylenes	N/A	30	N/A	N/A	N/A	95.3	96	0.697	70	130
%SS:	N/A	10	N/A	N/A	N/A	106	103	3.40	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644



QA/QC Officer

**McCAMPBELL ANALYTICAL, INC.**


110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0407058

ClientID: CETE

**Report to:**

Gretchen Hellmann  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORLTHINGTON  
PO:

**Bill to:**

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

**Requested TAT:** 5 days**Date Received:** 1/02/2004**Date Printed:** 1/02/2004

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0407058-001	INF	Air	07/01/2004	<input type="checkbox"/>	A														
0407058-002	EFF	Air	07/01/2004	<input type="checkbox"/>	A														

**Test Legend:**

1	G-MBTEX_PPMV
6	
11	

2	
7	
12	

3	
8	
13	

4	
9	
14	

5	
10	
15	

**Prepared by:** Elisa Venegas**Comments:**

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

0407058

McCAMPBELL ANALYTICAL INC.  
110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:      
RUSH 24 HOUR 48 HOUR 5 DAY

EDF Required?  Yes  No

Report To: Gretchen Hellmann Bill To: SAME								Analysis Request								Other		Comments									
Company: Cambria Environmental Technology, Inc.		5900 Hollis Street Suite A		Emeryville, CA 94608 E-mail: ghellmann@cambria-env.com		Tele: 510 420-3305 Fax: 510 420-9170		Project #: 130-0105-356 Project Name: WORTHINGTON		Project Location: 3055 35 <sup>th</sup> Avenue, Oakland, California		Sampler Signature:															
SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	MATRIX				METHOD PRESERVED																		
		Date	Time		Water	Soil	Air	Sludge		Other	Ice	HCl	HNO <sub>3</sub>	Other	BTEX & TPH as Gas (60/280/20 + 80/15)/ MTBE	TPH as Diesel (80/15)	Total Petroleum Oil & Grease (55/20 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
INF	System	7/1/04	5:30	1	Tb	X						X															
EFF	System	7/1/04	5:34	1	Tb	X						X															
												ICER GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB APPROPRIATE CONTAINERS PRESERVED IN LAB VOAS      OAG      METALS      OTHER PRESERVATION															
Relinquished By:		Date: 7/1/04	Time: 6pm	Received By: Sample Location				Remarks: Report in ppm(v). Reporting limit is 10 ppm(v)																			
Relinquished By:		Date: 7/2	Time: 9:25	Received By: 44780X 28.3				Use 20 mL injection volume.																			
Relinquished By:		Date: 7/2	Time: 11:00	Received By: Jim Vyn				Please email results.																			



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 08/12/04
	Client Contact: Ron Scheele	Date Received: 08/13/04
	Client P.O.:	Date Reported: 08/19/04
		Date Completed: 08/19/04

**WorkOrder: 0408189**

August 19, 2004

Dear Ron:

Enclosed are:

- 1). the results of 2 analyzed samples from your #130-0105-356; 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,

Angela Rydelius, Lab Manager



McCampbell Analytical, Inc.

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 08/12/04
		Date Received: 08/13/04
	Client Contact: Ron Scheele	Date Extracted: 08/14/04-08/17/04
	Client P.O.:	Date Analyzed: 08/14/04-08/17/04

## **Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0408189

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0408189

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12704		Spiked Sample ID: 0408184-001A				
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) <sup>£</sup>	ND	60	99	98	1.02	95.7	98	2.32	70	130
MTBE	ND	10	107	110	2.93	93.6	107	13.5	70	130
Benzene	ND	10	109	113	3.57	99.5	106	5.98	70	130
Toluene	ND	10	103	105	1.87	94.8	99.1	4.44	70	130
Ethylbenzene	ND	10	104	106	1.77	98.3	106	7.18	70	130
Xylenes	ND	30	90.7	91.3	0.733	90.7	95.3	5.02	70	130
%SS:	96.6	10	109	109	0	100	100	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

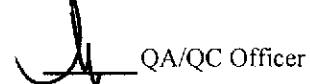
£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644



QA/QC Officer

0408189

## McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

Report To: Gretchen Hellmann Ron Scheele Bill To: SAME

Company: Cambria Environmental Technology, Inc.

5900 Hollis Street Suite A

Emeryville, CA 94608 E-mail: ghellmann@cambria-env.comTele: 510 420-~~3305~~ 3327 Fax: 510 420-9170

Project #: 130-0105-356 Project Name: WORTHINGTON

Project Location: 3055 35<sup>th</sup> Avenue, Oakland, CaliforniaSampler Signature: D. Jones

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:     RUSH 24 HOUR 48 HOUR 5 DAYEDF Required?  Yes  No

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX			METHOD PRESERVED	Analysis Request			Other	Comments
		Date	Time			Water	Soil	Air		Ice	HCl	HNO <sub>3</sub>		
INF	System	8/12/08		3	V	X			X	X		X	TPH as Diesel (8015)	
EFF-1	System			3	V	X			X	X		X	Total Petroleum Oil & Grease (5520 E&F/B&F)	
EFF-2	System	↓		3	V	X			X	X		X	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	
													LJUFT 5 Metals	
													Lead (7240/7421/239.2/6010)	
													RCI	

Relinquished By:

Date:

Time:

Received By:

Relinquished By:

Date:

Time:

Received By:

Relinquished By:

Date:

Time:

Received By:

Remarks: DO NOT ANALYZE OR REPORT RESULTS FOR MTBE

Only analyze EFF-2 if TPHg or TOX is detected in EFF-1GOOD CONDITION ✓  
HEAD SPACE ABSENT  
DECHLORINATED IN LABAPPROPRIATE ✓  
CONTAINERS  
PRESERVED IN LABPRESERVATION ✓ VOAS ✓ O&G ✓ METALS ✓ OTHER ✓

**McCAMPBELL ANALYTICAL, INC.**


110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0408189

ClientID: CETE

## Report to:

Ron Scheele  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORTHINGTON  
PO:

## Bill to:

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days  
  
*Date Received:* 8/13/04  
*Date Printed:* 8/13/04

Sample ID	ClientSamplID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0408189-001	INF	Water	8/12/04	<input type="checkbox"/>	A														
0408189-002	EFF-1	Water	8/12/04	<input type="checkbox"/>	A														
0408189-003	EFF-2	Water	8/12/04	<input checked="" type="checkbox"/>	A														

Test Legend:

1	G-MBTEX_W	2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Elisa Venegas

Comments: DO NOT ANALYZE OR REPORT RESULTS FOR MTBE. ONLY ANALYZE EFF-2 IF TPHG OR BTEX IS DETECTED IN EFF-1

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 08/12/04
	Client Contact: Ron Scheele	Date Received: 08/13/04
	Client P.O.:	Date Reported: 08/19/04
		Date Completed: 08/19/04

**WorkOrder: 0408188**

August 19, 2004

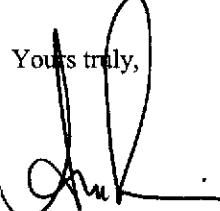
Dear Ron:

Enclosed are:

- 1). the results of **2** analyzed samples from your **#130-0105-356; 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,  


Angela Rydelius, Lab Manager



**McCampbell Analytical, Inc.**

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 08/12/04
		Date Received: 08/13/04
	Client Contact: Ron Scheele	Date Extracted: 08/13/04
	Client P.O.:	Date Analyzed: 08/13/04

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0408188

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

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A

WorkOrder: 0408188

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12704		Spiked Sample ID: N/A			
	Sample uL/L	Spiked uL/L	MS* % Rec.	MSD* % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)
TPH(btex) <sup>£</sup>	N/A	60	N/A	N/A	N/A	95.7	98	2.32	70 130
MTBE	N/A	10	N/A	N/A	N/A	93.6	107	13.5	70 130
Benzene	N/A	10	N/A	N/A	N/A	99.5	106	5.98	70 130
Toluene	N/A	10	N/A	N/A	N/A	94.8	99.1	4.44	70 130
Ethylbenzene	N/A	10	N/A	N/A	N/A	98.3	106	7.18	70 130
Xylenes	N/A	30	N/A	N/A	N/A	90.7	95.3	5.02	70 130
%SS:	N/A	10	N/A	N/A	N/A	100	100	0	70 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

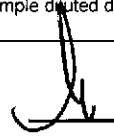
£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

 QA/QC Officer

0408188

## McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACIFICO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:     RUSH 24 HOUR 48 HOUR 5 DAYEDF Required?  Yes  No

Report To: <u>Gretchen Hellmann</u> Bill To: SAME		Analysis Request										Other	Comments		
Company: Cambria Environmental Technology, Inc. 5900 Hollis Street Suite A Emeryville, CA 94608 E-mail: <u>g.hellmann@cambria-env.com</u>															
Tele: 510 420-3309 3327 Fax: 510 420-9170															
Project #: 130-0105-356 Project Name: WORTHINGTON															
Project Location: 3055 35 <sup>th</sup> Avenue, Oakland, California															
Sampler Signature: <u>Gretchen Hellmann</u>															
SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	MATRIX				METHOD PRESERVED						
		Date	Time		Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other		
INF	System	<u>8/12/04</u>	<u>2:30p</u>	1	Tb		X				X	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE			
EFF	System	<u>8/12/04</u>	<u>2:30p</u>	1	Tb		X				X	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 / 82260			
												EPA 625 / 8270			
												PAH's / PNA's by EPA 625 / 8270 / 8310			
												CAM-17 Metals			
												LUFT 5 Metals			
												Lead (7240/7421/239.2/6010)			
												RC1			
Relinquished By:		Date: <u>8/14/04</u>	Time: <u>6:30p</u>	Received By: <u>Squared Lookout</u>	Remarks: Report in ppm(v). Reporting limit is 10 ppm(v)										
Relinquished By:		Date: <u>8/14/04</u>	Time: <u>6:30p</u>	Received By: <u>Scott Brown</u>	Use 20 mL injection volume.										
Relinquished By:		Date: <u>8/13/04</u>	Time: <u>1:25</u>	Received By: <u>Scott Brown</u>	Please email results.										

ICE/ <sup>*</sup>	GOOD CONDITION	HEAD SPACE ABSENT	APPROPRIATE CONTAINERS		
DECHLORINATED IN LAB	PRESERVED IN LAB				
PRESERVATION		VOAS	OAO	METALS	OTHER

**McCAMPBELL ANALYTICAL, INC.**

 110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0408188

ClientID: CETE

## Report to:

Ron Scheele  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORTHINGTON  
PO:

## Bill to:

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 8/13/04

Date Printed: 8/13/04

Sample ID	ClientSamplID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0408188-001	INF	Air	8/12/04 2:30:00 PM	<input type="checkbox"/>	A														
0408188-002	EFF	Air	8/12/04 2:30:00 PM	<input type="checkbox"/>	A														

Test Legend:

1	G-MBTEX_PPMV
6	
11	

2	
7	
12	

3	
8	
13	

4	
9	
14	

5	
10	
15	

Prepared by: Elisa Venegas

Comments: Report in PPMV. Report limit is 10 PPMV

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



## McCampbell Analytical, Inc.

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

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 09/20/04
		Date Received: 09/21/04
	Client Contact: Ron Scheele	Date Reported: 09/28/04
	Client P.O.:	Date Completed: 09/28/04

**WorkOrder: 0409330**

September 28, 2004

Dear Ron:

Enclosed are:

- 1). the results of 2 analyzed samples from your #130-0105-356; 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,

Angela Rydelius, Lab Manager



McCampbell Analytical, Inc.

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 09/20/04
		Date Received: 09/21/04
	Client Contact: Ron Scheele	Date Extracted: 09/25/04
	Client P.O.:	Date Analyzed: 09/25/04

## **Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0409330

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0409330

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 13259			Spiked Sample ID: 0409330-002A		
Analyte	Sample µg/L	Spiked µg/L	MS* % Rec.	MSD* % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)
TPH(btex) <sup>£</sup>	ND	60	93.2	90.9	2.56	98.6	97.7	0.929	70 130
MTBE	ND	10	92.8	105	11.9	105	104	1.35	70 130
Benzene	ND	10	103	111	7.77	109	106	3.29	70 130
Toluene	ND	10	96	104	7.65	101	97.9	3.39	70 130
Ethylbenzene	ND	10	99.8	104	4.16	106	104	2.04	70 130
Xylenes	ND	30	86.3	90.3	4.53	91	91	0	70 130
%SS:	98.3	10	104	109	4.54	106	102	3.94	70 130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE									

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (\text{MS-Sample}) / (\text{Amount Spiked})$ ; RPD =  $100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2)$ .

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

**McCAMPBELL ANALYTICAL, INC.**

  
110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0409330

ClientID: CETE

**Report to:**

Ron Scheele  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORTHINGTON  
PO:

**Bill to:**

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 9/21/04  
Date Printed: 9/21/04

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0409330-001	INF	Water	9/20/04 6:30:00 PM	<input type="checkbox"/>	A														
0409330-002	EFF-2	Water	9/20/04 6:30:00 PM	<input type="checkbox"/>	A														

**Test Legend:**

1	G-MBTEX_W	2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Rosa Venegas

**Comments:**

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

0409330

## McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME:     RUSH 24 HOUR 48 HOUR 5 DAYEDF Required?  Yes  No

Report To: Gretchen Hellmann *Ron Schaefer* Bill To: SAME  
 Company: Cambria Environmental Technology, Inc.  
 5900 Hollis Street Suite A *rschaefer*  
 Emeryville, CA 94608 E-mail: g.hellmann@cambria-env.com  
 Tele: 510 420-3305 Fax: 510 420-9170  
 Project #: 130-0105-356 Project Name: WORTHINGTON  
 Project Location: 3055 35<sup>th</sup> Avenue, Oakland, California  
 Sampler Signature: *Dawn Bell*

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	MATRIX		METHOD PRESERVED	Analysis Request	Other	Comments
		Date	Time		Water	Soil	Air			
TNF	System	9/20/04	6:30p	3	V	X		X X		
.EFF-2	System	9/20/04	6:30p	3	V	X		X X		
ICE/1 <sup>*</sup> GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB	APPROPRIATE CONTAINERS PRESERVED IN LAB									
PRESERVATION	VOAS O&G METALS OTHER									

Relinquished By:	Date:	Time:	Received By:
<i>Dawn Bell</i>	9/20/04	7:30p	<i>Saved location</i>
Relinquished By:	Date:	Time:	Received By:
<i>Dawn Bell</i>	9/21/04		<i>Gretchen Bell</i>
Relinquished By:	Date:	Time:	Received By:
<i>Gretchen Bell</i>	9/21/04	6:00pm	<i>R. Oregon</i>

Remarks: DO NOT ANALYZE OR REPORT RESULTS FOR MTBE  
 Please email results.



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Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 09/20/04
	Client Contact: Ron Scheele	Date Received: 09/21/04
	Client P.O.:	Date Reported: 09/27/04
		Date Completed: 09/27/04

**WorkOrder: 0409329**

September 27, 2004

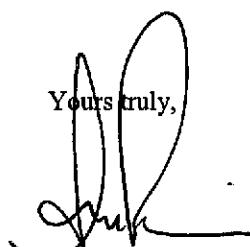
Dear Ron:

Enclosed are:

- 1). the results of 2 analyzed samples from your #130-0105-356; 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,

Angela Rydelius, Lab Manager



**McCampbell Analytical, Inc.**

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Website: www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #130-0105-356; WORTHINGTON	Date Sampled: 09/20/04
		Date Received: 09/21/04
	Client Contact: Ron Scheele	Date Extracted: 09/22/04
	Client P.O.:	Date Analyzed: 09/22/04

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv\***

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0409329

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	330,a	ND<5.0	2.9	1.6	0.31	4.1	1	97.6
002A	EFF	A	ND	ND	ND	ND	ND	0.28	1	103

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

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	10	1.5	0.15	0.15	0.15	0.15	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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Website: www.mccampbell.com E-mail: main@mccampbell.com

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A

WorkOrder: 0409329

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 13251		Spiked Sample ID: N/A			
Analyte	Sample µg/L	Spiked µg/L	MS* % Rec.	MSD* % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)
TPH(btex) <sup>E</sup>	N/A	60	N/A	N/A	N/A	91.8	95.5	3.91	70 130
MTBE	N/A	10	N/A	N/A	N/A	92.2	93.8	1.74	70 130
Benzene	N/A	10	N/A	N/A	N/A	95.9	98.8	3.03	70 130
Toluene	N/A	10	N/A	N/A	N/A	91.1	94.1	3.25	70 130
Ethylbenzene	N/A	10	N/A	N/A	N/A	94.7	98	3.45	70 130
Xylenes	N/A	30	N/A	N/A	N/A	85	85.7	0.781	70 130
%SS:	N/A	10	N/A	N/A	N/A	103	100	2.88	70 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

<sup>E</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**McCampbell Analytical, Inc.**

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: A

WorkOrder: 0409329

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 13259		Spiked Sample ID: N/A			
Analyte	Sample µg/L	Spiked µg/L	MS* % Rec.	MSD* % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)
TPH(btex) <sup>E</sup>	N/A	60	N/A	N/A	N/A	98.6	97.7	0.929	70 130
MTBE	N/A	10	N/A	N/A	N/A	105	104	1.35	70 130
Benzene	N/A	10	N/A	N/A	N/A	109	106	3.29	70 130
Toluene	N/A	10	N/A	N/A	N/A	101	97.9	3.39	70 130
Ethylbenzene	N/A	10	N/A	N/A	N/A	106	104	2.04	70 130
Xylenes	N/A	30	N/A	N/A	N/A	91	91	0	70 130
%SS:	N/A	10	N/A	N/A	N/A	106	102	3.94	70 130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE									

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

<sup>E</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

0469329

<p style="text-align: center;">McCAMPBELL ANALYTICAL INC. 110 2<sup>nd</sup> AVENUE SOUTH, #D7 PACHECO, CA 94533-5560</p> <p>Telephone: (925) 798-1620      Fax: (925) 798-1622</p>										<b>CHAIN OF CUSTODY RECORD</b> TURN AROUND TIME: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> RUSH   24 HOUR   48 HOUR   5 DAY EDF Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Report To: <u>Gretchen Hellmann Ron Schaefer</u> Bill To: SAME Company: Cambria Environmental Technology, Inc. 5900 Hollis Street Suite A <u>r.schaefer</u> Emeryville, CA 94608 E-mail: <u>g.hellmann@cambria-env.com</u> Tele: 510 420-3305 Fax: 510 420-9170 Project #: 130-0105-356 Project Name: WORTHINGTON Project Location: 305½ 35 <sup>th</sup> Avenue, Oakland, California Sampler Signature: <u>Ron Schaefer</u>										Analysis Request Other Comments														
SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX			METHOD PRESERVED	BTX & 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 / BNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
		Date	Time			Water	Soil	Air																
INF	System	9/20/04	6pm	1	Tb		X				X													
EFF	System	9/20/04	6pm	1	Tb		X				X													
Relinquished By: <u>Yuri M. S.</u> Date: <u>9/20/04</u> Time: <u>7:30pm</u> Received By: <u>Second Location</u> Relinquished By: <u>Yuri M. S.</u> Date: <u>9/21/04</u> Time: <u>7:30am</u> Received By: <u>Scott Brown</u> Relinquished By: <u>Yuri M. S.</u> Date: <u>9/21/04</u> Time: <u>7:30am</u> Received By: <u>M. Oren</u>										Remarks: Report in ppm(v). Reporting limit is 10 ppm(v) Use 20 mL injection volume. Please email results.														
										APPROPRIATE CONTAINERS GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB PRESERVED IN LAB PRESERVATION   VOAS   O&O   METALS   OTHER														

**McCampbell Analytical, Inc.**

110 Second Avenue South, #D7  
Pacheco, CA 94553-5560  
(925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0409329

ClientID: CETE

## Report to:

Ron Scheele  
Cambria Env. Technology  
5900 Hollis St, Suite A  
Emeryville, CA 94608

TEL: (510) 420-0700  
FAX: (510) 420-9170  
ProjectNo: #130-0105-356; WORTHINGTON  
PO:

## Bill to:

Accounts Payable  
Cambria Env. Technology  
5900 Hollis St, Ste. A  
Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 10/21/2004

Date Printed: 10/30/2004

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0409329-001	INF	Air	09/20/2004	<input type="checkbox"/>	A														
0409329-002	EFF	Air	09/20/2004	<input type="checkbox"/>	A														

## Test Legend:

1	G-MBTEX_PPMV
6	
11	

2	
7	
12	

3	
8	
13	

4	
9	
14	

5	
10	
15	

Prepared by: Rosa Venegas

## Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

C A M B R I A



## Appendix E

### **GeoTracker Electronic Delivery Confirmations**

## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

### UPLOADING A GEO\_WELL FILE

**Processing is complete. No errors were found!  
Your file has been successfully submitted!**

**Submittal Title:** 3rd Qtr 2004 GW Depth Data for 3055 35th Avenue,  
Oakland

**Submittal Date/Time:** 10/20/2004 1:17:45 PM

**Confirmation  
Number:** 3911834537

[Back to Main Menu](#)

Logged in as CAMBRIA-EM (AUTH\_RP)

CONTACT SITE [ADMINISTRATOR](#).

## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

Your EDF file has been successfully uploaded!

**Confirmation Number:** 6771760821

**Date/Time of Submittal:** 10/20/2004 1:16:27 PM

**Facility Global ID:** T0600100538

**Facility Name:** EXXON

**Submittal Title:** 3rd Qtr 2004 GW Analytical Data

**Submittal Type:** GW Monitoring Report

[Click here to view the detections report for this upload.](#)

<b>EXXON</b> 3055 35TH AVE OAKLAND, CA 94619	<b>Regional Board - Case #:</b> <u>01-0585</u> SAN FRANCISCO BAY RWQCB (REGION 2) - <b>(BG)</b> <b>Local Agency (lead agency) - Case #:</b> <u>515</u> ALAMEDA COUNTY LOP - <b>(UNK)</b>
--	---

<b>CONF #</b>	<b>TITLE</b>	<b>QUARTER</b>
6771760821	3rd Qtr 2004 GW Analytical Data	Q3 2004
<b>SUBMITTED BY</b>	<b>SUBMIT DATE</b>	<b>STATUS</b>
Matt Meyers	10/20/2004	PENDING REVIEW

### **SAMPLE DETECTIONS REPORT**

# FIELD POINTS SAMPLED	4
# FIELD POINTS WITH DETECTIONS	4
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	4
SAMPLE MATRIX TYPES	WATER

### **METHOD QA/QC REPORT**

METHODS USED	SW8015B,SW8021F
TESTED FOR REQUIRED ANALYTES?	N

#### MISSING PARAMETERS NOT TESTED:

- SW8015B REQUIRES ETBE TO BE TESTED
- SW8015B REQUIRES TAME TO BE TESTED
- SW8015B REQUIRES DIPE TO BE TESTED
- SW8015B REQUIRES TBA TO BE TESTED
- SW8015B REQUIRES DCA12 TO BE TESTED
- SW8015B REQUIRES EDB TO BE TESTED
- SW8021F REQUIRES ETBE TO BE TESTED
- SW8021F REQUIRES TAME TO BE TESTED
- SW8021F REQUIRES DIPE TO BE TESTED
- SW8021F REQUIRES TBA TO BE TESTED
- SW8021F REQUIRES DCA12 TO BE TESTED
- SW8021F REQUIRES EDB TO BE TESTED

LAB NOTE DATA QUALIFIERS	N
--------------------------	---

### **QA/QC FOR 8021/8260 SERIES SAMPLES**

TECHNICAL HOLDING TIME VIOLATIONS	0
-----------------------------------	---

METHOD HOLDING TIME VIOLATIONS	0
--------------------------------	---

LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
--	---

LAB BLANK DETECTIONS	0
----------------------	---

DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?

- LAB METHOD BLANK	Y
--------------------	---

- MATRIX SPIKE	N
- MATRIX SPIKE DUPLICATE	N
- BLANK SPIKE	Y
- SURROGATE SPIKE - NON-STANDARD SURROGATE USED	Y

**WATER SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	N
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

**SOIL SAMPLES FOR 8021/8260 SERIES**

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

**FIELD QC SAMPLES**

<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPDL</u>
QCTB SAMPLES	N	0
QCBB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as CAMBRIA-EM (AUTH\_RP)

CONTACT SITE ADMINISTRATOR.

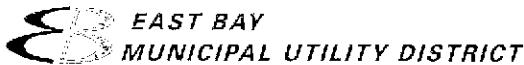
C A M B R I A



## Appendix F

### **EBMUD Wastewater Discharge Inspection Report**

## NOTIFICATION OF EBMUD TEST RESULTS



DAVID R. WILLIAMS  
DIRECTOR OF WASTEWATER

August 10, 2004

Golden Empire Properties  
5900 Hollis St., Suite A  
Emeryville, CA 94608

Attention: Mr. Ron Scheele

Re: Wastewater Discharge Permit No. 50420761

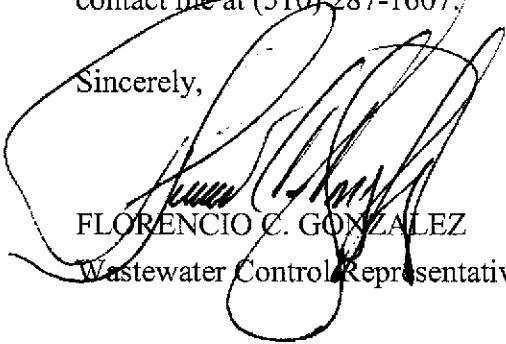
EBMUD inspected your facility and sampled the wastewater discharge from Side Sewer 1. No wastewater discharge violations were noted. EBMUD test results are summarized in the table below and in the enclosed EBMUD laboratory analytical reports.

Date	Lab No.	Parameter	Result	Daily Max Limit	Units
5/27/2004	L112641-1	BENZENE	< 0.00005	0.005	mg/L
5/27/2004	L112641-1	ETHYL BENZENE	< 0.00008	0.005	mg/L
5/27/2004	L112641-1	M+P XYLENES	< 0.00022	0.005	mg/L
5/27/2004	L112641-1	O-XYLENE	< 0.00011	0.005	mg/L
5/27/2004	L112641-1	TOLUENE	< 0.00007	0.005	mg/L

NA - not applicable

If you have any questions or comments regarding the inspection or sample results, please contact me at (510) 287-1607.

Sincerely,



FLORENCIO C. GONZALEZ

Wastewater Control Representative

W:/IDS/Administration/Reports/Annual Office 2000.mdb/EBMUDTestResultsLocal

Enclosure

# EBMUD Laboratory

## Analytical Report

RECEIVED

JUN 2 2004

EAST BAY MUNICIPAL UTILITY DISTRICT  
Laboratory Services Division  
PO Box 24055, MS 59, Oakland, CA 94623  
Phone (510)287-1432 Fax (510)465-5462

ENVIRONMENTAL SERVICES DIVISION

California Environmental Laboratory Accreditation Program Certificate Number 1060

Laboratory Report - L112641

LSR # - B941-9911-1 Project Title: Golden Empire Properties - GOLDEN EMPIRE GW-10; ORD-311

Report generated on: Jun 18, 2004 04:55 pm

2 - Samples received by the lab on: May 27 2004, 11:36 am

0 - Lost Analyses

0 - Hold Time Exceedences

Turn-around-time met

*Santa B. Aspasia for Kenneth Gerstman*

KENNETH GERSTMAN

WILLIAM M. ELLGAS

6/21/04

Please route this report to:

Client PM: FLORENCIO GONZALEZ

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L112641-1	GRAB 27-May-2004 09:20	IW S	GOLDEN EMPIRE	-
L112641-2	QCFB 27-May-2004 09:20	IW S	GOLDEN EMPIRE	-

Legend to the laboratory qualifiers used in this report:

N - Analyte not detected

Qualifiers for subcontract work - See textvalue for description

THIS REPORT MAY ONLY BE REPRODUCED IN ITS ENTIRETY. RESULTS CONTAINED IN THIS REPORT ARE REFLECTIVE ONLY OF THE ITEMS REQUESTED TO BE ANALYZED AND REPORTED. UNUSED PORTIONS OF SAMPLE WILL BE DISCARDED WITHIN THIRTY DAYS OF RECEIPT UNLESS OTHER ARRANGEMENTS ARE MADE BY THE CLIENT.

EAST BAY MUNICIPAL UTILITY DISTRICT  
Laboratory Services Division  
PO Box 24055, MS 59, Oakland, CA 94623  
Phone (510)287-1432 Fax (510)465-5462  
**Analytical Results Report**

LSR#: B941-9911-1 Golden Empire Properties - GOLDEN EMPIRE GW-1, ORD-311  
 Site: IW S Industrial Waste - South Interceptor  
 Locator: GOLDEN EMPIRE Golden Empire Properties, #50420761 PSP#1 Located at 3055 35th Ave., Oakland  
 Lab ID: L112641-1  
 Sample Type: GRAB (Instantaneous Grab)  
 Date Collected: May 27 2004, 09:20am Sample collector: DMCMULLEN  
 Date Received: May 27 2004, 11:35am Sample receiver: BMARTIN  
 Sample Comments:

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
							RL/ML	
<b>Method: EPA 624, Volatile Organics: GC/MS</b>								
<b>TARGET ANALYTES</b>								
	BICHLORODIFLUROMETHANE	U	0.090	ug/L	1.0	0.090		
	CHLOROMETHANE	U	0.10	ug/L	1.0	0.10		
	VINYL CHLORIDE	U	0.070	ug/L	1.0	0.070		
	1,3-BUTADIENE	U	0.20	ug/L	1.0	0.20		
	BROMOMETHANE	U	0.21	ug/L	1.0	0.21		
	CHLOROETHANE	U	0.19	ug/L	1.0	0.19		
	FLUOROTRICHLOROMETHANE	U	0.15	ug/L	1.0	0.15		
	ETHYL ETHER	U	0.50	ug/L	1.0	0.50		
	ACROLEIN	U	20	ug/L	1.0	20		
	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	U	0.10	ug/L	1.0	0.10		
	1,1-DICHLOROETHENE	U	0.050	ug/L	1.0	0.050		
	ACETONE	U	6.0	ug/L	1.0	6.0		
	IODOMETHANE	U	0.50	ug/L	1.0	0.50		
	CARBON DISULFIDE	U	0.10	ug/L	1.0	0.10		
	ALLYL CHLORIDE	U	0.50	ug/L	1.0	0.50		
	METHYLENE CHLORIDE	U	0.50	ug/L	1.0	0.50		
	ERT-BUTYL ALCOHOL	U	0.070	ug/L	1.0	0.070		
	ACRYLONITRILE	U	25	ug/L	1.0	25		
	METHYL-T-BUTYL ETHER	U	1.0	ug/L	1.0	1.0		
	TRANS-1,2-DICHLOROETHENE	U	0.50	ug/L	1.0	0.50		
	MISOPROPYL ETHER	U	0.14	ug/L	1.0	0.14		
	VINYL ACETATE	U	0.50	ug/L	1.0	0.50		
	1,1-DICHLOROETHANE	U	0.20	ug/L	1.0	0.20		
	TSYLYL-T-BUTYL ETHER	U	0.070	ug/L	1.0	0.070		
	2-BUTANONE	U	0.50	ug/L	1.0	0.50		
	ETHYL ACETATE	U	3.0	ug/L	1.0	3.0		
	SEC-DICHLOROPROpane	U	0.10	ug/L	1.0	0.10		
	TS-1,2-DICHLOROETHENE	U	0.17	ug/L	1.0	0.17		
	METHYLACRYLATE	U	0.050	ug/L	1.0	0.050		
	METHYLACRYLONITRILE	U	0.50	ug/L	1.0	0.50		
	BROMOCHLOROMETHANE	U	0.50	ug/L	1.0	0.50		
	TETRAHYDROFURAN	U	0.14	ug/L	1.0	0.14		
	CHLOROFORM	U	10	ug/L	1.0	10		
	1,1,1-TRICHLOROETHANE	U	0.070	ug/L	1.0	0.070		
	CHLOROBUTANE	U	0.080	ug/L	1.0	0.080		
	1,1-DICHLOROPROPENE	U	0.50	ug/L	1.0	0.50		
	CARBON TETRACHLORIDE	U	0.070	ug/L	1.0	0.070		
	ENZENE	U	0.14	ug/L	1.0	0.14		
	1,2-DICHLOROETHANE	U	0.050	ug/L	1.0	0.050		
	ERT-AMYL METHYL ETHER	U	0.360	ug/L	1.0	0.360		
	1,1-DICHLOROETHENE	U	0.50	ug/L	1.0	0.50		
	2-DICHLOROPROPANE	U	0.050	ug/L	1.0	0.050		
	METHYLMETHACRYLATE	U	0.12	ug/L	1.0	0.12		
	BROMOMETHANE	U	0.50	ug/L	1.0	0.50		
	BROMODICHLOROMETHANE	U	0.090	ug/L	1.0	0.090		
	CHLOROETHYL VINYL ETHER	U	0.040	ug/L	1.0	0.040		
	NITROPROPANE	U	0.10	ug/L	1.0	0.10		
	FLUOROACETONITRILE	U	0.50	ug/L	1.0	0.50		
	TS-1,3-DICHLOROPROPENE	U	10	ug/L	1.0	10		
	METHYL-2-PENTANONE	U	0.070	ug/L	1.0	0.070		
	1-DICHLORO-2-PROPANONE	U	0.40	ug/L	1.0	0.40		
	1,1-LUCENE	U	1.0	ug/L	1.0	1.0		
		U	0.070	ug/L	1.0	0.070		

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level.

EAST BAY MUNICIPAL UTILITY DISTRICT  
 Laboratory Services Division  
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 Phone (510)287-1432 Fax (510)465-5462  
**Analytical Results Report**

LSR#: B941-9911-1 Golden Empire Properties - GOLDEN EMPIRE GW-1o; ORD-311  
 Site: TW S Industrial Waste - South Interceptor  
 Locator: GOLDEN EMPIRE Golden Empire Properties, #50420761 PSP#1 Located at 3055 35th Ave., Oakland  
 Lab ID: L112641-1  
 Sample Type: GRAB (Instantaneous Grab)  
 Date Collected: May 27 2004, 09:20am Sample collector: DMCMULLEN  
 Date Received: May 27 2004, 11:35am Sample receiver: BMARTIN  
 Sample Comments:

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag	RL/ML
	TRANS-1,3-DICHLOROPROPENE	U	0.020	ug/L	1.0	0.020			
	ETHYLMETHACRYLATE	U	0.50	ug/L	1.0	0.50			
	1,1,2-TRICHLOROETHANE	U	0.030	ug/L	1.0	0.030			
	TETRACHLOROETHENE	U	0.11	ug/L	1.0	0.11			
	1,3-DICHLOROPROPANE	U	0.070	ug/L	1.0	0.070			
	2-HEXANONE	U	0.10	ug/L	1.0	0.10			
	DIBROMOCHLOROMETHANE	U	0.060	ug/L	1.0	0.060			
	ETHYLENE DIBROMIDE	U	0.10	ug/L	1.0	0.10			
	CHLOROBENZENE	U	0.050	ug/L	1.0	0.050			
	1,1,2-TETRACHLOROETHANE	U	0.030	ug/L	1.0	0.030			
	ETHYL BENZENE	U	0.080	ug/L	1.0	0.080			
	M-P XYLENES	U	0.22	ug/L	1.0	0.22			
	C XYLENE	U	0.11	ug/L	1.0	0.11			
	STYRENE	U	0.080	ug/L	1.0	0.080			
	BROMOFORM	U	0.10	ug/L	1.0	0.10			
	ISOPROPYLBENZENE	U	0.11	ug/L	1.0	0.11			
	BROMOBENZENE	U	0.080	ug/L	1.0	0.080			
	TRANS-1,4-DICHLORO-2-BUTENE	U	0.50	ug/L	1.0	0.50			
	1,1,2,2-TETRACHLOROETHANE	U	0.11	ug/L	1.0	0.11			
	1,2,3-TRICHLOROPROPANE	U	0.080	ug/L	1.0	0.080			
	N-PROPYLBENZENE	U	0.090	ug/L	1.0	0.090			
	C CHLOROTOLUENE	U	0.12	ug/L	1.0	0.12			
	-CHLOROTOLUENE	U	0.080	ug/L	1.0	0.080			
	1,2,5-TRIMETHYLBENZENE	U	0.18	ug/L	1.0	0.18			
	TERT-BUTYLBENZENE	U	0.080	ug/L	1.0	0.080			
	PENTACHLOROETHANE	U	0.20	ug/L	1.0	0.20			
	1,2,4-TRIMETHYLBENZENE	U	0.35	ug/L	1.0	0.35			
	SEC-BUTYLBENZENE	U	0.10	ug/L	1.0	0.10			
	1,3-DICHLOROBENZENE	U	0.060	ug/L	1.0	0.060			
	M ISOPROPYL TOLUENE	U	0.080	ug/L	1.0	0.080			
	1,4-DICHLOROBENZENE	U	0.040	ug/L	1.0	0.040			
	1,2-DICHLOROBENZENE	U	0.050	ug/L	1.0	0.050			
	N BUTYL BENZENE	U	0.10	ug/L	1.0	0.10			
	(1,3,2-CHLOROISOPROPYL) ETHER	U	0.60	ug/L	1.0	0.60			
	HEXAChLOROETHANE	U	1.0	ug/L	1.0	1.0			
	BROMOCHLOROPROPANE	U	0.47	ug/L	1.0	0.47			
	1,4BENZENE	U	20	ug/L	1.0	20			
	1,2,4-TRICHLOROBENZENE	U	0.11	ug/L	1.0	0.11			
	1,4-CHLOROBUTADIENE	U	0.12	ug/L	1.0	0.12			
	1APHTHALENE	U	0.10	ug/L	1.0	0.10			
	1,2,3-TRICHLOROBENZENE	U	0.11	ug/L	1.0	0.11			
	INTERNAL STANDARD								
	CHLOROBENZENE		88.0	% recovery	1.00				
	CHLOROBENZENE		81.0	% recovery	1.00				
	1,4-DICHLOROBENZENE		65.0	% recovery	1.00				
	SURROGATE PARAMETERS								
	1BROMOFUOROMETHANE		105	% recovery	1.00				
	4-DICHLOROETHANE		109	% recovery	1.00				
	4-TOLUENE		97.4	% recovery	1.00				
	1BROMOFUOROBENZENE		91.2	% recovery	1.00				

Run ID: R123786 / Work Group No.: WG112246  
 Date: 09-JUN-04 Analyzed 09-JUN-04

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

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Laboratory Services Division  
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**Analytical Results Report**

LSR#: B941-9911-1 Golden Empire Properties - GOLDEN EMPIRE GW-1; ORD-311  
 Site: IW S Industrial Waste - South Interceptor  
 Locator: GOLDEN EMPIRE Golden Empire Properties, #50420761 PSP#1 Located at 3055 35th Ave., Oakland  
 Lab ID: L112641-2  
 Sample Type: QCFB (Field Blank Grab)  
 Date Collected: May 27 2004, 09:20am Sample collector: DMCMULLEN  
 Date Received: May 27 2004, 11:36am Sample receiver: BMARTIN  
 Sample Comments: QCFB for L112641-1 Prep'd on 05/21/04 by TCB; Acid lot# 111703/L108776-1  
 on 11/20/03 bottle #29

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
							RL/ML	
<b>Method: EPA 624 - Volatile Organics: GC/MS</b>								
<b>TARGET ANALYTES</b>								
	DICHLORODIFLUOROMETHANE	U	0.090	ug/L	1.0	0.090		
	CHLOROMETHANE	U	0.10	ug/L	1.0	0.10		
	VINYL CHLORIDE	U	0.070	ug/L	1.0	0.070		
	1,3-BUTADIENE	U	0.20	ug/L	1.0	0.20		
	BROMOMETHANE	U	0.21	ug/L	1.0	0.21		
	CHLOROETHANE	U	0.19	ug/L	1.0	0.19		
	FLUOROTRICHLOROMETHANE	U	0.15	ug/L	1.0	0.15		
	ETHYL ETHER	U	0.50	ug/L	1.0	0.50		
	ACROLEIN	U	20	ug/L	1.0	20		
	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	U	0.10	ug/L	1.0	0.10		
	1,1-DICHLOROETHENE	U	0.050	ug/L	1.0	0.050		
	ACETONE	U	6.0	ug/L	1.0	6.0		
	IODOMETHANE	U	0.50	ug/L	1.0	0.50		
	CARBON DISULFIDE	U	0.10	ug/L	1.0	0.10		
	ALLYL CHLORIDE	U	0.50	ug/L	1.0	0.50		
	METHYLENE CHLORIDE	U	0.070	ug/L	1.0	0.070		
	TERT-BUTYL ALCOHOL	U	25	ug/L	1.0	25		
	ACRYLONITRILE	U	1.0	ug/L	1.0	1.0		
	METHYL-T-BUTYL ETHER	U	0.50	ug/L	1.0	0.50		
	TRANS-1,2-DICHLOROETHENE	U	0.14	ug/L	1.0	0.14		
	MISOPROPYL ETHER	U	0.50	ug/L	1.0	0.50		
	ANIL ACETATE	U	0.20	ug/L	1.0	0.20		
	1-DICHLOROETHANE	U	0.070	ug/L	1.0	0.070		
	ETHYL-T-BUTYL ETHER	U	0.50	ug/L	1.0	0.50		
	BUTANONE	U	3.0	ug/L	1.0	3.0		
	ETHYL ACETATE	U	0.10	ug/L	1.0	0.10		
	SEC-DICHLOROPROPANE	U	0.17	ug/L	1.0	0.17		
	MIS-1,2-DICHLOROETHENE	U	0.050	ug/L	1.0	0.050		
	METHYLACRYLATE	U	0.50	ug/L	1.0	0.50		
	METHYLACRYLONITRILE	U	0.50	ug/L	1.0	0.50		
	BROMOCHLOROMETHANE	U	0.14	ug/L	1.0	0.14		
	TETRAHYDROFURAN	U	10	ug/L	1.0	10		
	CHLOROFORM	U	0.070	ug/L	1.0	0.070		
	1,1-TRICHLOROETHANE	U	0.080	ug/L	1.0	0.080		
	CHLOROBUTANE	U	0.50	ug/L	1.0	0.50		
	1,1-DICHLOROPROPENE	U	0.070	ug/L	1.0	0.070		
	ARSON TETRACHLORIDE	U	0.14	ug/L	1.0	0.14		
	ENZENE	U	0.050	ug/L	1.0	0.050		
	1,2-DICHLOROETHANE	U	0.060	ug/L	1.0	0.060		
	2-MYL METHYL ETHER	U	0.50	ug/L	1.0	0.50		
	DICHLOROETHENE	U	0.050	ug/L	1.0	0.050		
	1,1-DICHLOROPROPANE	U	0.12	ug/L	1.0	0.12		
	METHYLACRYLATE	U	0.50	ug/L	1.0	0.50		
	BROMOMETHANE	U	0.090	ug/L	1.0	0.090		
	HOMODICHLOROMETHANE	U	0.040	ug/L	1.0	0.040		
	CHLOROETHYL VINYL ETHER	U	0.10	ug/L	1.0	0.10		
	NITROPROPANE	U	0.50	ug/L	1.0	0.50		
	CHLOROACETONITRILE	U	10	ug/L	1.0	10		
	1,1,3-DICHLOROPROPENE	U	0.070	ug/L	1.0	0.070		
	METHYL-2-PENTANONE	U	0.40	ug/L	1.0	0.40		
	1,1-DICHLORO-2-PROPANONE	U	1.0	ug/L	1.0	1.0		

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

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 Laboratory Services Division  
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**Analytical Results Report**

ISR#: B941-9911-1 Golden Empire Properties - GOLDEN EMPIRE GW-10; ORD-311  
 Site: IW S Industrial Waste - South Interceptor  
 Locator: GOLDEN EMPIRE Golden Empire Properties, #50420761 PSP#1 Located at 3055 35th Ave., Oakland  
 Lab ID: L112641-2  
 Sample Type: QCFS (Field Blank Grab)  
 Date Collected: May 27 2004, 09:20am Sample collector: DMCMULLEN  
 Date Received: May 27 2004, 11:36am Sample receiver: BMARTIN  
 Sample Comments: QCFS for L112641-1 Prep'd on 05/21/04 by TCB; Acid lot# 111703/L108776-1  
 on 11/20/03 bottle #29

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
							RL/ML	
	TOLUENE	U	0.070	ug/L	1.0	0.070		
	TRANS-1,3-DICHLOROPROPENE	U	0.020	ug/L	1.0	0.020		
	ETHYLMETHACRYLATE	U	0.50	ug/L	1.0	0.50		
	1,1,2-TRICHLOROETHANE	U	0.030	ug/L	1.0	0.030		
	TETRACHLOROETHENE	U	0.11	ug/L	1.0	0.11		
	1,3-DICHLOROPROPANE	U	0.070	ug/L	1.0	0.070		
	2-HEXANONE	U	0.10	ug/L	1.0	0.10		
	DIBROMOCHLOROMETHANE	U	0.060	ug/L	1.0	0.060		
	ETHYLENE DIBROMIDE	U	0.10	ug/L	1.0	0.10		
	CHLOROBENZENE	U	0.050	ug/L	1.0	0.050		
	1,1,1,2-TETRACHLOROETHANE	U	0.030	ug/L	1.0	0.030		
	ETHYL BENZENE	U	0.080	ug/L	1.0	0.080		
	M+p XYLENES	U	0.22	ug/L	1.0	0.22		
	O-XYLENE	U	0.11	ug/L	1.0	0.11		
	STYRENE	U	0.080	ug/L	1.0	0.080		
	BROMOFORM	U	0.10	ug/L	1.0	0.10		
	ISOPROPYLBENZENE	U	0.11	ug/L	1.0	0.11		
	BROMOBENZENE	U	0.080	ug/L	1.0	0.080		
	TRANS-1,4-DICHLORO-2-BUTENE	U	0.50	ug/L	1.0	0.50		
	1,1,2,2-TETRACHLOROETHANE	U	0.11	ug/L	1.0	0.11		
	1,2,3-TRICHLOROPROPANE	U	0.080	ug/L	1.0	0.080		
	N-PROPYLBENZENE	U	0.090	ug/L	1.0	0.090		
	1-CHLOROTOLUENE	U	0.12	ug/L	1.0	0.12		
	1-CHLOROTOLUENE	U	0.080	ug/L	1.0	0.080		
	1,3,5-TRIMETHYLBENZENE	U	0.18	ug/L	1.0	0.18		
	TERT-BUTYLBENZENE	U	0.080	ug/L	1.0	0.080		
	PENTACHLOROETHANE	U	0.20	ug/L	1.0	0.20		
	1,2,4-TRIMETHYLBENZENE	U	0.35	ug/L	1.0	0.35		
	SEC-BUTYLENBENZENE	U	0.10	ug/L	1.0	0.10		
	1,3-DICHLOROBENZENE	U	0.060	ug/L	1.0	0.060		
	P-ISOPROPYLtoluene	U	0.080	ug/L	1.0	0.080		
	1,4-DICHLOROBENZENE	U	0.040	ug/L	1.0	0.040		
	1,2-DICHLOROBENZENE	U	0.050	ug/L	1.0	0.050		
	N-BUTYLBENZENE	U	0.10	ug/L	1.0	0.10		
	MIS(2-CHLOROISOPROPYL) ETHER	U	0.60	ug/L	1.0	0.60		
	HEXACHLOROETHANE	U	1.0	ug/L	1.0	1.0		
	DIBROMOCHLOROPROPANE	U	0.47	ug/L	1.0	0.47		
	NITROBENZENE	U	20	ug/L	1.0	20		
	1,2,4-TRICHLOROBENZENE	U	0.11	ug/L	1.0	0.11		
	HEXACHLOROBUTADIENE	U	0.12	ug/L	1.0	0.12		
	NAPHTHALENE	U	0.10	ug/L	1.0	0.10		
	1,2,3-TRICHLOROBENZENE	U	0.11	ug/L	1.0	0.11		
	INTERNAL STANDARD							
	FLUOROBENZENE		90.8	% recovery	1.00			
	1,4-CHLOROBENZENE		84.6	% recovery	1.00			
	1,4-DICHLOROBENZENE		66.4	% recovery	1.00			
	SURROGATE PARAMETERS							
	DIBROMOFLUOROMETHANE		103	% recovery	1.00			
	1,1-DICHLOROETHANE		108	% recovery	1.00			
	TOLUENE		94.8	% recovery	1.00			
	DIBROMOFLUOROBENZENE		91.6	% recovery	1.00			
	Sample ID: R123786 / Work Group No.: WG112246							
	Sample Date: 09-JUN-04 Analyzed 09 JUN 04							

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East Bay Municipal Utility District  
Laboratory Services Chain of Custody Record

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Prelog or Login No.: L112641	Project Title Golden Empire Properties - GOLDEN EMPIRE GW-1c; ORD-311 Account or Project: B941-9911-1	Client PM: FLORENCIO GONZALEZ Tel No.: 1607 Lab PM: KENNETH GERSTMAN	Sampled by: DMCMULLEN Rcvd: 27-MAY-04 11:36 Sample Date: 27-MAY-04				
Lab No.	Sample Type Time Site	Locator	Sample Matrix	Container ID Barcode	Tests Required	Date Preservative Initials	Due Date pH
L112641-1	GRAB 09:20 IW S	GOLDEN EMPIRE	WasteH2O	526002 VOA4A 624			17-JUN-04
			WasteH2O	526003 VOA4A 624			
			WasteH2O	526004 VOA4A 624			
			WasteH2O	+REPORT			
ClientID: Sample Comments: Pricing: STD							
L112641-2	QCPB 09:20 IW S	GOLDEN EMPIRE	WasteH2O	523791 VOA4A 624			17-JUN-04
			WasteH2O	523793 VOA4A 624			
ClientID: Sample Comments: QCPB for L112641,1. Prep'd on 05/21/04 by TCB, Acid lot# 111703/610877621 on 11/20/03 bottle #29. Pricing: STD							
Total containers received: 5							

Signature

Print Name

Time

Date

elinguished by

11:36 5-27-04

Type Codes: CF01;CF02;CF03;CFV;COMP;CT01;CT02;CT03  
CT04;CT05;CT06;CT07;CT08;CTV;GRAB

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27-MAY-04