CAMBRIA

AUG 1 3 2002

August 9, 2002

Don Hwang
Alameda County Health Care Service Agency
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

Re: **Dual Phase Extraction Pilot Test Report**
BP Oil Site No. 11117
7210 Bancroft Avenue
Oakland, California
Cambria Project No. 852-1546

Dear Mr. Hwang:

On behalf of BP Oil Company, Cambria Environmental Technology, Inc. has prepared this *Dual Phase Extraction Pilot Test Report* for the above referenced site. We appreciate the opportunity to work with you on this project. If you have any questions or comments, please don't hesitate to call me at (510) 450-1985.

Sincerely,
Cambria Environmental Technology, Inc.

Khaled Rahman, R.G., C.H.G.
Associate Geologist

cc: Scott Hooton, BP Oil Company, Environmental Resources Management, 295 SW 41st Street, Building 13, Suite N, Renton, Washington 98055-4931 (1 original and 1 copy)
David Camille, Tosco Marketing Company, 2000 Crow Canyon Place, Suite 400, San Ramon, California 94583 (1 copy)

Enclosure

H:\British Petroleum\11117-Bancroft-Oakland\DPE Pilot Test\August 9, 2002 Transmittal.doc

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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

CAMBRIA

AUG 1 3 2002

DUAL PHASE EXTRACTION PILOT TEST REPORT

Former BP Oil Site No. 11117
7210 Bancroft Avenue
Oakland, California
Cambria Project No. 852-1546-15

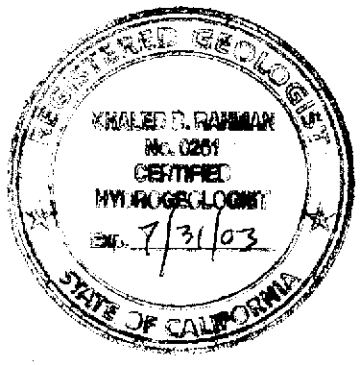
August 8, 2002

Prepared for:

BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington 98055

Prepared by:

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



Khaled B. Rahman, R.G., C.H.G.
Associate Geologist

Oakland, CA
San Ramon, CA
Sonoma, CA

Cambria Environmental Technology, Inc.

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

CAMBRIA

DUAL PHASE EXTRACTION PILOT TEST REPORT

Former BP Oil Site No. 11117
7210 Bancroft Avenue
Oakland, California
Cambria Project No. 852-1546-15

August 8, 2002

INTRODUCTION

Cambria Environmental Technology, Inc. (Cambria) has prepared this *Dual Phase Extraction Pilot Test Report* for the above-referenced former BP Oil Company (BP) site. The site background, dual phase extraction (DPE) pilot test activities, and DPE pilot test results are presented below.

SITE BACKGROUND

Site Description: The site is an active 76-branded gasoline retail outlet located at the north corner of Bancroft Avenue and 73rd Avenue in Oakland, California (see Figure 1). BP acquired the facility from Mobil Oil Corporation in 1989. In January 1994, BP transferred the property to TOSCO Marketing Company (TOSCO) and has not operated the facility since that time.

The site consists of a service station building and three 12,000-gallon gasoline underground storage tanks and one 10,000-gallon diesel underground storage tank with associated piping and dispensers. The site is covered with asphalt or concrete surfacing except for planters along the southeastern and southwestern property boundaries and at the north corner of the property (see Figure 2).

The nearest surface water body is Arroyo Viejo, located approximately 1,300 feet south of the site (see Figure 1). A 2000 California Department of Water Resources file review indicated one industrial well and one irrigation well between approximately ¼ and ½-mile north of the site (see Appendix A).

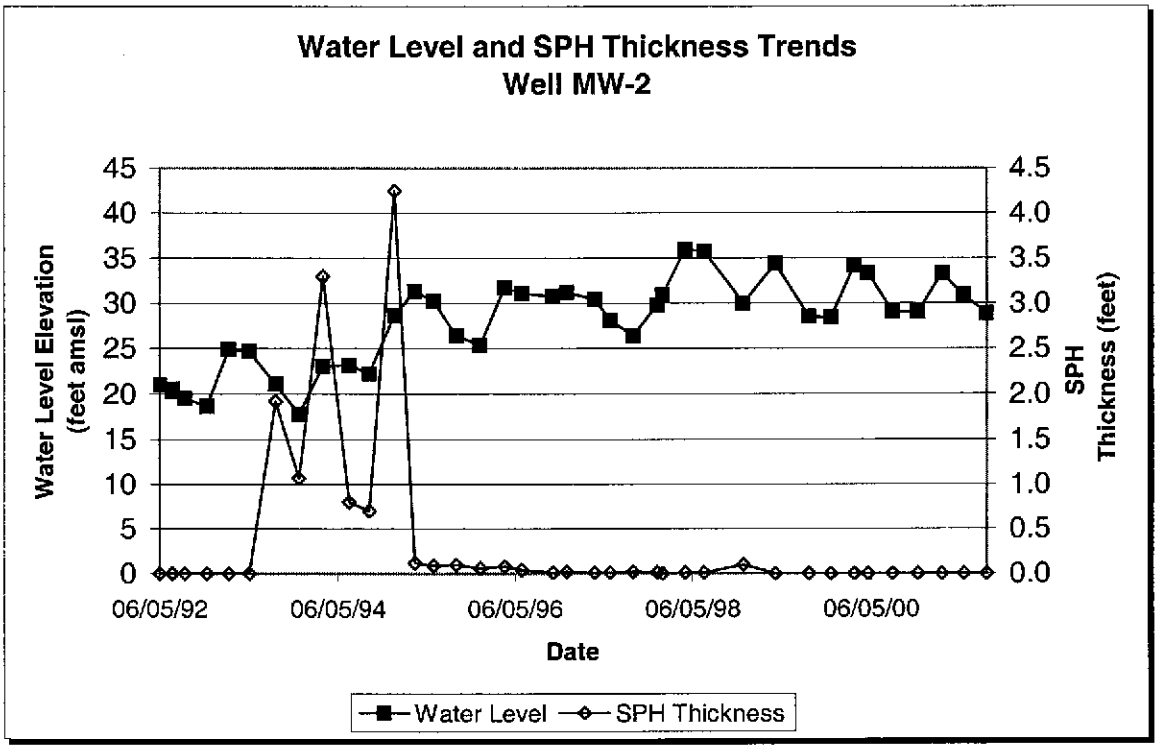
Underground Storage Tanks: In 1984, the underground storage tanks were removed and a 6,000-gallon diesel, and 6,000-, 10,000- and 12,000-gallon gasoline underground storage tanks were installed immediately to the east (see Figure 2). In 1998, TOSCO removed these tanks and associated dispensers and piping and installed the existing 10,000-gallon diesel and three 12,000-gallon gasoline underground storage tanks (see Appendix A). During the 1998 tank replacement activities, approximately 389 tons of soil and backfill were transported offsite for disposal.

Monitoring Wells: Eleven wells are installed at the site: wells MW-1 through MW-4, MW-6 through MW-10, and EX-1 and EX-2 (see Figure 2). Wells MW-1 and MW-2 were installed in 1991 and screen from approximately 20 to 40 feet below ground surface (bgs); well MW-3 was installed in 1989 and screens from 30 to 45 feet bgs; wells MW-4 and MW-6 were installed in 1992 and screen from approximately 20 to 40 feet bgs; and wells MW-7 through MW-9 were installed in 1994 and screen from approximately 25 to 40 or 45 feet bgs (see Appendix A). Wells EX-1 and EX-2 are 4-inch diameter wells installed in 1999 and screen from approximately 18 to 38 feet bgs and 15 to 35 feet bgs, respectively.

Site Hydrogeology: The site is typically underlain by clays with 1 to 4 foot thick intervals of sands and gravels to a total explored depth of approximately 45 feet bgs. Boring logs for wells MW-1, MW-2, MW-6 and MW-7 indicate less than 5 feet of sand and/or gravel encountered, while those for wells MW-3, MW-4, MW-8, MW-9, EX-1 and EX-2 indicate more than 10 feet of sand and/or gravel encountered (see Appendix A).

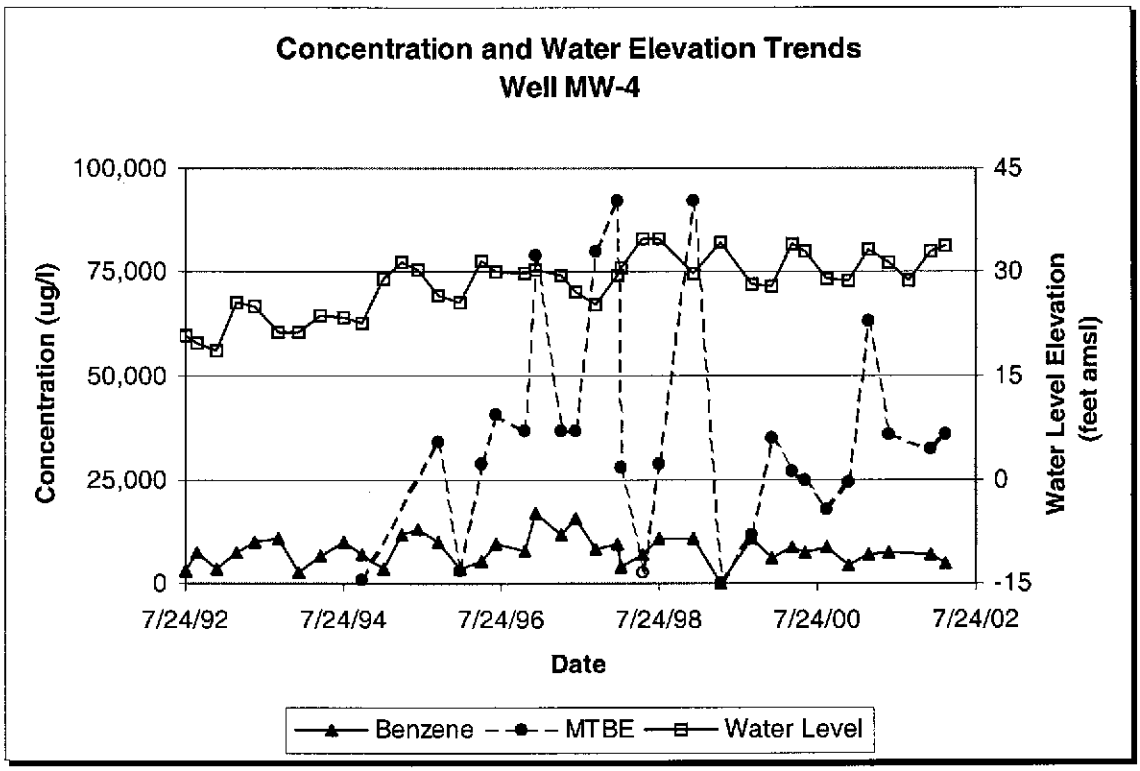
The water table fluctuates seasonally and has risen about 10 feet since 1992. On February 28, 2002, contoured water levels indicate flow toward the northeast. Hydraulic conductivity ranges from 1.0×10^{-5} centimeters per second (cm/sec) in well EX-1 to 1.3×10^{-2} cm/sec in well MW-1 with a geometric mean value of 2.3×10^{-4} cm/sec (see Table 1).

SPH Distribution: As shown on the graph below, measurable separate phase hydrocarbons (SPHs) were observed in well MW-2 between 1993 and 1998. Measurable SPH was reported in well MW-4 in September 2001 (see Appendix A). Both wells are located near the previous and existing underground storage tanks and southern dispenser island (see Figure 2).

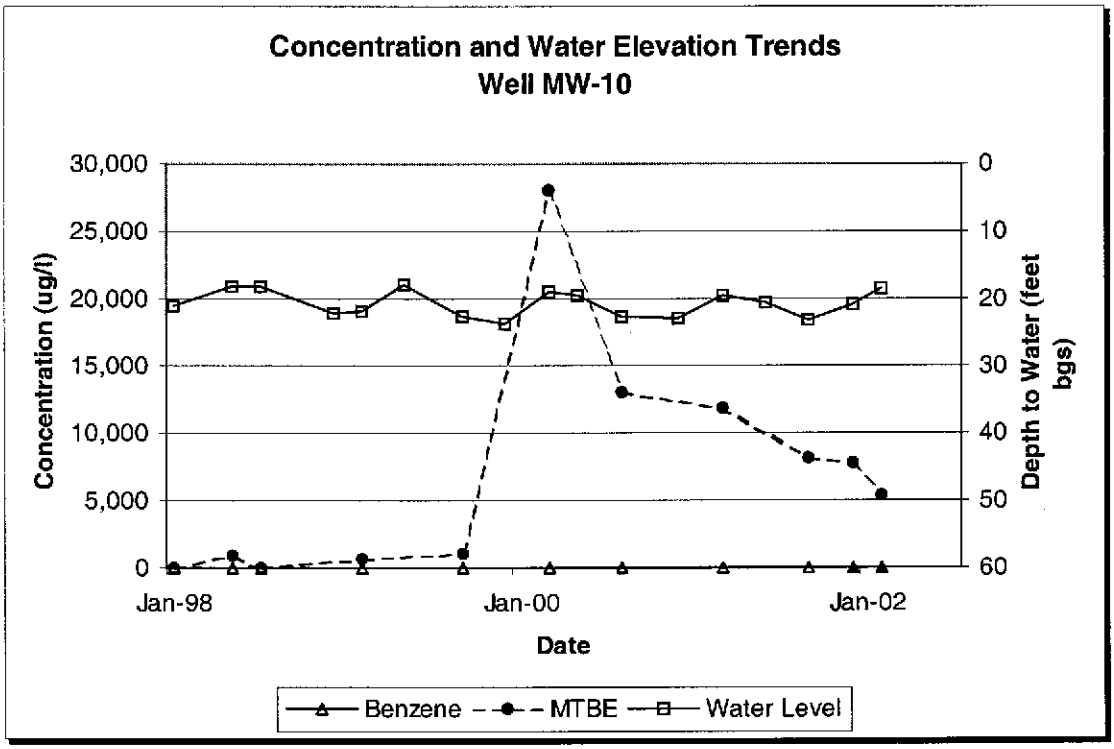


Hydrocarbon and MTBE Distribution: The first quarter 2002 monitoring results indicated that only well MW-2 reported more than 10,000 micrograms per liter (µg/L) of benzene, with a concentration of 13,900 µg/L. Wells MW-2, MW-4 and MW-9 reported more that 10,000 µg/L of methyl tert butyl ether (MTBE), with the maximum concentration of 35,900 µg/L in well MW-4. Well MW-9 is located south of the site and had been inaccessible for several quarters. The monitoring data indicate that most of the hydrocarbon and MTBE mass is located near the underground storage tank and southern dispenser islands.

As shown below on the graph for well MW-4, benzene concentrations exhibit a stable to decreasing trend during the last several years and MTBE exhibits a variable concentration pattern.



As shown below on the graph for well MW-10, benzene is not typically reported and MTBE exhibits a decreasing concentration trend since early 2000. The decreasing MTBE trend is consistent with a gasoline release undergoing natural attenuation.



Short-Term Groundwater Extraction Results: In 2000, approximately 10,900 gallons were extracted from wells MW-2, EX-1 and EX-2 during eight vacuum truck site visits. Grab water samples collected during the batch groundwater extraction activities indicated generally stable hydrocarbon and MTBE concentration trends.

DPE PILOT TEST ACTIVITIES

A DPE pilot test was performed on the monitoring wells with the highest historical hydrocarbon concentrations (i.e., MW-2 and MW-4) and the extraction wells (EX-1 and EX-2). The results of the DPE pilot test activities are described below.

Field Activities

Personnel Present: Sara Dwight, Cambria Environmental Scientist and Robert Gomez, Cambria Senior Staff Engineer working under the supervision of Khaled Rahman, California Registered Geologist.

DPE Contractor: Greg Gillespie of TRC of Concord, California.

Notifications: TRC notified the Bay Area Air Quality Management District of pilot testing activities in an October 24, 2001 letter (see Appendix B).

Pilot Testing Dates: October 29, 2001 through November 2, 2001

Field Procedures: DPE is the process of applying high vacuum (up to 29 inches of mercury) to a well using a "stinger" installed through an airtight wellhead seal to simultaneously extract both soil vapors, groundwater, and SPH, if present. The DPE pilot test was conducted using TRC's Mobile Treatment System, which includes a liquid ring blower, knock-out tank, thermal oxidizer and propane for use as a supplemental fuel. Extracted hydrocarbon vapors, including soil vapors and hydrocarbon vapors stripped from groundwater under vacuum, were treated with the thermal oxidizer. Extracted groundwater was temporarily stored onsite in a 6,500-gallon water storage tank.

Step vacuum tests were conducted on selected wells during the first day of the pilot test. Constant vacuum tests were conducted during the remainder of the pilot test.

During extraction activities, organic vapor analyzer (OVA) readings and vapor and water flow measurements were recorded. Water levels and wellhead vacuum measurements in the extraction wells and selected observation wells were intermittently noted. Distances between the extraction and observations wells were also measured (see Appendix B).

Chemical Analysis: To assess concentration trends, confirm OVA readings and evaluate vapor abatement efficiencies, grab soil-vapor samples were collected from the vaporstream prior to dilution and after treatment. The samples were collected in Tedlar bags using a vacuum pump and analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX) and MTBE using EPA Method TO-3. Selected influent soil-vapor samples were also analyzed for oxygen, methane, and carbon dioxide using EPA Method 3C (see Appendix C).

Prior to and following completion of the DPE pilot test, grab water samples were collected and analyzed for TPHg using modified EPA Method 8015, and BTEX and MTBE using EPA Method 8021. In addition, a grab water sample was collected from the water storage tank and analyzed to profile the extracted water for disposal/recycling (see Appendix D).

Step Vacuum Tests

During the first day of testing, step vacuum tests were conducted on wells MW-2, MW-4, EX-1 and EX-2 to determine the well response at various DPE stinger depths and applied vacuum levels. The DPE stinger was typically placed above the water level at approximately 2-5 feet bgs, near the water level at approximately 23-25 feet bgs, and at approximately 30 feet bgs. At each stinger depth, the applied vacuum was typically increased in steps from 5 inches of mercury, to 15 inches of mercury, and the maximum achievable by the system, generally 25 inches of mercury (see Appendix B). The step vacuum tests lasted 90 to 190 minutes at each well.

As summarized on Table 2, the general findings of the step vacuum test included:

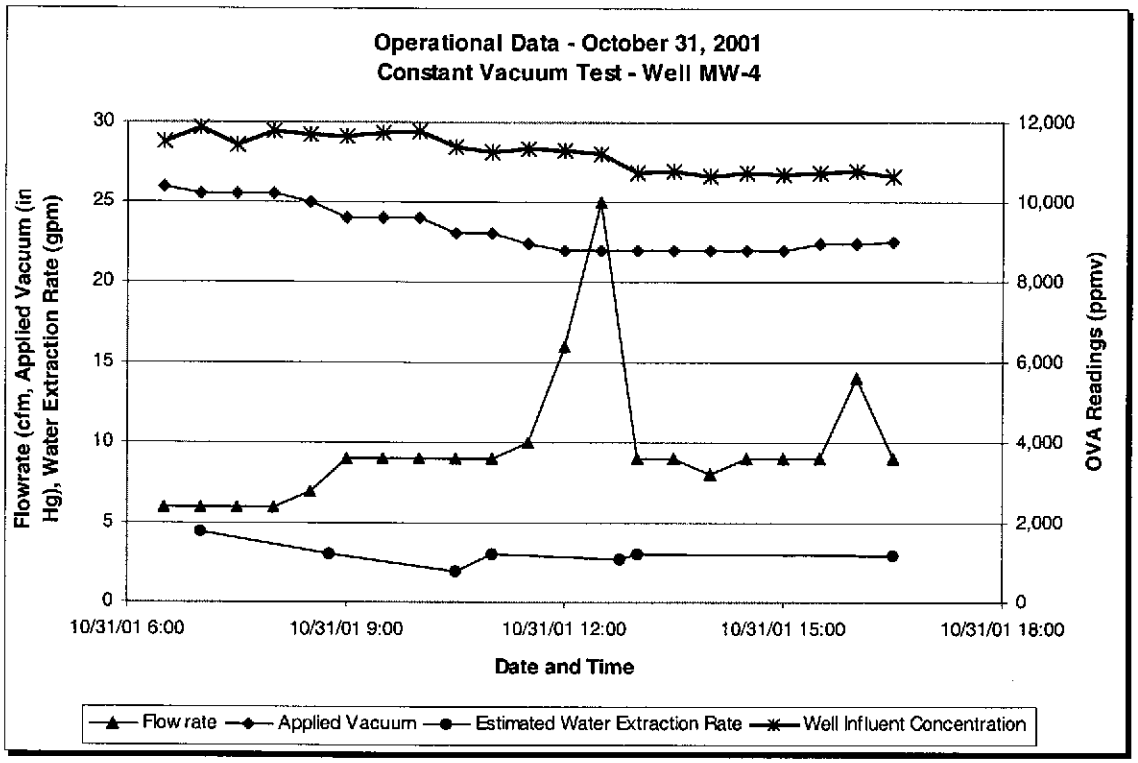
- The dilution air needed to properly operate the DPE test equipment decreased as the applied vacuum increased. In general, no dilution air was used at the maximum applied vacuums for each step;
- OVA readings for wells MW-4 and EX-1 increased to more than 13,000 parts per million by volume (ppmv) with increasing applied vacuum. OVA readings for wells MW-2 and EX-2 were generally less than 1,000 ppmv and did not show a systematic variation with applied vacuum;

- Groundwater extraction rates of more than 1.5 gallons per minute (gpm) were observed in wells MW-4 and EX-1. Minimal groundwater extraction rates were reported in wells MW-2 and EX-2. The step vacuum tests indicate that the highest groundwater extraction rates for each well were typically observed at the maximum applied vacuum and with the DPE stinger near the water level;
- With the stinger at 23-25 feet bgs and an applied vacuum of 25 inches of mercury, vapor flowrates were typically 6 to 10 cubic feet per minute (cfm), except for the 31 cfm reported for well EX-1 , which dewatered during the step vacuum test.
- The SPH sheen observed in wells MW-2 and MW-4 reduced during the step vacuum tests.

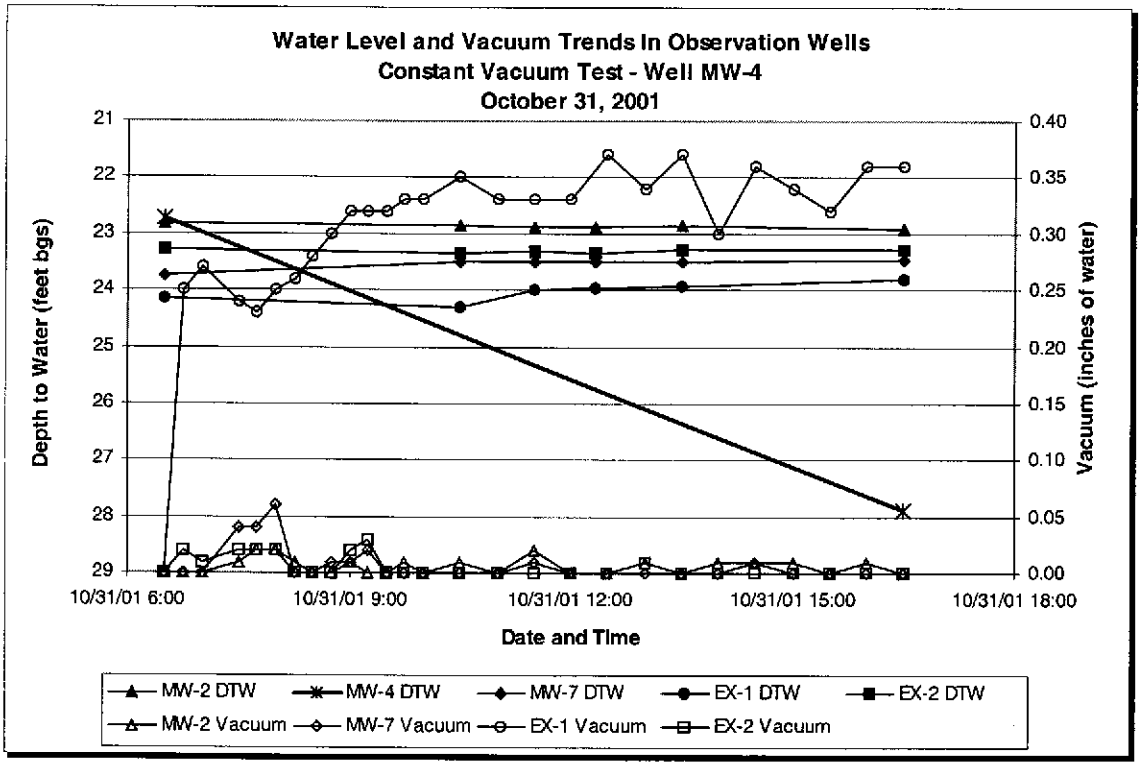
Constant Vacuum Tests

During the remaining four days of pilot testing, constant vacuum tests were performed. Based on the OVA readings of more than 13,000 ppmv and groundwater extraction rates of more than 1.5 gpm, constant vacuum tests were performed for three days on well MW-4 and an 8-hour constant vacuum test was performed on well EX-1. Due to the observed SPH sheen and proximity to wells MW-4 and EX-1, a short-duration constant vacuum test was conducted on well MW-2. During the constant vacuum tests, the stinger was placed between 23-37 feet bgs and was adjusted to optimize vapor flowrates and groundwater extraction rates.

Well MW-4: Three days of constant vacuum testing were performed on well MW-4. The operational data, and water level and vacuum readings for October 31, 2001 are shown on the graphs below. The maximum applied vacuum decreased from 26 to 22.5 inches of mercury during the test. In general, vapor flowrates increased during the tests. As the rate of vapor flow change increased, the stinger was dropped approximately 2 feet to optimize vapor and groundwater flow. Groundwater extraction flowrates ranged from 2.0 to 4.5 gpm (see Table 3). OVA readings show a decreasing trend during the test.



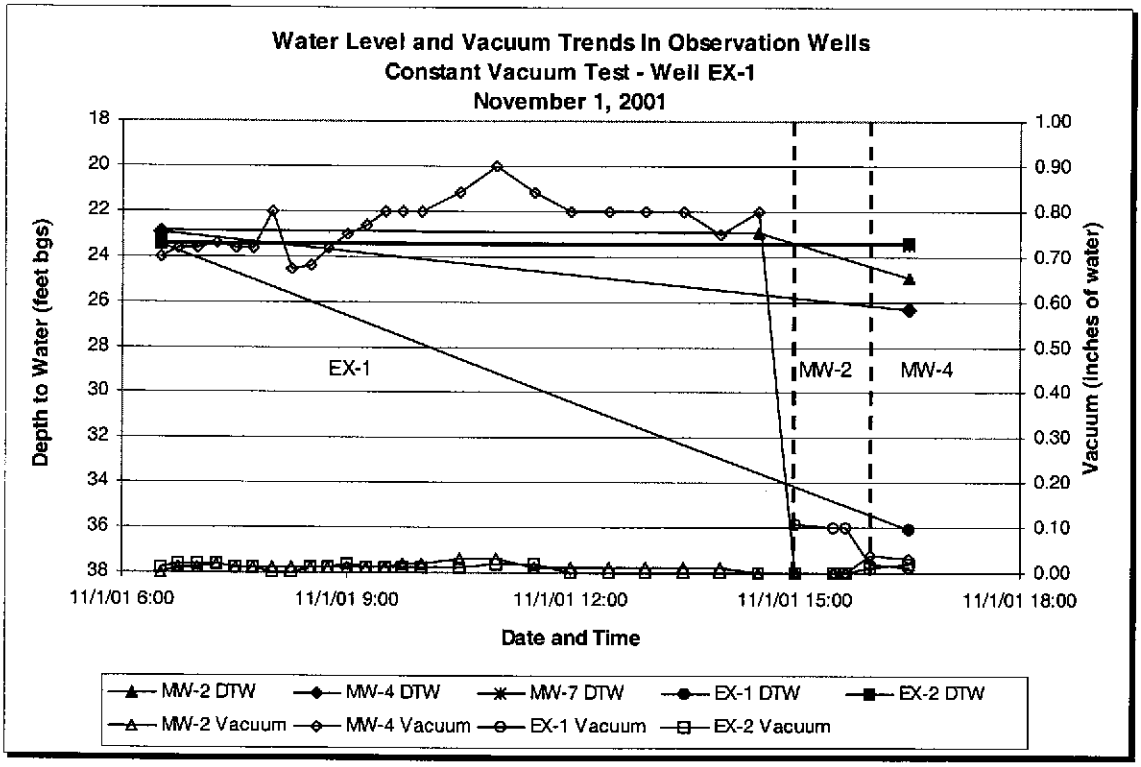
The graph below plots water levels (solid symbols) and vacuum readings (open symbols) measured during the October 31, 2001 constant vacuum test. As shown on the graph, water levels dropped approximately 5 feet in extraction well MW-4, and varied a few inches in the observation wells. Vacuum levels in well EX-1, located 34 feet from extraction well MW-4, rose during the first 3 hours of testing and stabilized. Vacuum levels in the other observation wells, including well MW-2, located 35 feet from extraction well MW-4, rose initially then decreased.



During the well MW-4 constant vacuum tests on October 30, 2001 and November 2, 2001, the water levels in wells located within 35 feet of the extraction well rose approximately 0.9 feet in well EX-1 and dropped approximately 0.1 feet in well MW-2 (see Table 3). The water level and vacuum readings indicate a heterogeneous subsurface.

Well EX-1: During the 8-hour constant vacuum test on well EX-1, vapor flow rates ranged from 10 to 45 cfm. During the test, the applied vacuum decreased from 25 to 21.5 inches of mercury and OVA readings decreased from more than 13,000 to 10,000 ppmv (see Table 3). The stinger was dropped from 24 to 38 feet bgs as the well dewatered; approximately 40 gallons of water were extracted during the test.

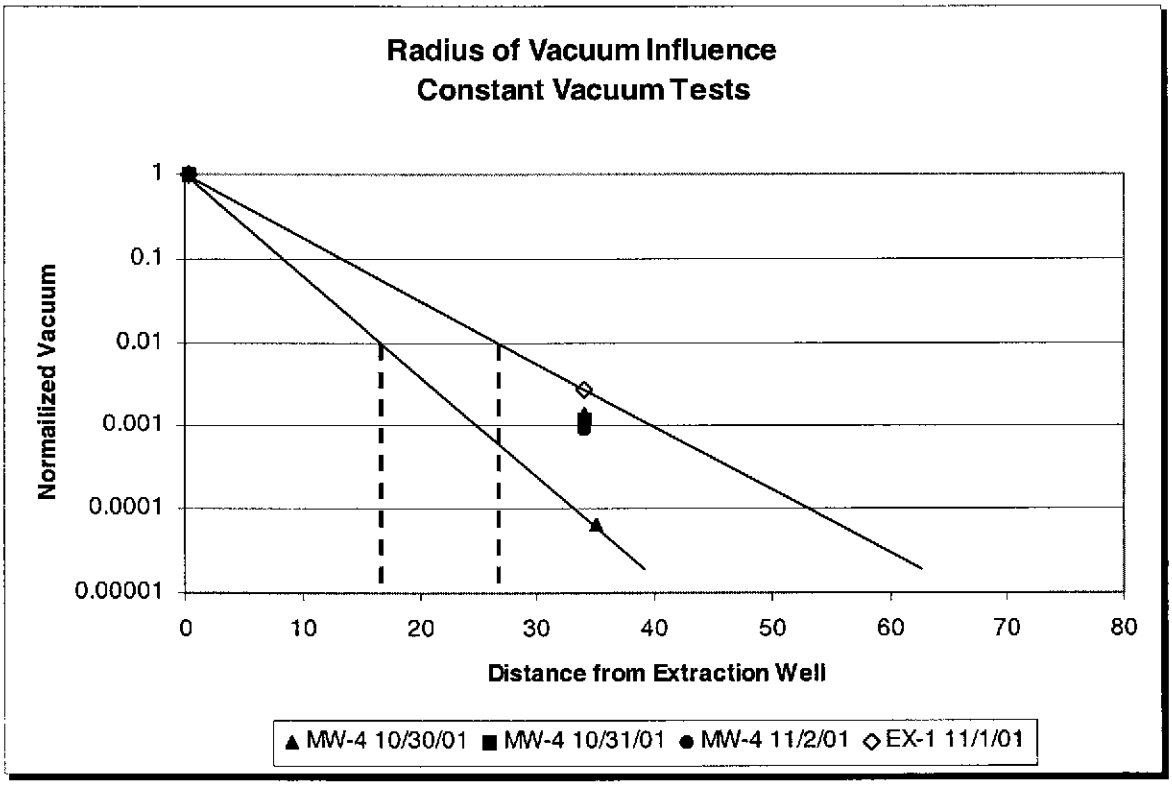
The graph below shows water level and vacuum readings collected on November 1, 2001. As shown on the graph below, wells EX-1, MW-2 and MW-4 were tested for 8 hours, 50 minutes and 30 minutes, respectively. Vacuum levels in well MW-4, located 34 feet from extraction well EX-1, rose to 0.9 inches of water during the first 5 hours of testing and decreased to 0.80 inches of water. Vacuum levels in the other observation wells, including well MW-2, located 5.6 feet from extraction well EX-1, did not rise above 0.03 inches of water.



Well MW-2: During the 50-minute constant vacuum test on well MW-2, vapor flow rates of 6 cfm were reported. At an applied vacuum of 22 inches of mercury during the test, no water was extracted with the stinger at 23 feet bgs. Water was extracted at a flowrate of approximately 3.3 gpm under these conditions when the air tight wellhead seal was broken and atmospheric air was allowed to enter the well. OVA readings of approximately 600 ppmv were reported during the test (see Table 3). As shown on the graph above, vacuum levels in well EX-1, located 5.6 feet from extraction well EX-1, rose to 0.1 inches of water and were not reported in the other observation wells.

DPE PILOT TEST RESULTS

Radius of Vacuum Influence: The effective radius of vacuum influence was estimated according to *A Summary of Nationwide Vapor Extraction System Performance Study* (T.E. Buscheck, T. R. Peargin, November 1991). This approach involves normalizing the vacuum data by dividing the vacuum observed in monitoring points by the vacuum observed at the extraction wellhead. The log of the normalized vacuum data is then plotted against the distance to the vacuum influence monitoring wells. The effective radius of vacuum influence is frequently considered to be the distance corresponding to 1% of the normalized vacuum. As shown on the graph below, the theoretical effective radius of vacuum influence using measurements at the end of each test was 18 to 28 feet during the well MW-4 and EX-1 constant vacuum tests.



Soil-Vapor Analytical Data: Soil-vapor samples were collected prior to dilution in the morning and afternoon each day. In addition, effluent samples were collected on the first and last day of testing. In general, the TPHg results were consistent with the OVA readings (see Table 4).

Soil-vapor sample results for wells MW-4 and EX-1 reported 120 to 190 ppmv benzene and 160 to 390 ppmv MTBE (see Table 4). Vapor samples collected from well MW-4 also reported 15-16% oxygen, which is below atmospheric levels (~20.9%), and 10% carbon dioxide, which is above atmospheric levels (~0.03%) (see Table 2). The sample collected on October 29, 2001 reported 11% methane, which is above atmospheric levels (0.0002 %). These concentrations are consistent with anaerobic biodegradation of hydrocarbons. Analytical results for soil-vapor samples are included in Appendix C.

***Grab Water Analytical Data*:** Grab samples were collected from wells MW-2, MW-4, EX-1 and EX-2 prior to and following the DPE pilot test. The analytical results for the wells indicate that benzene and MTBE concentrations remained the same order of magnitude during the test (see Table 5 and Appendix D).

Estimated Vapor Hydrocarbon Removal Rates: During the step vacuum tests, the estimated vapor-phase hydrocarbon removal rates were less than 5 pounds of hydrocarbon per day at wells MW-2 and EX-2, less than 31 pounds of hydrocarbon per day at well MW-4 and less than 160 pounds of hydrocarbon per day at well EX-1 (see Appendix B). During the constant vacuum tests, the estimated vapor-phase hydrocarbon removal rates ranged from approximately 21 to 194 pounds of hydrocarbon per day at well MW-4, and 49 to 193 pounds of hydrocarbon per day at well EX-1. These removal rates were based on OVA readings, which include a combined measure of soil vapors and hydrocarbons stripped from groundwater under vacuum. OVA readings were measured periodically the short-term constant vacuum tests; long-term hydrocarbon removal rates will likely be lower.

Water Handling: Based on the analytical results for the grab sample collected from the water storage tank, the TOSCO Refinery accepted the water for treatment (see Appendix B). On November 30, 2001, Onyx Industrial of Benicia, California transported approximately 6,500 gallons of water to the TOSCO Refinery.

CONCLUSIONS

Heterogeneous subsurface conditions at the site were exhibited during the DPE pilot test by the varied response of each extraction well and the water level and vacuum readings in observation wells. For example, groundwater extraction was minimal in wells MW-2 and EX-2, dewatered well EX-1 and sustainable at more than 1 gpm in well MW-4. Vacuum levels also exhibited heterogenities, such as the absence of vacuum in well MW-2, located within 6 feet of extraction well EX-1, and up to 0.9 inches of water in well MW-4, located 34 feet from the extraction well. These variations are likely the result of the different native soil types and location of the wells near or within compacted backfill of the previous and/or existing underground storage tank areas.

The DPE pilot test results suggest that vacuum influence is limited to within 18 to 28 feet of the extraction well. Water levels typically decreased several feet in the extraction wells and had a varied response in observation wells. Estimated vapor-phase removal rates were approximately 200 pounds of hydrocarbon per day in wells MW-4 and EX-1 and less than 5 pounds of hydrocarbon per day in wells MW-2 and EX-2. Soil-vapor concentrations show a decreasing trend in wells MW-4 and EX-1 during the short-term pilot tests. Grab water samples collected before and after the pilot tests remained the same order of magnitude. These results indicate that dual phase extraction is a feasible remedial alternative for the site.

ATTACHMENTS

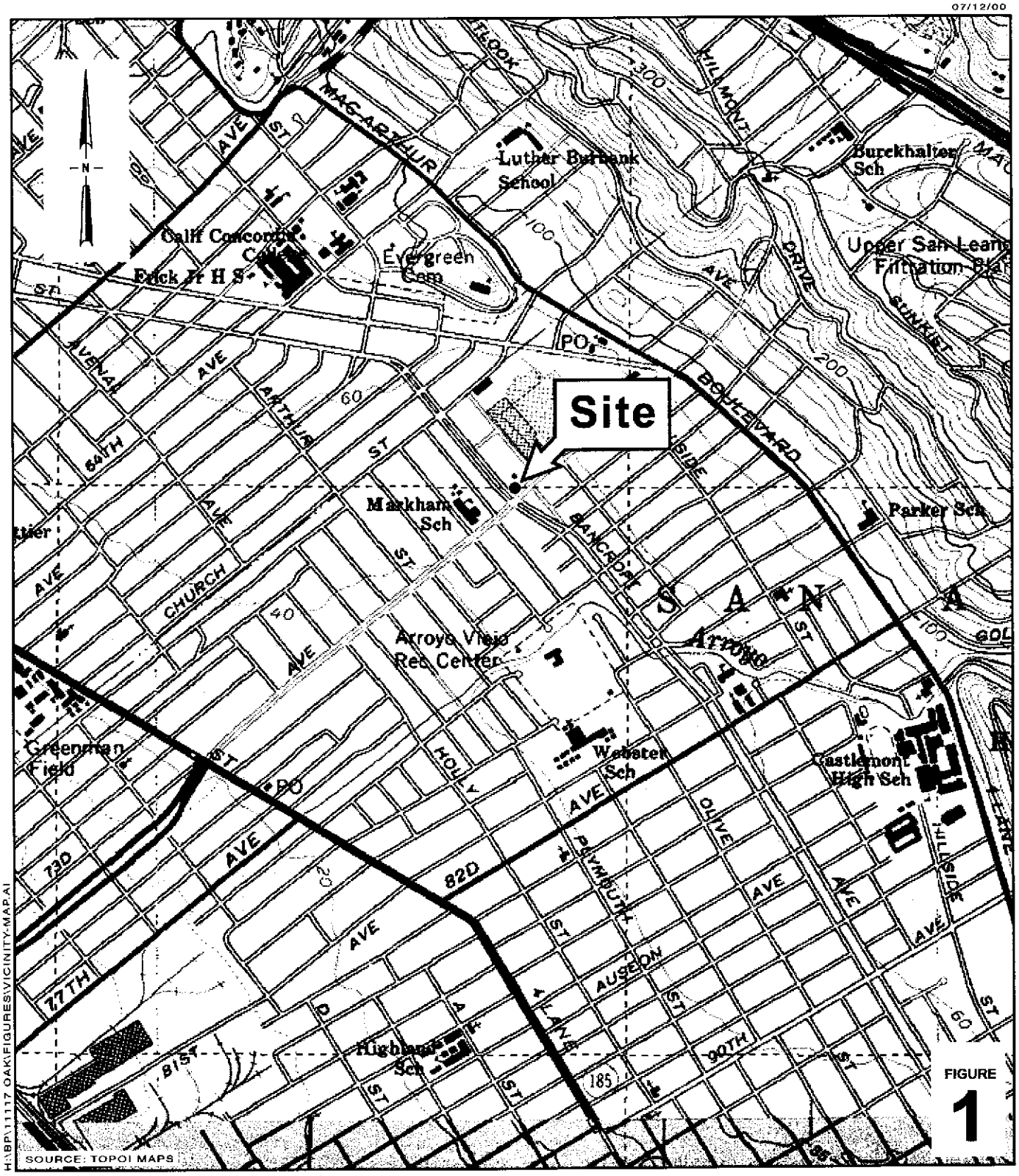
Figure 1 – Vicinity Map
Figure 2 – Site Plan

Table 1 – Recovery Test Summary
Table 2 – Dual Phase Extraction Step Vacuum Test Summary
Table 3 – Dual Phase Extraction Constant Vacuum Test Summary
Table 4 – Soil-Vapor Analytical Results
Table 5 – Grab Water Analytical Results

Appendix A – Background Data
Appendix B – Dual Phase Pilot Test Data
Appendix C - Vapor Analytical Data
Appendix D - Grab Water Analytical Data

FIGURES

07/12/00



H:\BP\11117 OAK\FIGURES\VICINITY-MAP.AI

FIGURE 1

BP Oil Site No. 11117

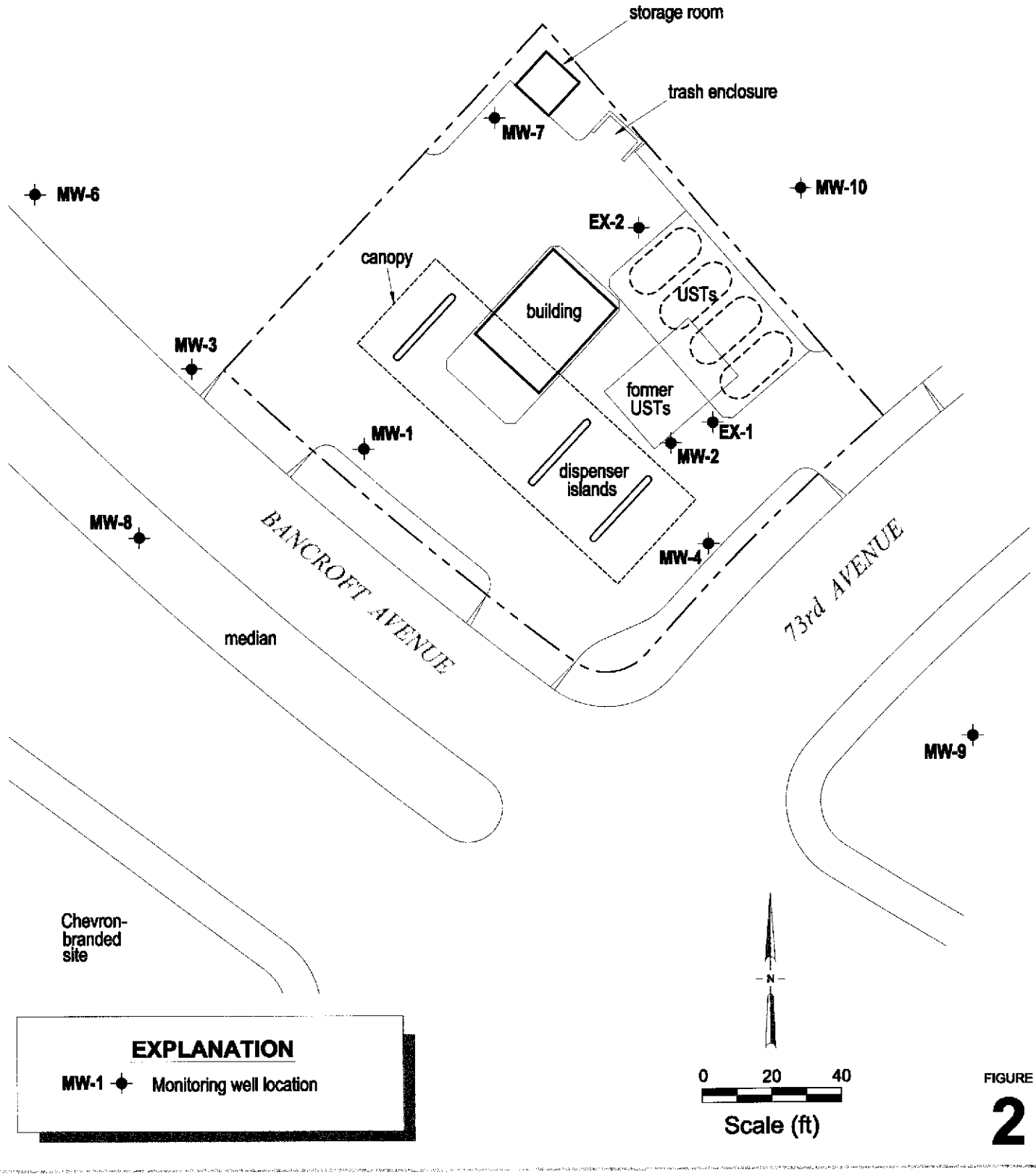
7210 Bancroft Avenue

Oakland, California

CAMBRIA

Vicinity Map

07/12/00



I:\BP\11117 OAKLAND\FIGURES\SITEPLAN.DWG

FIGURE
2

BP Oil Site No. 11117

7210 Bancroft Avenue

Oakland, California

CAMBRIA

Site Plan

CAMBRIA

TABLES

CAMBRIA

Table 1. Recovery Test Summary - BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Well ID	Date	Analytical Method	Hydraulic Conductivity (cm/sec)	Hydraulic Conductivity (ft/min)
MW-1	4/6/99	Bouwer-Rice	1.25E-02	2.46E-02
MW-2	4/6/99	Bouwer-Rice	1.23E-04	2.42E-04
	4/27/00	Bouwer-Rice	4.23E-04	8.33E-04
	4/27/00	Horslev	9.40E-05	1.85E-04
	4/28/00	Bouwer-Rice	1.72E-04	3.39E-04
	4/28/00	Horslev	2.21E-04	4.36E-04
MW-3	4/6/99	Bouwer-Rice	1.94E-04	3.82E-04
MW-4	4/6/99	Bouwer-Rice	2.92E-04	5.75E-04
MW-6	4/6/99	Bouwer-Rice	1.01E-02	1.99E-02
MW-7	4/6/99	Bouwer-Rice	5.53E-05	1.09E-04
MW-10	4/6/99	Bouwer-Rice	4.46E-05	8.78E-05
EX-1	4/27/00	Bouwer-Rice	1.96E-05	3.85E-05
	4/27/00	Horslev	1.03E-05	2.02E-05
EX-2	4/27/00	Bouwer-Rice	2.61E-04	5.13E-04
	4/27/00	Horslev	1.54E-04	3.04E-04
	4/28/00	Bouwer-Rice	1.08E-03	2.13E-03
	4/28/00	Horslev	5.38E-04	1.06E-03
	GEOMETRIC MEAN		**2.3E-04**	**4.6E-04**

Abbreviations and Notes:

cm/sec = centimeters per second
ft/min = feet per minute

CAMBRIA

Table 2. Dual Phase Extraction Step Vacuum Test Summary
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate					Stinger Depth	Applied Vacuum	Well Influent Concentration	Estimated Water Extraction Rate	Water Level				Pressure/Vacuum Readings			
	MW-2	MW-4	EX-1	EX-2	System					MW-2	MW-4	EX-1	EX-2	MW-2	MW-4	EX-1	EX-2
	(cfm)	(cfm)	(cfm)	(cfm)	(cfm)	(feet bgs)	(inches of Hg)	(ppmv)	(gpm)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(inches of water)	(inches of water)	(inches of water)	(inches of water)
Well MW-4 Step Vacuum Test																	
10/29/01 9:00	-	-	-	-	-	-	-	-	-	22.82*	-	-	-	-	-	-	-
10/29/01 9:55	-	-	-	-	-	-	-	-	-	-	-	23.15	-	-	-	-	-
10/29/01 9:35	-	-	-	-	-	-	-	-	-	-	22.93*	-	-	-	-	-	-
10/29/01 10:25	-	-	-	-	192	23	5.0	30	-	-	-	-	-	0	-	0	-
10/29/01 10:30	-	-	-	-	175	23	8.0	60	-	-	-	-	-	0	-	0	-
10/29/01 10:36	-	5.0	-	-	135	23	12	15	-	-	-	-	-	0	-	0	-
10/29/01 10:45	-	6.0	-	-	105	23	15	110	-	-	-	-	-	-	-	-	-
10/29/01 10:50	-	6.0	-	-	53	23	20	490	-	-	-	-	-	-	-	-	-
10/29/01 10:56	-	6.0	-	-	6.0	23	25	13,450	3.4	-	-	-	-	-	-	-	-
10/29/01 11:07	-	6.0	-	-	6.0	23	24	13,450	-	-	-	-	-	0	-	0.10	-
10/29/01 11:48	-	6.0	-	-	107	30	15	60	-	-	-	-	-	-	-	-	-
10/29/01 12:10	-	-	-	-	1,353	5.0	24.5	-	-	-	-	-	-	-	-	-	-
Well MW-2 Step Vacuum Test																	
10/29/01 12:20	9.0	-	-	-	204	2.0	5.0	150	0	-	-	-	-	-	0.01	0.01	0
10/29/01 12:30	4.0	-	-	-	101	2.0	15	40	0	-	-	-	-	-	0.02	0.01	0
10/29/01 12:40	9.0	-	-	-	9.0	2.0	25	1,300	0	-	-	-	-	-	0.06	0.02	0
10/29/01 12:46	-	-	-	-	-	-	-	-	-	-	-	-	23.50	-	-	-	-
10/29/01 12:50	6.0	-	-	-	197	23	5.0	30	0	-	-	-	-	-	0.04	0.02	0.01
10/29/01 13:00	6.0	-	-	-	78	23	15	30	0	-	-	-	-	-	0.03	0.01	0.02
10/29/01 13:10	16	-	-	-	16	23	25	100	minimal	-	-	-	-	-	0.02	0	0
10/29/01 13:30	10	-	-	-	186	25	5.0	30	0	-	-	-	-	-	0.03	0	0
10/29/01 13:40	9.0	-	-	-	60	25	15	20	0	-	-	-	-	-	0.03	0	0.01
10/29/01 13:45	6.0	-	-	-	60	25	25	60	minimal	-	-	-	-	-	0.01	0	0
10/29/01 13:50	9.0	-	-	-	186	30	5.0	20	0	-	-	-	-	-	0.03	0	-
10/29/01 13:55	4.0	-	-	-	60	30	15	0	0	-	-	-	-	-	0.04	0	0
10/29/01 14:00	6.0	-	-	-	16	30	25	40	minimal	-	-	-	-	-	0.01	-	-
Well EX-1 Step Vacuum Test																	
10/29/01 14:20	-	-	6.0	-	173	5.0	5.0	380	0	-	-	-	-	0.14	0.12	-	0.02
10/29/01 14:30	-	-	10	-	127	5.0	10	1,110	0	-	-	-	-	0.02	0.21	-	0
10/29/01 14:40	-	-	4.0	-	53	5.0	15	2,280	0	-	-	-	-	0.02	0.35	-	0.01
10/29/01 14:50	-	-	9.0	-	25	5.0	20	4,650	0	-	-	-	-	0	0.48	-	0
10/29/01 15:00	-	-	20	-	60	5.0	25	13,500	minimal	-	-	-	-	0.01	0.62	-	0
10/29/01 15:15	-	-	8.0	-	197	24	5.0	80	0	-	-	-	-	0	0.16	-	0
10/29/01 15:25	-	-	4.0	-	110	24	15	910	-	-	-	-	-	0.1	0.19	-	0
10/29/01 15:35	-	-	31	-	25	24	25	13,470	-	-	-	-	-	0.1	0.45	-	0
10/29/01 15:40	-	-	6.0	-	210	30	5.0	80	-	-	-	-	-	0.1	0.31	-	0
10/29/01 15:50	-	-	6.0	-	109	30	15	90	-	-	-	-	-	0	0.40	-	0
10/29/01 16:00	-	-	28	-	9.0	30	25	13,470	-	-	-	-	-	0.1	0.19	-	0

CAMBRIA

Table 2. Dual Phase Extraction Step Vacuum Test Summary
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate					Stinger Depth	Applied Vacuum	Well Influent Concentration	Estimated Water Extraction Rate	Water Level				Pressure/Vacuum Readings			
	MW-2	MW-4	EX-1	EX-2	System					MW-2	MW-4	EX-1	EX-2	MW-2	MW-4	EX-1	EX-2
	(cfm)	(cfm)	(cfm)	(cfm)	(cfm)	(feet bgs)	(inches of Hg)	(ppmv)	(gpm)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(inches of water)	(inches of water)	(inches of water)	(inches of water)
Well EX-2 Step Vacuum Test																	
10/29/01 16:30	-	-	-	10	190	5.0	5.0	50	0	-	-	-	-	-	0.02	0.10	0
10/29/01 16:40	-	-	-	22	88	5.0	15	40	0	-	-	-	-	-	0.01	0.06	0.01
10/29/01 16:45	-	-	-	43	45	5.0	24	80	0	-	-	-	-	-	0	0.04	0
10/29/01 16:50	-	-	-	10	190	24	5.0	20	-	-	-	-	-	-	0	0.04	0
10/29/01 17:00	-	-	-	8.0	88	24	15	10	-	-	-	-	-	-	0	0.03	0
10/29/01 17:05	-	-	-	6.0	49	24	24	50	1.6	-	-	-	-	-	0.04	0.01	0.01
10/29/01 17:25	-	-	-	10	199	30	5.0	10	-	-	-	-	-	-	0.05	0.02	0
10/29/01 17:30	-	-	-	4.0	88	30	15	10	-	-	-	-	-	-	0.01	0	0
10/29/01 17:30	-	-	-	6.0	69	30	25	50	-	-	-	-	-	-	0.01	0	0
10/29/01 18:00	-	-	-	-	-	-	-	-	-	22.9	22.9	29.9	25.7	-	-	-	-

Notes and Abbreviations

cfm = cubic feet per minute
feet bgs = feet below ground surface
inches of Hg = inches of mecury
ppmv = parts per million by volume
gpm = gallons per minute

* separate phase hydrocarbon sheen noted

CAMBRIA

Table 3a. Dual Phase Extraction Constant Vacuum Test - Well MW-4
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate MW-4 (cfm)	Flowrate System (cfm)	Stinger Depth (feet bgs)	Applied Vacuum (inches of Hg)	Well Influent Concentration (ppmv)	Estimated Water Extraction Rate (gpm)	Water Level MW-2 (feet bgs)	Water Level MW-4 (feet bgs)	Water Level MW-7 (feet bgs)	Water Level EX-1 (feet bgs)	Water Level EX-2 (feet bgs)	Pressure/Vacuum Readings MW-2 (inches of water)	Pressure/Vacuum Readings MW-7 (inches of water)	Pressure/Vacuum Readings EX-1 (inches of water)	Pressure/Vacuum Readings EX-2 (inches of water)
10/30/01 6:30	31	31	23	25.5	8,690	-	22.71	22.74	23.45	26.18	23.40	-	-	-	-
10/30/01 6:45	-	-	-	-	-	-	-	-	-	-	-	0	0	0.13	0.01
10/30/01 7:00	25	25	23	25.5	12,890	-	-	-	-	-	-	0	0	0.12	0
10/30/01 7:15	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.14	0.01
10/30/01 7:30	16	16	23	25	13,160	-	-	-	-	-	-	0	0	0.11	0.01
10/30/01 7:45	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.12	0
10/30/01 8:00	25	25	23	25	13,250	-	-	-	-	-	-	0	0	0.12	0
10/30/01 8:15	-	-	-	-	-	-	-	-	-	-	-	0	0	0.12	0
10/30/01 8:30	16	16	23	25	13,130	-	-	-	-	-	-	0.01	0	0.13	0.01
10/30/01 8:45	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.12	0
10/30/01 9:00	18	18	23	25	13,260	-	-	-	-	-	-	0.01	0	0.12	0
10/30/01 9:15	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.13	0
10/30/01 9:30	16	16	23	24.5	13,310	-	-	-	-	-	-	0.01	0	0.13	0
10/30/01 10:00	9.0	9.0	23	24	13,200	-	-	-	-	-	-	0.01	0	0.16	0
10/30/01 10:30	9.0	9.0	23	24	13,160	-	-	-	-	-	-	0.01	0.02	0.21	0.02
10/30/01 11:00	9.0	9.0	23	24	13,000	-	-	-	-	-	-	0.01	0.02	0.34	0.03
10/30/01 11:30	25	25	23	23.5	13,000	-	-	-	-	-	-	0.01	0	0.43	0.01
10:30/01 11:45	-	-	-	-	-	-	22.80	-	-	25.80	-	-	-	-	-
10/30/01 11:50	-	-	-	-	-	-	-	-	23.45	-	23.40	-	-	-	-
10/30/01 12:00	36	36	23	23	12,590	-	-	-	-	-	-	0	0	0.32	0
10/30/01 12:30	41	41	23	22.5	12,460	~3.0	-	-	-	-	-	0.02	0	0.34	0
10/30/01 12:50	-	-	-	-	-	-	22.80	-	-	25.65	-	-	-	-	-
10/30/01 13:00	10	10	23	22.5	12,530	-	-	-	-	-	-	0.20	0.03	0.34	0
10/30/01 13:30	9.0	9.0	23	22.4	12,390	-	22.85	-	-	25.55	-	0.04	0	0.34	0
10/30/01 13:35	-	-	-	-	-	-	-	-	23.43	-	23.33	-	-	-	-
10/30/01 14:00	16	16	23	22	12,410	-	-	-	-	-	-	0.75	0	0.34	0.01
10/30/01 14:30	36	36	23	22	12,400	-	-	-	-	-	-	0.01	0	0.36	0.01
10/30/01 15:00	36	36	23	22	12,340	-	-	-	-	-	-	0.01	0	0.38	0
10/30/01 15:30	41	41	23	22	12,300	-	-	-	-	-	-	0.02	0	0.41	0.01
10/30/01 16:00	36	36	23	22	12,300	-	-	-	-	-	-	0.03	0	0.42	0
10/30/01 16:30	41	41	23	22	11,960	-	22.90	25.60	23.42	25.25	23.33	0.02	0	0.43	0
Distance from Extraction Well (feet)							35	-	134	34	86	35	134	34	86

Notes and Abbreviations

cfm = cubic feet per minute
feet bgs = feet below ground surface
inches of Hg = inches of mecury
ppmv = parts per million by volume
gpm = gallons per minute

CAMBRIA

Table 3b. Dual Phase Extraction Constant Vacuum Test - Well MW-4
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate MW-4	Flowrate System	Stinger Depth	Applied Vacuum	Well Influent Concentration	Estimated Water Extraction Rate	Water Level MW-2	Water Level MW-4	Water Level MW-7	Water Level EX-1	Water Level EX-2	Pressure/Vacuum Readings MW-2	Pressure/Vacuum Readings MW-7	Pressure/Vacuum Readings EX-1	Pressure/Vacuum Readings EX-2
	(cfm)	(cfm)	(feet bgs)	(inches of Hg)	(ppmv)	(gpm)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(inches of water)	(inches of water)	(inches of water)	(inches of water)
10/31/01 6:30	6.0	6.0	23	26	11,520	-	22.83	22.74	23.74	24.14	23.30	0	0	0	0
10/31/01 6:45	-	-	-	-	-	-	-	-	-	-	-	0	0	0.25	0.02
10/31/01 7:00	6.0	6.0	23	25.5	11,850	4.5	-	-	-	-	-	0	0	0.27	0.01
10/31/01 7:30	6.0	6.0	23	25.5	11,440	-	-	-	-	-	-	0.01	0.04	0.24	0.02
10/31/01 7:45	-	-	-	-	-	-	-	-	-	-	-	0.02	0.04	0.23	0.02
10/31/01 8:00	6.0	6.0	23	25.5	11,800	-	-	-	-	-	-	0.02	0.06	0.25	0.02
10/31/01 8:15	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.26	0
10/31/01 8:30	7.0	7.0	23	25	11,700	-	-	-	-	-	-	0	0	0.28	0
10/31/01 8:45	-	-	-	-	-	3.0	-	-	-	-	-	0	0.01	0.30	0
10/31/01 9:00	9.0	9.0	23	24	11,660	-	-	-	-	-	-	0.01	0.01	0.32	0.02
10/31/01 9:15	-	-	-	-	-	-	-	-	-	-	-	0	0.02	0.32	0.03
10/31/01 9:30	9.0	9.0	23	24	11,720	-	-	-	-	-	-	0.00	0	0.32	0
10/31/01 9:45	-	-	-	-	-	-	-	-	-	-	-	0.01	0	0.33	0
10/31/01 10:00	9.0	9.0	23	24	11,800	-	-	-	-	-	-	0	0	0.33	0
10/31/01 10:30	9.0	9.0	23	23	11,410	2.0	22.86	-	23.50	24.30	23.35	0.01	0	0.35	0
10/31/01 11:00	9.0	9.0	25	23	11,260	3.0	-	-	-	-	-	0	0	0.33	0
10/31/01 11:30	10	10	25	22.4	11,360	-	22.87	-	23.50	24.00	23.32	0.02	0.01	0.33	0
10/31/01 12:00	16	16	25	22	11,310	-	-	-	-	-	-	0	0	0.33	0
10/31/01 12:20	-	-	-	-	-	-	22.87	-	23.50	23.97	23.34	-	-	-	-
10/31/01 12:30	25	25	25	22	11,230	-	-	-	-	-	-	0	0	0.37	0
10/31/01 12:45	-	-	-	-	-	2.7	-	-	-	-	-	-	-	-	-
10/31/01 13:00	9.0	9.0	27	22	10,730	3.0	-	-	-	-	-	0.01	0	0.34	0.01
10/31/01 13:30	9.0	9.0	27	22	10,780	-	22.86	-	23.50	23.93	23.29	0	0	0.37	0
10/31/01 14:00	8.0	8.0	27	22	10,650	-	-	-	-	-	-	0.01	0	0.3	0
10/31/01 14:30	9.0	9.0	27	22	10,740	-	-	-	-	-	-	0.01	0.01	0.36	0
10/31/01 15:00	9.0	9.0	27	22	10,690	-	-	-	-	-	-	0.01	0	0.34	0
10/31/01 15:30	9.0	9.0	27	22.4	10,760	-	-	-	-	-	-	0	0	0.32	0
10/31/01 16:00	14	14	27	22.4	10,800	-	-	-				0.01	0	0.36	0
10/31/01 16:30	9.0	9.0	27	22.5	10,650	2.93	22.93	27.90	23.46	23.82	23.30	0	0	0.36	0
Distance from Extraction Well (feet)							35	-	134	34	86	35	134	34	86

Notes and Abbreviations

cfm = cubic feet per minute
feet bgs = feet below ground surface
inches of Hg = inches of mecury
ppmv = parts per million by volume
gpm = gallons per minute

CAMBRIA

Table 3c. Dual Phase Extraction Constant Vacuum Test - Wells EX-1, MW-2, MW-4
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate				Stinger Depth	Applied Vacuum	Well Influent Concentration	Estimated Water Extraction Rate	Water Level					Pressure/Vacuum Readings				
	MW-2	MW-4	EX-1	System					MW-2	MW-4	MW-7	EX-1	EX-2	MW-2	MW-4	MW-7	EX-1	EX-2
	(cfm)	(cfm)	(cfm)	(cfm)	(feet bgs)	(inches of Hg)	(ppmv)	(gpm)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(inches of water)	(Inches of water)	(inches of water)	(inches of water)	(Inches of water)
Well EX-1 Vacuum Test																		
11/1/01 6:30	-	-	15	15	24	25	13,030	-	22.88	22.98	23.51	23.52	23.39	0	0.70	0	-	0.01
11/1/01 6:45	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.72	0	-	0.02
11/1/01 7:00	-	-	10	10	24	25	13,040	-	-	-	-	-	-	0.01	0.72	0	-	0.02
11/1/01 7:15	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.73	0	-	0.02
11/1/01 7:30	-	-	10	10	24	25	13,050	-	-	-	-	-	-	0.01	0.72	0	-	0.01
11/1/01 7:45	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.72	0	-	0.01
11/1/01 8:00	-	-	15	15	38	24.5	12,830	-	-	-	-	-	-	0.01	0.80	0	-	0
11/1/01 8:15	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.67	0	-	0
11/1/01 8:30	-	-	15	15	38	24.5	13,020	-	-	-	-	-	-	0.01	0.68	0	-	0.01
11/1/01 8:45	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.72	0	-	0.01
11/1/01 9:00	-	-	15	15	38	24	13,030	-	-	-	-	-	-	0.01	0.75	0	-	0.02
11/1/01 9:15	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.77	0	-	0.01
11/1/01 9:30	-	-	15	15	38	24.5	12,540	-	-	-	-	-	-	0.01	0.80	0	-	0.01
11/1/01 9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.80	0	-	0.01
11/1/01 10:00	-	-	15	15	38	24	12,480	-	-	-	-	-	-	0.02	0.80	0	-	0.01
11/1/01 10:30	-	-	25	25	38	23	12,000	-	-	-	-	-	-	0.03	0.84	0	-	0.01
11/1/01 11:00	-	-	31	31	38	22.5	11,820	-	-	-	-	-	-	0.03	0.90	0.01	-	0.02
11/1/01 11:30	-	-	31	31	38	22	11,670	-	-	-	-	-	-	0.01	0.84	0	-	0.02
11/1/01 12:00	-	-	36	36	38	21.8	11,480	-	-	-	-	-	-	0.01	0.80	0	-	0
11/1/01 12:30	-	-	41	41	38	21.5	11,380	-	-	-	-	-	-	0.01	0.80	0	-	0
11/1/01 13:00	-	-	45	45	38	21.5	11,320	0.10	-	-	-	-	-	0.01	0.80	0	-	0
11/1/01 13:10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-
11/1/01 13:30	-	-	45	45	38	21.5	11,290	-	-	-	-	-	-	0.01	0.80	0	-	0
11/1/01 14:00	-	-	16	16	38	21.8	11,370	-	-	-	-	-	-	0.01	0.75	0	-	0
11/1/01 14:30	-	-	16	16	38	21.5	10,000	-	22.95	-	-	-	-	0	0.80	0	-	0
Distance from Extraction Well (feet)									5.6	34	103	-	53	5.6	34	103		53
Well MW-2 Vacuum Test																		
11/1/01 15:00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0.11	0
11/1/01 15:30	6.0	-	-	6.0	38.5	22	660	-	-	-	-	-	-	0	0	0	0.10	0
11/1/01 15:40	6.0	-	-	6.0	38.5	22	630	-	-	-	-	-	-	0	0	0	0.10	0
11/1/01 15:50	6.0	-	-	6.0	38.5	22	580	3.3	-	-	-	-	-	-	-	-	-	-
Distance from Extraction Well (feet)									-	35	100	6	52	-	35	100	6	52
Well MW-4 Vacuum Test																		
11/1/01 16:00	-	6.0	-	6.0	23	22.5	10,460	-	-	-	-	-	-	-	0.04	0.02	0.02	0.01
11/1/01 16:30	-	14	-	14	23	22.4	10,910	-	24.98	26.34	23.45	36.06	23.4	-	0.03	0.01	0.01	0.02
Distance from Extraction Well (feet)									35	-	134	34	86	35	-	134	34	86

Notes and Abbreviations

cfm = cubic feet per minute
feet bgs = feet below ground surface
inches of Hg = inches of mecury
ppmv = parts per million by volume
gpm = gallons per minute

CAMBRIA

Table 3d. Dual Phase Extraction Constant Vacuum Test - Well MW-4
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Date and Time	Flowrate		Stinger Depth	Applied Vacuum	Well Influent Concentration	Estimated Water Extraction Rate	Water Level					Pressure/Vacuum Readings			
	MW-4	System					MW-2	MW-4	MW-7	EX-1	EX-2	MW-2	MW-7	EX-1	EX-2
	(cfm)	(cfm)	(feet bgs)	(inches of Hg)	(ppmv)	(gpm)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(feet bgs)	(inches of water)	(inches of water)	(inches of water)	(inches of water)
11/2/01 4:00	6.0	6.0	23	25.5	10,120	-	22.85	22.90	23.50	33.60	23.46	0	-	0.23	-
11/2/01 4:30	6.0	6.0	23	25.5	10,470	-	-	-	-	-	-	0	-	0.24	-
11/2/01 5:00	6.0	6.0	23	25.5	10,080	-	-	-	-	-	-	0	-	0.25	-
11/2/01 5:30	8.0	8.0	26	25.5	9,930	-	-	-	-	-	-	0	-	0.25	-
11/2/01 6:00	8.0	8.0	26	25.5	10,120	-	-	-	-	-	-	0	-	0.25	-
11/2/01 6:30	8.0	8.0	26	25	10,140	-	-	-	-	-	-	0	-	0.25	-
11/2/01 7:00	8.0	8.0	26	25	10,160	-	-	-	-	-	-	0	0	0.25	0
11/2/01 7:30	7.0	7.0	28	25	9,450	-	-	-	-	-	-	0	-	0.25	-
11/2/01 8:00	8.0	8.0	28	25	9,900	-	-	-	-	-	-	0	-	0.25	-
11/2/01 8:30	6.0	6.0	28	24	9,580	-	-	-	-	-	-	0	-	0.24	-
11/2/01 9:00	20	20	30	23	9,730	-	-	-	-	-	-	0	-	0.29	-
11/2/01 9:30	20	20	30	22.5	9,810	-	-	-	-	-	-	0	-	0.29	-
11/2/01 10:00	31	31	30	22	9,840	-	-	-	-	-	-	0	0	0.28	0.01
11/2/01 10:30	34	34	30	22	9,860	-	-	-	-	-	-	0	0	0.29	0
11/2/01 11:00	9.0	9.0	33	22.4	9,490	-	-	-	-	-	-	0	-	0.30	-
11/2/01 11:30	24	24	33	22.4	9,670	-	-	-	-	-	-	0	-	0.30	-
11/2/01 12:00	24	24	33	22.5	9,690	-	-	-	-	-	-	0	-	0.30	-
11/2/01 12:30	36	36	33	22	9,600	-	-	-	-	-	-	0	0	0.32	0
11/2/01 13:00	41	41	33	22	9,660	-	-	-	-	-	-	0	-	0.30	-
11/2/01 13:30	31	31	33	22	9,470	-	-	-	-	-	-	0	-	0.28	-
11/2/01 14:00	31	31	33	22	9,350	2.52	22.97	-	23.54	32.70	23.44	-	-	-	-
Distance from Extraction Well (feet)							35	-	134	34	86	35	134	34	86

Notes and Abbreviations

cfm = cubic feet per minute
feet bgs = feet below ground surface
inches of Hg = inches of mecury
ppmv = parts per million by volume
gpm = gallons per minute

CAMBRIA

Table 4. Soil-Vapor Analytical Results
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Extraction Well	Sample No.	Date	Time	OVA Reading (ppmv)	TPHg (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)	MTBE (ppmv)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)
		Analytical Method:			TO-3	TO-3	TO-3	TO-3	TO-3	TO-3	3C	3C	3C
MW-4	MW-4-INF-AM	10/29/01	12:10	-	**11,000**	**170**	**540**	**91**	**316**	**280**	**15**	**10**	**11**
MW-4	MW-4-INF-PM	10/29/01	16:00	13,470	**8,400**	**150**	**390**	**56**	**182**	**290**	--	--	--
MW-4	MW-4-INF-AM	10/30/01	12:00	12,590	**14,000**	**190**	**680**	**160**	**570**	**360**	--	--	--
MW-4	MW-4-INF-PM	10/30/01	14:35	12,400	**12,000**	**160**	**580**	**140**	**510**	**300**	--	--	--
MW-4	MW-4-INF-AM	10/31/01	11:15	11,260	**9,600**	**170**	**550**	**130**	**460**	**340**	--	--	--
MW-4	MW-4-INF-PM	10/31/01	14:00	10,650	**9,300**	**140**	**470**	**150**	**470**	**260**	--	--	--
MW-4	MW-4-INF-AM	11/2/01	4:30	10,470	**11,000**	**190**	**570**	**110**	**440**	**390**	--	--	--
MW-4	MW-4-INF-PM	11/2/01	13:35	9,470	**7,500**	**160**	**460**	**120**	**410**	**340**	**16**	**10**	<1.5
EX-1	EX-1-AM-IN	11/1/01	14:00	**11,370**	**8,600**	**120**	**430**	**90**	**365**	**160**	--	--	--
MW-4	MW-4-PM-EFF	10/29/01	16:00	-	**2.5**	<0.10	**0.18**	**0.17**	**0.91**	<0.10	--	--	--
MW-4	MW-4-PM-EFF	11/2/01	13:35	-	**20**	**0.11**	**1.1**	**0.98**	**2.7**	<0.10	--	--	--

MTBE = Methyl tert buty ether
OVA = Organic vapor analyzer
ppmv = parts per million by volume
<n = less than method reporting limit

CAMBRIA

Table 5. Grab Water Analytical Results
BP Oil Site No. 11117
7210 Bancroft Avenue, Oakland, California

Extraction Well	Date	TPHg (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)
		8015M	8021	8021	8021	8021	8021
MW-2	10/29/01	**140,000**	**16,600**	**22,800**	**2,800**	**18,700**	**12,900**
MW-2	11/2/01	**110,000**	**10,100**	**12,800**	**1,710**	**11,600**	**56,500**
MW-4	10/29/01	**74,000**	**5,530**	**5,620**	**2,950**	**9,660**	**21,700**
MW-4	11/2/01	**80,000**	**9,420**	**1,470**	**1,770**	**3,320**	**60,000**
EX-1	10/29/01	**26,000**	**2,600**	**253**	**1,450**	**6,090**	**1,550**
EX-1	11/2/01	**54,000**	**3,070**	**6,870**	**1,320**	**8,060**	**7,300**
EX-2	10/29/01	<50	<0.50	<0.50	<0.50	<1.5	<0.50
EX-2	11/2/01	<50	<0.50	<0.50	<0.50	<1.5	**1.29**
Tank	11/2/01	**26,000**	**890**	**1,300**	**580**	**2,600**	**9,500**

MTBE = Methyl tert buty ether
ug/l = micrograms per liter
<n = less than method reporting limit

CAMBRIA

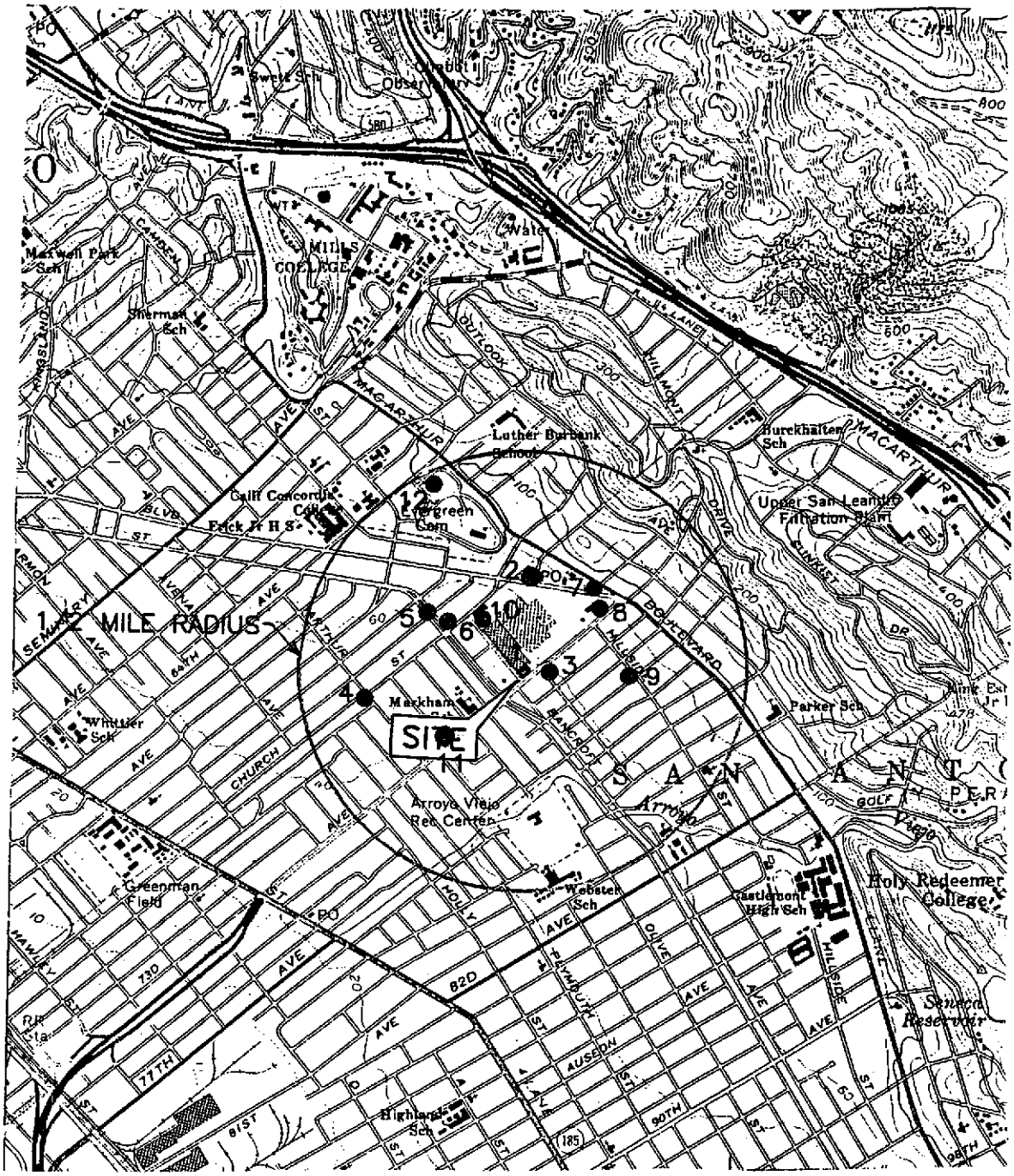
APPENDIX A

Background Data

CAMBRIA

APPENDIX A

Background Data



● WELL LOCATION

SOURCE:
USGS MAP, OAKLAND EAST QUADRANGLE, CALIFORNIA. 7.5 MINUTE SERIES. 1959. PHOTOREVISED 1980.

N

0 1000' 2000'

QUADRANGLE LOCATION

WELL LOCATION MAP

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100189--.DWG 11-12-93 RKW 1=1

WELL SURVEY
BP Oil Co. Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

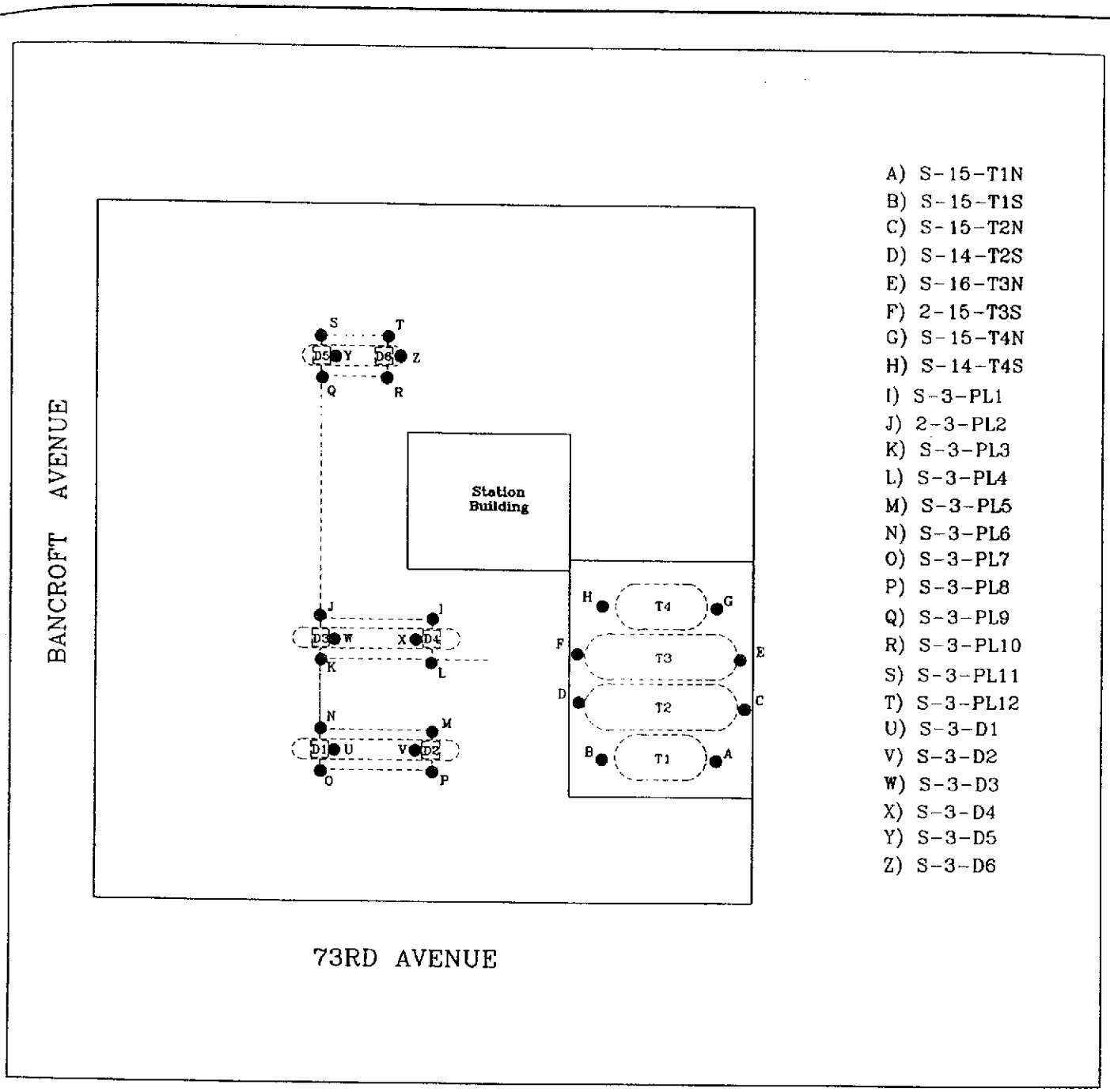
Alisto Project No. 10-018

COUNTY\STATE WELL NO.	ALISTO MAP REFERENCE NO.	OTHER WELL NO.	WELL OWNER	WELL DEPTH (feet)	SEAL DEPTH (feet)	WELL USE	STATUS
2S/13W10Q8	1	MW-1	BP Oil Company 2868 Prospect Park Drive Rancho Cordova, CA 95670	40	19	Monitoring	Active
2S/3W10Q9	1	MW-2	BP Oil Company 2868 Prospect Park Drive Rancho Cordova, CA 95670	40	18	Monitoring	Active
2S/3W10Q3	1	MW-3	Topa Savings Bank 1800 Avenue of the Stars Los Angeles, CA 90067	45	25	Test Well	Active
2S/3W10Q09	1	MW-4	BP Oil Company 16400 South Center Pkwy, Ste. 300 Tukwila, WA 98188	40	18	Monitoring	Active
2S/3W10Q10	1	MW-6	BP Oil Company 16400 South Center Pkwy, Ste. 300 Tukwila, WA 98188	40	18	Monitoring	Active
2S/3W10Q1	2		Chevrolet-Oakland Div. of GM Foothill Boulevard and 69th Avenue Oakland, CA	400	0	Industrial	Unknown
2S/3W10Q	3	3350B	East Bay M.U.D. 2139 Adeline Street Oakland, CA 94607	65	33	Cathodic Protection	Active
2S/3W10P1	4	1-1253	Pacific Gas & Electric 4801 Oakport Street Oakland, CA 94601	120	120	Cathodic Protection	Active
2S/3W10L1	5		Exxon Oil USA	50	20	Other/ Monitoring	Unknown
2S/3W10K1	6	MW-2	Topa Savings Bank 1800 Avenue of the Stars Los Angeles, CA 90067	35	15	Test Well	Active
2S/3W10J1	7	MW-4	Topa Savings Bank 1800 Avenue of the Stars Los Angeles, CA 90067	25	8	Test Well	Active

WELL SURVEY
BP Oil Co. Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

Alisto Project No. 10-018

COUNTY\STATE WELL NO.	ALISTO MAP REFERENCE NO.	OTHER WELL NO.	WELL OWNER	WELL DEPTH (feet)	SEAL DEPTH (feet)	WELL USE	STATUS
2S/3W10J4	8		City of Oakland 7100 Foothill Boulevard Oakland, CA 94605	25	9	Monitoring	Active
2S/3W10R1	9		Pacific Gas & Electric 4801 Oakport Street Oakland, CA	120	Unknown	Cathodic Protection	Active
2S/3W10Q11-15	10	MW-5	Eastmont Mall One Eastmont Mall Oakland, CA 94605	50	28	Monitoring	Active
2S/3W10Q11-15	10	MW-6	Eastmont Mall One Eastmont Mall Oakland, CA 94605	50	28	Monitoring	Active
2S/3W10Q11-15	10	MW-7	Eastmont Mall One Eastmont Mall Oakland, CA 94605	50	23	Monitoring	Active
2S/3W10Q11-15	10	MW-8	Eastmont Mall One Eastmont Mall Oakland, CA 94605	49	25	Monitoring	Active
2S/3W10Q11-15	10	MW-9	Eastmont Mall One Eastmont Mall Oakland, CA 94605	50	33	Monitoring	Active
2S/3W-10J2	10	DM-1	J. C. Penny's	28	10	Monitoring	Active
2S/3W-10J3	10	DM-2	J. C. Penny's	28	8	Monitoring	Active
2S/3W15C1	11		East Bay Municipal Utilities P.O. Box 24055 Oakland, CA 94623	65	53	Cathodic Protection	Unknown
2S/3W10G1	12		Evergreen Cemetery 64th Ave. Oakland, CA	440	0	Irrigation	Unknown



FN 23490002

EXPLANATION

● Soil Sample Location

S-15-T1N — Tank/Product Line/Dispenser number
- Depth
- Soil Sample

APPROXIMATE SCALE

0 30 60 FEET

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

TOSCO 76 SERVICE STATION 11117
7210 Bancroft Avenue
Oakland, California

PROJECT NO. 2349

PLATE 2

Nov. 10, 1998

TABLE 1
RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
Tosco 76 Service Station 11117
7210 Bancroft Avenue
Oakland, California

Sample #	Plate 2 Callout	Date Sampled	Depth (ft bgs)	TEPHd	TPPHg	MTBE	B	T	E	X	Total Lead
				<.....ppm.....>							
Underground Storage Tanks											
S-15-T1N	A	8/14/98	15	630	480	1.6	0.40	0.46	2.3	1.2	NA
S-15-T1S	B	8/14/98	15	800	5,300	ND	ND	100	63	530	NA
S-15-T2N	C	8/14/98	15	NA	440	1.3	0.79	6.2	4.6	35	ND
S-14-T2S	D	8/14/98	14	NA	3.7	0.055	ND	0.019	0.060	0.52	NA
S-16-T3N	E	8/14/98	16	NA	810	5.3	0.95	4.2	16	99	NA
S-15-T3S	F	8/14/98	15	NA	ND	0.065	ND	ND	ND	0.013	NA
S-15-T4N	G	8/14/98	15	NA	ND	0.26	ND	ND	ND	ND	NA
S-14-T4S	H	8/14/98	14	NA	ND	0.028	ND	0.0090	ND	0.016	NA
Product Lines and Dispensers											
S-3-PL1	I	8/14/98	3	NA	240	15	ND	6.0	3.5	25	12
S-3-PL2	J	8/14/98	3	14	3.3	0.10	ND	0.026	0.018	0.18	NA
S-3-PL3	K	8/14/98	3	4.8	ND	0.86	ND	ND	ND	ND	NA
S-3-PL4	L	8/14/98	3	21	6.8	12	0.063	0.0081	0.17	0.46	NA
S-3-PL5	M	8/14/98	3	NA	ND	ND	ND	ND	ND	ND	NA
S-3-PL6	N	8/14/98	3	NA	4.8	ND	ND	0.11	0.0054	0.038	NA
S-3-PL7	O	8/14/98	3	NA	1.8	0.075	ND	0.084	0.019	0.097	NA
S-3-PL8	P	8/14/98	3	NA	ND	ND	ND	ND	ND	ND	NA
S-3-PL9	Q	8/14/98	3	18	ND	ND	ND	ND	ND	ND	NA
S-3-PL10	R	8/14/98	3	NA	ND	ND	ND	ND	ND	ND	NA
S-3-PL11	S	8/14/98	3	190	1.7	ND	ND	ND	0.0068	0.012	NA
S-3-PL12	T	8/14/98	3	ND	1.4	0.048	0.0089	0.025	0.0061	0.035	NA
S-3-D1	U	8/14/98	3	NA	72	10	ND	ND	ND	0.63	NA
S-3-D2	V	8/14/98	3	NA	ND	0.054	ND	ND	ND	ND	NA
S-3-D3	W	8/14/98	3	NA	ND	1.7	ND	0.010	ND	0.010	NA
S-3-D4	X	8/14/98	3	NA	7200	72/ND*	22	170	87	590	40
S-3-D5	Y	8/14/98	3	NA	ND	ND	ND	ND	ND	ND	NA
S-3-D6	Z	8/14/98	3	ND	ND	0.053	ND	ND	ND	ND	NA

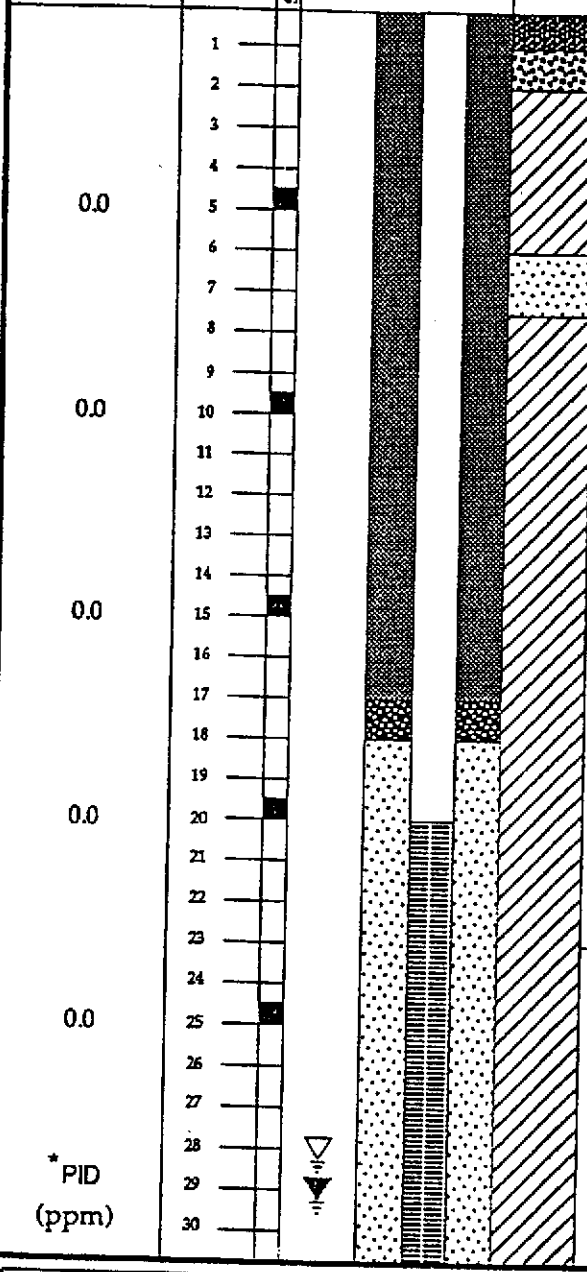
TABLE 1
RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
Tosco 76 Service Station 11117
7210 Bancroft Avenue
Oakland, California

Sample #	Plate 2 Callout	Date Sampled	Depth (ft bgs)	TEPHd	TPPHg	MTBE	B	T	E	X	Total Lead
				<.....ppm.....>							
Soil-Stockpile											
SP-1-(1-4)	NA	8/14/98	NA	9.3	16	NA	0.011	0.016	0.039	0.23	26
SP-2-(1-4)	NA	8/14/98	NA	17	19	NA	0.022	ND	0.034	0.11	30
SP-3-(1-4)	NA	8/14/98	NA	4.6	2.0	NA	ND	ND	ND	0.011	21
SP-4-(1-4)	NA	8/14/98	NA	5.3	2.4	NA	ND	ND	ND	0.014	23

Notes:

S-15-TIN	=	Soil Sample - depth - UST number/end.
S-3-PL1	=	Soil Sample - depth - product line sample number.
S-3-D1	=	Soil Sample - depth - dispenser number.
SP-1-(1-4)	=	Stockpiled soil sample - stockpile number - soil sleeve number.
TEPHd	=	Total extractable petroleum hydrocarbons as diesel analyzed using EPA method 8015 (modified).
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015 (modified).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA method 8020.
BTEX	=	Benzene, toluene, ethyl benzene, and total xylenes analyzed using EPA method 8020.
Total Lead	=	Total threshold limit concentration of lead analyzed using EPA method 6010.
ft bgs	=	Feet below ground surface.
ppm	=	Parts per million.
NA	=	Not analyzed/not applicable.
ND	=	Not detected at or above laboratory method detection limits.
*	=	MTBE confirmed using EPA method 8260.

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
7210 Bancroft Avenue, Oakland, CA	12/27/91	8 Inches	90 Degrees	MW-1
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		
Bayland Drilling	12/27/91	28 Feet		
OPERATOR	**LOGGED BY**	**STATIC WATER DEPTH/DATE**		
Tom Schmidt	T. Lane	29 Feet		
DRILL MAKE & MODEL	**SAMPLING METHOD**			**BOTTOM OF BORING**
CME 75	California modified split spoon			40 Feet
WELL MATERIAL	**SLOT SIZE**	**FILTER PACK**	**WELL SEAL**	**WELL NO.**
2" SCH 40 PVC	0.020"	#2/16	Neat cement over bentonite	MW-1



MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
ASPHALT
BASEROCK
Silty CLAY (CL) dark brown, low plasticity, 20-25% silt, trace fine to coarse sand, trace pebble gravel, dry.
Sandy CLAY (CL) yellow-brown, low plasticity, 30-35% fine sand, trace pebble gravel, trace rootlets, moist.
Gravelly SAND (SW) med. brown, well graded, medium to coarse grained, 15% sub-rounded pebble gravel, moist.
Silty CLAY (CL) medium brown, low plasticity, 15-20% silt, trace medium sand, damp.
Sandy CLAY (CL) medium brown, low plasticity, 35-40% fine sand, trace rounded pebble gravel, wet.
Silty CLAY (CL) medium yellow-brown, low plasticity, 15-20% silt, trace angular pebble gravel, trace charcoal fragments, wet.
Gravelly CLAY (CL) medium brown, low plasticity, 10-15% pebble gravel, damp.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-1
AND
WELL CONSTRUCTION MW-1

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-2

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 12/27/91	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-1
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 12/27/91	FIRST ENCOUNTERED WATER DEPTH 28 Feet		
OPERATOR Tom Schmidt	LOGGED BY T. Lane	STATIC WATER DEPTH/DATE 29 Feet		
DRILL MAKE & MODEL CME 75	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/16	WELL SEAL Neat cement over bentonite	WELL NO. MW-1

FIELD HEADSPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
	31–60					Gravelly CLAY (CL) medium brown, low plasticity, 20-30% sub-rounded coarse gravel, wet.

*PID (ppm)

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-1
AND
WELL CONSTRUCTION MW-1

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-3

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 12/27/91	BORING DIAMETER 8 Inches	CLE/BEARING 90 Degrees	BORING NO MW-2
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 12/27/91	FIRST ENCOUNTERED WATER DEPTH 30 Feet		
OPERATOR Tom Schmidt	LOGGED BY T. Lane	STATIC WATER DEPTH/DATE 30 Feet		
DRILL MAKE & MODEL CME 75	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/16	WELL SEAL Neat cement over bentonite	WELL NO. MW-2

FIELD HEADSPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
	1					ASPHALT
	2					BASEROCK
	3					Silty CLAY (CL) dark brown, low plasticity, 20-25% silt, trace fine to coarse sand, trace pebble gravel, dry.
	4					
0.0	5					Sandy CLAY (CL) yellow-brown, low plasticity, 30-35% fine sand, trace pebble gravel, trace rootlets, moist.
	6					
	7					Gravelly SAND (SW) med. brown, well graded, medium to coarse grained, 15% sub-rounded pebble gravel, moist.
	8					
	9					Silty CLAY (CL) medium brown, low plasticity, 15-20% silt, trace medium sand, damp.
0.0	10					
	11					
	12					
	13					
	14					Sandy CLAY (CL) medium brown, low plasticity, 35-40% fine sand, trace rounded pebble gravel, wet.
0.0	15					
	16					Silty CLAY (CL) medium yellow-brown, low plasticity, 15-20% silt, trace angular pebble gravel, trace charcoal fragments, wet.
	17					
	18					
	19					
0.0	20					
	21					Gravelly SAND (SW) medium brown, well graded coarse sand, 10-15% well rounded pebble gravel, wet.
	22					
	23					
	24					Gravelly CLAY (CL) medium brown, low plasticity, 10-15% pebble gravel, damp.
0.0	25					
	26					
	27					
	28		▽			
* PID (ppm)	29		▼			
	30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-2
AND
WELL CONSTRUCTION MW-2

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-4

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 12/27/91	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-2
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 12/27/91	FIRST ENCOUNTERED WATER DEPTH 30 Feet		
OPERATOR Tom Schmidt	LOGGED BY T. Lane	STATIC WATER DEPTH/DATE 30 Feet		
DRILL MAKE & MODEL CME 75	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/16	WELL SEAL Neat cement over bentonite	WELL NO. MW-2

FIELD HEADSPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
	31					Gravelly CLAY (CL) medium brown, low plasticity, 20-30% sub-rounded coarse gravel, wet.
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
	45					
	46					
	47					
	48					
	49					
	50					
	51					
	52					
	53					
	54					
	55					
	56					
	57					
	58					
*PID (ppm)	59					
	60					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

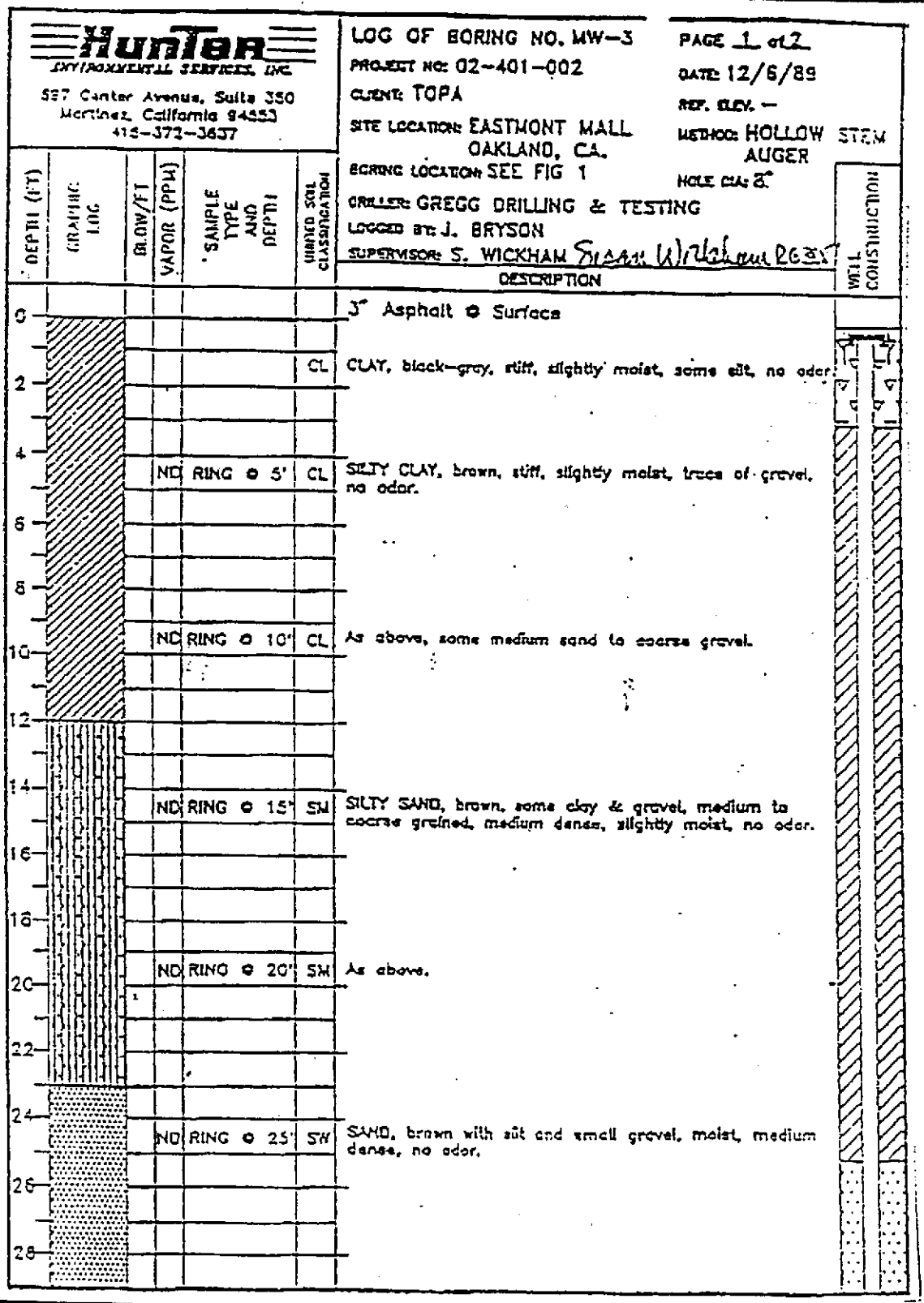
APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-2
AND
WELL CONSTRUCTION MW-2

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-5

JOB NO.
9-029



Completed By: HUNTER ENVIRONMENTAL SERVICES, INC. December 6, 1989	SOIL BORING LOG MW-3 AND WELL CONSTRUCTION MW-3 BP Oil Station No. 11117 7210 Bancroft Avenue Oakland, CA	PLATE A-6 JOB NO. 9-029

HUNTER
ENVIRONMENTAL SERVICES, INC.

597 Center Avenue, Suite 350
Martinez, California 94553
415-372-3637

LOG OF BORING NO. MW-3 PAGE 2 of 2
PROJECT NO: 02-401-002 DATE: 12/6/89
CLIENT: TOPA REF. ELEV. —
SITE LOCATION: EASTMONT MALL METHOD: HOLLOW STEM AUGER
OAKLAND, CA.
BORING LOCATION: SEE FIG 1 HOLE DIA: 8"
DRILLER: GREGG DRILLING & TESTING
LOGGED BY: J. BRYSON
SUPERVISOR: S. WICKHAM Stuart Wickham RG 3351

DEPTH (FT)	GRAPHIC LOG	BLOW/FT	VAPOR (PPM)	SAMPLE TYPE AND DEPTH	USCS SOIL CLASSIFICATION	DESCRIPTION	WELL CONSTRUCTION
29			NO	RING @ 30'	SW	As above.	
31							
33							
35			NO	RING @ 35'	SW	As above, moist.	
37						▽	
39						As above, saturated.	
41							
43						CLAY, silty, light brown, firm, slightly moist, no odor.	
45						TOTAL DEPTH — 45'	
47						Well Construction: 2"(0.02") slotted PVC 45'-30'; blank 2" PVC 30'-0'; #3 lonestar sand 45'-25'; bentonite 25'-3'; cement 3'-0.	
49							
51							
53							
55							
57							

Completed By: HUNTER ENVIRONMENTAL SERVICES, INC. December 6, 1989	SOIL BORING LOG MW-3 AND WELL CONSTRUCTION MW-3 BP Oil Station No. 11117 7210 Bancroft Avenue Oakland, CA	PLATE A-7 JOB NO. 9-029

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
7210 Bancroft Avenue, Oakland, CA	7/22/92	8 Inches	90 Degrees	MW-4
DRILLING CONTRACTOR	COMPLETED	FIRST ENCOUNTERED WATER DEPTH		
Bayland Drilling	7/22/92	31 Feet		
OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE		
Frank Bartolovich	T. Ramirez	32.5 Feet		
DRILL MAKE & MODEL	SAMPLING METHOD			BOTTOM OF BORING
CME 55	California modified split spoon			40 Feet
WELL MATERIAL	SLOT SIZE / FILTER PACK	WELL SEAL		WELL NO.
2" SCH 40 PVC	0.020" / #2/12	Neat cement with 5% bentonite over hydrated pellets		MW-4

BLOWS/FOOT	FIELD HEAD-SPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					ASPHALT
		2					BASEROCK
		3					CLAY (CL) medium brown, moderate plasticity, 5-10% medium to coarse sand, dry.
7		4					
24	462	5					Sandy CLAY (CL) light brown, low plasticity, 40% fine to medium angular sand, dry.
24		6					
		7					
		8					Sandy CLAY (CL) greenish-brown, moderate plasticity, 30% fine sub-angular to sub-rounded sand, 5-10% silt content, dry.
		9					
4		10					
12	106	11					
23		12					Sandy CLAY (CL) medium brown, low plasticity, 25-30% fine to coarse angular to sub-rounded sand, occasional gravel clast up to 5cm, dry.
		13					
13		14					
14	464	15					
22		16					
		17					
		18					
		19					
6		20					Sandy CLAY (CL) interbedded light brown and dark brown layers. Dark brown sandy clay is 30% fine to medium sand, with moderate plasticity. Light brown sandy clay is 20% fine sand, 10% silt content, with low plasticity. Both are damp, with increasing moisture, clay content and plasticity with depth.
10	442	21					
13		22					
		23					
		24					
3		25					
13	673	26					
21		27					
		28					Clayey SAND (SC) medium brown, fine to medium sub-rounded to rounded sand, 5% gravel with clasts up to 3cm, 15% clay content, moist.
		29					
	*PID (ppm)	30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-4
AND
WELL CONSTRUCTION MW-4

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-8

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 7/22/92	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-4	
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 7/22/92	FIRST ENCOUNTERED WATER DEPTH 31 Feet			
OPERATOR Frank Bartolovich	LOGGED BY T. Ramirez	STATIC WATER DEPTH/DATE 32.5 Feet			
DRILL MAKE & MODEL CME 55	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet	
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement with 5% bentonite over hydrated pellets	WELL NO. MW-4	

BLOWS/FOOT	FIELD HEAD-SPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
13 50/6	691	31 32 33	■	▽ ▼			Sandy CLAY (CL) medium brown, low plasticity, 30% fine to coarse, sub-angular to rounded sand, occasional gravel clast up to 2cm, moist to wet.
6 8 9		34 35 36 37 38					CLAY (CL) dark brown, high plasticity, wet. Silty SAND (SM) grey to light brown, fine to medium sand, 10% gravel up to 5cm, sub-rounded to rounded clasts, 20% silt content, saturated.
3 6 8		39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58					CLAY (CL) med. brown, moderate plasticity, approx. 5% rounded medium sand, wet.
	*PID (ppm)	59 60					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-4
AND
WELL CONSTRUCTION MW-4

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-9

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 7/23/92	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-6
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 7/23/92	FIRST ENCOUNTERED WATER DEPTH 31.5 Feet		
OPERATOR Kurt Voss	LOGGED BY T. Ramirez	STATIC WATER DEPTH/DATE 31.5 Feet		
DRILL MAKE & MODEL CME 75	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement with 5% bentonite over hydrated pellets	WELL NO. MW-6

BLOWS/FOOT	FIELD HEAD-SPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
	*PID (ppm)	1					ASPHALT
		2					CLAY (CL) dark brown, high plasticity, 10% sub-angular to sub-rounded fine to medium sand, moist.
4		3					
6		4					Sandy CLAY (CL) dark brown, high plasticity, 25% fine to coarse sand with occasional gravel clasts up to 3cm, dry.
9	0.0	5					
		6					CLAY (CL) light brown, moderate plasticity, 5-10% fine sand, dry.
		7					
		8					
6		9					
9							
15	0.0	10					Sandy CLAY (SC) dark brown, high plasticity, 20% fine to coarse angular to sub-rounded sand, occasional gravel clasts up to 4cm, dry.
		11					
		12					
		13					
5		14					
12							
16	0.0	15					Sandy CLAY (CL) yellow brown, moderate plasticity, 20% fine to medium sand, 10% silt content, occasional gravel clasts up to 8cm, dry.
		16					
		17					
		18					
8		19					
12							
15	0.0	20					Sandy CLAY (CL) light brown, moderate plasticity, 40% fine to coarse sand, occasional angular to sub-rounded gravel clasts up to 10 cm, moist.
		21					
		22					
		23					
10		24					Sandy CLAY (CL) same as above except only 25% sand content.
13							
16	0.0	25					
		26					
		27					
		28					
9		29					Gravelly CLAY (CL) medium brown, 25% angular to sub-rounded gravel clasts up to 5cm, 20% fine to coarse sand, decrease gravel and sand content with depth, moist.
16							
20	0.0	30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-6
AND
WELL CONSTRUCTION MW-6

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-12

JOB NO.
9-029

SITE/LOCATION 7210 Bancroft Avenue, Oakland, CA	BEGUN 7/23/92	BORING DIAMETER 8 Inches	ANGLE/BEARING 90 Degrees	BORING NO MW-6	
DRILLING CONTRACTOR Bayland Drilling	COMPLETED 7/23/92	FIRST ENCOUNTERED WATER DEPTH 31.5 Feet			
OPERATOR Kurt Voss	LOGGED BY T. Ramirez	STATIC WATER DEPTH/DATE 31.5 Feet			
DRILL MAKE & MODEL CME 75	SAMPLING METHOD California modified split spoon			BOTTOM OF BORING 40 Feet	
WELL MATERIAL 2" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement with 5% bentonite over hydrated pellets	WELL NO. MW-6	

BLOWS/FOOT	FIELD HEAD-SPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31					
		32		▼			Silty CLAY (CL) yellow-brown, 30% silt content, 10% sub-angular to sub-rounded gravel clasts up to 10cm, approx. 5% medium to coarse sand, increase sand content with depth, wet.
4		33					
12		34					
20		35					
		36					
		37					Sandy GRAVEL (GP) light brown, gravel clasts up to 7cm, 30% fine to coarse sand, 10% silt content, saturated.
		38					
5		39					Silty SAND (SM) light grey, fine to medium sand with <5% coarse sand, 35% silt content, saturated.
9		40					
15		41					
		42					
		43					
		44					
		45					
		46					
		47					
		48					
		49					
		50					
		51					
		52					
		53					
		54					
		55					
		56					
		57					
		58					
	*PID (ppm)	59					
		60					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE:

APPROVED BY: Frederick G. Moss, PE No. 35162

SOIL BORING LOG MW-6
AND
WELL CONSTRUCTION MW-6

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, CA

PLATE
A-13

JOB NO.
9-029

SITE/LOCATION: BP/7210 Bancroft Ave, Oakland	GUN: 10/6/94	BORING DIAMETER: 8"	ANGLE: 90	BORING NO: MW-7
DRILLING CONTRACTOR: West Hazmat Drilling Corp.	COMPLETED: 10/6/94	FIRST ENCOUNTERED WATER DEPTH: 31.0' damp		BOTTOM OF BORING: 45.0'
DRILL MAKE & MODEL: Mobile B-57	OPERATOR: Eugene Nunes	LOGGED BY: F. Maroni	STATIC WATER DEPTH/DATE: 43.67' 10/10/94	WELL NO.: MW-7
WELL MATERIAL: PVC Sch 40	SLOT SIZE: 0.020"	SAMPLING METHOD: CA Modified Split Spoon		BOTTOM OF WELL: 45.0'
FILTER PACK: #3 Monterey Sand	WELL SEAL: Bentonite			PLANNED USE: Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					3" Asphalt over baserock; Gravel (GP) with some reddish brown clay.
		2					
		3					Silty CLAY (CL); very dark brown, stiff, dry.
		4					
88	0.0	5					Sandy CLAY (CL); yellow brown, very stiff; trace very fine grained sand, dry.
		6					
		7					
		8					
		9					
65	0.0	10					Sandy CLAY (CL); reddish brown, iron oxide deposits, black streaks like coal, well graded coarse grained, subangular to angular sand; few gravel, dry.
		11					
		12					
		13					Clayey SAND (SC); brown, well graded coarse sand, some subangular to angular gravel, some fine-grained sand, moist.
		14					
90	0.0	15					
		16					Gravelly CLAY (CL); brown, iron oxide deposits, some coarse gravel, few coarse sand.
		17					
		18					
		19					
57	0.0	20					Sandy CLAY (CL); brown, medium stiff, well graded coarse sand, some angular to subangular gravel, dry.
		21					
		22					
		23					
		24					
50 w/ 5" rec.	0.0	25					Encountered rock/gravel (GP) at 25.5 feet. Drilled out to 26.5 ft.
		26					
		MW-7-25' 27					Sandy CLAY (CL); brown, stiff, well graded, subangular to angular, coarse grained sand; some fine grained angular gravel; few fine grained sand.
50 w/ 10" rec.		28					
		29					
		30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: GP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-7

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

TE/LOCATION 3P/7210 Bancroft Ave, Oakland	UN 10/6/94	BORING DIAMETER 8"	ANGLE/B NG 90°	BORING NO MW-7
RILLING CONTRACTOR Nest Hazmat Drilling Corp.	COMPLETED 10/6/94	FIRST ENCOUNTERED WATER DEPTH 31.0' damp		BOTTOM OF BORING 45.0'
RILL MAKE & MODEL Mobile B-57	OPERATOR Eugene Nunes	LOGGED BY F. Maroni	STATIC WATER DEPTH/DATE 43.67' 10/10/94	WELL NO. MW-7
VELL MATERIAL PVC Sch 40	SLOT SIZE 0.020"	SAMPLING METHOD CA Modified Split Spoon		BOTTOM OF WELL 45.0'
ILTER PACK #3 Monterey Sand	WELL SEAL Bentonite			PLANNED USE Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31					Sandy CLAY (CL); brown, stiff, medium to coarse grained, subangular to subrounded sand; some fine grained to coarse grained, angular to subangular gravel, damp.
		32					
		33					
		34					
50 w/ 6" rec.	0.0	35					CLAY (CL); yellowish brown, very stiff, damp.
		36					
		37					
		38					
		39					Silty CLAY (CL); yellowish orange, very stiff, moist.
85 w/ 8" rec.	0.0	40					
		41					Gravelly CLAY (CL); yellowish brown, fine to coarse grained angular gravel; some medium to coarse grained sand, moist.
		42					
		43		▼			
		44					CLAY (CL); yellowish brown, trace fine grained sand.
82		45					
							T.D. = 45.0"

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/3/94

APPROVED BY: GP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-7

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE BORING	BORING NO
BP/7210 Bancroft Ave, Oakland	10/6/94	8"	90°	MW-8
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		**BOTTOM OF BORING**
West Hazmat Drilling Corp.	10/6/94	32.0'		40.0'
DRILL MAKE & MODEL	**OPERATOR**	**LOGGED BY**	**STATIC WATER DEPTH/DATE**	**WELL NO.**
Mobile B-57	Eugene Nunes	F. Maroni	28.51' 10/10/94	MW-8
WELL MATERIAL	**SLOT SIZE**	**SAMPLING METHOD**		**BOTTOM OF WELL**
PVC Sch 40	0.020"	CA Modified Split Spoon		40.0'
FILTER PACK	**WELL SEAL**			**PLANNED USE**
#3 Monterey Sand	Bentonite			Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					Sandy topsoil (OL/OH); brown.
		2					Silty CLAY (CL); dark gray, very stiff, dry.
		3					
		4					
		5					
		6					Silty CLAY (CL); light brown, stiff; trace fine grained sand, dry.
		7					
		8					
		9					
90	0.0	10					Sandy CLAY (CL); light brown; some fine to coarse grained sand, some fine-grained, angular to subangular gravel, trace coarse grained gravel; trace silt, dry.
		11					
		12					
		13					
		14					
50 w/ 6" rec.	0.0	15					Gravely CLAY (CL); light brown; some fine to coarse grained, well graded, subangular to subrounded gravel, some well graded, medium grained sand, moist.
		16					
		17					
		18					
		19					
80	0.0	20					Sandy CLAY (CL); light brown, some fine-grained sand, moist.
		21					
		22					
		23					
		24					
50 w/ 6" rec.	0.0	MW-8-25' 25					Sandy GRAVEL (GW); fine to coarse grained, well graded gravel; some fine to coarse grained, well-graded sand; trace clay, moist to wet.
		26					
		27					
		28		▼			
		29					
		30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/3/94

APPROVED BY: GP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-8

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

SITE/LOCATION		BEGUN	BORING DIAMETER	ANG BEARING	BORING NO
BP/7210 Bancroft Ave		10/6/94	8"	90°	MW-8
DRILLING CONTRACTOR		COMPLETED	FIRST ENCOUNTERED WATER DEPTH		BOTTOM OF BORING
West Hazmat Drilling Corp.		10/6/94	32.0'		40.0'
DRILL MAKE & MODEL	OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE		WELL NO.
Mobile B-57	Eugene Nunes	F. Maroni	28.51' 10/10/94		MW-8
WELL MATERIAL	SLOT SIZE	SAMPLING METHOD			BOTTOM OF WELL
PVC Sch 40	0.020"	CA Modified Split Spoon			40.0'
FILTER PACK	WELL SEAL				PLANNED USE
#3 Monterey Sand	Bentonite				Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31		▽			As above.
		32					
		33					
35 w/ 6" rec.		34					Clayey SAND (SC); brown, medium grained, well-graded sand; some clay; few fine grained, subrounded gravel, wet.
		35					
		36					
		37					
		38					
40 w/ 6" rec.		39					
		40					As above.
							T.D. = 40.0'

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/3/94

APPROVED BY: CP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-8

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

SITE/LOCATION BP/7210 Bancroft Ave, Oakland	RUN 10/6/94	BORING DIAMETER 8"	ANGLE/BEARING 90°	BORING NO MW-9
DRILLING CONTRACTOR West Hazmat Drilling Corp.	COMPLETED 10/6/94	FIRST ENCOUNTERED WATER DEPTH 27.5'		BOTTOM OF BORING 40.0'
DRILL MAKE & MODEL Mobile B-57	OPERATOR Eugene Nunes	LOGGED BY F. Maroni	STATIC WATER DEPTH/DATE 28.45' 10/10/94	WELL NO. MW-9
WELL MATERIAL PVC Sch 40	SLOT SIZE 0.020"	SAMPLING METHOD CA Modified Split Spoon		BOTTOM OF WELL 40.0'
FILTER PACK #3 Monterey Sand	WELL SEAL Bentonite			PLANNED USE Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1–9					Backfill; GRAVEL (GP); cobble-sized.
		4–9					CLAY (CL); reddish brown, stiff, dry.
80	0.0	10–14					CLAY (CL); light brown, hard, trace fine grained sand, dry.
90	0.0	15–19					Silty CLAY (CL); light brown, hard, dry.
80	0.0	20–24					As above, moist.
70	0.0	25–30	MW-9-25'	▽ ▼			Clayey SAND (SC); brown; fine to medium grained, well graded, rounded to subrounded, moist.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: CoP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-9

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

SITE/LOCATION	EGUN	BORING DIAMETER	ANGL' ARING	BORING NO
BP/7210 Bancroft Ave, Oakland	10/6/94	8"	9[illegible]	MW-9
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		**BOTTOM OF BORING**
West Hazmat Drilling Corp.	10/6/94	27.5'		40.0'
DRILL MAKE & MODEL	**OPERATOR**	**LOGGED BY**	**STATIC WATER DEPTH/DATE**	**WELL NO.**
Mobile B-57	Eugene Nunes	F. Maroni	28.45' 10/10/94	MW-9
WELL MATERIAL	**SLOT SIZE**	**SAMPLING METHOD**		**BOTTOM OF WELL**
PVC Sch 40	0.020"	CA Modified Split Spoon		40.0'
FILTER PACK	**WELL SEAL**			**PLANNED USE**
#3 Monterey Sand	Bentonite			Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31					Clayey SAND (SC); brown, fine-grained, well-graded, subrounded to rounded sand; few fine to coarse grained, angular to subrounded gravel, wet.
		32					
		33					
		34					Gravelly CLAY (CL); brown, fine grained, well graded, subangular to subrounded gravel; some fine grained sand, wet.
70		35					
		36					
		37					
		38					
		39					As above.
		40					T.D. = 40.0'

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: CP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-9

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	BP Oil Company	**BORING/WELL NAME**	EX-1
JOB/SITE NAME	BP-11117	**DRILLING STARTED**	30-Nov-99
LOCATION	7210 Bancroft Avenue, Oakland, California	**DRILLING COMPLETED**	30-Nov-99
PROJECT NUMBER	852-1546	**WELL DEVELOPMENT DATE (YIELD)**	30-Nov-99
DRILLER	V&W Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	18 to 38 ft bgs
LOGGED BY	J. Jones	**DEPTH TO WATER (First Encountered)**	26.0 ft (30-Nov-99) ▽
REVIEWED BY	K. Rahman, RG	**DEPTH TO WATER (Static)**	20.55 ft (30-Nov-99) ▼
REMARKS	Hand augered to 5' bgs; located 5' from well MW-2.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT.		
							Silty GRAVEL; (FILL); light brown; dry; 5% clay, 35% silt, 20% sand, 40% gravel; low plasticity; moderate to high estimated permeability.	1.0	
	4 7 7	EX-1@6'		5			@ 5' - medium dense.		Portland Type I/II
							SAND; (SW); tan; loose; moist; 10% silt, 85% medium grained sand, 5% gravel; high estimated permeability.		
	4 4 5	EX-1@11'		10					4" diam., Schedule 40 PVC
							Sandy Silty GRAVEL; (GM); brown; dense; moist; 5% clay, 35% silt, 15% medium grained sand, 45% angular gravel up to 2"; high estimated permeability.	13.0	
<1.0	20 50	EX-1@15.5'		15	GM				Bentonite Seal
									Lonestar Sand #2/12
	14 17 20	EX-1@21'		20			@ 20' - olive brown; damp; 10% medium grained sand, 50% angular gravel up to 0.5". ▼		
<1.0							**Gravelly Silty SAND**; (SM); brown; dense; wet; 5% clay, 35% silt, 40% coarse grained sand, 20% gravel; high estimated permeability.	23.0	
	20 50	EX-1@25.5'		25	SM		▽		
							Sandy Silty GRAVEL; (GM); olive; dense; wet; 20% silt, 35% sand, 45% gravel; high estimated permeability.	28.0	4"-diam., 0.010" Slotted Schedule 40 PVC
	20 50	EX-1@30.5'		30	GM				
								33.0	
							Sandy Silty CLAY; (CL); see next page.		
				35					

Continued Next Page

WELL LOG (TPH-G) H:\BRITIS-1\11117-~1\GINT\BP-11117.GPJ DEFAULT.GDT 4/24/00

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	BP Oil Company	**BORING/WELL NAME**	EX-1
JOB/SITE NAME	BP-11117	**DRILLING STARTED**	30-Nov-99
LOCATION	7210 Bancroft Avenue, Oakland, California	**DRILLING COMPLETED**	30-Nov-99

Continued from Previous Page

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
	17 23 33	EX-1@36'			CL		**Sandy Silty CLAY**; (CL); brown mottled with black; hard; damp; 45% clay, 35% silt, 20% very fine grained sand; low plasticity; low estimated permeability.		
	12 50/6	EX-1@39'						39.5	Bottom of Boring @ 39.5 ft

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	BP Oil Company	**BORING/WELL NAME**	EX-2
JOB/SITE NAME	BP-11117	**DRILLING STARTED**	30-Nov-99
LOCATION	7210 Bancroft Avenue, Oakland, California	**DRILLING COMPLETED**	30-Nov-99
PROJECT NUMBER	852-1546	**WELL DEVELOPMENT DATE (YIELD)**	30-Nov-99
DRILLER	V&W Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	10"	**SCREENED INTERVAL**	15 to 35 ft bgs
LOGGED BY	J. Jones	**DEPTH TO WATER (First Encountered)**	26.0 ft (30-Nov-99) ▽
REVIEWED BY	K. Rahman, RG	**DEPTH TO WATER (Static)**	22.64 ft (30-Nov-99) ▼
REMARKS	Hand augered to 5' bgs; located between trash enclosure and UST slab.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
					ASPHALT.	1.0
					Silty Sandy GRAVEL; (FILL); brown; dry; 5% clay, 15% silt, 20% sand, 50% gravel; high estimated permeability.	4.0
	10 12 14	EX-2@6'	5	ML	**Sandy SILT**; (ML); orange brown; very stiff; dry; 5% clay, 55% silt, 30% sand, 10% gravel; low plasticity; moderate estimated permeability.	8.0
<1.0	13 15 19	EX-2@11'	10	GM	**Sandy Silty GRAVEL**; (GM); brown; dense; dry; 5% clay, 20% silt, 25% sand, 50% gravel; high estimated permeability.	18.0
<1.0	20 50	EX-2@15.5'	15			
<1.0	26 55	EX-2@20.5'	20	SM	**Silty SAND**; (SM); brown; dense; damp; 25% silt, 70% medium grained sand, 5% gravel; high estimated permeability.	23.0
	18 26 30	EX-2@26'	25	GP	**Silty Sandy GRAVEL**; (GP); brown; dense; wet; 15% silt, 20% medium to coarse grained sand, 65% gravel; high estimated permeability. ▽	30.5
	10 13 26	EX-2@31'	30	CL	**Sandy Silty CLAY**; (CL); light brown; hard; damp; 45% clay, 35% silt, 20% very fine grained sand; low plasticity; low estimated permeability.	
			35			

WELL DIAGRAM

- Portland Type I/II
- 4" diam., Schedule 40 PVC
- Bentonite Seal
- Lonestar Sand #2/12
- 4"-diam., 0.010" Slotted Schedule 40 PVC

WELL LOG (TPH-G) H:\BRITIS~1\11117~1\GINT\BP-11117.GPJ DEFAULT.GDT 4/24/00

Continued Next Page

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	BP Oil Company	**BORING/WELL NAME**	EX-2
JOB/SITE NAME	BP-11117	**DRILLING STARTED**	30-Nov-99
LOCATION	7210 Bancroft Avenue, Oakland, California	**DRILLING COMPLETED**	30-Nov-99

Continued from Previous Page

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
	10 13 32	EX-2@36'						36.5	Bottom of Boring @ 36.5 ft

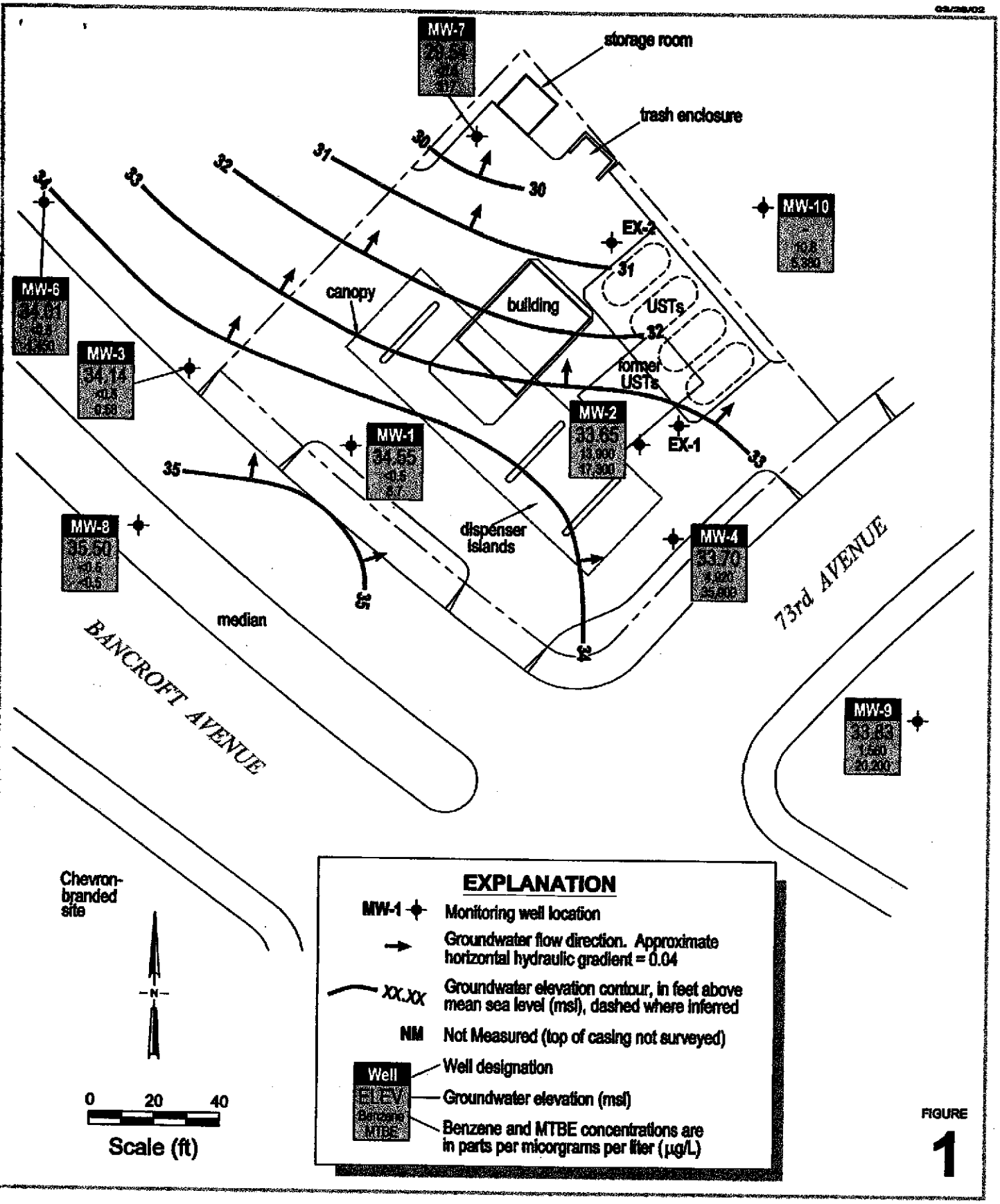


FIGURE
1

BP Oil Site No. 11117

7210 Bancroft Avenue

Oakland, California

CAMBRIA

Groundwater Elevation Contour Map

February 28, 2002

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)		Organic Lead (ug/L)	DO (ppm)	LAB
MW-1	01/05/92	49.80	33.16	—	16.64	57000	50000	2400	1000	1100	3100	—		ND	—	—
MW-1	01/10/92	49.80	33.16	—	16.64	—	—	—	—	—	—	—		—	—	—
MW-1	06/05/92	49.80	29.01	—	20.79	31000	—	2800	2100	800	2300	—		—	—	—
MW-1	07/24/92	49.80	29.45	—	20.35	—	—	—	—	—	—	—		—	—	—
MW-1	07/27/92	49.80	29.45	—	20.35	—	—	—	—	—	—	—		—	—	—
MW-1	09/15/92	49.80	30.53	—	19.27	40000	1200 (c)	3400	3000	1300	3400	—		—	—	ANA
QC-1 (d)	09/15/92	—	—	—	—	36000	—	3800	3400	1400	3800	—		—	—	ANA
MW-1	12/15/92	49.80	31.26	—	18.54	27000	1100 (c)	1700	580	700	1900	—		—	—	ANA
QC-1 (d)	12/15/92	—	—	—	—	22000	—	1500	440	510	1300	—		—	—	ANA
MW-1	03/15/93	49.80	24.80	—	25.00	17000	580	1700	1200	590	1800	—	(l)	—	—	PACE
QC-1 (d)	03/15/93	—	—	—	—	15000	—	1100	860	440	1400	—	(l)	—	—	PACE
MW-1	06/07/93	49.80	25.01	—	24.79	750	100	0.8	0.8	ND<0.5	ND<0.5	—	(l)	—	—	PACE
QC-1 (d)	06/07/93	—	—	—	—	720	—	0.7	0.7	ND<0.5	ND<0.5	—	(l)	—	—	PACE
MW-1	09/23/93	49.80	28.70	—	21.10	40000	770	4000	500	920	3000	6619	(e)(l)	—	—	PACE
MW-1	12/27/93	49.80	28.66	—	21.14	27000	—	2000	400	940	2600	13558	(e)(l)	—	—	PACE
QC-1 (d)	12/27/93	—	—	—	—	21000	—	1700	380	830	2400	9219	(e)(l)	—	—	PACE
MW-1	04/05/94	49.80	26.37	—	23.43	27000	—	3400	930	950	2900	8595	(e)(l)	—	—	PACE
QC-1 (d)	04/05/94	—	—	—	—	29000	—	3700	1000	1000	3100	9672	(e)(l)	—	1.3	PACE
MW-1	07/22/94	49.80	26.54	—	23.26	1700	—	220	2.3	2.0	3.4	262	(e)(l)	—	2.0	PACE
MW-1	10/13/94	49.80	27.46	—	22.34	1200	—	250	21	ND<0.5	3.2	321	(e)(l)	—	2.6	PACE
MW-1	01/25/95	49.80	20.96	—	28.84	1000	—	420	8	13	4	—		—	—	ATI
MW-1	04/19/95	49.80	19.59	—	30.21	5200	—	420	51	230	340	—		—	6.0	ATI
MW-1	07/05/95	49.80	19.61	—	30.19	320	—	4.2	ND<0.50	ND<0.50	ND<1.0	—		—	4.6	ATI
MW-1	10/05/95	49.80	24.40	—	25.40	5800	—	1000	40	31	180	7800		—	2.3	ATI
MW-1	01/12/96	49.80	25.44	—	24.36	370	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0		—	3.7	ATI
MW-1	04/22/96	49.80	18.02	—	31.78	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10		—	3.9	SPL
MW-1	07/02/96	49.80	19.72	—	30.08	—	—	—	—	—	—	—		—	—	—
MW-1	07/03/96	49.80	—	—	—	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	ND<50		—	3.6	SPL
MW-1	11/08/96	49.80	19.98	—	29.82	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.3	SPL
MW-1	01/03/97	49.80	19.49	—	30.31	ND<50	—	ND<0.5	14	ND<1.0	ND<1.0	ND<10		—	4.6	SPL
MW-1	04/28/97	49.80	20.20	—	29.60	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.9	SPL
MW-1	07/01/97	49.80	22.53	—	27.27	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.9	SPL
MW-1	10/02/97	49.80	24.27	—	25.53	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.6	SPL
MW-1	01/09/98	49.80	21.07	—	28.73	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.2	SPL
MW-1	05/06/98	49.80	14.94	—	34.86	60	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.8	SPL
MW-1	07/21/98	49.80	15.11	—	34.69	70	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.8	SPL
MW-1	12/30/98	49.80	19.95	—	29.85	—	—	—	—	—	—	—		—	—	—

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-1	02/02/99	49.80	19.12	---	30.68	420	---	ND<1.0	ND<1.0	ND<1.0	ND<1.0	390	---	---	SPL
MW-1	05/10/99	49.80	15.51	---	34.29	---	---	---	---	---	---	---	---	---	---
MW-1	09/23/99	49.80	21.65	---	28.15	440	---	49	ND<1.0	ND<1.0	ND<1.0	910	---	---	SPL
MW-1	12/23/99	49.80	22.32	---	27.48	---	---	---	---	---	---	---	---	---	---
MW-1	03/27/00	49.80	15.72	---	34.08	2500	---	230	3.0	83	36	4400	---	---	PACE
MW-1	05/22/00	49.80	16.92	---	32.88	---	---	---	---	---	---	---	---	---	---
MW-1	08/31/00	49.80	20.12	---	29.68	1700	---	18	5.5	7.9	5.0	510	---	---	PACE
MW-1	12/11/00	49.80	20.72	---	29.08	---	---	---	---	---	---	---	---	---	---
MW-1	03/20/01	49.80	15.91	---	33.89	880	---	38.2	ND<0.5	24.1	ND<1.5	391	---	---	PACE
MW-1	06/19/01	49.80	18.38	---	31.42	---	---	---	---	---	---	---	---	---	---
MW-1	09/20/01	49.80	21.23	---	28.57	3200	---	400	19.8	42	32.5	2510	---	---	PACE
MW-1	12/27/01	49.80	16.72	---	33.08	750	---	70.1	0.536	4.74	3.76	649	---	---	PACE
MW-1	02/28/02	49.80	15.25	---	34.55	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1.0	8.7	---	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-2	01/05/92	51.07	DRY	---	DRY	---	---	---	---	---	---	---	---	---	---
MW-2	01/10/92	51.07	DRY	---	DRY	---	---	---	---	---	---	---	---	---	---
MW-2	06/05/92	51.07	30.05	---	21.02	11000	---	2000	180	490	1900	---	---	---	---
MW-2	07/24/92	51.07	30.72	---	20.35	---	---	---	---	---	---	---	---	---	---
MW-2	07/27/92	51.07	30.52	---	20.55	---	---	---	---	---	---	---	---	---	---
MW-2	09/15/92	51.07	31.56	---	19.51	75000	3200 (c)	2000	6500	2300	13000	---	---	---	ANA
MW-2	12/15/92	51.07	32.40	---	18.67	34000	1600 (c)	6200	8900	2000	7900	---	---	---	ANA
MW-2	03/15/93	51.07	26.14	---	24.93	150000	8400	12000	18000	3200	22000	82000 (e)	---	---	PACE
MW-2 (f)	06/07/93	51.07	26.38	SHEEN	24.69	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	09/23/93	51.07	31.43	1.92	21.08	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	12/27/93	51.07	34.07	1.07	17.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/05/94	51.07	30.44	3.30	23.11	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	07/22/94	51.07	28.51	0.80	23.16	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	10/13/94	51.07	29.33	0.70	22.27	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/25/95	51.07	25.55	4.25	28.71	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/19/95	51.07	19.78	0.12	31.38	---	---	---	---	---	---	---	---	---	---
MW-2	07/05/95	51.07	20.88	0.09	30.26	140000	---	14000	30000	3500	26000	---	---	---	ATI
MW-2 (f)	10/05/95	51.07	24.68	0.10	26.47	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/12/96	51.07	25.72	0.06	25.40	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/22/96	51.07	19.33	0.08	31.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	07/02/96	51.07	20.01	0.04	31.09	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	11/08/96	51.07	20.28	0.01	30.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/03/97	51.07	19.87	0.02	31.22	---	---	---	---	---	---	---	---	---	---
MW-2	04/28/97	51.07	20.59	0.01	30.49	560000	---	1200	1300	290	2310	6100	---	3.9	SPL
MW-2	07/01/97	51.07	22.90	0.01	28.18	24000	---	15000	16000	4900	24400	63000	---	3.7	SPL
QC-1 (d)	07/01/97	---	---	---	---	150000	---	14000	13000	1800	14200	57000	---	---	SPL
MW-2	10/02/97	51.07	24.65	0.02	26.44	---	---	---	---	---	---	---	---	---	---
MW-2	10/03/97	51.07	---	---	---	250000	---	32000	39000	6000	42000	160000	---	4.5	SPL
MW-2	01/09/98	51.07	21.22	0.01	29.86	420000	---	23000	29000	5800	43000	75000	---	4.0	SPL
QC-1 (d)	01/09/98	---	---	---	---	300000	---	20000	25000	5200	37000	84000	---	---	SPL
MW-2	05/06/98	51.07	15.10	0.01	35.98	180000	---	25000	26000	3400	22900	35000	---	3.7	SPL
MW-2	07/21/98	51.07	15.31	0.01	35.77	270000	---	21000	20000	2700	18800	34000	---	3.8	SPL
MW-2	12/30/98	51.07	21.10	0.10	30.05	300000	---	22000	24000	4200	26000	89000/95000 (j)	---	---	SPL
MW-2	02/02/98	51.07	20.11	---	30.96	410000	---	27000	43000	6700	50000	20000	---	---	SPL
MW-2	05/10/99	51.07	16.68	---	34.39	220000	---	20000	20000	2800	20000	100000	---	---	SPL
MW-2	09/23/99	51.07	22.50	---	28.57	160000	---	21000	24000	2900	20000	44000	---	---	SPL
MW-2 (k)	12/23/99	51.07	22.64	---	28.43	170000	---	25000	41000	3100	24000	40000	---	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-2	03/27/00	51.07	16.88	---	34.19	140000	---	15000	25000	3400	21000	19000	---	---	PACE
MW-2	05/22/00	51.07	17.75	---	33.32	150000	---	18000	31000	3500	22000	26000	---	---	PACE
MW-2	08/31/00	51.07	21.97	---	29.10	200000	---	16000	26000	2500	16000	38000	---	---	PACE
MW-2	12/11/00	51.07	22.05	---	29.02	130000	---	18600	30000	3250	20600	21700	---	---	PACE
MW-2	03/20/01	51.07	17.75	---	33.32	140000	---	15900	24800	3700	22100	12900	---	---	PACE
MW-2	06/19/01	51.07	20.15	---	30.92	130000	---	15100	19500	3300	21400	20300	---	---	PACE
MW-2	09/20/01	51.07	22.14	---	28.93	110000	---	12400	12600	2230	13000	39500	---	---	PACE
MW-2	12/27/01	51.07	18.17	---	32.90	150000	---	17500	26000	3050	19500	27500	---	---	PACE
MW-2	02/28/02	51.07	17.42	---	33.65	120000	---	13900	18800	3030	19600	17300	---	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)		Organic Lead (ug/L)	DO (ppm)	LAB
MW-3	01/05/92	49.95	33.69	—	16.26	7400	4000	790	23	210	40	—		ND	—	—
MW-3	01/10/92	49.95	33.74	—	16.21	—	—	—	—	—	—	—		—	—	—
MW-3	06/05/92	49.95	29.65	—	20.30	2000	—	130	5.3	93	20	—		—	—	—
MW-3	07/24/92	49.95	30.14	—	19.81	—	—	—	—	—	—	—		—	—	—
MW-3	07/27/92	49.95	30.14	—	19.81	—	—	—	—	—	—	—		—	—	—
MW-3	09/15/92	49.95	31.07	—	18.88	450	ND<50	55	3.1	34	7.1	—		—	—	ANA
MW-3	12/15/92	49.95	31.93	—	18.02	12000	710 (c)	940	ND<50	310	120	—		—	—	ANA
MW-3	03/15/93	49.95	25.71	—	24.24	ND<50	60	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	(l)	—	—	PACE
MW-3	06/07/93	49.95	25.80	—	24.15	150	ND<50	3.6	ND<0.5	0.9	1.3	—	(l)	—	—	PACE
MW-3	09/23/93	49.95	29.18	—	20.77	—	—	—	—	—	—	—		—	—	—
MW-3	09/24/93	49.95	—	—	—	160	ND<50	8.4	ND<0.5	3.7	1.3	15.3	(l)	—	—	PACE
MW-3	12/27/93	49.95	29.25	—	20.70	9400	—	1100	48	530	120	2871	(e)(l)	—	—	PACE
MW-3	04/05/94	49.95	26.84	—	23.11	7000	—	860	19	330	52	10414	(l)	—	2.0	PACE
MW-3	07/22/94	49.95	26.90	—	23.11	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	2.1	PACE
MW-3	10/13/94	49.95	27.83	—	22.12	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	2.6	PACE
MW-3	01/25/95	49.95	21.65	—	28.30	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—		—	—	ATI
MW-3	04/19/95	49.95	19.33	—	30.62	2400	—	170	8.0	130	27	—		—	5.0	ATI
MW-3	07/05/95	49.95	20.27	—	29.68	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—		—	4.4	ATI
MW-3	10/05/95	49.95	23.73	—	26.22	2300	—	210	3.1	10	5.1	2400		—	4.2	ATI
MW-3	01/12/96	49.95	24.84	—	25.11	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0		—	4.1	ATI
MW-3	04/22/96	49.95	18.60	—	31.35	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10		—	4.4	SPL
MW-3	07/02/96	49.95	18.88	—	31.07	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10		—	4.2	SPL
MW-3	11/08/96	49.95	19.14	—	30.81	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.4	SPL
MW-3	01/03/97	49.95	18.72	—	31.23	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.6	SPL
MW-3	04/28/97	49.95	19.38	—	30.57	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.2	SPL
MW-3	07/01/97	49.95	21.65	—	28.30	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.8	SPL
MW-3	10/02/97	49.95	23.45	—	26.50	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.5	SPL
MW-3	01/09/98	49.95	20.10	—	29.85	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.1	SPL
MW-3	05/06/98	49.95	15.57	—	34.38	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.8	SPL
MW-3	07/21/98	49.95	15.88	—	34.07	51	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	3.8	SPL
QC-1 (d)	07/21/98	—	—	—	—	60	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	—	SPL
MW-3	12/30/98	49.95	20.30	—	29.65	—	—	—	—	—	—	—		—	—	SPL
MW-3	02/02/99	49.95	19.75	—	30.20	ND<50	—	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<10		—	—	SPL
MW-3	05/10/99	49.95	16.17	—	33.78	—	—	—	—	—	—	—		—	—	—
MW-3	09/23/99	49.95	22.05	—	27.90	—	—	—	—	—	—	—		—	—	—
MW-3	12/23/99	49.95	22.55	—	27.40	—	—	—	—	—	—	—		—	—	—

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-3	03/27/00	49.95	16.40	—	33.55	350	—	22	ND<0.5	ND<0.5	ND<0.5	580	—	—	PACE
MW-3	05/22/00	49.95	9.49*	—	40.46	—	—	—	—	—	—	—	—	—	—
MW-3	08/31/00	49.95	13.02*	—	36.93	—	—	—	—	—	—	—	—	—	—
MW-3	12/11/00	49.95	13.30*	—	36.65	—	—	—	—	—	—	—	—	—	—
MW-3	03/20/01	49.95	16.49	—	33.46	1000	—	66.4	0.597	6.96	ND<1.5	398	—	—	PACE
MW-3	06/19/01	49.95	18.82	—	31.13	—	—	—	—	—	—	—	—	—	—
MW-3	09/20/01	49.95	21.59	—	28.36	230	—	ND<0.5	0.593	ND<0.5	ND<1.5	289	—	—	PACE
MW-3	12/27/01	49.95	17.37	—	32.58	—	—	—	—	—	—	—	—	—	—
MW-3	02/28/02	49.95	15.81	—	34.14	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1.0	0.58	—	—	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)		Organic Lead (ug/L)	DO (ppm)	LAB
MW-4	07/24/92	50.76	30.02	—	20.74	42000	—	3200	3600	1400	4100	—		—	—	—
MW-4	07/27/92	50.76	30.02	—	20.74	—	—	—	—	—	—	—		—	—	—
MW-4	09/15/92	50.76	31.14	—	19.62	55000	1700 (c)	7600	13000	2800	9500	—		—	—	ANA
MW-4	12/15/92	50.76	31.98	—	18.78	36000	2200 (c)	3700	4700	1200	4000	—		—	—	ANA
MW-4	03/15/93	50.76	25.34	—	25.42	69000	1200	7600	15000	2500	11000	—	(l)	—	—	PACE
MW-4	06/07/93	50.76	25.67	—	25.09	73000	2500	10000	19000	3400	14000	—	(l)	—	—	PACE
MW-4	09/23/93	50.76	29.37	—	21.39	—	—	—	—	—	—	—		—	—	—
MW-4	09/24/93	50.76	—	—	—	68000	5700	11000	2100	8600	990	390	(l)	—	—	PACE
QC-1 (d)	09/24/93	—	—	—	—	59000	—	5300	10000	2200	8400	309	(l)	—	—	PACE
MW-4	12/27/93	50.76	29.40	—	21.36	32000	—	2500	4400	1300	4400	387	(l)	—	—	PACE
MW-4	04/05/94	50.76	27.09	—	23.67	64000	—	6500	14000	1900	9600	413	(l)	—	1.4	PACE
MW-4	07/22/94	50.76	27.33	—	23.43	85000	—	10000	20000	3200	13000	796	(l)	—	0.8	PACE
QC-1 (d)	07/22/94	—	—	—	—	85000	—	11000	21000	3300	14000	435	(l)	—	—	PACE
MW-4	10/13/94	50.76	28.25	—	22.51	51000	—	7100	13000	2100	8900	506	(e)(l)	—	2.9	PACE
QC-1 (d)	10/13/94	—	—	—	—	51000	—	7400	13000	2100	9100	773	(l)	—	—	PACE
MW-4	01/25/95	50.76	21.85	—	28.91	26000	—	3600	9600	1200	6400	—		—	—	ATI
QC-1 (d)	01/25/95	—	—	—	—	28000	—	4200	12000	1500	7800	—		—	—	ATI
MW-4	04/19/95	50.76	19.44	—	31.32	89000	—	12000	24000	3500	18000	—		—	5.1	ATI
QC-1 (d)	04/19/95	—	—	—	—	100000	—	12000	26000	3800	21000	—		—	—	ATI
MW-4	07/05/95	50.76	20.52	—	30.24	130000	—	13000	29000	3300	25000	—		—	4.3	ATI
MW-4	10/05/95	50.76	24.23	—	26.53	110000	—	10000	23000	3600	17000	34000		—	2.1	ATI
MW-4	01/12/96	50.76	25.34	—	25.42	46000	—	3500	8300	1100	8000	3000		—	3.3	ATI
QC-1 (d)	01/12/96	—	—	—	—	40000	—	3500	9000	1200	8700	4300		—	—	ATI
MW-4	04/22/96	50.76	19.13	—	31.63	40000	—	5100	9600	980	11800	29000		—	3.2	SPL
QC-1 (d)	04/22/96	—	—	—	—	61000	—	8300	16000	1600	15200	36000		—	—	SPL
MW-4	07/02/96	50.76	20.67	—	30.09	74000	—	9800	21000	2100	16600	41000		—	3.4	SPL
QC-1 (d)	07/02/96	—	—	—	—	78000	—	9800	21000	1900	15300	42000		—	—	SPL
MW-4	11/08/96	50.76	20.95	—	29.81	100000	—	7900	16000	2500	13700	37000		—	3.7	SPL
QC-1 (d)	11/08/96	—	—	—	—	110000	—	9100	20000	3000	15400	39000		—	—	SPL
MW-4	01/03/97	50.76	20.54	—	30.22	99000	—	17000	30000	4300	22700	79000		—	4.2	SPL
QC-1 (d)	01/03/97	—	—	—	—	66000	—	12000	19000	2900	15000	69000		—	—	SPL
MW-4	04/28/97	50.76	21.28	—	29.48	130000	—	12000	28000	3800	21000	37000		—	3.9	SPL
QC-1 (d)	04/28/97	—	—	—	—	110000	—	11000	26000	3200	18200	34000		—	—	SPL
MW-4	07/01/97	50.76	23.61	—	27.15	110000	—	16000	25000	4900	24400	37000		—	3.6	SPL
MW-4	10/02/97	50.76	25.39	—	25.37	—	—	—	—	—	—	—		—	—	—
MW-4	10/03/97	50.76	—	—	—	66000	—	8200	8600	2700	13400	80000		—	4.4	SPL
QC-1 (d)	10/03/97	—	—	—	—	71000	—	8600	8700	2900	13500	84000		—	—	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-4	01/09/98	50.76	21.25	—	29.51	100000	—	9700	3200	1500	4700	92000	—	3.8	SPL
MW-4	05/06/98	50.76	15.96	—	34.80	430000	—	6900	31000	11000	56000	ND<5000	—	3.9	SPL
QC-1 (d)	05/06/98	—	—	—	—	440000	—	8000	39000	14000	70000	ND<5000	—	—	SPL
MW-4	07/21/98	50.76	16.1	—	34.66	250000	—	11000	26000	5500	26900	29000	—	3.7	SPL
QC-1 (d)	07/21/98	—	—	—	—	210000	—	11000	27000	5600	26800	29000	—	—	SPL
MW-4	12/30/98	50.76	20.91	—	29.85	370000	—	11000	22000	8500	40000	90000/92000 (j)	—	—	SPL
MW-4	02/02/99	50.76	20.13	—	30.63	190000	—	4100	19000	4800	32000	28000	—	—	SPL
MW-4	05/10/99	50.76	16.63	—	34.13	2700	—	23	7.1	8.1	25	120	—	—	SPL
MW-4	09/23/99	50.76	22.48	—	28.28	180000	—	11000	29000	7000	38000	12000	—	—	SPL
MW-4 (k)	12/23/99	50.76	22.94	—	27.82	66000	—	6300	5200	2200	7800	35000	—	—	PACE
MW-4	03/27/00	50.76	16.84	—	33.92	120000	—	8700	12000	3800	16000	27000	—	—	PACE
MW-4	05/22/00	50.76	17.85	—	32.91	110000	—	7600	16000	4400	20000	25000	—	—	PACE
MW-4	08/31/00	50.76	21.71	—	29.05	110000	—	8800	7600	3400	14000	18000	—	—	PACE
MW-4	12/11/00	50.76	22.05	—	28.71	70000	—	4580	3480	2550	9220	24400	—	—	PACE
MW-4	03/20/01	50.76	17.68	—	33.08	100000	—	7100	4530	2540	9370	63100	—	—	PACE
MW-4	06/19/01	50.76	19.40	—	31.36	180000	—	7430	14600	5400	25300	36100	—	—	PACE
MW-4 (f)	09/20/01	50.76	22.01	0.03 (m)	28.75	—	—	—	—	—	—	—	—	—	—
MW-4	12/27/01	50.76	17.96	—	32.80	120000	—	6880	9030	2840	14600	32300	—	—	PACE
MW-4	02/28/02	50.76	17.06	—	33.70	80000	—	4920	5450	2220	12300	35900	—	—	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)		Organic Lead (ug/L)	DO (ppm)	LAB
MW-6	07/24/92	50.32	30.63	—	19.69	ND	—	1.6	ND	ND	ND	—		—	—	—
MW-6	07/27/92	50.32	30.63	—	19.69	—	—	—	—	—	—	—		—	—	—
MW-6	09/15/92	50.32	31.52	—	18.80	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—		—	—	ANA
MW-6	12/15/92	50.32	32.42	—	17.90	58	ND<50	1.3	ND<0.5	ND<0.5	ND<0.5	—		—	—	ANA
MW-6	03/15/93	50.32	26.29	—	24.03	ND<50	ND<50	ND<0.5	0.6	ND<0.5	0.7	—	(l)	—	—	PACE
MW-6	06/07/93	50.32	26.33	—	23.99	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	1.5	—	(l)	—	—	PACE
MW-6	09/23/93	50.32	29.64	—	20.68	—	—	—	—	—	—	—		—	—	—
MW-6	09/24/93	50.32	—	—	—	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	28.5	(l)	—	—	PACE
MW-6	12/27/93	50.32	29.75	—	20.57	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	55.4	(e)(l)	—	—	PACE
MW-6	04/05/94	50.32	27.26	—	23.06	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	295	(e)(l)	—	1.7	PACE
MW-6	07/22/94	50.32	27.34	—	22.98	350	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	419	(e)(l)	—	4.5	PACE
MW-6 (g)	10/13/94	50.32	—	—	—	—	—	—	—	—	—	—		—	—	—
MW-6	01/25/95	50.32	22.16	—	28.16	240	—	6	ND<0.5	ND<0.5	ND<1	—		—	—	ATI
MW-6 (g)	04/19/95	50.32	—	—	—	—	—	—	—	—	—	—		—	—	—
MW-6	07/05/95	50.32	20.80	—	29.52	180	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—		—	4.9	ATI
MW-6	10/05/95	50.32	24.20	—	26.12	860	—	ND<5.0	ND<5.0	ND<5.0	ND<10	3600		—	2.8	ATI
MW-6	01/12/96	50.32	25.30	—	25.02	860	—	ND<5.0	ND<5.0	ND<5.0	ND<10	2800		—	4.2	ATI
MW-6	04/22/96	50.32	19.13	—	31.19	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	470		—	4.3	SPL
MW-6	07/02/96	50.32	20.66	—	29.66	100	—	ND<0.5	ND<1	ND<1	ND<1	1100		—	4.2	SPL
MW-6	11/08/96	50.32	20.98	—	29.34	1100	—	ND<5	ND<10	ND<10	ND<10	1500		—	4.3	SPL
MW-6	01/03/97	50.32	20.53	—	29.79	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	450		—	4.5	SPL
MW-6	04/28/97	50.32	21.25	—	29.07	1400	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	3500		—	4.4	SPL
MW-6	07/01/97	50.32	23.40	—	26.92	6100	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	9100		—	3.9	SPL
MW-6	10/02/97	50.32	25.16	—	25.16	—	—	—	—	—	—	—		—	—	—
MW-6	10/03/97	50.32	—	—	—	330	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	2600		—	4.4	SPL
MW-6	01/09/98	50.32	21.13	—	29.19	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.3	SPL
MW-6	05/06/98	50.32	16.11	—	34.21	410	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	500		—	3.6	SPL
MW-6	07/21/98	50.32	16.33	—	33.99	4300	—	ND<5	ND<10	ND<10	ND<10	3800		—	4.0	SPL
MW-6	12/30/98	50.32	20.89	—	29.43	—	—	—	—	—	—	—		—	—	—
MW-6	02/02/99	50.32	20.20	—	30.12	—	—	—	—	—	—	—		—	—	—
MW-6	05/10/99	50.32	16.75	—	33.57	—	—	—	—	—	—	—		—	—	—
MW-6	09/23/99	50.32	22.55	—	27.77	ND<50	—	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1600		—	—	SPL
MW-6	12/23/99	50.32	23.00	—	27.32	—	—	—	—	—	—	—		—	—	—
MW-6	03/27/00	50.32	16.89	—	33.43	1700	—	4.4	0.54	ND<0.5	1.0	14000		—	—	PACE
MW-6	05/22/00	50.32	18.02	—	32.30	—	—	—	—	—	—	—		—	—	—
MW-6	08/31/00	50.32	21.62	—	28.70	1200	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3900		—	—	PACE
MW-6	12/11/00	50.32	21.81	—	28.51	—	—	—	—	—	—	—		—	—	—

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-6	03/20/01	50.32	16.97	---	33.35	3300	—	ND<0.5	ND<0.5	ND<0.5	ND<1.5	3760	—	—	PACE
MW-6	06/19/01	50.32	19.30	---	31.02	—	—	—	—	—	—	—	—	—	—
MW-6	09/20/01	50.32	22.00	---	28.32	2200	—	2.04	8.1	3.62	13.7	2460	—	—	PACE
MW-6	12/27/01	50.32	17.85	---	32.47	830	—	0.59	ND<0.5	ND<0.5	ND<1.0	1040	—	—	PACE
MW-6	02/28/02	50.32	16.31	---	34.01	1100	—	ND<0.5	ND<0.5	ND<0.5	ND<1.0	1450	—	—	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-7	01/25/95	51.40	21.67	---	29.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.0	ATI
MW-7	04/19/95	51.40	25.27	---	26.13	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	5.0	ATI
MW-7	07/05/95	51.40	24.63	---	26.77	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.2	ATI
MW-7	10/05/95	51.40	28.21	---	23.19	83	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	77	---	4.5	ATI
MW-7	01/12/96	51.40	29.29	---	22.11	63	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	120	---	4.8	ATI
MW-7	04/22/96	51.40	23.11	---	28.29	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	13	---	4.8	SPL
MW-7	07/02/96	51.40	23.56	---	27.84	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.8	SPL
MW-7	11/08/96	51.40	20.06	---	31.34	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	5.1	SPL
MW-7	01/03/97	51.40	23.42	---	27.98	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.7	SPL
MW-7	04/28/97	51.40	24.12	---	27.28	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.9	SPL
MW-7	07/01/97	51.40	26.40	---	25.00	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.2	SPL
MW-7	10/02/97	51.40	28.14	---	23.26	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.7	SPL
MW-7	01/09/98	51.40	24.02	---	27.38	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.1	SPL
MW-7	05/06/98	51.40	21.00	---	30.40	1900	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	1800	---	3.5	SPL
MW-7	07/21/98	51.40	21.17	---	30.23	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.7	SPL
MW-7	12/30/98	51.40	22.13	---	29.27	---	---	---	---	---	---	---	---	---	---
MW-7	02/02/99	51.40	22.08	---	29.32	---	---	---	---	---	---	---	---	---	---
MW-7	05/10/99	51.40	18.58	---	32.82	---	---	---	---	---	---	---	---	---	---
MW-7	09/23/99	51.40	24.29	---	27.11	70	---	ND<1.0	ND<1.0	ND<1.0	ND<1.0	4700	---	---	SPL
MW-7	12/23/99	51.40	24.53	---	26.87	---	---	---	---	---	---	---	---	---	---
MW-7	03/27/00	51.40	18.58	---	32.82	910	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2600	---	---	PACE
MW-7	05/22/00	51.40	19.49	---	31.91	---	---	---	---	---	---	---	---	---	---
MW-7	08/31/00	51.40	22.53	---	28.87	440	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	900	---	---	PACE
MW-7	12/11/00	51.40	22.75	---	28.65	---	---	---	---	---	---	---	---	---	---
MW-7	03/20/01	51.40	18.79	---	32.61	1100	---	ND<0.5	ND<0.5	ND<0.5	ND<1.5	1210	---	---	PACE
MW-7	06/19/01	51.40	19.82	---	31.58	---	---	---	---	---	---	---	---	---	---
MW-7	09/20/01	51.40	21.35	---	30.05	1300	---	1.21	ND<0.5	ND<0.5	ND<1.5	1550	---	---	PACE
MW-7	12/27/01	51.40	20.36	---	31.04	510	---	ND<0.5	ND<0.5	ND<0.5	ND<1.0	643	---	---	PACE
MW-7	02/28/02	51.40	21.86	---	29.54	250	---	ND<0.5	ND<0.5	ND<0.5	ND<1.0	317	---	---	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-8	01/25/95	50.88	31.59	—	19.29	54	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	7.1	ATI
MW-8	04/19/95	50.88	19.18	—	31.70	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	5.1	ATI
MW-8	07/05/95	50.88	19.03	—	31.85	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	4.5	ATI
MW-8	10/05/95	50.88	24.40	—	26.48	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	4.1	ATI
MW-8	01/12/96	50.88	25.51	—	25.37	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	4.6	ATI
MW-8	04/22/96	50.88	18.00	—	32.88	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10	—	4.8	SPL
MW-8	07/02/96	50.88	19.83	—	31.05	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10	—	4.5	SPL
MW-8	11/08/96	50.88	20.09	—	30.79	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.7	SPL
MW-8	01/03/97	50.88	19.72	—	31.16	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.4	SPL
MW-8	04/28/97	50.88	20.44	—	30.44	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.1	SPL
MW-8	07/01/97	50.88	22.72	—	28.16	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.8	SPL
MW-8	10/02/97	50.88	24.51	—	26.37	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.2	SPL
MW-8	01/09/98	50.88	21.17	—	29.71	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.5	SPL
MW-8	05/06/98	50.88	18.34	—	32.54	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.6	SPL
MW-8	07/21/98	50.88	18.55	—	32.33	90	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.3	SPL
MW-8	12/30/98	50.88	20.40	—	30.48	—	—	—	—	—	—	—	—	—	—
MW-8	02/02/99	50.88	19.28	—	31.60	—	—	—	—	—	—	—	—	—	—
MW-8	05/10/99	50.88	15.62	—	35.26	—	—	—	—	—	—	—	—	—	—
MW-8	09/23/99	50.88	21.74	—	29.14	—	—	—	—	—	—	—	—	—	—
MW-8	12/23/99	50.88	22.83	—	28.05	—	—	—	—	—	—	—	—	—	—
MW-8	03/27/00	50.88	16.25	—	34.63	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
MW-8	05/22/00	50.88	17.06	—	33.82	—	—	—	—	—	—	—	—	—	—
MW-8	08/31/00	50.88	21.72	—	29.16	—	—	—	—	—	—	—	—	—	—
MW-8	12/11/00	50.88	22.03	—	28.85	—	—	—	—	—	—	—	—	—	—
MW-8	03/20/01	50.88	16.23	—	34.65	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1.5	0.991	—	—	PACE
MW-8	06/19/01	50.88	19.35	—	31.53	—	—	—	—	—	—	—	—	—	—
MW-8	09/20/01	50.88	21.95	—	28.93	—	—	—	—	—	—	—	—	—	—
MW-8	12/27/01	50.88	16.98	—	33.90	—	—	—	—	—	—	—	—	—	—
MW-8	02/28/02	50.88	15.38	—	35.50	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	—	—	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Organic Lead (ug/L)	DO (ppm)	LAB
MW-9	01/25/95	51.05	22.32	—	28.73	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	7.4	ATI
MW-9	04/19/95	51.05	19.86	—	31.19	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	5.2	ATI
MW-9	07/05/95	51.05	20.78	—	30.27	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	4.4	ATI
MW-9	10/05/95	51.05	24.33	—	26.72	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	2.3	ATI
QC-1 (d)	10/05/95	—	—	—	—	52	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	160	—	—	ATI
MW-9	01/12/96	51.05	25.44	—	25.61	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	3.2	ATI
MW-9	04/22/96	51.05	18.01	—	33.04	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	11	—	3.5	SPL
MW-9	07/02/96	51.05	19.70	—	31.35	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10	—	3.3	SPL
MW-9	11/08/96	51.05	19.96	—	31.09	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.7	SPL
MW-9	01/03/97	51.05	19.52	—	31.53	ND<250	—	ND<2.5	ND<5.0	ND<5.0	ND<5.0	ND<50	—	4.4	SPL
MW-9	04/28/97	51.05	20.22	—	30.83	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.0	SPL
MW-9	07/01/97	51.05	22.59	—	28.46	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.9	SPL
MW-9	10/02/97	51.05	24.33	—	26.72	—	—	—	—	—	—	—	—	—	—
MW-9	10/03/97	51.05	—	—	—	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.4	SPL
MW-9	01/09/98	51.05	21.11	—	29.94	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.9	SPL
MW-9	05/06/98	51.05	18.26	—	32.79	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	4.0	SPL
MW-9	07/21/98	51.05	18.46	—	32.59	70	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	3.7	SPL
MW-9 (g)	12/30/98	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	02/02/99	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	05/10/99	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	09/23/99	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	12/23/99	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	03/27/00	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	05/22/00	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	08/31/00	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	12/11/00	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	03/20/01	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9 (g)	06/19/01	51.05	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-9	09/20/01	51.05	22.20	—	28.85	6300	—	2.87	ND<0.5	ND<0.5	ND<1.5	8640	—	—	PACE
MW-9	12/27/01	51.05	18.92	—	32.13	—	—	—	—	—	—	—	—	—	—
MW-9	02/28/02	51.05	17.22	—	33.83	19000	—	1560	61.3	84	111	20200	—	—	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)		DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)		Organic Lead (ug/L)	DO (ppm)	LAB
MW-10	01/09/98	—	(h)	20.97	—	—	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.3	SPL
MW-10	05/06/98	—	(h)	18.07	—	—	800	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	980		—	3.9	SPL
MW-10	07/21/98	—	(h)	18.28	—	—	80	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	4.0	SPL
MW-10	12/30/98	—	(h)	22.22	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	02/02/99	—	(h)	21.83	—	—	940	—	ND<10	ND<10	ND<10	ND<10	690		—	—	SPL
MW-10	05/10/99	—	(h)	17.99	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	09/23/99	—	(h)	22.61	—	—	ND<50	—	ND<1.0	ND<1.0	ND<1.0	1.4	1000		—	—	SPL
MW-10	12/23/99	—	(h)	23.75	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	03/27/00	—	(h)	18.83	—	—	1900	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	28000		—	—	PACE
MW-10	05/22/00	—	(h)	19.47	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	08/31/00	—	(h)	22.64	—	—	1700	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	13000		—	—	PACE
MW-10	12/11/00	—	(h)	22.84	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	03/20/01	—	(h)	19.57	—	—	16000	—	ND<0.5	ND<0.5	ND<0.5	ND<1.5	11900		—	—	PACE
MW-10	06/19/01	—	(h)	20.63	—	—	—	—	—	—	—	—	—		—	—	—
MW-10	09/20/01	—	(h)	23.07	—	—	5800	—	ND<0.5	ND<0.5	ND<0.5	ND<1.5	8160		—	—	PACE
MW-10	12/27/01	—	(h)	20.92	—	—	6600	—	17.3	14.5	ND<12.5	ND<25	7750		—	—	PACE
MW-10	02/28/02	—	(h)	18.52	—	—	3600	—	10.8	ND<0.5	ND<0.5	ND<1.0	5380		—	—	PACE
QC-2 (i)	09/15/92	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—		—	—	ANA
QC-2 (i)	12/15/92	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—		—	—	ANA
QC-2 (i)	03/15/93	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	(l)	—	—	PACE
QC-2 (i)	06/07/93	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	(l)	—	—	PACE
QC-2 (i)	09/24/93	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	—	PACE
QC-2 (i)	12/27/93	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	—	PACE
QC-2 (i)	04/05/94	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	—	PACE
QC-2 (i)	07/22/94	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	—	PACE
QC-2 (i)	10/13/94	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	(l)	—	—	PACE
QC-2 (i)	01/25/95	—		—	—	—	ND<50	—	ND<0.5	2	0.6	1	—		—	—	ATI
QC-2 (i)	04/19/95	—		—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—		—	—	ATI
QC-2 (i)	07/05/95	—		—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—		—	—	ATI
QC-2 (i)	10/05/95	—		—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0		—	—	ATI
QC-2 (i)	01/12/96	—		—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0		—	—	ATI
QC-2 (i)	04/22/96	—		—	—	—	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10		—	—	SPL
QC-2 (i)	07/02/96	—		—	—	—	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	ND<10		—	—	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
DO	Dissolved oxygen
ug/L	Micrograms per liter
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
ANA	Anametrix, Inc.
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

NOTES:

(a) Casing elevations surveyed to the nearest 0.01 foot relative to mean sea level.

(b) Groundwater elevations adjusted assuming a specific gravity of 0.75 for free product.

(c) Concentrations reported as diesel from MW-1, MW-2 and MW-4 are primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene.

(d) Blind duplicate.

(e) A copy of the documentation for this data is included in Appendix C of Alisto report 10-018-05-004.

(f) Well not sampled due to presence of free product.

(g) Well inaccessible.

(h) Top of casing not surveyed.

(i) Travel blank.

(j) EPA method by 8020\8260.

(k) Samples ran outside of EPA recommended hold time.

(l) A copy of the documentation for this data can be found in Blaine Tech Services report 010619-C-2. The MTBE data for the March 15, 1993 and June 7, 1993 events have been destroyed.

(m) Thickness of SPH is only an estimate. The resulting groundwater elevation will not be used in contouring.

* Depth to water and resulting groundwater elevation is anamolous and not used in groundwater contouring.

CAMBRIA

APPENDIX B

DPE Pilot Test Data

TRC

Customer-Focused Solutions

October 24, 2001

Permit Division
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

ATTN: MR. ROBERT CAVE

SITE: BP # 11117
7210 BANCROFT AVENUE
OAKLAND, CA

RE: NOTIFICATION OF DUAL-PHASE VAPOR EXTRACTION PILOT TEST

Dear Mr. Cave:

TRC intends to perform a high-vacuum dual-phase extraction pilot test at the above-referenced site under Permit-to-Operate No. 262. The planned event is scheduled to commence on Monday, October 29th at approximately 7:00 am. It will operate on a continuous basis for five 10-hour days.

Volatile organic compound (VOC) emission control will be maintained by processing the extracted vapors through a 350-standard cubic feet per minute (SCFM) propane-fired thermal oxidizer. This unit has been permitted to operate by the BAAQMD.

Should you have further questions regarding this letter, please do not hesitate to call me at (925) 688-2467.

Sincerely,
TRC

Mark Trevor
Staff Geologist

cc: Mr. Khaled Rahman, Cambria Environmental

5052 Commercial Circle • Concord, California 94520-1248
Telephone 925-688-1200 • Fax 925-688-0388

1/6

Dual-Phase Vacuum Extraction Field Sheet

VAC. Test

Project No.: 410-378-01
Task No.: VA01
Technician: Cr.E. Grillespie

Client: BP / Cambria
Site: 11117
Date: 10/29/01

	Cumulative Wells and System Operation								Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4			
Well ID:									MW-4				MW-2											
DTW (ft):																								
Depth to FP (ft):	Totalizer 1272 Regal.																							
Screen Int. (ft):																								
Casing Diam. (in):									2"				2"											
DO (mg/L):																								
Time	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
1025			5	192	30	1563		#1				23'				2'								
1030			8	175	60	1580																		
1036	5		12	135	145	1453																		
1045	6		15	105	160	1490																		
1050	6		20	53	490	1489																		
1054	6		25	6	1350	1482																		
1107	6		24	6	1350	1490						3												
1148	6		15	107	60	1490						30												
1210	~~245~~		245	1355		~~1530~~						5												
1220	9		5	209	150	1588		#2								2'								
1230	4		15	101	40	1591																		
1240	9		25	9	1390	1485																		
1250	6		5	197	30	1505										23'								
100	6		15	78	30	1518																		
110	16		25	16	100	1590																		
130	10		5	196	30	1510										25'								
140	9		15	60	20	1528																		
145	6		25	60	60	1577																		
150	9		5	186	20	1524										30'								
155	4		15	60	0	1519																		
200	6		25	16	40	1586																		

Notes: Took vapor Samples of MW-4 @ 1210

2/6

Dual-Phase Vacuum Extraction Field Sheet

VAC. Test

Project No.: 410-378-01
Task No.: UA01
Technician: G.E. Gillespie

Client: BP / Cambria
Site: 11117
Date: 10/29/01

	Cumulative Wells and System Operation								Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4			
Well ID:									EX-1				EX-2											
DTW (ft):																								
Depth to FP (ft):	Totalizer End 127540 gal.																							
Screen Int. (ft):																								
Casing Diam. (in):									4"				4"											
DO (mg/L):																								
Time	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
220	6		5	173	380	1532		#1				5'												
230	10		10	127	1110	1507																		
240	4		15	53	2280	1583																		
250	9		20	25	4160	1593																		
300	20		25	60	13500	1581																		
315	8		5	197	80	1561						24'												
325	4		15	110	900	1578																		
335	31		25	25	12470	1592																		
340	6		5	210	80	1509						30'												
350	6		15	109	90	1565																		
400	28		25	9	13470	1501																		
430	10		5	190	50	1593		#2								5'								
440	22		15	88	40	1499																		
445	43		24	45	80	1588																		
450	10		5	190	20	1504										24'								
500	8		15	88	10	1510																		
505	49		24	6	50	1584																		
525	10		5	199	10	1505										30'								
530	4		15	88	10	1543																		
535	6		25	69	50	1503																		

Notes:
Took Sample of MW-4 inf & EFF. @ 415PM
Total gal. 270

CAMBRI

DAILY FIELD REPORT

Project Name: BP-11117	Cambria Mgr:	Field Person: RG
Project Number:	Date: 10/29/01	Site Address: 7210 Bancroft Ave Oakland, CA
General Tasks: DPE Pilot Test		

Time	Activity/Comments	Code	Hours
7:40	Arrival Time		
:50	Notification to Attendant of Field Activities		
8:00	TRC Arrival		
:30-10:00	Water Sampling & Water Level Measurement MW-4 - Heavy Sheen MW-2 - Light Sheen		
0:20	Safety Meting @ MW-4		
:40	Step Test		
:30	System Shutdown - Not Enough water in tank		
12:10	Tedlar Bag Samples of influent taken		
4:10	PM Tedlar Bag Samples		

CAMBRIA

WELL SAMPLING FORM

Project Name: BP-117	Cambria Mgr:	Well ID: MW- 2
Project Number:	Date: 10/29/01 9:00AM	Well Yield: —— MW-2
Site Address:	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): RL & SD
Initial Depth to Water:	~~Total Well Depth:~~ TW 22.82	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time: 16

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
	1				
	2				
	3				

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-						
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 1117	Cambria Mgr:	Well ID: MW- 4
Project Number:	Date: 10/29/01 9:55	Well Yield: -----
Site Address:	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s):
Initial Depth to Water:	~~Total Well Depth:~~ PTW 22.93'	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time: 10

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
	1				
	2				
	3				

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-						
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 11117	Cambria Mgr:	Well ID: ~~MW-~~ EX-2
Project Number:	Date: 10/29/01 9:35	Well Yield: -----
Site Address:	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): RL & SD
Initial Depth to Water:	~~Total Well Depth:~~ PTW 23.15	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	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
	1				
	2				
	3				

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-						
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: BP-11117	Cambria Mgr:	Well ID: ~~MW-~~ EX-2
Project Number:	Date: 10/29/01 12:40	Well Yield: -----
Site Address: 7210 Bancroft Ave Oakland, CA	Sampling Method: Disposable bailer	Well Diameter: 2" pvc
		Technician(s): RG
Initial Depth to Water:	~~Total Well Depth:~~ DTW ~~7.20~~ 23.51	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device:	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time: 10 min

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

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
	1				
	2				
	3				

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-						
MW-						

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 11117	Cambria Mgr:	Well ID: MW-2
Project Number:	Date: 10/29/01 AG:JOP	Well Yield: -------
Site Address:	Sampling Method: **Disposable bailer**	Well Diameter: " **pvc**
		Technician(s):
Initial Depth to Water: 22.9	Total Well Depth: 39.9	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: **sub pump/ bailer**	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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method

D:\TEMPLATE\FORMS\FIELD\WELLSAMP.WPD
NSM 5/31/94

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 1117	Cambria Mgr:	Well ID: MW-4
Project Number:	Date: 10/29/01 @ 6:00 PM	Well Yield: -------
Site Address:	Sampling Method: **Disposable bailer**	Well Diameter: " **pvc**
		Technician(s):
Initial Depth to Water: 22.9'	Total Well Depth: 40.0'	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: **sub pump/ bailer**	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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method

D:\TEMPLATE\FORMS\FIELD\WELLSAMP.WPD
NSM 5/31/94

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 11117	Cambria Mgr:	Well ID: Ex-1
Project Number:	Date: 10/29/01 @ 6:00 PM	Well Yield: -------
Site Address:	Sampling Method: **Disposable bailer**	Well Diameter: " **pvc**
		Technician(s):
Initial Depth to Water: 29.9	Total Well Depth: 38.1	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: **sub pump/ bailer**	Did Well Dewater?:	Total Gallons Purged:
Start Purge Time:	Stop Purge Time:	Total Time:

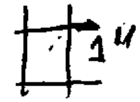
1 Casing Volume = Water column height x Volume/ ft.

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

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method

D:\TEMPLATE\FORMS\FIELD\WELLSAMP.WPD
NSM 5/31/94



Well ID MW- 4

Water Level (bgs) ~~22.9~~ 22.9

about 5 min intervals

Stinger Depth	Applied Vacuum	Vapor Flow	Groundwater Flow	Vaccum @ Well EX-1	Vaccum @ Well MV-1	Vaccum @ Well EX-2	DTW MW-7 (include well ID)
(ft bgs)	(in. Hg)	(cfm)	(gpm)	(in H_20)	(in H_20)	(in H_20)	(ft bgs)
23	near 4 ready to shut down						
23	5	~20 192→dillution	— no-flow	no reading	no reading		
23	8	~20.0 175→dillution	— no flow	no reading	no reading		
23	12	~~~20~~ ~5.0 135→dillution	— no flow	no reading	no reading		
23	15	~ 6.0					"chugs" of water
23	20	~ ~~6.0~~ 6.0	could not be measured				water cut down the
23	25 - closed	~ 6.0	51 sec				hydrocarbons mud out
3 ft	~~25~~ 29 - closed	~6.0		0.1	0		
or 15 ft say	will be the	Same ~~thing~~ response as 3 ft					
30	5	no response					
	10	no response					
	15	no response					
	20	no response					
25 should	have a	similar response to 30 ft					

291

Well ID: MW-2
Water Level (bgs): 22.82

Stinger Depth (ft bgs)	Applied Vacuum (in. Hg)	Vapor Flow (cfm)	Groundwater Flow (gpm)	Vaccum @ Well MW-4 (in H_2O)	Vaccum @ Well Ex-1 (in H_2O)	Vaccum @ Well Ex-2 (in H_2O)	DTW (include well ID) (ft bgs)
2	5	9 cfm	none	.01	0.01	0 no reading	10 min intervals 12:
2	15	4.8 ?	none	.02	0.01	0 no read	
	25	9 cfm	none	.06	0.02	0 no reading	not very responsive
23	5	6 cfm	none	.04	0.02	0.01	MW-4 = 0 response
	15	6 cfm	none	0.03	0.01	0.02	12:50 start 10 min
	25	16 cfm	minimal	0.02	~0.0	0.0	intervals MW-
	20 just to see	3 cfm	water in pipe could give erroneous reading				
25	5	10 cfm	none	0.03	0.0 (no read)	0.0 (no reading)	10 min int start 13:
	15	9 cfm	none	.03	0.00	0.01	
	25	6 cfm	minimal	0.0-0.01	0.00	0.0	
							5 min intervals
30	5	9 cfm	none	0.03	0.0 (no read)		
	15	4 cfm	none	0.04	0.0	no reading (0.0)	
	25	6 cfm	very minimal	0.0-0.01			

30 was done to compare the difference between 25 & 30 to see if similar reading where obtained

CAMBRIA

WELL SAMPLING FORM

Project Name: BP 11117	Cambria Mgr:	Well ID: Ex-2
Project Number:	Date: 10/29/01 @ 6:00 PM	Well Yield: ------
Site Address:	Sampling Method: **Disposable bailer**	Well Diameter: " **pvc**
		Technician(s):
Initial Depth to Water: 25.7'	Total Well Depth: 35.4'	Water Column Height:
Volume/ft:	1 Casing Volume:	3 Casing Volumes:
Purging Device: **sub pump/ bailer**	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

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method

Well ID EX-1
Water Level (bgs) 23.15'

4' in moth screen
Between Ex-1 & MW-4 better Response

Stinger Depth (ft bgs)	Applied Vacuum (in. Hg)	Vapor Flow (cfm)	Groundwater Flow (gpm)	Vaccum @ Well MW-4 (in H_2O)	Vaccum @ Well MW-2 (in H_2O)	Vaccum @ Well ____ (in H_2O)	DTW (include well ID) (ft bgs)
35	5	6 cfm	none	0.12	0.14	0.02	MW-4=0 10 min
	10	10 cfm	none	0.21	0.0	0.0	intervals then
	15	4 cfm	none	0.35	0.02	0.01	@ 2:12
	20	9 cfm	none	0.48	0.0	0.0	
	25	22 cfm	minimal	0.62	0.0-0.01	0.0	
			~~none~~	~~0.16~~			
24	5	8	none	0.16	0.0	0.0	10 min intervals
	15	4		0.19	0.1	0.0	
	25	31		0.45	0.1	0.0	
30	5	6		.31	0.1	0	10 min / hold
	15	6		.4	0.0	0	
	25	28		.19	.01	0	

Well ID ~~23-5~~ EX-2

Water Level (bgs) 23.51

low concentrations
23 is the max usually

Stinger Depth (ft bgs)	Applied Vacuum (in. Hg)	Vapor Flow (cfm)	Groundwater Flow (gpm)	Vaccum @ Well MW-4 (in H_2O)	Vaccum @ Well ~~MW-1~~ EX-1 (in H_2O)	Vaccum @ Well MW-2 (in H_2O)	DTW (include well ID) (ft bgs)
25	5	10 cfm	none	0.02-0.01	0.1	0.0	MW-4=0 10 min
	15	22 cfm	none	0.01	.06	0.01	MW-1=0
	25-24	43 cfm	none	0.0	.04	0.0	MW-2=0
24	5	10		0	.04	0	MW0 10 min
	15	8		0	.03	.00	MW7=0
	25-24	49	110 sec	0.04	0.01	0.0	MW8=0 BY
30	5	10		0.05	0.02	0.00	
	15	4		0.01	8	8	
	25-24	6		0.01			

3/6

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 410-378-01
Task No.: UA01
Technician: G.E. Gillespie

Client: BP / Cambria
Site: 11117
Date: 10/30/01

	Cumulative Wells and System Operation								Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4			
Well ID:									MW-4															
DTW (ft):	Totalizer								22.74															
Depth to FP (ft):	Start				END				L/T															
Screen Int. (ft):	127540				128720																			
Casing Diam. (in):																								
DO (mg/L):																								
Time	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
630			255	31	8690	1570		#1				23'												
700			255	25	12890	1581																		
730			25	16	13160	1500																		
800			25	25	13250	1500																		
830			25	16	13130	1590																		
900			25	18	13260	1596																		
930			245	16	13190	1593																		
1000			24	9	13206	1495																		
1030			24	9	13160	1489																		
1100			24	9	13000	1480																		
1130			235	25	13000	1480																		
1200	PM		23	36	12590	1488																		
1230			225	41	12460	1491																		
100			225	10	12530	1490																		
130			224	9	12390	1490																		
200			22	16	12410	1487																		
230			22	36	12400	1476																		
300			22	36	12540	1486																		
330			22	41	12360	1476																		
400			22	36	12380	1482																		
430			22	41	11960	1483																		

Notes: (1200PM-GA) I took a vapor sample of MW-4 (1220PM-GA) I am taking on 3gpm.
1245) 620 gal.
Took another vapor sample of MW-4 @ Aprox 30gpm
Total gal. 1230

Form #162 • Effective Date: 2-10-92

VAPOR EXTRACTION TEST

Project No. 410-378-01 Site: BP-11117

Task No. CA01 Date: 10/30/01

Start Time. Stop Time.

1/4

	Extraction Well	Observation Wells			
Well I.D.	MW-4	EX-1	MW-2	EX-2	MW-7
~~Distance (feet)~~ DTW	DTW-22.74	26.18	22.71	23.40	23.45
Casing Dia. (inches)		4"	2"	4"	2"
~~Screen Interval (ft)~~	DTW END-25.60	25.25	22.90	23.33	23.42

Time (min)		Flow Rate (cfm)	HC Conc. (ppm)	Vacuum (inch H20)			
645	0:00	15 min. Int.		.13	.00	.01	100
700	0:05			.12	.00	.00	.00
715	0:10			.14	.01	.01	.00
730	0:15			.11	.00	.01	.00
745	0:20			.12	.01	.00	.00
800	0:25			.12	.00	.00	.00
815	0:30			.12	.00	.00	.00
830	0:35			.13	.01	.01	.00
845	0:40			.12	.01	.00	
900	0:45			.12	.01	.00	
915	0:50			.13	.01	.00	
930	0:55	Switch to ½hr. intervals		.13	.01		
1000	1:00			.16	.01		
1030	1:10			.21	.01	.02	.02
1100	1:20			.34	.01	.03	.02
1130	1:30			.43	.01	.01	.00
1200	1:40 PM			.32	.00	.00	.00
1230	1:50			.34	.02		
100	2:00			.34	.20		.03
130	2:30			.34	.04		.00
200	3:00			.34	.75	.01	.00
230	3:30			.36	.01	.01	.00
300	4:00			.38	.01	.00	
330	4:30			.41	.02	.01	
400	5:00	-	-	.42	.03	.00	
430	6:00			.43	.02	.00	
	7:00						
	8:00						
	9:00						
	10:00						
	12:00						
	14:00						
	16:00						
	18:00						
	20:00						
	25:00						
	30:00						
	40:00						
	50:00						
	60:00						
	70:00						
	80:00						
	90:00						
	100:00						

@1145pm-GW there was a drop in ROI. because cambria personal pulled off lids to measure ground He

CAMBR

DAILY FIELD REPORT

Project Name: BP-11117	Cambria Mgr: KBR	Field Person: SD
Project Number: 852-1546-3	Date: 10/30/01	Site Address: 7210 Bancroft Oakland
General Tasks: DPE		

Time	Activity/Comments	Code	Hour
1100	leave for site — Mileage	0	
1130	arrive site — Mileage	10	
	vapor flow rate 9 to 31, hasn't been monitering GW rate, will start now		
	HC concentrations in the 15,000s		
	Hasn't had to lower stingers yet		
	Started pumping @ 630 from MW-4		
	EX-1 25.8' WL 1145 .43 before, .32 after Vacuum (26.18 ~ @ ~ 630)		
	MW-2 22.8' WL 1145 .01 before, .00 after (22.71 @ ~ 630)		
	EX-2 23.4' WL 1150 .01 bef, .00 after (23.40 @ ~ 630)		
	MW-7 23.45' WL 1150 .00 bef, .00 after (23.45 @ ~ 630)		
	Unknown well 23.2' WL TD = 24.2' gray silty/clayey at end of probe		
	Took influent air sample (MW-4-INF-AM) @ 1200		
	Taking WLs (popping caps off) caused pressure to drop in the wells.		
	GW flow approx ~3 gal/minute @ 1225		
	capacity of transfer tank: Greg doesn't know		
	stinger depth: 23'		
	totalizer meter reading: Start @ 630am 127540 @ 1245 = 128210 Difference = 670 gal over 6.25 hrs = 1.78 gal/min from 630 to 1245		
	slugs of water? (at 3 gpm, then lags time) - no, pretty constant		
	time interval between discharges of transfer tank		
	EX-1 WL = 25.65' @ 1250 Vacuum inf = .34 @1230 before WL .34 after WL @100		
	MW-2 WL = 22.8' @ 1250 Vacuum inf = .02 @1230 before WL .20 after WL @100		
	EX-1 WL = 25.55' @ 130 @130 Before .34 After @200 .34		
	MW-2 WL = 22.85' @ 130 130 .04 .75		
	EX-2 WL = 23.33 @ 1305 130 .00 .01		
	MW-7 WL = 23.43 @ 1305 130 .00 .00		
	transfer tank turned off at 130 (empty), pump turned on at 156.5 (full)		
	height 21" from off switch to on-switch, diameter of transfer tank 29"		
1435	took sample MW-4-WF-PM @ 1435		
	told Greg to pump from MW-4 again tomorrow		
1440	leave site		
330	Arrive Hollis — Mileage 21		

4/6

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 410-378-01
Task No.: UA01
Technician: G.S. Gillespie

Client: BP/Cambria
Site: 11117
Date: 10/31/01

	Cumulative Wells and System Operation	Extraction Well # 1	Extraction Well # 2	Extraction Well # 3	Extraction Well # 4
Well ID:		MW-4			
DTW (ft):		22.94			
Depth to FP (ft):					
Screen Int. (ft):					
Casing Diam. (in):		2"			
DO (mg/L):					

Time ( )	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Well #1 Flow Rate (cfm)	Well #1 HC Conc. (ppmv)	Well #1 Vacuum (in. of Hg)	Well #1 Stinger Depth (ft)	Well #2 Flow Rate (cfm)	Well #2 HC Conc. (ppmv)	Well #2 Vacuum (in. of Hg)	Well #2 Stinger Depth (ft)	Well #3 Flow Rate (cfm)	Well #3 HC Conc. (ppmv)	Well #3 Vacuum (in. of Hg)	Well #3 Stinger Depth (ft)	Well #4 Flow Rate (cfm)	Well #4 HC Conc. (ppmv)	Well #4 Vacuum (in. of Hg)	Well #4 Stinger Depth (ft)
630			26	6	11520	1420		#1				23'												
700			25.5	6	11850	1481																		
730			25.5	6	11440	1485																		
800			25.5	6	11800	1483	10																	
830			25	7	11700	1488																		
900			24	9	11660	1486																		
930			24	9	11720	1492																		
1000			24	9	11800	1487																		
1030			23	9	11410	1487																		
1100			23	9	11260	1489						25'												
1130			22.4	10	11360	1476																		
1200	Pm		22	16	11310	1487																		
1230			22	25	11230	1487																		
100			22	9	10730	1488						27'												
130			22	9	10790	1462																		
200			22	8	10650	1474																		
230			22	9	10740	1471																		
300			22	9	10690	1432																		
330			22.4	9	10760	1497																		
400			22.4	14	10600	1491																		
430			22.5	9	10650	1477																		

Notes: (11:15AM-GG) took a vapor sample of MW-4
(200 pm-GG) took a vapor sample of MW-4

			DTW	EX-1	MW-2	EX-2	MW-7
Totalizer reading Start		128770					
1030AM	470gal	129240	10.25	24.30	22.86	23.35	23.56
1245pm	360gal	129600					
END 430pm		130260					

Total 1490gal.

Form #162 • Effective Date: 2-13-92

VAPOR EXTRACTION TEST

Project No. 410-378-01
Task No. UA01
Start Time.

Site: BP-11117
Date: 10/31/01
Stop Time.

2/4

	Extraction Well			Observation Wells				
Well I.D.		MW-4		EX-1	MW-2	EX-2	MW-7	GPM
~~Distance (feet)~~	DTW- 22.74			24.14	22.83	23.30	23.47	
Casing Dia. (inches)	2"			4"	2"	4"	2"	
~~Screen Interval (ft)~~	DTW END- 27.90			23.82	22.93	23.30	23.46	
Time (min)	Flow Rate (cfm)	HC Conc. (ppm)		Vacuum (inch H20)				
645 0:00	-15 min. Int			.25	.00	.02	.00	
700 0:05				.27	.00	.01	.00	4.5
715 0:10				.25	.01	.01	.00	
730 0:15				.24	.02	.02	.04	
745 0:20				.23	.02	.02	.04	
800 0:25				.25	.02	.02	.06	
815 0:30				.26	.01	.00	.00	
830 0:35				.28	.00	.00	.00	
845 0:40				.30	.00	.00	.01	3
900 0:45				.32	.01	.02	.01	
915 0:50	—	—	—	.32	.00	.03	.02	
930 0:55				.32	.00	.00	.00	
945 1:00				.33	.01			
1000 1:10	switch to 1/2 hr. Int.			.33	.00			
1030 1:20				.35	.01			3
1100 1:30	lowered stinger 2'			.33	.00			3
1130 1:40				.33	.02		.01	
1200 1:50 PM				.33	.00		.00	
1230 2:00				.37				
100 2:30	Lowered stinger 2'			.34	.01	.01		3
130 3:00				.37	.00	.00		
200 3:30				.30	.01			
230 4:00				.36	.01		.01	
300 4:30				.34	.01		.00	
330 5:00				.32	.00			
400 6:00				.36	.01			
430 7:00	—	—	—	.36	.00			
8:00								
9:00								
10:00								
12:00								
14:00								
16:00								
18:00								
20:00								
25:00								
30:00								
40:00								
50:00								
60:00								
70:00								
80:00								
90:00								
100:00								

CAMBRIA

DAILY FIELD REPORT

Project Name: BP-11117	Cambria Mgr: KBR	Field Person: SD
Project Number:	Date: 10/31/01	Site Address: 7210 Bancroft Oakland
General Tasks: DPE		

Time	Activity/Comments	Code	Hours
1050	leave for site mileage	0	
1120	arrive site mileage	10	
	HC concentrations - 11,000s		
	stinger at 25'		
	well MW-4 recharging fast		
60 gal / 240 min	vapor flow rate - 6 to 9 cfm, at 1200 ~ 16 cfm		
	Start at 630 am		
	470 gallons between 630 and 1030 470 gal / 240 min = 1.96 gpm		
	Total gallons 10/30/01 1230		
1115	took sample MW-4-INF-AM		
	DTW @ 630: MW-4 22.74' DTW@ 1130		
	EX-1 24.14' EX-1 24'		
	MW-2 22.83' MW-2 22.87'		
	EX-2 23.30' EX-2 23.32'		
	MW-7 23.47' MW-7 23.5'		
	Baker Tank = 13' tall, water is at 9.2' below the top, diameter = 10'		
	DTW@ 1025 EX-1 24.30		
	MW-2 22.86'		
	EX-2 23.35'		
	MW-7 23.50'		
	DTW@ 1220 EX-1 23.97'		
	MW-2 22.87'		
	EX-2 23.34'		
	MW-7 23.5'		
1245	lowered stinger to 27' (vapor flowrate had gotten up to 25 cfm, then dropped to 9 cfm after lowering stinger)		
	1030 to 1245 = 360 gal over 135 mins = 2.67 gpm		
	DTW@ 130 EX-1 23.93'		
	MW-2 22.86'		
	EX-2 23.29'		
	MW-7 23.5'		
200	Took sample MW-4-INF-PM		
	Told Greg to pump from EX-1 tomorrow		

F:\TEMPLATE\FORMS\FIELD\FIELDRPT.VPD
NSM 9/19/01

2:10 leave site
2:30 arrive Hollis

Miles 20

5/6

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 410-378-01
Task No.: UA01
Technician: G.E. Gillespie

Client: BP/Cambria
Site: 11117
Date: 11-1-01

	Cumulative Wells and System Operation	Extraction Well # 1	Extraction Well # 2	Extraction Well # 3	Extraction Well # 4
Well ID:		EX-1	MW-2	MW-4	
DTW (ft):		23.52			
Depth to FP (ft):					
Screen Int. (ft):					
Casing Diam. (in):		4"	2"		
DO (mg/L):					

Time	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
630			25	15	13230	1422		#1				24'												
700			25	10	13040	1483						"												
730			25	10	13050	1492						"												
800			24.5	15	12830	1493	10					38'												
830			24.5	16	13020	1484																		
900			24	15	13030	1484																		
930			24.5	15	12910	1497																		
1000			24	15	12480	1484																		
1030			23	25	12060	1478																		
1100			22.5	31	11820	1485																		
1130			22	31	11670	1483																		
1200	PM		21.8	36	11480	1479																		
1230			21.5	41	11380	1487																		
100			21.5	45	11320	1484																		
130			21.5	45	11270	1482																		
200			21.8	16	11370	1494																		
230			21.5	16	10000	1490																		
300			~~21~~	~~6~~		~~1495~~		~~#2~~	No reading taken at this time I was perating to MW-2															
330			22	6	6660	1488		#2				38.5												
340			22	6	6020	1479																		
350			22	6	5580	1482																		
400			~~22.5~~	6	10460	1495		#3														23:		
430			22.4	14	10910	1474																		

Notes: (200pm-GA) Took vapor Sample of EX-
(145pm-GA) pulled Stinger out to measure DTW
(240pm-GA) switched stinger to MW-2
(330pm-GA) pulling H2o from MW-2 with well seal open to make a flow to remove H2O per clients request

Totalizer reading Start 130260
100 - 130300
110 - 130400 — End 130510

DTW	MW-4	MW-2	EX-2	MW-7
40				

2.5 Gal total

Form #162 • Effective Date: 2-13-92

VAPOR EXTRACTION TEST

3/4

Project No. 410-378-01 Site: BP-11117

Task No. UA01 Date: 11-1-01

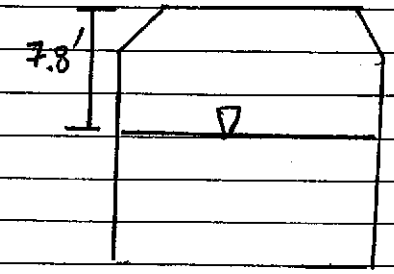
Start Time. Stop Time.

	Extraction Well		Observation Wells				
Well I.D.	EX-1 / MW-2		MW-4	MW-2	EX-2	MW-7	EX-1
Distance (feet)	DTW- 23.52		22.98	22.88	23.39	23.51	
Casing Dia. (inches)	4"		2"	2"	4"	2"	
Screen Interval (ft)	DTWEND- 36.06		26.34	24.98	23.40	23.45	
Time (min)	Flow Rate (cfm)	HC Conc. (ppm)	Vacuum (inch H20)				
630 0:00	15 min Int.		.70	.00	.01	.00	
645 0:05			.72	.01	.02		
700 0:10			.72	.01	.02		
715 0:15			.73	.02	.02		
730 0:20	-	-	.72	.01	.01		
745 0:25			.72	.01	.01		
800 0:30	lowered stinger 1H'		.80	.01	.00		
815 0:35			.67	.01	.00		
830 0:40			.68	.01	.01		
845 0:45			.72	.01	.01		
900 0:50			.75	.01	.02		
915 0:55			.77	.01	.01		
930 1:00			.80	.01	.01		
945 1:10			.80	.02	.01		
1000 1:20	Switch to ½ hr. Int.		.80	.02	.01		
1030 1:30			.84	.03	.02		
1100 1:40			.90	.03	.02	.01	
1130 1:50			.84	.01	.00	.00	
1200 2:00 PM			.80	.01	.00	.00	
1230 2:30			.80	.01			
100 3:00			.80	.01			
130 3:30			.80	.01			
200 4:00			.75	.01			
230 4:30			.80	.00			
5:00	At 240pm Switch stinger to MW-2						
300 6:00			.00				.11
330 7:00							.10
340 8:00							.10
9:00							
10:00							
12:00							
14:00							
16:00							
18:00							
20:00							
25:00							
30:00							
40:00							
50:00							
60:00							
70:00							
80:00							
90:00							
100:00							

CAMBRIA

DAILY FIELD REPORT

Project Name: BP 11117	Cambria Mgr:	Field Person:
Project Number: 852-1546	Date: 11-01-01	Site Address: 7210 Bancroft Avenue Oakland, CA 94605
General Tasks:		

Time	Activity/Comments	Code	Hours
1:53 PM	ARRIVE		
2:00 PM	Tedlar Bag Sample - "EX-1-AM-IN"		
2:05	Both Meters - (electronic and gages) units "in of H2O"		
2:10	TANK 		
	Depth to water (morning) = 23.52' For EX-1		
2:20 PM	Now Approximatelly 39" bgs 10 inches of water in well (.8"H)		
	MW-4 = 22.89 → PM = 22.9' → AM > .1" = 1"		
2:25	Call Khaled		

CAMBRIA

DAILY FIELD REPORT

Project Name: BP 1117	Cambria Mgr:	Field Person:
Project Number: 852-1546	Date: 11-01-01	Site Address: 7210 Bancroft Avenue Oakland, CA 94605
General Tasks:		

Time	Activity/Comments	Code	Hours
2:35PM	MW-2 = 22.95' Depth of well 39.6		
2:40PM	Placed stinger @ depth of 29 ft		
	Water "flowed out" immediately		
	3 minute later flow stopped		
3:[illegible] PM			
[illegible]	Well is "dead heading" (as described by Greg-Trc Operator)		
	For water flow to continue must let air into well		
3:15-3:[illegible]	Stinger at bottom of well		
	dewater at 1.6 gpm (110 sec)		
	~100 gallons removed from MW-2 (in ~30 min)		

F:\TEMPLATE\FORMS\FIELD\FIELDRPT.WPD
NSM 8/16/94

6/6

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 410-378-01
Task No.: CA01
Technician: G.E. Gillespie

Client: BP/Cambria
Site: 11117
Date: 11-2-01

	Cumulative Wells and System Operation	Extraction Well # 1	Extraction Well # 2	Extraction Well # 3	Extraction Well # 4
Well ID:	Totalizer Start 130510 gal.	MW-4			
DTW (ft):	End 132020	22.90			
Depth to FP (ft):					
Screen Int. (ft):	Total gal. 1510				
Casing Diam. (in):		2"			
DO (mg/L):					

Time	Total Well Flow Rate (cfm)	Total Well Inf. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open:	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
400	AM		25.5	6	10120	1467		#1				23'												
430			25.5	6	10470	1493						1												
500			25.5	6	10080	1512						1												
530			25.5	8	9980	1473						26'												
600			25.5	8	10120	1490	10					1												
630			25	8	10140	1483						1												
700			25	8	10160	1479						1												
730			25	7	9450	1488						28'												
800			25	8	9900	1490						1												
830			24	6	9580	1480						1												
900			23	20	9730	1474						30'												
930			22.5	20	9910	1476						1												
1000			22	31	9840	1479						1												
1030			22.3	34	9960	1486						1												
1100			22.4	9	9490	1485						33												
1130			22.4	34	9670	1484																		
1200	PM		22.5	24	9690	1437																		
1230			22	36	9600	1491																		
100			22	41	9660	1479																		
130			22	31	9470	1489																		
200	"		22	31	9350	1486						1												

Notes: H2O Flow was Appx 3 gpm.
Took vapor Samples of MW4 @ 430 and again at 130pm also EFF. Sample taken at 130pm

Form #162 - Effective Date: 2-13-92

VAPOR EXTRACTION TEST

4/4

Project No. 410-378-01 Site: BP-11117

Task No. UA01 Date: 11-2-01

Start Time. Stop Time.

	Extraction Well		Observation Wells				
Well I.D.	MW-4		EX-1	MW-2	EX-2	MW-7	
~~Distance (feet)~~	D.T.W.- 22.90		33.60	22.85	23.46	23.50	
Casing Dia. (inches)	4"		4"	2"	4"	2"	
~~Screen Interval (ft)~~	D.T.W. END-		32.70	22.97	23.44	23.54	
Time (min)	Flow Rate (cfm)	HC Conc. (ppm)	Vacuum (inch H20)				
400 0:00 AM			.23	.00			
430 0:05			.24				
500 0:10			.25				
530 0:15			.25				
600 0:20			.25				
630 0:25			.25				
700 0:30			.25		.00	.00	
730 0:35			.25				
800 0:40			.25				
830 0:45			.24				
900 0:50	—	—	—	.29			
930 0:55			.29				
1000 1:00			.28		.01	.00	
1030 1:10			.29		.00	.00	
1100 1:20			.30				
1130 1:30			.30				
1200 1:40 PM			.30				
1230 1:50			.32		.00	.00	
100 2:00			.30				
130 2:30			.28				
200 3:00							
3:30							
4:00							
4:30							
5:00							
6:00							
7:00							
8:00							
9:00							
10:00							
12:00							
14:00							
16:00							
18:00							
20:00							
25:00							
30:00							
40:00							
50:00							
60:00							
70:00							
80:00							
90:00							
100:00							

CAMBRIA

DAILY FIELD REPORT

Project Name: BP 11117	Cambria Mgr:	Field Person: RG
Project Number: 852-1546	Date: 11/2/01	Site Address:
General Tasks:		

Time	Activity/Comments	Code	Hours
1:30	Arrive		
1:35	Tedlar Bag Samples		
1:45	Tank "almost Full" to capacity the line mark on tank		
2:00	MW-4 - Qwick Recharge		
	1 Ft in 50-60 sec		
2:15 -	3:45 Sample MW-9, EX-1, MW-2, EX-2 & Tank (in that order)		
5:45	Ship Samples		

F:\TEMPLATE\FORMS\FIELD\FIELDRPT.WPD
NSM 8/16/94

Distances From Ex-1

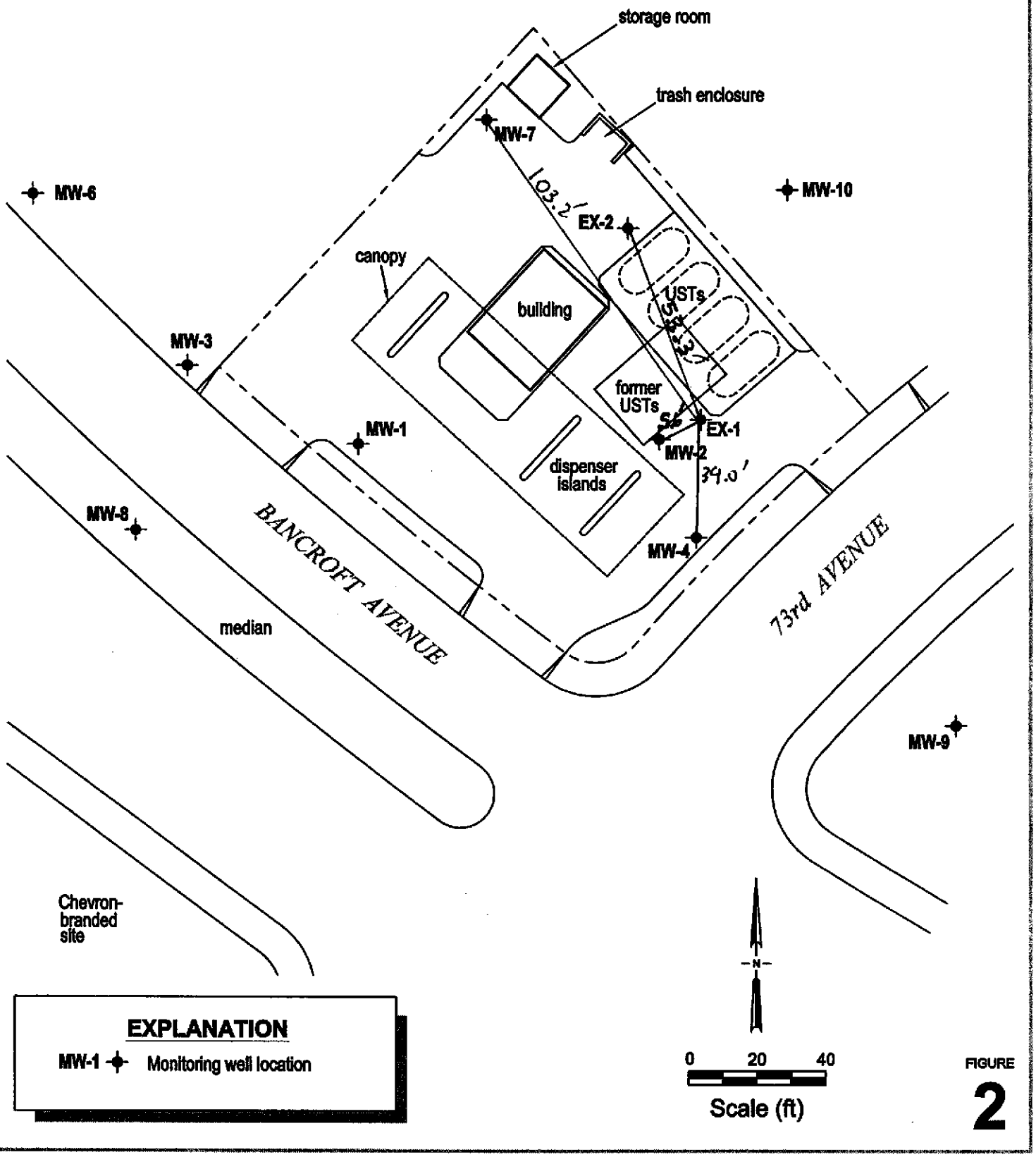


FIGURE
2

I:\BP\11117 OAKLAND\FIGURES\SITEPLAN.DWG

BP Oil Site No. 11117

7210 Bancroft Avenue

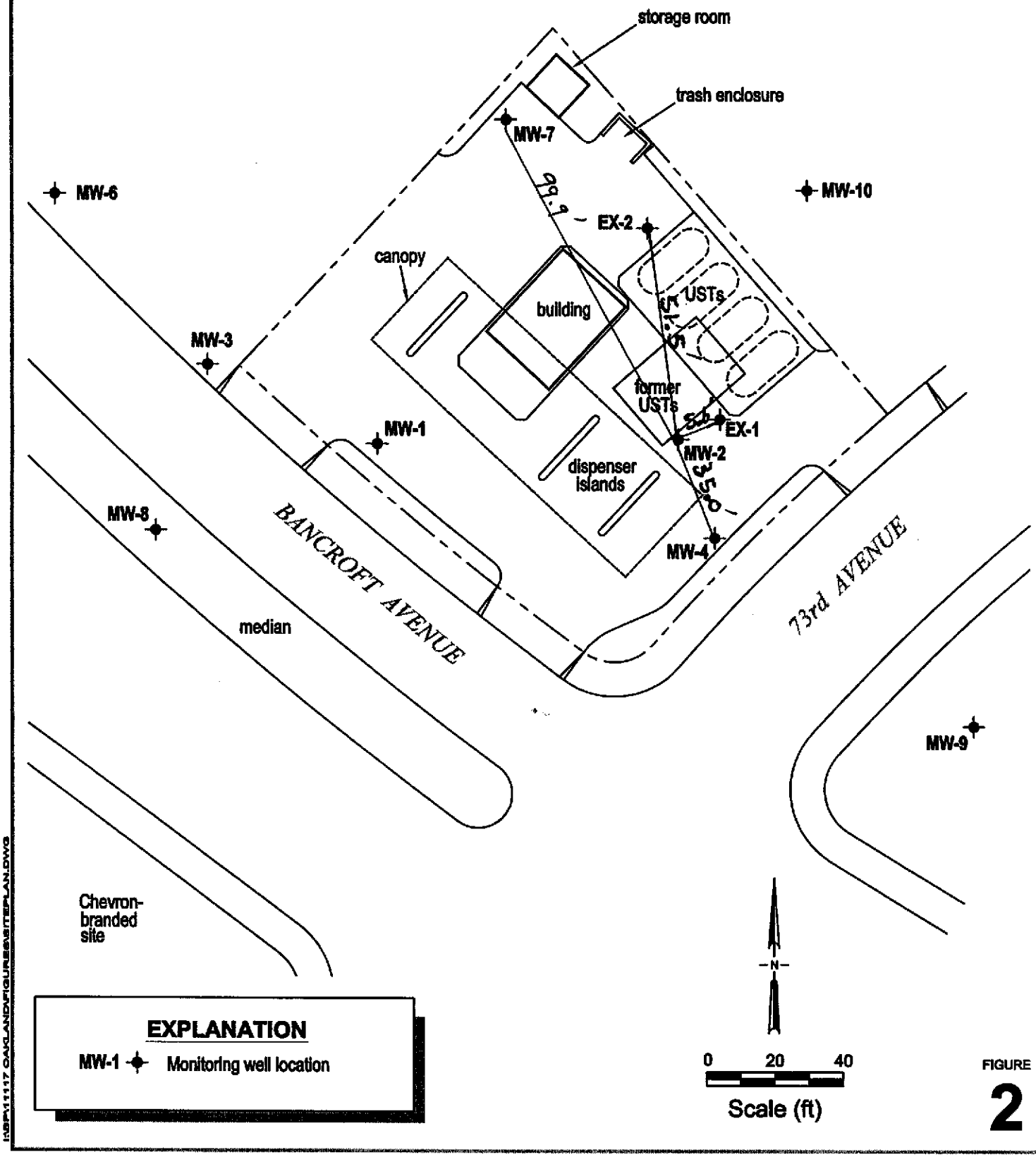
Oakland, California

CAMBRIA

Site Plan

07/12/00

DISTANCES FROM MW-2



EXPLANATION

MW-1 Monitoring well location

FIGURE **2**

I:\BP\11117 OAKLAND\FIGURES\SITEPLAN.DWG

BP Oil Site No. 11117

7210 Bancroft Avenue

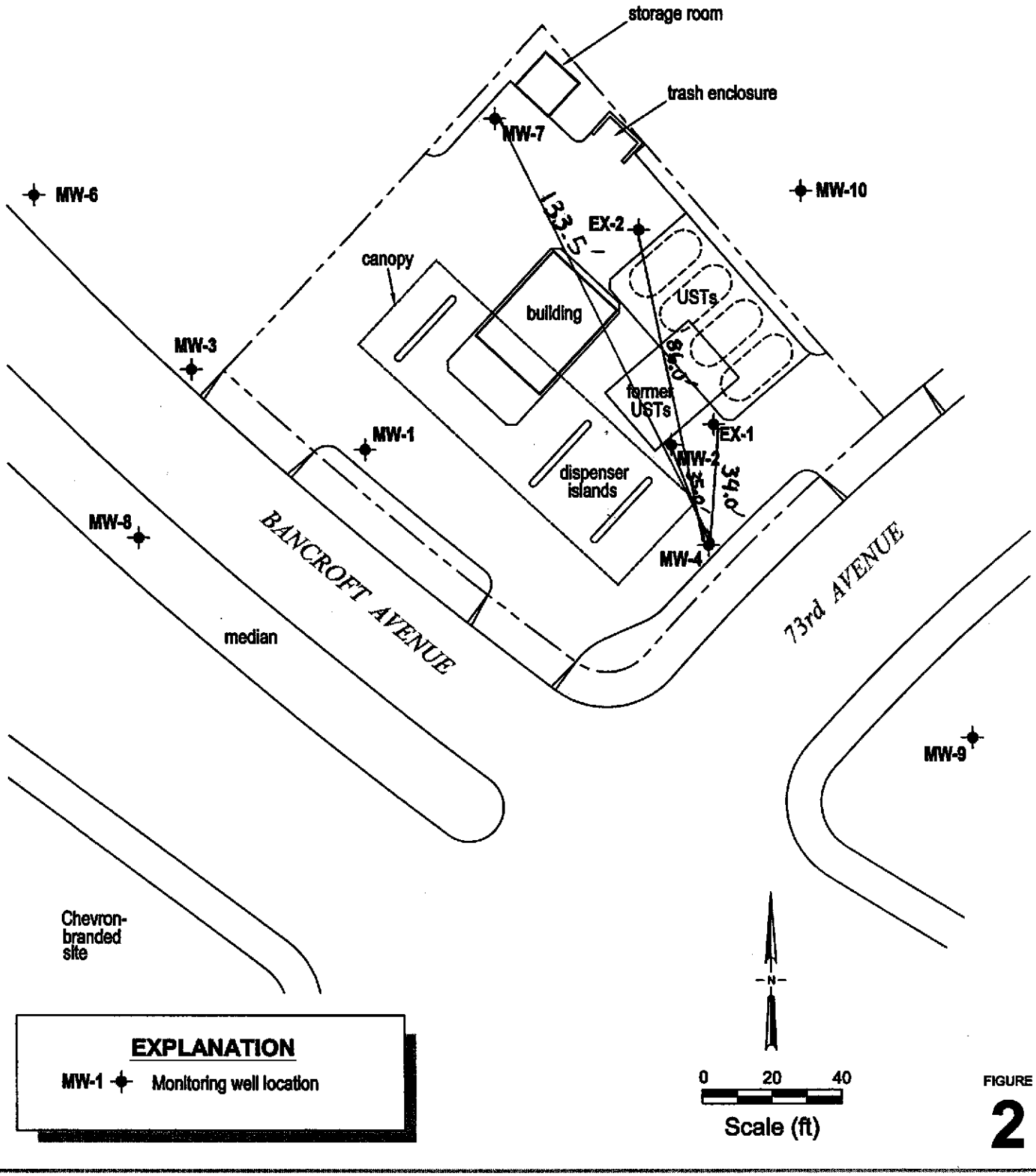
Oakland, California

CAMBRIA

Site Plan

07/12/00

Distances FROM MW-4



I:\BP\11117 OAKLAND\FIGURES\SITEPLAN.DWG

FIGURE
2

BP Oil Site No. 11117

7210 Bancroft Avenue

Oakland, California

CAMBRIA

Site Plan

Mass Removal - Soil Vapor Analysis

Soil Vapor Extraction - Integration of volumes from SVE system operation
Summary of SVE operation in pounds recovery
Uses Johnson, 1988 equation per EPA Air Emission Manual, June 1989

Weight of hydrocarbons extracted per hour,"ER", can be calculated as follows:

ER = (Q * C soil gas * MW * 1.581E-7)

where: ER = emission rate [lb/hr]
Q = vapor extraction rate [scfm]
C = soil gas concentration [ppm-v], collected by bag sample or FID (if less than 1,000 ppm-v)
MW = molecular weight of contaminant [lb/lb-mole]

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/29/01 12:20	MW-2	0.00	150	9.0	100	0.02	0.8	0.0	0.00
10/29/01 12:30	MW-2	0.01	40	4.0	100	0.00	0.8	0.0	0.00
10/29/01 12:40	MW-2	0.01	1,300	9.0	100	0.18	0.8	0.0	0.00
10/29/01 12:50	MW-2	0.02	30	6.0	100	0.00	0.8	0.0	0.00
10/29/01 13:00	MW-2	0.03	30	6.0	100	0.00	0.8	0.0	0.01
10/29/01 13:10	MW-2	0.03	100	16	100	0.03	0.8	0.0	0.01
10/29/01 13:30	MW-2	0.05	30	10	100	0.00	0.8	0.0	0.01
10/29/01 13:40	MW-2	0.06	20	9.0	100	0.00	0.8	0.0	0.01
10/29/01 13:45	MW-2	0.06	60	6.0	100	0.01	0.8	0.0	0.01
10/29/01 13:50	MW-2	0.06	20	9.0	100	0.00	0.8	0.0	0.01
10/29/01 13:55	MW-2	0.07	0	4.0	100	0.00	0.8	0.0	0.01
10/29/01 14:00	MW-2	0.07	40	6.0	100	0.00	0.8	0.0	0.01
					Minimum removal rate	0.00	LBS/DAY	0.6	LBS/DAY
					Maximum removal rate	4.44	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
11/1/01 15:30	MW-2	0.00	660	6.0	100	0.06	0.8	0.0	0.00
11/1/01 15:40	MW-2	0.01	630	6.0	100	0.06	0.8	0.0	0.00
11/1/01 15:50	MW-2	0.01	580	6.0	100	0.06	0.8	0.0	0.00
					Minimum removal rate	1.32	LBS/DAY	1.4	LBS/DAY
					Maximum removal rate	1.50	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/29/01 10:36	MW-4	0.00	15	5.0	100	0.00	0.8	0.0	0.00
10/29/01 10:45	MW-4	0.01	110	6.0	100	0.01	0.8	0.0	0.00
10/29/01 10:50	MW-4	0.01	490	6.0	100	0.05	0.8	0.0	0.00
10/29/01 10:56	MW-4	0.01	13,450	6.0	100	1.28	0.8	0.1	0.01
10/29/01 11:07	MW-4	0.02	13,450	6.0	100	1.28	0.8	0.3	0.05
10/29/01 11:48	MW-4	0.05	60	6.0	100	0.01	0.8	0.7	0.11
					Minimum removal rate	0.03	LBS/DAY	14.8	LBS/DAY
					Maximum removal rate	30.62	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/30/01 6:30	MW-4	0.00	8,690	31	100	4.26	0.8	0.0	0.00
10/30/01 7:00	MW-4	0.02	12,890	25	100	5.09	0.8	2.3	0.35
10/30/01 7:30	MW-4	0.04	13,160	16	100	3.33	0.8	4.4	0.67
10/30/01 8:00	MW-4	0.06	13,250	25	100	5.24	0.8	6.6	0.99
10/30/01 8:30	MW-4	0.08	13,130	16	100	3.32	0.8	8.7	1.31
10/30/01 9:00	MW-4	0.10	13,260	18	100	3.77	0.8	10.5	1.57
10/30/01 9:30	MW-4	0.13	13,310	16	100	3.37	0.8	12.3	1.84
10/30/01 10:00	MW-4	0.15	13,200	9.0	100	1.88	0.8	13.6	2.04
10/30/01 10:30	MW-4	0.17	13,160	9.0	100	1.87	0.8	14.5	2.18
10/30/01 11:00	MW-4	0.19	13,000	9.0	100	1.85	0.8	15.5	2.32
10/30/01 11:30	MW-4	0.21	13,000	25	100	5.14	0.8	17.2	2.58
10/30/01 12:00	MW-4	0.23	12,590	36	100	7.17	0.8	20.3	3.04
10/30/01 12:30	MW-4	0.25	12,460	41	100	8.08	0.8	24.1	3.61
10/30/01 13:00	MW-4	0.27	12,530	10	100	1.98	0.8	26.6	3.99
10/30/01 13:30	MW-4	0.29	12,390	9.0	100	1.76	0.8	27.5	4.13
10/30/01 14:00	MW-4	0.31	12,410	16	100	3.14	0.8	28.8	4.31
10/30/01 14:30	MW-4	0.33	12,400	36	100	7.06	0.8	31.3	4.69
10/30/01 15:00	MW-4	0.35	12,340	36	100	7.02	0.8	34.8	5.22
10/30/01 15:30	MW-4	0.38	12,300	41	100	7.97	0.8	38.6	5.78
10/30/01 16:00	MW-4	0.40	12,300	36	100	7.00	0.8	42.3	6.34
10/30/01 16:30	MW-4	0.42	11,960	41	100	7.75	0.8	46.0	6.89
					Minimum removal rate	42.31	LBS/DAY	110.5	LBS/DAY
					Maximum removal rate	193.84	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/31/01 6:30	MW-4	0.00	11,520	6.0	100	1.09	0.8	0.0	0.00
10/31/01 7:00	MW-4	0.02	11,850	6.0	100	1.12	0.8	0.6	0.08
10/31/01 7:30	MW-4	0.04	11,440	6.0	100	1.09	0.8	1.1	0.17
10/31/01 8:00	MW-4	0.06	11,800	6.0	100	1.12	0.8	1.7	0.25
10/31/01 8:30	MW-4	0.08	11,700	7.0	100	1.29	0.8	2.3	0.34
10/31/01 9:00	MW-4	0.10	11,660	9.0	100	1.66	0.8	3.0	0.45
10/31/01 9:30	MW-4	0.13	11,720	9.0	100	1.67	0.8	3.8	0.57
10/31/01 10:00	MW-4	0.15	11,800	9.0	100	1.68	0.8	4.7	0.70
10/31/01 10:30	MW-4	0.17	11,410	9.0	100	1.62	0.8	5.5	0.82
10/31/01 11:00	MW-4	0.19	11,260	9.0	100	1.60	0.8	6.3	0.94
10/31/01 11:30	MW-4	0.21	11,360	10	100	1.80	0.8	7.1	1.07
10/31/01 12:00	MW-4	0.23	11,310	16	100	2.86	0.8	8.3	1.25
10/31/01 12:30	MW-4	0.25	11,230	25	100	4.44	0.8	10.1	1.52
10/31/01 13:00	MW-4	0.27	10,730	9.0	100	1.53	0.8	11.6	1.74
10/31/01 13:30	MW-4	0.29	10,780	9.0	100	1.53	0.8	12.4	1.86
10/31/01 14:00	MW-4	0.31	10,650	8.0	100	1.35	0.8	13.1	1.96
10/31/01 14:30	MW-4	0.33	10,740	9.0	100	1.53	0.8	13.8	2.07
10/31/01 15:00	MW-4	0.35	10,690	9.0	100	1.52	0.8	14.6	2.19
10/31/01 15:30	MW-4	0.38	10,760	9.0	100	1.53	0.8	15.4	2.30
10/31/01 16:00	MW-4	0.40	10,800	14	100	2.39	0.8	16.3	2.45
10/31/01 16:30	MW-4	0.42	10,650	9.0	100	1.52	0.8	17.3	2.59
				Minimum removal rate		26.04	LBS/DAY	41.6	LBS/DAY
				Maximum removal rate		106.53	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
11/2/01 4:00	MW-4	0.00	10,120	6.0	100	0.96	0.8	0.0	0.00
11/2/01 4:30	MW-4	0.02	10,470	6.0	100	0.99	0.8	0.5	0.07
11/2/01 5:00	MW-4	0.04	10,080	6.0	100	0.96	0.8	1.0	0.15
11/2/01 5:30	MW-4	0.06	9,930	8.0	100	1.26	0.8	1.5	0.23
11/2/01 6:00	MW-4	0.08	10,120	8.0	100	1.28	0.8	2.2	0.32
11/2/01 6:30	MW-4	0.10	10,140	8.0	100	1.28	0.8	2.8	0.42
11/2/01 7:00	MW-4	0.13	10,160	8.0	100	1.29	0.8	3.4	0.52
11/2/01 7:30	MW-4	0.15	9,450	7.0	100	1.05	0.8	4.0	0.60
11/2/01 8:00	MW-4	0.17	9,900	8.0	100	1.25	0.8	4.6	0.69
11/2/01 8:30	MW-4	0.19	9,580	6.0	100	0.91	0.8	5.1	0.77
11/2/01 9:00	MW-4	0.21	9,730	20	100	3.08	0.8	6.1	0.92
11/2/01 9:30	MW-4	0.23	9,810	20	100	3.10	0.8	7.7	1.15
11/2/01 10:00	MW-4	0.25	9,840	31	100	4.82	0.8	9.7	1.45
11/2/01 10:30	MW-4	0.27	9,860	34	100	5.30	0.8	12.2	1.83
11/2/01 11:00	MW-4	0.29	9,490	9.0	100	1.35	0.8	13.9	2.08
11/2/01 11:30	MW-4	0.31	9,670	24	100	3.67	0.8	15.1	2.26
11/2/01 12:00	MW-4	0.33	9,690	24	100	3.68	0.8	16.9	2.54
11/2/01 12:30	MW-4	0.35	9,600	36	100	5.46	0.8	19.2	2.88
11/2/01 13:00	MW-4	0.38	9,660	41	100	6.26	0.8	22.2	3.32
11/2/01 13:30	MW-4	0.40	9,470	31	100	4.64	0.8	24.3	3.64
11/2/01 14:00	MW-4	0.42	9,350	31	100	4.58	0.8	27.6	4.13
				Minimum removal rate		21.81	LBS/DAY	66.2	LBS/DAY
				Maximum removal rate		150.28	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/29/01 14:20	EX-1	0.00	380	6.0	100	0.04	0.8	0.0	0.00
10/29/01 14:30	EX-1	0.01	1,110	10	100	0.18	0.8	0.0	0.00
10/29/01 14:40	EX-1	0.01	2,280	4.0	100	0.14	0.8	0.0	0.01
10/29/01 14:50	EX-1	0.02	4,650	9.0	100	0.66	0.8	0.1	0.02
10/29/01 15:00	EX-1	0.03	13,500	20	100	4.27	0.8	0.5	0.08
10/29/01 15:15	EX-1	0.04	80	8.0	100	0.01	0.8	1.1	0.16
10/29/01 15:25	EX-1	0.05	910	4.0	100	0.06	0.8	1.1	0.16
10/29/01 15:35	EX-1	0.05	13,470	31	100	6.60	0.8	1.6	0.24
10/29/01 15:40	EX-1	0.06	80	6.0	100	0.01	0.8	1.9	0.28
10/29/01 15:50	EX-1	0.06	90	6.0	100	0.01	0.8	1.9	0.28
10/29/01 16:00	EX-1	0.07	13,470	28	100	5.96	0.8	2.4	0.36
					Minimum removal rate	0.18	LBS/DAY	34.4	LBS/DAY
					Maximum removal rate	158.44	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
11/1/01 6:30	EX-1	0.00	13,030	15	100	3.09	0.8	0.0	0.00
11/1/01 7:00	EX-1	0.02	13,040	10	100	2.06	0.8	1.3	0.19
11/1/01 7:30	EX-1	0.04	13,050	10	100	2.06	0.8	2.3	0.35
11/1/01 8:00	EX-1	0.06	12,830	15	100	3.04	0.8	3.6	0.54
11/1/01 8:30	EX-1	0.08	13,020	15	100	3.09	0.8	5.1	0.77
11/1/01 9:00	EX-1	0.10	13,030	15	100	3.09	0.8	6.7	1.00
11/1/01 9:30	EX-1	0.13	12,540	15	100	2.97	0.8	8.2	1.23
11/1/01 10:00	EX-1	0.15	12,480	15	100	2.96	0.8	9.7	1.45
11/1/01 10:30	EX-1	0.17	12,000	25	100	4.74	0.8	11.6	1.74
11/1/01 11:00	EX-1	0.19	11,820	31	100	5.79	0.8	14.2	2.13
11/1/01 11:30	EX-1	0.21	11,670	31	100	5.72	0.8	17.1	2.56
11/1/01 12:00	EX-1	0.23	11,480	36	100	6.53	0.8	20.2	3.02
11/1/01 12:30	EX-1	0.25	11,380	41	100	7.38	0.8	23.7	3.54
11/1/01 13:00	EX-1	0.27	11,320	45	100	8.05	0.8	27.5	4.12
11/1/01 13:30	EX-1	0.29	11,290	45	100	8.03	0.8	31.5	4.72
11/1/01 14:00	EX-1	0.31	11,370	16	100	2.88	0.8	34.3	5.13
11/1/01 14:30	EX-1	0.33	10,000	16	100	2.53	0.8	35.6	5.33
					Minimum removal rate	49.48	LBS/DAY	106.8	LBS/DAY
					Maximum removal rate	193.29	LBS/DAY		

Date	Impact	Cum. Days of Operation	Soil Gas Conc. (ppm-v)	Air Flow Rate (scfm)	Contam. Molecular Weight	Contam. Removal Rate (lbs/hr)	Contam. Specific Gravity	Cum. Pounds Removed	Cum. Volume Removed (gal)
10/29/01 16:30	EX-2	0.00	50	10	100	0.01	0.8	0.0	0.00
10/29/01 16:40	EX-2	0.01	40	22	100	0.01	0.8	0.0	0.00
10/29/01 16:45	EX-2	0.01	80	43	100	0.05	0.8	0.0	0.00
10/29/01 16:50	EX-2	0.01	20	10	100	0.00	0.8	0.0	0.00
10/29/01 17:00	EX-2	0.02	10	8.0	100	0.00	0.8	0.0	0.00
10/29/01 17:05	EX-2	0.02	50	6.0	100	0.00	0.8	0.0	0.00
10/29/01 17:25	EX-2	0.04	10	10	100	0.00	0.8	0.0	0.00
10/29/01 17:30	EX-2	0.04	10	4.0	100	0.00	0.8	0.0	0.00
10/29/01 17:30	EX-2	0.04	50	6.0	100	0.00	0.8	0.0	0.00
					Minimum removal rate	0.02	LBS/DAY	0.2	LBS/DAY
					Maximum removal rate	1.31	LBS/DAY		

Site #11117, Oakland
7210 Bancroft, Oakland
Tosco Contact :Dave DeWitt
Consultant :

2000 Total:		**gallons**
2001 Total:	**6,500**	**gallons**

Date	Gallons	Comments
11/30/01	6,500	Poly tank empty & clean

CAMBRIA

APPENDIX C

Vapor Analytical Data

CAMBRIA

APPENDIX C

Vapor Analytical Data

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

November 13, 2001

Mr. Khaled Rahman
BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

RE: Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Carolynne Trout
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

Attn: Mr. Khaled Rahman
Phone: 510-450-1985

Lab Sample No: 103095360 Project Sample Number: 1050443-001 Date Collected: 10/29/01 12:10
Client Sample ID: MW-4-AM Matrix: Air Date Received: 10/30/01 10:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
Meth3C,Fixed Gases, in Air	Prep/Method: Method 3C Gases / Method 3C Gases							
Oxygen	15.	%	1.4	11/12/01	MTG	7782-44-7		
Methane	11.	%	1.4	11/12/01	MTG	74-82-8		
Carbon dioxide	10.	%	0.73	11/12/01	MTG	124-38-9		
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	170	ppmv	10.	10/31/01 15:18	MTG	71-43-2		
Toluene	540	ppmv	10.	10/31/01 15:18	MTG	108-88-3		
Ethylbenzene	91.	ppmv	10.	10/31/01 15:18	MTG	100-41-4		
m&p-Xylene	240	ppmv	20.	10/31/01 15:18	MTG			
o-Xylene	76.	ppmv	10.	10/31/01 15:18	MTG	95-47-6		
THC as Gas	11000	ppmv	100	10/31/01 15:18	MTG			
Methyl-tert-butyl ether	280	ppmv	10.	10/31/01 15:18	MTG	1634-04-4		

Lab Sample No: 103095378 Project Sample Number: 1050443-002 Date Collected: 10/29/01 16:00
Client Sample ID: MW-4-PM-IN Matrix: Air Date Received: 10/30/01 10:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	150	ppmv	10.	10/31/01 14:25	MTG	71-43-2		
Toluene	390	ppmv	10.	10/31/01 14:25	MTG	108-88-3		
Ethylbenzene	56.	ppmv	10.	10/31/01 14:25	MTG	100-41-4		
m&p-Xylene	140	ppmv	20.	10/31/01 14:25	MTG			
o-Xylene	42.	ppmv	10.	10/31/01 14:25	MTG	95-47-6		
THC as Gas	8400	ppmv	100	10/31/01 14:25	MTG			
Methyl-tert-butyl ether	290	ppmv	10.	10/31/01 14:25	MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

Lab Sample No: 103095386 Project Sample Number: 1050443-003 Date Collected: 10/29/01 16:00
Client Sample ID: MW-4-PM-EFF Matrix: Air Date Received: 10/30/01 10:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	ND	ppmv	0.10	10/30/01 13:51	MTG	71-43-2		
Toluene	0.18	ppmv	0.10	10/30/01 13:51	MTG	108-88-3		
Ethylbenzene	0.17	ppmv	0.10	10/30/01 13:51	MTG	100-41-4		
m&p-Xylene	0.64	ppmv	0.20	10/30/01 13:51	MTG			
o-Xylene	0.27	ppmv	0.10	10/30/01 13:51	MTG	95-47-6		
THC as Gas	2.5	ppmv	1.0	10/30/01 13:51	MTG			
Methyl-tert-butyl ether	ND	ppmv	0.10	10/30/01 13:51	MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

QC Batch: 65408 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103095386

METHOD BLANK: 103096756
Associated Lab Samples: 103095386

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103096764 103096772

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	1.045	0.7969	104	80	27	
Toluene	ppmv	1.000	1.126	0.9111	113	91	21	
Ethylbenzene	ppmv	1.000	0.9856	0.9041	99	90	9	
m&p-Xylene	ppmv	2.000	2.105	1.768	105	88	17	
o-Xylene	ppmv	1.000	1.040	0.9333	104	93	11	
THC as Gas	ppmv	10	10.53	9.280	105	93	13	

SAMPLE DUPLICATE: 103096780

Parameter	Units	103084778 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	35.00	32.00	8	
Toluene	ppmv	10.00	9.800	4	
Ethylbenzene	ppmv	2.500	2.000	22	
m&p-Xylene	ppmv	2.600	2.500	6	
o-Xylene	ppmv	ND	ND	NC	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

SAMPLE DUPLICATE: 103096780

Parameter	Units	103084778 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	1400	1200	9	
Methyl-tert-butyl ether	ppmv	22.00	20.00	10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

QC Batch: 65460 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103095360 103095378

METHOD BLANK: 103099594
Associated Lab Samples: 103095360 103095378

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103099602 103099610

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	0.9067	0.7969	91	80	13	
Toluene	ppmv	1.000	1.074	0.9111	107	91	16	
Ethylbenzene	ppmv	1.000	1.006	0.9041	101	90	11	
m&p-Xylene	ppmv	2.000	2.095	1.768	105	88	17	
o-Xylene	ppmv	1.000	1.096	0.9333	110	93	16	
THC as Gas	ppmv	10	9.509	9.280	95	93	2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

QC Batch: 66009 Analysis Method: Method 3C Gases
QC Batch Method: Method 3C Gases Analysis Description: Meth3C,Fixed Gases, in Air
Associated Lab Samples: 103095360

METHOD BLANK: 103133062
Associated Lab Samples: 103095360

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Oxygen	%	ND	1.0	
Methane	%	ND	1.0	
Carbon dioxide	%	ND	0.51	

LABORATORY CONTROL SAMPLE & LCSD: 103133070 103133088

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Oxygen	%	10.4	10.39	10.80	100	104	4	
Methane	%	23	19.99	19.91	87	87	0	
Carbon dioxide	%	9.500	11.11	10.87	117	114	2	

SAMPLE DUPLICATE: 103133096

Parameter	Units	103114526 Result	DUP Result	RPD	Footnotes
Oxygen	%	8.400	8.200	2	
Methane	%	31.00	31.00	2	
Carbon dioxide	%	10.00	10.00	2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050443
Client Project ID: 852-1546-03 BP11117

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical

523354

Page: 1 of 1

To Be Completed by Pace Analytical and Client

Section A — Required Client Information:

Company: CAMBRIA ENV
Address: 6262 Hollis St.
Emeryville, CA 94608
Phone: (510) 450-1985 Fax: (510) 450-1995

Section B — Required Client Information:

Report To: Khaled Rahman
Invoice To: Hooton/BP Oil Co.
P.O.: J197381
Project Name: BP11117
Project Number: 852-1546-03

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

Section C

Quote Reference:
Project Manager:
Project #: 1050443
Profile #:

Section D — Required Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: TPH-D/BTEX/MTBE; O,2 GHU; CO_2

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Remarks / Lab ID
1												
2												
3	W G A	AR	10/29/01	12:15 P	3	X					X	10309536O
4												
5	W G P - N	AR	↓	4:00P	1	X						378
6	W G P - F	AR	↓	4:00P	1	X						386
7												
8												
9												
10												
11												
12												

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	[illegible]			RG/Kahled Mg Cambria	10/29	4:05PM		10/30	1000
Received on ICE:	Y / (N)								
Sealed Cooler:	Y / (N)								
Samples Intact:	(Y) / N								

Additional Comments:

SAMPLER NAME / ND SIGNATURE

PRINT Name of SAMPLER: Robert Gorst

SIGNATURE of SAMPLER: [signature] DATE Signed: (MM / DD / YY) 10/29/01

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

November 07, 2001

Mr. Khaled Rahman
BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

RE: Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on October 31, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Carolynne Trout

Carolynne Trout
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

Attn: Mr. Khaled Rahman
Phone: 510-450-1985

Lab Sample No: 103097168 Project Sample Number: 1050467-001 Date Collected: 10/30/01 12:08
Client Sample ID: MW-4-1NF-AM Matrix: Air Date Received: 10/31/01 10:00

Parameters	Results	Units	Report Limit	Analyzed	CAS No.	Ftnote	Reg Limit
Air							
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air						
Benzene	190	ppmv	10.	11/01/01 08:06 MTG	71-43-2		
Toluene	680	ppmv	10.	11/01/01 08:06 MTG	108-88-3		
Ethylbenzene	160	ppmv	10.	11/01/01 08:06 MTG	100-41-4		
m&p-Xylene	420	ppmv	20.	11/01/01 08:06 MTG			
o-Xylene	150	ppmv	10.	11/01/01 08:06 MTG	95-47-6		
THC as Gas	14000	ppmv	100	11/01/01 08:06 MTG			
Methyl-tert-butyl ether	360	ppmv	10.	11/01/01 08:06 MTG	1634-04-4		

Lab Sample No: 103097184 Project Sample Number: 1050467-002 Date Collected: 10/30/01 14:35
Client Sample ID: MW-4-1NF-PM Matrix: Air Date Received: 10/31/01 10:00

Parameters	Results	Units	Report Limit	Analyzed	CAS No.	Ftnote	Reg Limit
Air							
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air						
Benzene	160	ppmv	10.	11/01/01 09:01 MTG	71-43-2		
Toluene	580	ppmv	10.	11/01/01 09:01 MTG	108-88-3		
Ethylbenzene	140	ppmv	10.	11/01/01 09:01 MTG	100-41-4		
m&p-Xylene	380	ppmv	20.	11/01/01 09:01 MTG			
o-Xylene	130	ppmv	10.	11/01/01 09:01 MTG	95-47-6		
THC as Gas	12000	ppmv	100	11/01/01 09:01 MTG			
Methyl-tert-butyl ether	300	ppmv	10.	11/01/01 09:01 MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

QC Batch: 65536 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103097168 103097184

METHOD BLANK: 103104097
Associated Lab Samples: 103097168 103097184

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103104105 103104113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	0.9935	0.8882	99	89	11	
Toluene	ppmv	1.000	1.018	0.9021	102	90	12	
Ethylbenzene	ppmv	1.000	0.8935	0.7596	89	76	16	
m&p-Xylene	ppmv	2.000	1.815	1.562	91	78	15	
o-Xylene	ppmv	1.000	0.9081	0.7265	91	73	22	1
THC as Gas	ppmv	10	9.515	7.826	95	78	19	

SAMPLE DUPLICATE: 103104121

Parameter	Units	103097168 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	190.0	170.0	12	
Toluene	ppmv	680.0	610.0	12	
Ethylbenzene	ppmv	160.0	150.0	1	
m&p-Xylene	ppmv	420.0	360.0	16	
o-Xylene	ppmv	150.0	120.0	16	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

SAMPLE DUPLICATE: 103104121

Parameter	Units	103097168 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	14000	13000	8	
Methyl-tert-butyl ether	ppmv	360.0	340.0	6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050467
Client Project ID: BP# 11117 Proj:852-1546-3

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
[1] The calculated RPD was outside QC acceptance limits.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

579890

Page: 1 of 1

Required Client Information: Section A

Company: Cambria Environmental
Address: 6262 Hollis St
Emeryville, CA 94608
Phone: 510-450-1985 Fax: 510-450-8285

Required Client Information: Section B

Report To: Khaled Rhamen
Invoice To: Scott Hooton - BP Oil Co
P.O. #: J197381
Project Name: BP-11117
Project Number: 852-[redacted]1546-3

Client Information (Check quote/contract):
Requested Due Date: *TAT: Standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client Section C

Quote Reference:
Project Manager: CTL
Project #: 1050467
Profile #: 9729

Section D Required Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: TPHg / BTEX / MTBE	Remarks / Lab ID
1	M - - N - M	AR	10/30/01	1200p	1	X						X	3097168
2	M - - N - M	AR	10/30/01	235p	1	X						X	✓ 184
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	Ambient			Sara Dwight / Cambria	10/30/01	430	Lindsay Noel	10/31/01	10:00
Received on ICE:	Y / (N)								
Sealed Cooler:	Y / (N)								
Samples Intact:	(Y) / N								

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Sara Dwight
SIGNATURE of SAMPLER: Sara Dwight
DATE Signed: (MM / DD / YY) 10/31/01

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

November 07, 2001

Mr. Khaled Rahman
BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

RE: Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on November 1, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Carolynne Trout
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

Attn: Mr. Khaled Rahman
Phone: 510-450-1985

Lab Sample No: 103100244 Project Sample Number: 1050522-001 Date Collected: 10/31/01 11:15
Client Sample ID: MW-4-INF-AM Matrix: Air Date Received: 11/01/01 11:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	170	ppmv	10.	11/01/01 14:02	MTG	71-43-2		
Toluene	550	ppmv	10.	11/01/01 14:02	MTG	108-88-3		
Ethylbenzene	130	ppmv	10.	11/01/01 14:02	MTG	100-41-4		
m&p-Xylene	340	ppmv	20.	11/01/01 14:02	MTG			
o-Xylene	120	ppmv	10.	11/01/01 14:02	MTG	95-47-6		
THC as Gas	9600	ppmv	100	11/01/01 14:02	MTG			
Methyl-tert-butyl ether	340	ppmv	10.	11/01/01 14:02	MTG	1634-04-4		

Lab Sample No: 103100251 Project Sample Number: 1050522-002 Date Collected: 10/31/01 14:00
Client Sample ID: MW-4-INF-PM Matrix: Air Date Received: 11/01/01 11:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	140	ppmv	10.	11/02/01 08:16	MTG	71-43-2		
Toluene	470	ppmv	10.	11/02/01 08:16	MTG	108-88-3		
Ethylbenzene	150	ppmv	10.	11/02/01 08:16	MTG	100-41-4		
m&p-Xylene	350	ppmv	20.	11/02/01 08:16	MTG			
o-Xylene	120	ppmv	10.	11/02/01 08:16	MTG	95-47-6		
THC as Gas	9300	ppmv	100	11/02/01 08:16	MTG			
Methyl-tert-butyl ether	260	ppmv	10.	11/02/01 08:16	MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

QC Batch: 65536 — Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air — Analysis Description: TO3, in Air Source
Associated Lab Samples: 103100244

METHOD BLANK: 103104097
Associated Lab Samples: 103100244

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103104105 103104113

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	0.9935	0.8882	99	89	11	
Toluene	ppmv	1.000	1.018	0.9021	102	90	12	
Ethylbenzene	ppmv	1.000	0.8935	0.7596	89	76	16	
m&p-Xylene	ppmv	2.000	1.815	1.562	91	78	15	
o-Xylene	ppmv	1.000	0.9081	0.7265	91	73	22	1
THC as Gas	ppmv	10	9.515	7.826	95	78	19	

SAMPLE DUPLICATE: 103104121

Parameter	Units	103097168 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	190.0	170.0	12	
Toluene	ppmv	680.0	610.0	12	
Ethylbenzene	ppmv	160.0	150.0	1	
m&p-Xylene	ppmv	420.0	360.0	16	
o-Xylene	ppmv	150.0	120.0	16	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

SAMPLE DUPLICATE: 103104121

Parameter	Units	103097168 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	14000	13000	8	
Methyl-tert-butyl ether	ppmv	360.0	340.0	6	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

QC Batch: 65593
QC Batch Method: TO-3 Air
Associated Lab Samples: 103100251

Analysis Method: TO-3 Air
Analysis Description: TO3, in Air Source

METHOD BLANK: 103110326
Associated Lab Samples: 103100251

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103110334 103110342

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	0.9705	0.9478	97	95	2	
Toluene	ppmv	1.000	0.9373	0.9315	94	93	1	
Ethylbenzene	ppmv	1.000	0.8647	0.9317	86	93	7	
m&p-Xylene	ppmv	2.000	1.737	1.925	87	96	10	
o-Xylene	ppmv	1.000	0.8555	0.9585	86	96	11	
THC as Gas	ppmv	10	8.905	9.729	89	97	9	

SAMPLE DUPLICATE: 103110359

Parameter	Units	103100251 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	140.0	150.0	11	
Toluene	ppmv	470.0	450.0	3	
Ethylbenzene	ppmv	150.0	120.0	17	
m&p-Xylene	ppmv	350.0	290.0	20	
o-Xylene	ppmv	120.0	100.0	18	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

SAMPLE DUPLICATE: 103110359

Parameter	Units	103100251 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	9300	9600	4	
Methyl-tert-butyl ether	ppmv	260.0	290.0	14	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050522
Client Project ID: BP#11117 Proj#852-1546-13

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
[1] The calculated RPD was outside QC acceptance limits.

REPORT OF LABORATORY ANALYSIS

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

579871

Page: 1 of 1

Required Client Information: **Section A**

Company: Cambria Environmental
Address: 6262 Hollis St
Emeryville, CA 94608
Phone: 510-450-1985 Fax: 510-450-8295

Required Client Information: **Section B**

Report To: Khaled Rahman
Invoice To: BP Oil Co - Scott Hooton
P.O.: J197351
Project Name: BP-11117
Project Number: 852-154613

Client Information (Check quote/contract):
Requested Due Date: TAT: Standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager: CTI
Project #: 1050522
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: TPHg / BTEX / MTBE	Remarks / Lab ID
1	AR	10/31/01	1115a	1	X						X	3100244
2	AR	10/31/01	200p	1	X						X	✓ 251
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	4.1			Sara Dwight / Cambria	10/31/01	400		10-1	1100
Received on ICE:	Y / (N)								
Sealed Cooler:	Y / (N)								
Samples Intact:	(Y) / N								

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Sara Dwight
SIGNATURE of SAMPLER: Sara Dwight
DATE Signed: (MM / DD / YY) 10/31/01

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

November 07, 2001

Mr. Khaled Rahman
BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

RE: Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on November 3, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Carolynne Trout
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

Attn: Mr. Khaled Rahman
Phone: 510-450-1985

Lab Sample No: 103109609 Project Sample Number: 1050641-001 Date Collected: 11/01/01 14:00
Client Sample ID: EX-1-AM-1N Matrix: Air Date Received: 11/03/01 11:00

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	120	ppmv	10.	11/03/01 14:37	MTG	71-43-2		
Toluene	430	ppmv	10.	11/03/01 14:37	MTG	108-88-3		
Ethylbenzene	90.	ppmv	10.	11/03/01 14:37	MTG	100-41-4		
m&p-Xylene	280	ppmv	20.	11/03/01 14:37	MTG			
o-Xylene	85.	ppmv	10.	11/03/01 14:37	MTG	95-47-6		
THC as Gas	8600	ppmv	100	11/03/01 14:37	MTG			
Methyl-tert-butyl ether	160	ppmv	10.	11/03/01 14:37	MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

QC Batch: 65608 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103109609

METHOD BLANK: 103110771
Associated Lab Samples: 103109609

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103110789 103110797

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	1.013	0.7630	101	76	28	
Toluene	ppmv	1.000	1.032	0.7685	103	77	29	
Ethylbenzene	ppmv	1.000	0.9338	0.7408	93	74	23	
m&p-Xylene	ppmv	2.000	1.978	1.467	99	73	30	
o-Xylene	ppmv	1.000	0.9916	0.7565	99	76	27	
THC as Gas	ppmv	10	10.20	7.138	102	71	35	1

SAMPLE DUPLICATE: 103110805

Parameter	Units	103109609 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	120.0	120.0	2	
Toluene	ppmv	430.0	460.0	7	
Ethylbenzene	ppmv	90.00	84.00	7	
m&p-Xylene	ppmv	280.0	260.0	4	
o-Xylene	ppmv	85.00	76.00	11	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

SAMPLE DUPLICATE: 103110805

Parameter	Units	103109609 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	8600	8000	7	
Methyl-tert-butyl ether	ppmv	160.0	200.0	19	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050641
Client Project ID: Site#11117 Proj:852-1596-13

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
[1] RPD value was outside of control limits, however % Recoveries were acceptable. Samples for QC batch accepted based on % recoveries and completeness of QC data.

REPORT OF LABORATORY ANALYSIS

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

579874

Page: 1 of 1

Required Client Information: **Section A**

Company: Cambria Env.
Address: 6262 Hollis St.
Emeryville, CA 94608
Phone: Fax:

Required Client Information: **Section B**

Report To: Khaled Rahman
Invoice To: Scott Houton - BP Oil Co.
P.O.: J197381
Project Name: BP - 11117
Project Number: 852-1596-13

Client Information (Check quote/contract):
Requested Due Date: *TAT: Standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 1050691
Profile #:

Section D **Required Client Information:**

SAMPLE ID
One character per box.
(A–Z, 0–9 / ,–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: TPH-g/BTEX/MTBE	Remarks / Lab ID
1	E--M-1	AR	11/1/01	2:00 P	1	X						X	10310 7607
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	-			Robert Gomez / Cambria	11/1/01	5:00p	Pace	11-3-01	11:00
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robert Gomez
SIGNATURE of SAMPLER:
DATE Signed: (MM / DD / YY) 11/1/01

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

November 14, 2001

Mr. Khaled Rahman
BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

RE: Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on November 3, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Carolynne Trout
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

BP-Amoco- California
c/o Cambria
6262 Hollis St.
Emeryville, CA 94608

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

Attn: Mr. Khaled Rahman
Phone: 510-450-1985

Lab Sample No: 103109567 Project Sample Number: 1050640-001 Date Collected: 11/02/01 13:35
Client Sample ID: MW-4-PM-IN Matrix: Air Date Received: 11/03/01 10:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	160	ppmv	10.	11/03/01 15:34	MTG	71-43-2		
Toluene	460	ppmv	10.	11/03/01 15:34	MTG	108-88-3		
Ethylbenzene	120	ppmv	10.	11/03/01 15:34	MTG	100-41-4		
m&p-Xylene	300	ppmv	20.	11/03/01 15:34	MTG			
o-Xylene	110	ppmv	10.	11/03/01 15:34	MTG	95-47-6		
THC as Gas	7500	ppmv	100	11/03/01 15:34	MTG			
Methyl-tert-butyl ether	340	ppmv	10.	11/03/01 15:34	MTG	1634-04-4		

Lab Sample No: 103109575 Project Sample Number: 1050640-002 Date Collected: 11/02/01 13:35
Client Sample ID: MW-4-PM-IN. Matrix: Air Date Received: 11/03/01 10:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
Meth3C,Fixed Gases, in Air	Prep/Method: Method 3C Gases / Method 3C Gases							
Carbon dioxide	10.	%	0.75	11/12/01	MTG	124-38-9		

Lab Sample No: 103109583 Project Sample Number: 1050640-003 Date Collected: 11/02/01 13:35
Client Sample ID: MW-4-PM-IN Matrix: Air Date Received: 11/03/01 10:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
Meth3C,Fixed Gases, in Air	Prep/Method: Method 3C Gases / Method 3C Gases							
Oxygen	16.	%	1.5	11/12/01	MTG	7782-44-7		
Methane	ND	%	1.5	11/12/01	MTG	74-82-8		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

Lab Sample No: 103109591 Project Sample Number: 1050640-004 Date Collected: 11/02/01 13:35
Client Sample ID: MW-4-PM-EFF Matrix: Air Date Received: 11/03/01 10:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	0.11	ppmv	0.10	11/03/01 14:10	MTG	71-43-2		
Toluene	1.1	ppmv	0.10	11/03/01 14:10	MTG	108-88-3		
Ethylbenzene	0.98	ppmv	0.10	11/03/01 14:10	MTG	100-41-4		
m&p-Xylene	2.7	ppmv	0.20	11/03/01 14:10	MTG			
o-Xylene	1.1	ppmv	0.10	11/03/01 14:10	MTG	95-47-6		
THC as Gas	20.	ppmv	1.0	11/03/01 14:10	MTG			
Methyl-tert-butyl ether	ND	ppmv	0.10	11/03/01 14:10	MTG	1634-04-4		

Lab Sample No: 103111704 Project Sample Number: 1050640-005 Date Collected: 11/02/01 00:00
Client Sample ID: MW-4-AM-IN Matrix: Air Date Received: 11/03/01 10:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Air								
TO3, in Air Source	Prep/Method: TO-3 Air / TO-3 Air							
Benzene	190	ppmv	10.	11/05/01 12:33	MTG	71-43-2		
Toluene	570	ppmv	10.	11/05/01 12:33	MTG	108-88-3		
Ethylbenzene	110	ppmv	10.	11/05/01 12:33	MTG	100-41-4		
m&p-Xylene	330	ppmv	20.	11/05/01 12:33	MTG			
o-Xylene	110	ppmv	10.	11/05/01 12:33	MTG	95-47-6		
THC as Gas	11000	ppmv	100	11/05/01 12:33	MTG			
Methyl-tert-butyl ether	390	ppmv	10.	11/05/01 12:33	MTG	1634-04-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

QC Batch: 65608 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103109567 103109591

METHOD BLANK: 103110771
Associated Lab Samples: 103109567 103109591

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103110789 103110797

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	1.013	0.7630	101	76	28	
Toluene	ppmv	1.000	1.032	0.7685	103	77	29	
Ethylbenzene	ppmv	1.000	0.9338	0.7408	93	74	23	
m&p-Xylene	ppmv	2.000	1.978	1.467	99	73	30	
o-Xylene	ppmv	1.000	0.9916	0.7565	99	76	27	
THC as Gas	ppmv	10	10.20	7.138	102	71	35	1

SAMPLE DUPLICATE: 103110805

Parameter	Units	103109609 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	120.0	120.0	2	
Toluene	ppmv	430.0	460.0	7	
Ethylbenzene	ppmv	90.00	84.00	7	
m&p-Xylene	ppmv	280.0	260.0	4	
o-Xylene	ppmv	85.00	76.00	11	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

QUALITY CONTROL DATA

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

SAMPLE DUPLICATE: 103110805

Parameter	Units	103109609 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	8600	8000	7	
Methyl-tert-butyl ether	ppmv	160.0	200.0	19	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

QC Batch: 65677 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3, in Air Source
Associated Lab Samples: 103111704

METHOD BLANK: 103113858
Associated Lab Samples: 103111704

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ppmv	ND	0.10	
Toluene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Methyl-tert-butyl ether	ppmv	ND	0.10	

LABORATORY CONTROL SAMPLE & LCSD: 103113866 103113874

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ppmv	1.000	0.9497	0.8945	95	90	6	
Toluene	ppmv	1.000	1.014	0.9413	101	94	7	
Ethylbenzene	ppmv	1.000	0.9445	0.9245	94	92	2	
m&p-Xylene	ppmv	2.000	2.003	1.879	100	94	6	
o-Xylene	ppmv	1.000	1.012	0.9280	101	93	9	
THC as Gas	ppmv	10	10.28	8.969	103	90	14	

SAMPLE DUPLICATE: 103113882

Parameter	Units	103111704 Result	DUP Result	RPD	Footnotes
Benzene	ppmv	190.0	160.0	18	
Toluene	ppmv	570.0	440.0	26	
Ethylbenzene	ppmv	110.0	110.0	8	
m&p-Xylene	ppmv	330.0	240.0	31	2
o-Xylene	ppmv	110.0	86.00	21	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

SAMPLE DUPLICATE: 103113882

Parameter	Units	103111704 Result	DUP Result	RPD	Footnotes
THC as Gas	ppmv	11000	8700	19	
Methyl-tert-butyl ether	ppmv	390.0	330.0	15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

QC Batch: 66009 Analysis Method: Method 3C Gases
QC Batch Method: Method 3C Gases Analysis Description: Meth3C,Fixed Gases, in Air
Associated Lab Samples: 103109575 103109583

METHOD BLANK: 103133062
Associated Lab Samples: 103109575 103109583

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Oxygen	%	ND	1.0	
Methane	%	ND	1.0	
Carbon dioxide	%	ND	0.51	

LABORATORY CONTROL SAMPLE & LCSD: 103133070 103133088

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Oxygen	%	10.4	10.39	10.80	100	104	4	
Methane	%	23	19.99	19.91	87	87	0	
Carbon dioxide	%	9.500	11.11	10.87	117	114	2	

SAMPLE DUPLICATE: 103133096

Parameter	Units	103114526 Result	DUP Result	RPD	Footnotes
Oxygen	%	8.400	8.200	2	
Methane	%	31.00	31.00	2	
Carbon dioxide	%	10.00	10.00	2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1050640
Client Project ID: Proj: 852-1546

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
[1] RPD value was outside of control limits, however % Recoveries were acceptable. Samples for QC batch accepted based on % recoveries and completeness of QC data.
[2] The calculated RPD was outside QC acceptance limits.

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

579901

Pace Analytical

Page: 1 of 1

Required Client Information: **Section A**

Company: Cambria - Env
Address: 6262 Hollis St.
Emeryville, CA 94608
Phone: (510) 450-1185 Fax: 510-450-8295

Required Client Information: **Section B**

Report To: Khaled Rahman
Invoice To: Scott Hooton - BP Oil Co
P.O.: J197391
Project Name: 852-1546
Project Number: 852-1546-13

Client Information (Check quote/contract):
Requested Due Date: *TAT: Standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 1050640
Profile #:

Section D **Required Client Information:**

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: TPH-g/BTEX/MTBE	CO_2 - CH_4	O_2 /	Remarks / Lab ID
1	AR	11/2/01	1:35 P		X						X			103109567
2	AR	11/2/01	1:35 P		X							X		9575
3	AR	11/2/01	1:35 P		X								X	9583
4	AR	11/2/01	1:35 P		X						X			9591
5														
6														
7	AR	11/2/01	—								X			
8														
9														
10														
11														
12														

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	—			Robert Gomez / Cambria	11/2/01	5:45pm		11-3-01	10:45
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

MW-4-AM-IN added to COC per Khaled Rahman 11/5/01 CT

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed: (MM / DD / YY)

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

CAMBRIA

APPENDIX D

Grab Water Analytical Data

CAMBRIA

APPENDIX D

Grab Water Analytical Data

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

November 02, 2001

Mr. Khaled Rahman
Cambria
6262 Hollis Street
Emeryville, CA 94608

RE: Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on October 31, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Paula Kirtley
Project Manager

Enclosures

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Cambria
6262 Hollis Street
Emeryville, CA 94608

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

Attn: Mr. Khaled Rahman
Phone:

Lab Sample No: 851718133 Project Sample Number: 8524167-001 Date Collected: 10/29/01 09:00
Client Sample ID: MW-2 Matrix: Water Date Received: 10/31/01 08:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed		CAS No.	Ftnote	Reg Limit
GC Volatiles									
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	140000	ug/l	12000	250	11/01/01 13:07	WRIC			
1,4-Difluorobenzene (S)	112	%		1.0	11/01/01 13:07	WRIC			
4-Bromofluorobenzene (S)	92	%		1.0	11/01/01 13:07	WRIC	460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021								
Benzene	16600	ug/l	125.	250	11/01/01 13:07	WRIC	71-43-2		
Ethylbenzene	2800	ug/l	125.	250	11/01/01 13:07	WRIC	100-41-4		
Toluene	22800	ug/l	125.	250	11/01/01 13:07	WRIC	108-88-3		
Xylene (Total)	18700	ug/l	375.	250	11/01/01 13:07	WRIC	1330-20-7		
Methyl-tert-butyl ether	12900	ug/l	125.	250	11/01/01 13:07	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	106	%		1.0	11/01/01 13:07	WRIC			
4-Bromofluorobenzene (S)	98	%		1.0	11/01/01 13:07	WRIC	460-00-4		

REPORT OF LABORATORY ANALYSIS

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

Lab Sample No: 85171813 Project Sample Number: 8524167-002 Date Collected: 10/29/01 09:55
Client Sample ID: MW-4 Matrix: Water Date Received: 10/31/01 08:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed		CAS No.	Ftnote	Reg Limit
GC Volatiles									
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	74000	ug/l	5000	100	11/01/01 13:26	WRIC			
1,4-Difluorobenzene (S)	108	%		1.0	11/01/01 13:26	WRIC			
4-Bromofluorobenzene (S)	92	%		1.0	11/01/01 13:26	WRIC	460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021								
Benzene	5530	ug/l	50.0	100	11/01/01 13:26	WRIC	71-43-2		
Ethylbenzene	2950	ug/l	50.0	100	11/01/01 13:26	WRIC	100-41-4		
Toluene	5620	ug/l	50.0	100	11/01/01 13:26	WRIC	108-88-3		
Xylene (Total)	9660	ug/l	150.	100	11/01/01 13:26	WRIC	1330-20-7		
Methyl-tert-butyl ether	21700	ug/l	50.0	100	11/01/01 13:26	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	103	%		1.0	11/01/01 13:26	WRIC			
4-Bromofluorobenzene (S)	99	%		1.0	11/01/01 13:26	WRIC	460-00-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

Lab Sample No: 851718135 Project Sample Number: 8524167-003 Date Collected: 10/29/01 09:35
Client Sample ID: EX-1 Matrix: Water Date Received: 10/31/01 08:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed		CAS No.	Ftnote	Reg Limit
GC Volatiles									
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	26000	ug/l	1200	25.0	11/01/01 11:29	WRIC			
1,4-Difluorobenzene (S)	110	%		1.0	11/01/01 11:29	WRIC			
4-Bromofluorobenzene (S)	95	%		1.0	11/01/01 11:29	WRIC	460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021								
Benzene	2600	ug/l	12.5	25.0	11/01/01 11:29	WRIC	71-43-2		
Ethylbenzene	1450	ug/l	12.5	25.0	11/01/01 11:29	WRIC	100-41-4		
Toluene	253.	ug/l	12.5	25.0	11/01/01 11:29	WRIC	108-88-3		
Xylene (Total)	6090	ug/l	37.5	25.0	11/01/01 11:29	WRIC	1330-20-7		
Methyl-tert-butyl ether	1550	ug/l	12.5	25.0	11/01/01 11:29	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	107	%		1.0	11/01/01 11:29	WRIC			
4-Bromofluorobenzene (S)	98	%		1.0	11/01/01 11:29	WRIC	460-00-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

Lab Sample No: 851718130 Project Sample Number: 8524167-004 Date Collected: 10/29/01 09:40
Client Sample ID: EX-2 Matrix: Water Date Received: 10/31/01 08:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed		CAS No.	Ftnote	Reg Limit
GC Volatiles									
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	ND	ug/l	50.	1.0	11/01/01 10:29	WRIC			
1,4-Difluorobenzene (S)	102	%		1.0	11/01/01 10:29	WRIC			
4-Bromofluorobenzene (S)	87	%		1.0	11/01/01 10:29	WRIC	460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021								
Benzene	ND	ug/l	0.500	1.0	11/01/01 10:29	WRIC	71-43-2		
Ethylbenzene	ND	ug/l	0.500	1.0	11/01/01 10:29	WRIC	100-41-4		
Toluene	ND	ug/l	0.500	1.0	11/01/01 10:29	WRIC	108-88-3		
Xylene (Total)	ND	ug/l	1.50	1.0	11/01/01 10:29	WRIC	1330-20-7		
Methyl-tert-butyl ether	ND	ug/l	0.500	1.0	11/01/01 10:29	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	97	%		1.0	11/01/01 10:29	WRIC			
4-Bromofluorobenzene (S)	94	%		1.0	11/01/01 10:29	WRIC	460-00-4		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable
(S) Surrogate

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

QC Batch: 59915 Analysis Method: EPA 8021
QC Batch Method: See analytical meth Analysis Description: SW8021 Aromatics, Water
Associated Lab Samples: 851718133 851718134 851718135 851718136

METHOD BLANK: 851718253
Associated Lab Samples: 851718133 851718134 851718135 851718136

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	0.500	
Ethylbenzene	ug/l	ND	0.500	
Toluene	ug/l	ND	0.500	
Xylene (Total)	ug/l	ND	1.50	
Methyl-tert-butyl ether	ug/l	ND	0.500	
1,4-Difluorobenzene (S)	%	96		
4-Bromofluorobenzene (S)	%	96		

LABORATORY CONTROL SAMPLE: 851718254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50	53.95	108	
Ethylbenzene	ug/l	50	52.48	105	
Toluene	ug/l	50	53.35	107	
Xylene (Total)	ug/l	100	102.6	103	
Methyl-tert-butyl ether	ug/l	50	55.28	111	
1,4-Difluorobenzene (S)				104	
4-Bromofluorobenzene (S)				96	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718255 851718256

Parameter	Units	851718136 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	57.97	52.74	116	106	9	
Ethylbenzene	ug/l	0	50.00	55.91	51.53	112	103	8	
Toluene	ug/l	0	50.00	57.38	52.45	115	105	9	
Xylene (Total)	ug/l	0	100.00	107.9	100.5	108	100	7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718255 851718256

Parameter	Units	851718136 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Methyl-tert-butyl ether	ug/l	0	50.00	58.35	54.83	117	110	6	
1,4-Difluorobenzene (S)						103	102		
4-Bromofluorobenzene (S)						98	97		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

QC Batch: 59916
Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 8015 Modified
Analysis Description: GAS by Mod 8015, Water
Associated Lab Samples: 851718133 851718134 851718135 851718136

METHOD BLANK: 851718257
Associated Lab Samples: 851718133 851718134 851718135 851718136

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline Range Organics	ug/l	ND	50.	
1,4-Difluorobenzene (S)	%	102		
4-Bromofluorobenzene (S)	%	90		

LABORATORY CONTROL SAMPLE: 851718258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline Range Organics	ug/l	1000	1047	105	
1,4-Difluorobenzene (S)				89	
4-Bromofluorobenzene (S)				92	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718259 851718260

Parameter	Units	851718136 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Gasoline Range Organics	ug/l	16.38	1000.00	1041	1029	102	101	1	
1,4-Difluorobenzene (S)						99	100		
4-Bromofluorobenzene (S)						98	97		

REPORT OF LABORATORY ANALYSIS

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524167
Client Project ID: BP Site# BP11117

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
(S) Surrogate

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

523353

Page: 1 of 1

Required Client Information: **Section A**

Company: Cambria Env.
Address: 6262 Hollis St.
Emeryville, CA 94608
Phone: (510) 450-6125 Fax: (510) 450-8295

Required Client Information: **Section B**

Report To: Khaled Rahman
Invoice To: Scott Haas / BP Oil Co
P.O.: J197381
Project Name: ~~BP 1996-3~~ BP 1996-3
Project Number: J197381 ~~852-1996-3~~

Client Information (Check waste/contract):
Requested Due Date: TAT: Standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 85241607
Profile #: 1990 / 1

Section D **Required Client Information:**

SAMPLE ID
One character per box.
(A–Z, 0–9 / ,–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: TPH-D (8015M) / BTEX (8021)

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Remarks / Lab ID
1	M[illegible]	WT	10/29/01	9:00 a	4				X			8517818133
2	M[illegible]	WT		9:55 a					X			8134
3	E[illegible]	WT		9:35 a					X			8135
4	E[illegible]	WT		9:40 a					X			8136
5												
6												
7												
8												
9												
10												
11												
12												

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	0.1			KW Cambria 10/29/01	10/30/01	430	Fedex		
Received on ICE:	(Y) / N			Fedex 10/31/01 0830			Tracy Moody / Pace 10/31/01		0830
Sealed Cooler:	(Y) / N								
Samples Intact:	(Y) / N								

Additional Comments:

~~EDF~~ ~~[illegible]~~ Requested KAM 10/30/01

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Gomez

SIGNATURE of SAMPLER:

DATE Signed: (MM / DD / YY) 10/29/01

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

November 15, 2001

Mr. Khaled Rahman
Cambria
6262 Hollis Street
Emeryville, CA 94608

RE: Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Dear Mr. Rahman:

Enclosed are the analytical results for sample(s) received by the laboratory on November 3, 2001. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Paula Kirtley
Project Manager

Enclosures

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Cambria
6262 Hollis Street
Emeryville, CA 94608

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Attn: Mr. Khaled Rahman
Phone:

Lab Sample No: 851718860 Project Sample Number: 8524257-001 Date Collected: 11/02/01 15:00
Client Sample ID: MW-2 Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
GC Volatiles								
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified							
Gasoline Range Organics	110000	ug/l	5000	100	11/07/01 18:30	WRIC		
1,4-Difluorobenzene (S)	92	%		1.0	11/07/01 18:30	WRIC		
4-Bromofluorobenzene (S)	95	%		1.0	11/07/01 18:30	WRIC	460-00-4	
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021							
Benzene	10100	ug/l	50.0	100	11/07/01 18:30	WRIC	71-43-2	
Ethylbenzene	1710	ug/l	50.0	100	11/07/01 18:30	WRIC	100-41-4	
Toluene	12800	ug/l	50.0	100	11/07/01 18:30	WRIC	108-88-3	
Xylene (Total)	11600	ug/l	150.	100	11/07/01 18:30	WRIC	1330-20-7	
Methyl-tert-butyl ether	56500	ug/l	125.	250	11/07/01 18:30	WRIC	1634-04-4	
1,4-Difluorobenzene (S)	100	%		1.0	11/07/01 18:30	WRIC		
4-Bromofluorobenzene (S)	102	%		1.0	11/07/01 18:30	WRIC	460-00-4	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718861 Project Sample Number: 8524257-002 Date Collected: 11/02/01 14:15
Client Sample ID: MW-4 Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed		CAS No.	Ftnote	Reg Limit
GC Volatiles									
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified								
Gasoline Range Organics	80000	ug/l	5000	100	11/07/01 18:49	WRIC			
1,4-Difluorobenzene (S)	92	%		1.0	11/07/01 18:49	WRIC			
4-Bromofluorobenzene (S)	94	%		1.0	11/07/01 18:49	WRIC	460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021								
Benzene	9420	ug/l	50.0	100	11/07/01 18:49	WRIC	71-43-2		
Ethylbenzene	1770	ug/l	50.0	100	11/07/01 18:49	WRIC	100-41-4		
Toluene	1470	ug/l	50.0	100	11/07/01 18:49	WRIC	108-88-3		
Xylene (Total)	3320	ug/l	150.	100	11/07/01 18:49	WRIC	1330-20-7		
Methyl-tert-butyl ether	60000	ug/l	125.	250	11/07/01 18:49	WRIC	1634-04-4		
1,4-Difluorobenzene (S)	100	%		1.0	11/07/01 18:49	WRIC			
4-Bromofluorobenzene (S)	101	%		1.0	11/07/01 18:49	WRIC	460-00-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718862 Project Sample Number: 8524257-003 Date Collected: 11/02/01 15:40
Client Sample ID: EX-1 Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
GC Volatiles								
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified							
Gasoline Range Organics	54000	ug/l	12000	250	11/07/01 19:09	WRIC		
1,4-Difluorobenzene (S)	92	%		1.0	11/07/01 19:09	WRIC		
4-Bromofluorobenzene (S)	94	%		1.0	11/07/01 19:09	WRIC	460-00-4	
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021							
Benzene	3070	ug/l	125.	250	11/07/01 19:09	WRIC	71-43-2	
Ethylbenzene	1320	ug/l	125.	250	11/07/01 19:09	WRIC	100-41-4	
Toluene	6870	ug/l	125.	250	11/07/01 19:09	WRIC	108-88-3	
Xylene (Total)	8060	ug/l	375.	250	11/07/01 19:09	WRIC	1330-20-7	
Methyl-tert-butyl ether	7300	ug/l	125.	250	11/07/01 19:09	WRIC	1634-04-4	
1,4-Difluorobenzene (S)	100	%		1.0	11/07/01 19:09	WRIC		
4-Bromofluorobenzene (S)	101	%		1.0	11/07/01 19:09	WRIC	460-00-4	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718863 Project Sample Number: 8524257-004 Date Collected: 11/02/01 15:20
Client Sample ID: EX-2 Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
GC Volatiles								
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified							
Gasoline Range Organics	ND	ug/l	50.	1.0	11/06/01 16:00	WRIC		
1,4-Difluorobenzene (S)	88	%		1.0	11/06/01 16:00	WRIC		
4-Bromofluorobenzene (S)	97	%		1.0	11/06/01 16:00	WRIC 460-00-4		
SW8021 Aromatics, Water	Prep/Method: See analytical meth / EPA 8021							
Benzene	ND	ug/l	0.500	1.0	11/06/01 16:00	WRIC 71-43-2		
Ethylbenzene	ND	ug/l	0.500	1.0	11/06/01 16:00	WRIC 100-41-4		
Toluene	ND	ug/l	0.500	1.0	11/06/01 16:00	WRIC 108-88-3		
Xylene (Total)	ND	ug/l	1.50	1.0	11/06/01 16:00	WRIC 1330-20-7		
Methyl-tert-butyl ether	1.29	ug/l	0.500	1.0	11/06/01 16:00	WRIC 1634-04-4		
1,4-Difluorobenzene (S)	97	%		1.0	11/06/01 16:00	WRIC		
4-Bromofluorobenzene (S)	105	%		1.0	11/06/01 16:00	WRIC 460-00-4		

REPORT OF LABORATORY ANALYSIS

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718864 Project Sample Number: 8524257-005 Date Collected: 11/02/01 15:45
Client Sample ID: TANK Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
Metals								
SW6010 Metals, Trace Water	Method: EPA 6010							
Antimony	ND	ug/l	5.00	1.0	11/12/01	PBAR 7440-36-0		
Arsenic	14.6	ug/l	5.00	1.0	11/12/01	PBAR 7440-38-2		
Barium	304.	ug/l	5.00	1.0	11/12/01	PBAR 7440-39-3		
Beryllium	ND	ug/l	1.00	1.0	11/12/01	PBAR 7440-41-7		
Cadmium	ND	ug/l	1.00	1.0	11/12/01	PBAR 7440-43-9		
Chromium	ND	ug/l	5.00	1.0	11/12/01	PBAR 7440-47-3		
Cobalt	ND	ug/l	5.00	1.0	11/12/01	PBAR 7440-48-4		
Copper	16.5	ug/l	5.00	1.0	11/12/01	PBAR 7440-50-8		
Lead	ND	ug/l	3.00	1.0	11/12/01	PBAR 7439-92-1		
Molybdenum	ND	ug/l	10.0	1.0	11/12/01	PBAR 7439-98-7		
Nickel	ND	ug/l	5.00	1.0	11/12/01	PBAR 7440-02-0		
Selenium	ND	ug/l	5.00	1.0	11/12/01	PBAR 7782-49-2		
Silver	ND	ug/l	2.00	1.0	11/12/01	PBAR 7440-22-4		
Thallium	23.5	ug/l	5.00	1.0	11/12/01	PBAR 7440-28-0		
Vanadium	ND	ug/l	5.00	1.0	11/12/01	PBAR 7440-62-2		
Zinc	27.6	ug/l	5.00	1.0	11/12/01	PBAR 7440-66-6		
Mercury, Water, SW 7470	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	ug/l	0.200	1.0	11/08/01	BKIR 7439-97-6		
Wet Chemistry								
Cyanide, Total, Water, EPA	Prep/Method: EPA 335.2 / EPA 335.2							
Cyanide	ND	mg/l	0.0100	1.0	11/07/01 09:00	BBRO 57-12-5		
Sulfide, Total	Prep/Method: EPA 376.1 / EPA 376.1							
Sulfide	ND	mg/l	1.00	1.0	11/09/01 17:00	BBRO		
Cyanide, Reactive	Prep/Method: SW-846 7.3.3.2 / SW-846 7.3.3.2							
Cyanide, Reactive	ND	mg/kg	0.500	1.0	11/09/01 10:00	BBRO		250
Sulfide, Reactive	Prep/Method: SW-846 7.3.4.2 / SW-846 7.3.4.2							
Sulfide, Reactive	ND	mg/kg	50.0	1.0	11/08/01 10:00	HFEB		500
pH for Corrosivity	Prep/Method: EPA 9040 / EPA 9040							
pH	7.61			1.0	11/07/01 10:50	MROD		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718864 Project Sample Number: 8524257-005 Date Collected: 11/02/01 15:45
Client Sample ID: TANK Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
Organics Prep								
Ignitability, Seta Flash	Prep/Method: EPA 1020 / EPA 1020							
Ignitability	>225	deg F		1.0	11/12/01 11:00	CHAR		
GC Volatiles								
GAS by Mod 8015, Water	Prep/Method: EPA 8015 Modified / EPA 8015 Modified							
Gasoline Range Organics	26000	ug/l	5000	100	11/07/01 19:29	WRIC		
1,4-Difluorobenzene (S)	91	%		1.0	11/07/01 19:29	WRIC		
4-Bromofluorobenzene (S)	94	%		1.0	11/07/01 19:29	WRIC	460-00-4	
GC/MS Volatiles								
SW8260 Nonroutine VOCs, Trace	Prep/Method: See analytical meth / EPA 8260							
Acetone	0.014	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	67-64-1	
Acetonitrile	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	75-05-8	
Acrolein	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	107-02-8	
Acrylonitrile	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	107-13-1	
Allyl chloride	ND	mg/l	0.0020	1.0	11/09/01 16:53	DBEN	107-05-1	
Benzene	0.89	mg/l	0.010	10.0	11/09/01 16:53	DBEN	71-43-2	
Bromochloromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	74-97-5	
Bromodichloromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	75-27-4	
Bromoform	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	75-25-2	
Bromomethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	74-83-9	
2-Butanone (MEK)	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	78-93-3	
Carbon disulfide	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	75-15-0	
Carbon tetrachloride	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	56-23-5	
Chlorobenzene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	108-90-7	
Chloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	75-00-3	
2-Chloroethylvinyl ether	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN	110-75-8	
Chloroform	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	67-66-3	
Chloromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	74-87-3	
Chloroprene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	126-99-8	
Dibromochloromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	124-48-1	
1,2-Dibromo-3-chloropropane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	96-12-8	
1,2-Dibromoethane (EDB)	0.0026	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	106-93-4	
Dibromomethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	74-95-3	
1,2-Dichlorobenzene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	95-50-1	
1,3-Dichlorobenzene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	541-73-1	
1,4-Dichlorobenzene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN	106-46-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718864 Project Sample Number: 8524257-005 Date Collected: 11/02/01 15:45
Client Sample ID: TANK Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
cis-1,4-Dichloro-2-butene	ND	mg/l	0.0020	1.0	11/09/01 16:53	DBEN 1476-11-5		
trans-1,4-Dichloro-2-butene	ND	mg/l	0.0020	1.0	11/09/01 16:53	DBEN 110-57-6		
Dichlorodifluoromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-71-8		
1,1-Dichloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-34-3		
1,2-Dichloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 107-06-2		
1,1-Dichloroethene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-35-4		
cis-1,2-Dichloroethene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 156-59-2		
trans-1,2-Dichloroethene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 156-60-5		
1,2-Dichloroethene (Total)	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 540-59-0		
1,2-Dichloropropane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 78-87-5		
1,3-Dichloropropane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 142-28-9		
2,2-Dichloropropane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 594-20-7		
1,1-Dichloropropene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 563-58-6		
cis-1,3-Dichloropropene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 10061-01-5		
trans-1,3-Dichloropropene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 10061-02-6		
1,4-Dioxane (p-Dioxane)	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN 123-91-1		
Ethylbenzene	0.58	mg/l	0.010	10.0	11/09/01 16:53	DBEN 100-41-4		
Ethyl methacrylate	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 97-63-2		
2-Hexanone	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN 591-78-6		
Iodomethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 74-88-4		
Isobutanol	ND	mg/l	0.010	1.0	11/09/01 16:53	DBEN 78-83-1		
Methacrylonitrile	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN 126-98-7		
Methylene chloride	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-09-2		
Methyl methacrylate	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 80-62-6		
4-Methyl-2-pentanone (MIBK)	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN 108-10-1		
Propionitrile	ND	mg/l	0.0050	1.0	11/09/01 16:53	DBEN 107-12-0		
Styrene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 100-42-5		
1,1,1,2-Tetrachloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 630-20-6		
1,1,2,2-Tetrachloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 79-34-5		
Tetrachloroethene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 127-18-4		
Toluene	1.3	mg/l	0.010	10.0	11/09/01 16:53	DBEN 108-88-3		
1,1,1-Trichloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 71-55-6		
1,1,2-Trichloroethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 79-00-5		
Trichloroethene	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 79-01-6		
Trichlorofluoromethane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-69-4		
1,2,3-Trichloropropane	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 96-18-4		
Vinyl acetate	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 108-05-4		
Vinyl chloride	ND	mg/l	0.0010	1.0	11/09/01 16:53	DBEN 75-01-4		

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

Lab Sample No: 851718864 Project Sample Number: 8524257-005 Date Collected: 11/02/01 15:45
Client Sample ID: TANK Matrix: Water Date Received: 11/03/01 09:30

Parameters	Results	Units	Report Limit	Dilution	Analyzed	CAS No.	Ftnote	Reg Limit
Xylene (Total)	2.6	mg/l	0.010	10.0	11/09/01 16:53	DBEN 1330-20-7		
Methyl-tert-butyl ether	9.5	mg/l	0.20	100	11/09/01 16:53	DBEN 1634-04-4		
2-Methyl-2-propanol	2.9	mg/l	0.10	10.0	11/09/01 16:53	DBEN 75-65-0		
Ethyl-tert-butyl ether	0.0036	mg/l	0.0020	1.0	11/09/01 16:53	DBEN 637-92-3		
Diisopropyl ether	ND	mg/l	0.0020	1.0	11/09/01 16:53	DBEN 108-20-3		
tert-Amylmethyl ether	0.10	mg/l	0.0020	1.0	11/09/01 16:53	DBEN 994-05-8		
Toluene-d8 (S)	104	%		1.0	11/09/01 16:53	DBEN 2037-26-5		
4-Bromofluorobenzene (S)	106	%		1.0	11/09/01 16:53	DBEN 460-00-4		
1,2-Dichloroethane-d4 (S)	98	%		1.0	11/09/01 16:53	DBEN 17060-07-0		

Comments : No cyanide container was received. Two sulfide containers were received. Per Pace Inorganics Lab Manager, ok to analyze cyanide from sulfide container.

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable
(S) Surrogate

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60107 Analysis Method: EPA 8021
QC Batch Method: See analytical meth Analysis Description: SW8021 Aromatics, Water
Associated Lab Samples: 851718863

METHOD BLANK: 851718906
Associated Lab Samples: 851718863

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	0.500	
Ethylbenzene	ug/l	ND	0.500	
Toluene	ug/l	ND	0.500	
Xylene (Total)	ug/l	ND	1.50	
Methyl-tert-butyl ether	ug/l	ND	0.500	
1,4-Difluorobenzene (S)	%	97		
4-Bromofluorobenzene (S)	%	105		

LABORATORY CONTROL SAMPLE: 851718907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50	51.52	103	
Ethylbenzene	ug/l	50	51.03	102	
Toluene	ug/l	50	49.82	100	
Xylene (Total)	ug/l	100	101.6	102	
Methyl-tert-butyl ether	ug/l	50	50.94	102	
1,4-Difluorobenzene (S)				98	
4-Bromofluorobenzene (S)				106	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718908 851718909

Parameter	Units	851718863 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	54.47	52.96	109	106	3	
Ethylbenzene	ug/l	0	50.00	53.94	52.41	108	105	3	
Toluene	ug/l	0	50.00	52.65	51.12	105	102	3	
Xylene (Total)	ug/l	0	100.00	106.4	103.1	106	103	3	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718908 851718909

Parameter	Units	851718863 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Methyl-tert-butyl ether	ug/l	1.292	50.00	53.14	52.91	104	103	0	
1,4-Difluorobenzene (S)						98	98		
4-Bromofluorobenzene (S)						106	105		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60111 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 8015 Modified Analysis Description: GAS by Mod 8015, Water
Associated Lab Samples: 851718863

METHOD BLANK: 851718910
Associated Lab Samples: 851718863

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline Range Organics	ug/l	ND	50.	
1,4-Difluorobenzene (S)	%	89		
4-Bromofluorobenzene (S)	%	96		

LABORATORY CONTROL SAMPLE: 851718911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline Range Organics	ug/l	1000	1065	106	
1,4-Difluorobenzene (S)				112	
4-Bromofluorobenzene (S)				100	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718912 851718913

Parameter	Units	851718863 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Gasoline Range Organics	ug/l	11.98	1000.00	909.2	988.4	90	98	8	
1,4-Difluorobenzene (S)						109	110		
4-Bromofluorobenzene (S)						98	99		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60122 Analysis Method: EPA 8021
QC Batch Method: See analytical meth Analysis Description: SW8021 Aromatics, Water
Associated Lab Samples: 851718860 851718861 851718862

METHOD BLANK: 851718980
Associated Lab Samples: 851718860 851718861 851718862

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	0.500	
Ethylbenzene	ug/l	ND	0.500	
Toluene	ug/l	ND	0.500	
Xylene (Total)	ug/l	ND	1.50	
Methyl-tert-butyl ether	ug/l	ND	0.500	
1,4-Difluorobenzene (S)	%	99		
4-Bromofluorobenzene (S)	%	101		

LABORATORY CONTROL SAMPLE: 851718981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50	52.43	105	
Ethylbenzene	ug/l	50	51.32	103	
Toluene	ug/l	50	50.43	101	
Xylene (Total)	ug/l	100	101.6	102	
Methyl-tert-butyl ether	ug/l	50	52.03	104	
1,4-Difluorobenzene (S)				100	
4-Bromofluorobenzene (S)				102	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851719058 851719059

Parameter	Units	851718884 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	55.24	54.64	110	109	1	
Ethylbenzene	ug/l	0	50.00	54.58	53.98	109	108	1	
Toluene	ug/l	0	50.00	53.38	52.83	107	106	1	
Xylene (Total)	ug/l	0	100.00	107.5	106.3	108	106	1	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851719058 851719059

Parameter	Units	851718884 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Methyl-tert-butyl ether	ug/l	0	50.00	52.85	53.43	106	107	1	
1,4-Difluorobenzene (S)						100	100		
4-Bromofluorobenzene (S)						102	102		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60123 Analysis Method: EPA 8015 Modified
QC Batch Method: EPA 8015 Modified Analysis Description: GAS by Mod 8015, Water
Associated Lab Samples: 851718860 851718861 851718862 851718864

METHOD BLANK: 851718984
Associated Lab Samples: 851718860 851718861 851718862 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Gasoline Range Organics	ug/l	ND	50.	
1,4-Difluorobenzene (S)	%	92		
4-Bromofluorobenzene (S)	%	94		

LABORATORY CONTROL SAMPLE: 851718987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Gasoline Range Organics	ug/l	1000	946.4	95	
1,4-Difluorobenzene (S)				112	
4-Bromofluorobenzene (S)				94	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851718989 851718990

Parameter	Units	851718882 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Gasoline Range Organics	ug/l	10.23	1000.00	1039	1002	103	99	4	
1,4-Difluorobenzene (S)						115	112		
4-Bromofluorobenzene (S)						99	98		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60299 Analysis Method: EPA 8260
QC Batch Method: See analytical meth Analysis Description: SW8260 Nonroutine VOCs, Trace
Associated Lab Samples: 851718864

METHOD BLANK: 851719734
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acetone	ug/l	ND	5.0	
Acetonitrile	ug/l	ND	5.0	
Acrolein	ug/l	ND	5.0	
Acrylonitrile	ug/l	ND	5.0	
Allyl chloride	ug/l	ND	2.0	
Benzene	ug/l	ND	1.0	
Bromochloromethane	ug/l	ND	1.0	
Bromodichloromethane	ug/l	ND	1.0	
Bromoform	ug/l	ND	1.0	
Bromomethane	ug/l	ND	1.0	
2-Butanone (MEK)	ug/l	ND	5.0	
Carbon disulfide	ug/l	ND	1.0	
Carbon tetrachloride	ug/l	ND	1.0	
Chlorobenzene	ug/l	ND	1.0	
Chloroethane	ug/l	ND	1.0	
2-Chloroethylvinyl ether	ug/l	ND	5.0	
Chloroform	ug/l	ND	1.0	
Chloromethane	ug/l	ND	1.0	
Chloroprene	ug/l	ND	1.0	
Dibromochloromethane	ug/l	ND	1.0	
1,2-Dibromo-3-chloropropane	ug/l	ND	1.0	
1,2-Dibromoethane (EDB)	ug/l	ND	1.0	
Dibromomethane	ug/l	ND	1.0	
1,2-Dichlorobenzene	ug/l	ND	1.0	
1,3-Dichlorobenzene	ug/l	ND	1.0	
1,4-Dichlorobenzene	ug/l	ND	1.0	
cis-1,4-Dichloro-2-butene	ug/l	ND	2.0	
trans-1,4-Dichloro-2-butene	ug/l	ND	2.0	
Dichlorodifluoromethane	ug/l	ND	1.0	
1,1-Dichloroethane	ug/l	ND	1.0	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

METHOD BLANK: 851719734
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1,2-Dichloroethane	ug/l	ND	1.0	
1,1-Dichloroethene	ug/l	ND	1.0	
cis-1,2-Dichloroethene	ug/l	ND	1.0	
trans-1,2-Dichloroethene	ug/l	ND	1.0	
1,2-Dichloroethene (Total)	ug/l	ND	1.0	
1,2-Dichloropropane	ug/l	ND	1.0	
1,3-Dichloropropane	ug/l	ND	1.0	
2,2-Dichloropropane	ug/l	ND	1.0	
1,1-Dichloropropene	ug/l	ND	1.0	
cis-1,3-Dichloropropene	ug/l	ND	1.0	
trans-1,3-Dichloropropene	ug/l	ND	1.0	
1,4-Dioxane (p-Dioxane)	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	1.0	
Ethyl methacrylate	ug/l	ND	1.0	
2-Hexanone	ug/l	ND	5.0	
Iodomethane	ug/l	ND	1.0	
Isobutanol	ug/l	ND	10.	
Methacrylonitrile	ug/l	ND	5.0	
Methylene chloride	ug/l	ND	1.0	
Methyl methacrylate	ug/l	ND	1.0	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	5.0	
Propionitrile	ug/l	ND	5.0	
Styrene	ug/l	ND	1.0	
1,1,1,2-Tetrachloroethane	ug/l	ND	1.0	
1,1,2,2-Tetrachloroethane	ug/l	ND	1.0	
Tetrachloroethene	ug/l	ND	1.0	
Toluene	ug/l	ND	1.0	
1,1,1-Trichloroethane	ug/l	ND	1.0	
1,1,2-Trichloroethane	ug/l	ND	1.0	
Trichloroethene	ug/l	ND	1.0	
Trichlorofluoromethane	ug/l	ND	1.0	
1,2,3-Trichloropropane	ug/l	ND	1.0	
Vinyl acetate	ug/l	ND	1.0	
Vinyl chloride	ug/l	ND	1.0	
Xylene (Total)	ug/l	ND	1.0	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

METHOD BLANK: 851719734
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Methyl-tert-butyl ether	ug/l	ND	2.0	
2-Methyl-2-propanol	ug/l	ND	10.	
Ethyl-tert-butyl ether	ug/l	ND	2.0	
Diisopropyl ether	ug/l	ND	2.0	
tert-Amylmethyl ether	ug/l	ND	2.0	
Toluene-d8 (S)	%	105		
4-Bromofluorobenzene (S)	%	104		
1,2-Dichloroethane-d4 (S)	%	98		

LABORATORY CONTROL SAMPLE & LCSD: 851719735 851719736

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Benzene	ug/l	50	49.03	49.52	98	99	1	
Bromodichloromethane	ug/l	50	49.38	50.57	99	101	2	
Bromoform	ug/l	50	51.40	52.74	103	105	3	
Bromomethane	ug/l	50	40.34	42.57	81	85	5	
Carbon tetrachloride	ug/l	50	50.62	51.19	101	102	1	
Chlorobenzene	ug/l	50	50.42	50.78	101	102	1	
Chloroethane	ug/l	50	43.24	43.40	86	87	0	
Chloroform	ug/l	50	48.36	49.14	97	98	2	
Chloromethane	ug/l	50	40.16	39.04	80	78	3	
Dibromochloromethane	ug/l	50	49.45	50.46	99	101	2	
1,1-Dichloroethane	ug/l	50	48.77	49.39	98	99	1	
1,2-Dichloroethane	ug/l	50	46.16	47.74	92	96	3	
1,1-Dichloroethene	ug/l	50	47.85	47.90	96	96	0	
1,2-Dichloroethene (Total)	ug/l	100	94.68	95.92	95	96	1	
1,2-Dichloropropane	ug/l	50	50.39	51.15	101	102	2	
cis-1,3-Dichloropropene	ug/l	50	48.80	49.21	98	98	1	
trans-1,3-Dichloropropene	ug/l	50	48.11	49.02	96	98	2	
Ethylbenzene	ug/l	50	51.75	53.45	104	107	3	
Methylene chloride	ug/l	50	47.74	48.31	96	97	1	
1,1,2,2-Tetrachloroethane	ug/l	50	48.02	50.08	96	100	4	
Tetrachloroethene	ug/l	50	24.67	24.55	49	49	0	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

LABORATORY CONTROL SAMPLE & LCSD: 851719735 851719736

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
Toluene	ug/l	50	48.67	48.29	97	97	1	
1,1,1-Trichloroethane	ug/l	50	47.40	48.07	95	96	1	
1,1,2-Trichloroethane	ug/l	50	47.79	49.33	96	99	3	
Trichloroethene	ug/l	50	50.20	50.30	100	101	0	
Vinyl chloride	ug/l	50	39.96	39.92	80	80	0	
Methyl-tert-butyl ether	ug/l	50	44.60	45.31	89	91	2	
2-Methyl-2-propanol	ug/l	250	244.8	266.3	98	107	8	
Ethyl-tert-butyl ether	ug/l	50	47.36	47.59	95	95	0	
Diisopropyl ether	ug/l	50	51.99	51.60	104	103	1	
tert-Amylmethyl ether	ug/l	50	47.67	48.10	95	96	1	
Toluene-d8 (S)					104	106		
4-Bromofluorobenzene (S)					106	106		
1,2-Dichloroethane-d4 (S)					95	97		

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60131 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: Mercury, Water, SW 7470
Associated Lab Samples: 851718864

METHOD BLANK: 851719019
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Mercury	ug/l	ND	0.200	

LABORATORY CONTROL SAMPLE: 851719022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Mercury	ug/l	2.000	1.976	99	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851719020 851719021

Parameter	Units	851718864 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Mercury	ug/l	0.05700	2.000	1.599	1.636	77	79	2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60127 Analysis Method: EPA 6010
QC Batch Method: Analysis Description: SW6010 Metals, Trace Water
Associated Lab Samples: 851718864

METHOD BLANK: 851719003
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Antimony	ug/l	ND	5.00	
Arsenic	ug/l	ND	5.00	
Barium	ug/l	ND	5.00	
Beryllium	ug/l	ND	1.00	
Cadmium	ug/l	ND	1.00	
Chromium	ug/l	ND	5.00	
Cobalt	ug/l	ND	5.00	
Copper	ug/l	ND	5.00	
Lead	ug/l	ND	3.00	
Molybdenum	ug/l	ND	10.0	
Nickel	ug/l	ND	5.00	
Selenium	ug/l	ND	5.00	
Silver	ug/l	ND	2.00	
Thallium	ug/l	ND	5.00	
Vanadium	ug/l	ND	5.00	
Zinc	ug/l	ND	5.00	

LABORATORY CONTROL SAMPLE: 851719004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Antimony	ug/l	250	274.4	110	
Arsenic	ug/l	250	271.2	108	
Barium	ug/l	250	277.1	111	
Beryllium	ug/l	250	273.8	110	
Cadmium	ug/l	250	273.2	109	
Chromium	ug/l	250	270.1	108	
Cobalt	ug/l	250	264.5	106	
Copper	ug/l	250	270.8	108	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

LABORATORY CONTROL SAMPLE: 851719004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Lead	ug/l	250	278.9	112	
Nickel	ug/l	250	268.4	107	
Selenium	ug/l	250	269.3	108	
Silver	ug/l	250	283.0	113	
Thallium	ug/l	250	267.8	107	
Vanadium	ug/l	250	274.7	110	
Zinc	ug/l	250	271.5	109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851719005 851719006

Parameter	Units	851718864 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Antimony	ug/l	0	250.00	274.5	275.4	110	110	0	
Arsenic	ug/l	14.63	250.00	278.3	286.0	106	108	3	
Barium	ug/l	304.0	250.00	585.8	605.1	113	120	3	
Beryllium	ug/l	0	250.00	267.3	271.2	107	108	1	
Cadmium	ug/l	0	250.00	268.9	271.8	108	109	1	
Chromium	ug/l	1.270	250.00	271.8	275.8	108	110	1	
Cobalt	ug/l	0.4794	250.00	260.2	263.6	104	105	1	
Copper	ug/l	16.52	250.00	295.4	302.5	112	114	2	
Lead	ug/l	0	250.00	283.1	286.2	113	114	1	
Nickel	ug/l	3.749	250.00	268.6	271.9	106	107	1	
Selenium	ug/l	0.3279	250.00	263.9	268.6	105	107	2	
Silver	ug/l	0	250.00	291.5	294.9	117	118	1	
Thallium	ug/l	23.47	250.00	292.8	295.4	108	109	1	
Vanadium	ug/l	0.1098	250.00	274.1	278.4	110	111	2	
Zinc	ug/l	27.64	250.00	296.0	301.0	107	109	2	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60292 Analysis Method: EPA 1020
QC Batch Method: EPA 1020 Analysis Description: Ignitability, Seta Flash
Associated Lab Samples: 851718864

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60134 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: pH for Corrosivity
Associated Lab Samples: 851718864

LABORATORY CONTROL SAMPLE: 851719031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
pH		7.000	7.020	100	

SAMPLE DUPLICATE: 851719032

Parameter	Units	851718864 Result	DUP Result	RPD	Footnotes
pH		7.610	7.610	0	

Pace Analytical™
www.pacelabs.com

QUALITY CONTROL DATA

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60148 Analysis Method: EPA 335.2
QC Batch Method: EPA 335.2 Analysis Description: Cyanide, Total, Water, EPA
Associated Lab Samples: 851718864

METHOD BLANK: 851719083
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Cyanide	mg/l	ND	0.0100	

LABORATORY CONTROL SAMPLE: 851719084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Cyanide	mg/l	0.1977	0.1710	86	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 851719085 851719086

Parameter	Units	851718864 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Cyanide	mg/l	0	0.1977	0.1770	0.1750	90	88	1	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60195 Analysis Method: SW-846 7.3.4.2
QC Batch Method: SW-846 7.3.4.2 Analysis Description: Sulfide, Reactive
Associated Lab Samples: 851718864

METHOD BLANK: 851719320
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Sulfide, Reactive	mg/kg	ND	49.8	

LABORATORY CONTROL SAMPLE: 851719321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Sulfide, Reactive	mg/kg	360.7	60.00	17	

SAMPLE DUPLICATE: 851719322

Parameter	Units	851718392 Result	DUP Result	RPD	Footnotes
Sulfide, Reactive	mg/kg	ND	ND	NC	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60219 Analysis Method: SW-846 7.3.3.2
QC Batch Method: SW-846 7.3.3.2 Analysis Description: Cyanide, Reactive
Associated Lab Samples: 851718864

METHOD BLANK: 851719432
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Cyanide, Reactive	mg/kg	ND	0.498	

LABORATORY CONTROL SAMPLE: 851719433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Cyanide, Reactive	mg/kg	19.4	9.150	47	

SAMPLE DUPLICATE: 851719434

Parameter	Units	851718392 Result	DUP Result	RPD	Footnotes
Cyanide, Reactive	mg/kg	ND	ND	NC	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

QUALITY CONTROL DATA

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QC Batch: 60267 Analysis Method: EPA 376.1
QC Batch Method: EPA 376.1 Analysis Description: Sulfide, Total
Associated Lab Samples: 851718864

METHOD BLANK: 851719576
Associated Lab Samples: 851718864

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Sulfide	mg/l	ND	1.00	

LABORATORY CONTROL SAMPLE: 851719578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Sulfide	mg/l	4.008	3.970	99	

SAMPLE DUPLICATE: 851719577

Parameter	Units	851718864 Result	DUP Result	RPD	Footnotes
Sulfide	mg/l	ND	ND	NC	

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Phone: 281.488.1810
Fax: 281.488.4661

Lab Project Number: 8524257
Client Project ID: BP Site 11117/852-1546-13

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)Laboratory Control Sample (Duplicate)
MS(D)Matrix Spike (Duplicate)
DUP Sample Duplicate
ND Not Detected
NC Not Calculable
RPD Relative Percent Difference
(S) Surrogate

Pace Analytical™

www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

630278

Section A — Required Client Information:

Company	Cambria Env
Address	2 Holli's St. Emeryville, CA 94608
Phone	510-450-1983
Fax	510-450-8295

Section B — Required Client Information:

Report To:	Khaled Rahman
Copy To:	Scott Hooton-BP 0.1 Co
Invoice To:	Scott Hooton, BP 0.1 Co.
P.O.	J197381
Project Name:	BP-11117
Project Number:	857-1546-13

Page: 1 of 1

Client Information (Check quote/contract):

Requested Due Date: | *TAT: standard

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Section C — To Be Completed by Pace Analytical and Client

Quote Reference:	
Project Manager:	
Project #:	
Profile #:	

Requested Analysis: TPHg 8015; BTEX/MTBE 8021; VOCs full scan + Oxy 8260; RCI; CAM 17; Total Sulfide; Total Cyanide

Section D — Required Client Information:

SAMPLE ID — One character per box. (A–Z, 0–9 / .-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — WATER WT; SOIL SL; OIL OL; WIPE WP; AIR AR; TISSUE TS; OTHER OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm/dd/yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	TPHg	BTEX/MTBE 8021	VOCs full scan + Oxy 8260	RCI	CAM 17	Total Sulfide	Total Cyanide	Remarks / Lab ID
1	M -	WT	11/02/01	3:00 P	4				X					X							857 7/8 860 1990/4
2	M -	↓	↓	2:15 P	4				X					X							61
3	E -	↓	↓	3:40 P	4				X					X							62
4	E -	↓	↓	3:20 P	4				X					X							63
5	T N	↓	↓	3:45 P	10	1		1	6 1				1	X		X		X		X	1990/3 64
6																					
7																					
8																					
9																					
10																					
11																					
12																					

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Robert Forrest / Cambria	11/02/01	5:15 P			
	Fedex	11/3/01	0930	Tracy Moody / Pace	11/3/01	0930

SAMPLE CONDITION

Temp in °C	0.5
Received on Ice	(Y)/N
Sealed Cooler	Y/(N)
Samples Intact	(Y)/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: | DATE Signed: (MM / DD / YY)

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS