

STD 3960



BP OIL

BP Oil Company
Environmental Remediation Management
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667
Fax No: (206) 251-0736

April 10, 1999

Alameda County Health Care Services Department
Attention Ms. Juliette Shin
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

RE: BP Oil Site No. 11117
7210 Bancroft Avenue (at 73rd)
Oakland, CA

Dear Mr. ~~Shin~~ *Seery*

This letter transmits the *Fourth Quarter 1999 Groundwater Monitoring* report dated 29 March 1999. A petroleum release was documented during 1991 when a site assessment was performed in support of the property owner's plans to refinance an adjacent shopping center property, which also includes the BP site. After BP performed several iterations of groundwater monitoring and site assessment, the business and related improvements were sold to the current operator (Tosco Corporation) in 1994.

The enclosed groundwater monitoring and sampling report includes laboratory data for **samples collected on 2 February 1998**. Upon review of the data, please note the following:

1. Aromatic petroleum hydrocarbons were not detected in a groundwater sample obtained from well MW-1, where aromatic petroleum concentrations have – with one exceptions – not been detected since the 12 January 1996 sampling event. Prior to 12 January 1996, aromatic petroleum hydrocarbons were reported to be present in every sample obtained from MW-1.
2. **Accumulated liquid petroleum hydrocarbon was not observed** in well MW-2, and the highest aromatic petroleum hydrocarbons concentrations were detected in a sample obtained 2 February 1999.

Please give me a call at (425) 251-0689 if you have any comments or questions.

Sincerely,

Scott Hooton

attachment

cc: site file
D. Camille - Tosco (w/attachment)
Bancroft Oakland Investment Company, c/o SB Management Corporation, Attention Ms. K. R. Stimson, 422 North Camden Drive, STE#1070, Beverly Hills, CA 90210 (w/attachment)

4/14/99

- ① called S. Hooten (BP) explaining discrepancy in cover letter and sampling frequencies
- ② encouraged a proposal to reduce sampling frequencies
- ③ requested proposition to knock down high HC conc.

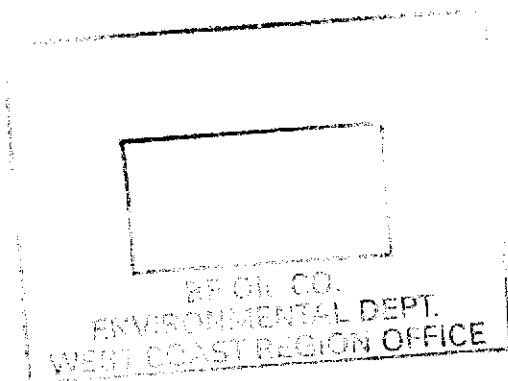
6/7/99

- call to Blaine Tech re: sampling/monitoring schedule - apparently reduced by BP 10.0. approval/request from ADEH
- requested schedule from Blaine
- discussed "inaccessible" wells issue

BLAINE
TECH SERVICES INC.



1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE



March 29, 1999

Scott Hooton
BP Oil Company
295 SW 41st Street, Bldg. 13, Suite N
Renton, WA 98055-4931

1st Quarter 1999 Monitoring at 11117

Fourth Quarter 1999 Groundwater Monitoring
BP Service Station Number 11117
7210 Bancroft Avenue
Oakland, CA

Monitoring Performed on February 2, 1999

Groundwater Sampling Report 990202-X-1

This report covers the routine monitoring of groundwater wells at this BP facility. Blaine Tech Services, Inc.'s work at the site includes inspection, gauging, evacuation, purgewater containment, sample collection and sample handling in accordance with standard procedures that conform to Regional Water Quality Control Board requirements.

Routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, the appropriate calculated purge volume, elapsed evacuation time, total volume of water removed, and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater is, likewise, collected and transported to Seaport Petroleum Corporation for disposal.

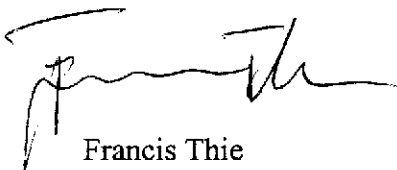
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The **Professional Engineering Appendix** contains a **Groundwater Elevation Map** and a **Dissolved Petroleum Hydrocarbon Concentration Map**.

At a minimum, Blaine Tech Services, Inc. field personnel are certified upon completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

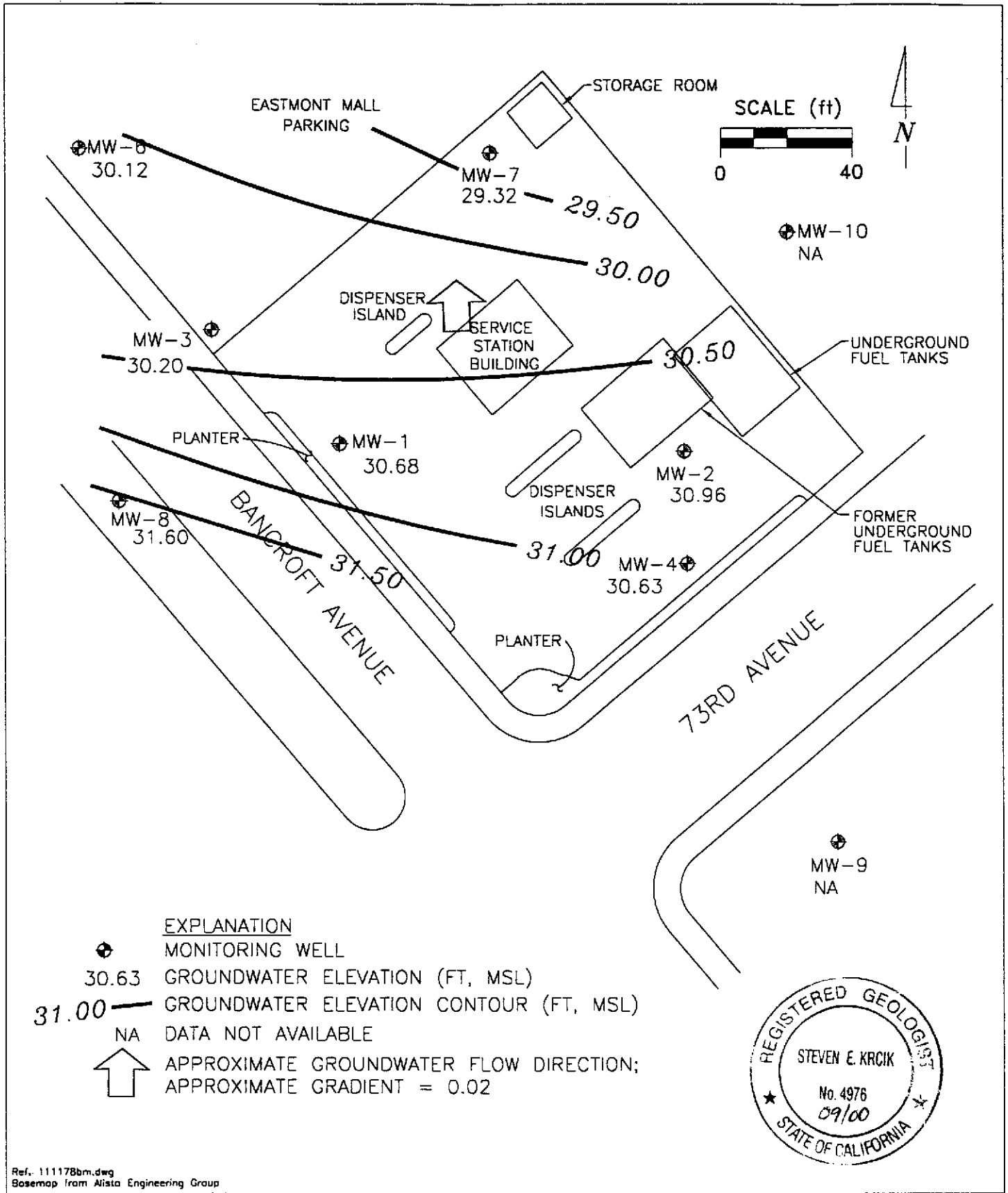
A handwritten signature in black ink, appearing to read 'Francis Thie', written in a cursive style.

Francis Thie
Vice President

FPT/ld

attachments: Professional Engineering Appendix
Cumulative Table of Well Data and Analytical Results
Analytical Appendix
Field Data Sheets

Professional Engineering Appendix



Ref. 111178bm.dwg
Basemap from Alista Engineering Group

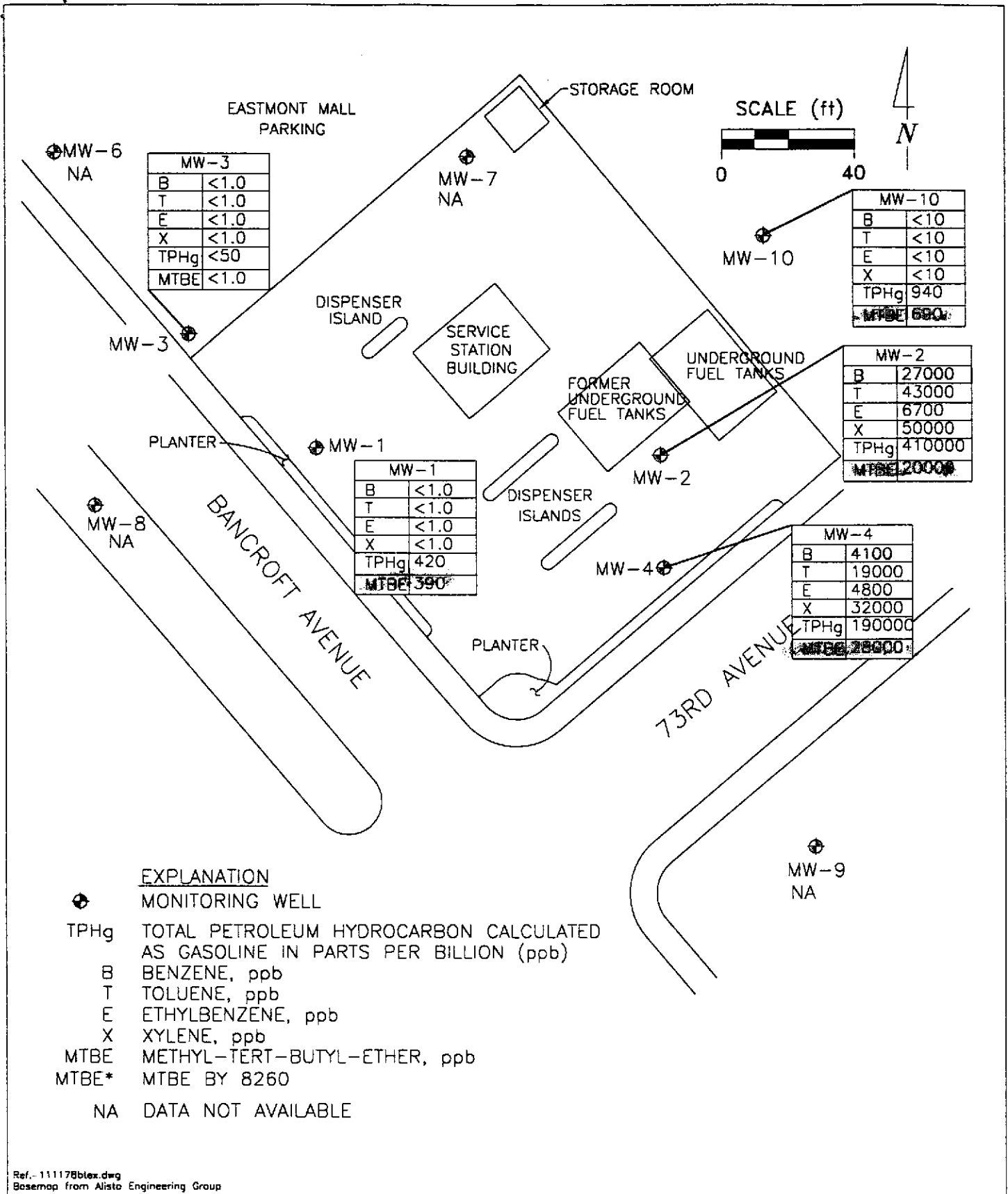
PREPARED BY

RRM
engineering contracting firm

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

GROUNDWATER ELEVATION CONTOUR MAP,
FEBRUARY 2, 1999

FIGURE:
1
PROJECT:
DAC04



PREPARED BY

RRM

engineering contracting firm

BP Oil Service Station No. 1117
7210 Bancroft Avenue
Oakland, California

HYDROCARBON CONCENTRATION MAP,
FEBRUARY 2, 1999

FIGURE:

2

PROJECT:

DAC04

Table of Well Data and Analytical Results

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	---	---	---	PACE
QC-1 (d)	03/15/93	---	---	---	---	15000	---	1100	860	440	1400	---	---	---	PACE
MW-1	06/07/93	49.80	25.01	---	24.79	750	100	0.8	0.8	ND<0.5	ND<0.5	---	---	---	PACE
QC-1 (d)	06/07/93	---	---	---	---	720	---	0.7	0.7	ND<0.5	ND<0.5	---	---	---	PACE
MW-1	09/23/93	49.80	28.70	---	21.10	40000	770	4000	500	920	3000	6600	(e)	---	PACE
MW-1	12/27/93	49.80	28.66	---	21.14	27000	---	2000	400	940	2600	14000	(e)	---	PACE
QC-1 (d)	12/27/93	---	---	---	---	21000	---	1700	380	830	2400	9200	(e)	---	PACE
MW-1	04/05/94	49.80	26.37	---	23.43	27000	---	3400	930	950	2900	8600	(e)	---	PACE
QC-1 (d)	04/05/94	---	---	---	---	29000	---	3700	1000	1000	3100	9700	(e)	---	1.3 PACE
MW-1	07/22/94	49.80	26.54	---	23.26	1700	---	220	2.3	2.0	3.4	220	(e)	---	2.0 PACE
MW-1	10/13/94	49.80	27.46	---	22.34	1200	---	250	21	ND<0.5	3.2	320	(e)	---	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	---	---	---	---	---	---	---	---	---	---
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

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	██████	21.08	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	12/27/93	51.07	34.07	██████	17.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/05/94	51.07	30.44	██████	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	██████	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

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

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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	---	---	---	PACE
MW-3	06/07/93	49.95	25.80	---	24.15	150	ND<50	8.6	ND<0.5	0.9	1.3	---	---	---	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	---	---	---	PACE
MW-3	12/27/93	49.95	29.25	---	20.70	9400	---	1100	48	530	120	2700 (e)	---	---	PACE
MW-3	04/05/94	49.95	26.84	---	23.11	7000	---	660	19	330	52	---	---	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	---	---	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	---	---	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

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT GROUNDWATER THICKNESS (Feet)	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	---	---	---	PACE
MW-4	06/07/93	50.76	25.67	---	25.09	73000	2500	10000	19000	3400	14000	---	---	---	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	---	---	---	PACE
QC-1 (d)	09/24/93	---	---	---	---	59000	---	5300	10000	2200	8400	---	---	---	PACE
MW-4	12/27/93	50.76	29.40	---	21.36	32000	---	2500	4400	1300	4400	---	---	---	PACE
MW-4	04/05/94	50.76	27.09	---	23.67	64000	---	6500	14000	1900	9600	---	---	1.4	PACE
MW-4	07/22/94	50.76	27.33	---	23.43	85000	---	10000	20000	3200	13000	---	---	0.8	PACE
QC-1 (d)	07/22/94	---	---	---	---	85000	---	11000	21000	3300	14000	---	---	---	PACE
MW-4	10/13/94	50.76	28.25	---	22.51	51000	---	7100	13000	2100	8900	790	(e)	2.9	PACE
QC-1 (d)	10/13/94	---	---	---	---	51000	---	7400	13000	2100	9100	---	---	---	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
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

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT GROUNDWATER THICKNESS (Feet)	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
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-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	---	---	---	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	---	---	---	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	---	---	---	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	(e)	---	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	300	(e)	---	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	800	(e)	---	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	2800	---	---	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	---	---	---	---	---	---	---	---	---	---

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	19.85	---	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-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	---	---	---	---	---	---	---	---	---	---

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	190	---	---	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-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	ND<10	---	---	SPL



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO PRODUCT WATER (Feet)	GROUNDWATER THICKNESS (Feet)	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
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	---	---	---	PACE
QC-2 (i)	06/07/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (i)	09/24/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (i)	12/27/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (i)	04/05/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (i)	07/22/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (i)	10/13/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	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

Analytical Appendix



HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

February 16, 1999

Mr. Scott Hooton
BP OIL COMPANY
295 SW 41 Street, Bldg 13, Ste N
Renton, WA 98055

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on February 9, 1999. The sample(s) was assigned to Certificate of Analysis No. (s) 9902353 and analyzed for all parameters as listed on the chain of custody.

Any data flags or quality control exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

A handwritten signature in cursive script that reads 'Sonia West'. The signature is written in dark ink and is positioned above a horizontal line.

Sonia West
Senior Project Manager



HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TEXAS 77054

PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 99-02-353

Approved for Release by:

Sonia West

Sonia West, Senior Project Manager

2-16-99

Date

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.
The results relate only to the samples tested.
Results reported on a Wet Weight Basis unless otherwise noted.



HOUSTON LABORATORY
 8880 INTERCHANGE DRIVE
 HOUSTON, TEXAS 77054
 PHONE (713) 660-0901

Certificate of Analysis No. H9-9902353-01

BP Oil Company
 295 SW 41 Street Bldg.13, Ste N
 Renton, WA 98055
 ATTN: Scott Hooton

P.O.#
 N/A , COC#100593
 DATE: 02/16/99

PROJECT: #11117, 7210 Bancroft
SITE: Oakland, CA
SAMPLED BY: Blaine Tech Services
SAMPLE ID: A

PROJECT NO: 990202-X1
MATRIX: WATER
DATE SAMPLED: 02/02/99 10:17:00
DATE RECEIVED: 02/09/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	390	1.0 P	ug/L
BENZENE	ND	1.0 P	ug/L
TOLUENE	ND	1.0 P	ug/L
ETHYLBENZENE	ND	1.0 P	ug/L
TOTAL XYLENE	ND	1.0 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	ND		ug/L

Surrogate

% Recovery

1,4-Difluorobenzene 97
 4-Bromofluorobenzene 90

Method 8020A ***

Analyzed by: CJ

Date: 02/11/99

Gasoline Range Organics 0.42 0.05 P mg/L

Surrogate

% Recovery

1,4-Difluorobenzene 93
 4-Bromofluorobenzene 93

California LUFT Manual for Gasoline

Analyzed by: CJ

Date: 02/11/99 01:39:00

(P) - Practical Quantitation Limit ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
 SPL California License # 1903



HOUSTON LABORATORY
 8880 INTERCHANGE DRIVE
 HOUSTON, TEXAS 77054
 PHONE (713) 660-0901

Certificate of Analysis No. H9-9902353-02

BP Oil Company
 295 SW 41 Street Bldg.13, Ste N
 Renton, WA 98055
 ATTN: Scott Hooton

P.O.#
 N/A , COC#100593
 DATE: 02/16/99

PROJECT: #11117, 7210 Bancroft
 SITE: Oakland, CA
 SAMPLED BY: Blaine Tech Services
 SAMPLE ID: B

PROJECT NO: 990202-X1
 MATRIX: WATER
 DATE SAMPLED: 02/02/99 11:06:00
 DATE RECEIVED: 02/09/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	20000	100 P	ug/L
BENZENE	27000	100 P	ug/L
TOLUENE	43000	100 P	ug/L
ETHYLBENZENE	6700	100 P	ug/L
TOTAL XYLENE	50000	100 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	126700		ug/L

Surrogate

% Recovery

1,4-Difluorobenzene

107

4-Bromofluorobenzene

107

Method 8020A ***

Analyzed by: CJ

Date: 02/13/99

Gasoline Range Organics

410

5 P

mg/L

Surrogate

% Recovery

1,4-Difluorobenzene

163MI

4-Bromofluorobenzene

130

California LUFT Manual for Gasoline

Analyzed by: CJ

Date: 02/13/99 19:11:00

(P) - Practical Quantitation Limit MI - Matrix interference.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9902353-03

BP Oil Company
295 SW 41 Street Bldg.13, Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.#
N/A , COC#100593
DATE: 02/16/99

PROJECT: #11117, 7210 Bancroft
SITE: Oakland, CA
SAMPLED BY: Blaine Tech Services
SAMPLE ID: C

PROJECT NO: 990202-X1
MATRIX: WATER
DATE SAMPLED: 02/02/99 09:56:00
DATE RECEIVED: 02/09/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	1.0 P	ug/L
BENZENE	ND	1.0 P	ug/L
TOLUENE	ND	1.0 P	ug/L
ETHYLBENZENE	ND	1.0 P	ug/L
TOTAL XYLENE	ND	1.0 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	ND		ug/L

Surrogate

% Recovery

1,4-Difluorobenzene 100

4-Bromofluorobenzene 97

Method 8020A ***

Analyzed by: CJ

Date: 02/12/99

Gasoline Range Organics ND 0.05 P mg/L

Surrogate

% Recovery

1,4-Difluorobenzene 93

4-Bromofluorobenzene 93

California LUFT Manual for Gasoline

Analyzed by: CJ

Date: 02/12/99 08:36:00

ND - Not detected.

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.
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HOUSTON LABORATORY
 8880 INTERCHANGE DRIVE
 HOUSTON, TEXAS 77054
 PHONE (713) 660-0901

Certificate of Analysis No. H9-9902353-04

BP Oil Company
 295 SW 41 Street Bldg.13, Ste N
 Renton, WA 98055
 ATTN: Scott Hooton

P.O.#
 N/A , COC#100593
 DATE: 02/16/99

PROJECT: #11117, 7210 Bancroft
 SITE: Oakland, CA
 SAMPLED BY: Blaine Tech Services
 SAMPLE ID: D

PROJECT NO: 990202-X1
 MATRIX: WATER
 DATE SAMPLED: 02/02/99 11:35:00
 DATE RECEIVED: 02/09/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	28000	500 P	ug/L
BENZENE	4100	500 P	ug/L
TOLUENE	19000	500 P	ug/L
ETHYLBENZENE	4800	500 P	ug/L
TOTAL XYLENE	32000	500 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	59900		ug/L

Surrogate

% Recovery

1,4-Difluorobenzene

93

4-Bromofluorobenzene

100

Method 8020A ***

Analyzed by: CJ

Date: 02/12/99

Gasoline Range Organics

190

25 P

mg/L

Surrogate

% Recovery

1,4-Difluorobenzene

100

4-Bromofluorobenzene

100

California LUFT Manual for Gasoline

Analyzed by: CJ

Date: 02/13/99 18:44:00

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
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HOUSTON LABORATORY
 8880 INTERCHANGE DRIVE
 HOUSTON, TEXAS 77054
 PHONE (713) 660-0901

Certificate of Analysis No. H9-9902353-05

BP Oil Company
 295 SW 41 Street Bldg.13, Ste N
 Renton, WA 98055
 ATTN: Scott Hooton

P.O.#
 N/A , COC#100593
 DATE: 02/16/99

PROJECT: #11117, 7210 Bancroft
 SITE: Oakland, CA
 SAMPLED BY: Blaine Tech Services
 SAMPLE ID: E

PROJECT NO: 990202-X1
 MATRIX: WATER
 DATE SAMPLED: 02/02/99 10:37:00
 DATE RECEIVED: 02/09/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	690	10 P	ug/L
BENZENE	ND	10 P	ug/L
TOLUENE	ND	10 P	ug/L
ETHYLBENZENE	ND	10 P	ug/L
TOTAL XYLENE	ND	10 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	ND		ug/L

Surrogate	% Recovery
1,4-Difluorobenzene	93
4-Bromofluorobenzene	93

Method 8020A ***
 Analyzed by: CJ
 Date: 02/12/99

Gasoline Range Organics	0.94	0.5 P	mg/L
-------------------------	------	-------	------

Surrogate	% Recovery
1,4-Difluorobenzene	100
4-Bromofluorobenzene	93

California LUFT Manual for Gasoline
 Analyzed by: CJ
 Date: 02/12/99 18:33:00

(P) - Practical Quantitation Limit ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
 SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION



Matrix: Aqueous
Units: ug/L

Batch Id: HP_S990212010700

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50.0	46	92.0	72 - 128
Benzene	ND	50.0	49	98.0	61 - 119
Toluene	ND	50.0	50	100	65 - 125
EthylBenzene	ND	50.0	49	98.0	70 - 118
O Xylene	ND	50.0	50	100	72 - 117
M & P Xylene	ND	100.0	98	98.0	72 - 116

MATRIX SPIKES

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			MTBE	ND	20	17		85.0	18
BENZENE	ND	20	14	70.0	14	70.0	0	21	32 - 164
TOLUENE	ND	20	14	70.0	14	70.0	0	20	38 - 159
ETHYLBENZENE	ND	20	13	65.0	13	65.0	0	19	52 - 142
O XYLENE	ND	20	15	75.0	14	70.0	6.90	18	53 - 143
M & P XYLENE	ND	40	27	67.5	26	65.0	3.77	17	53 - 144

Analyst: CJ

Sequence Date: 02/12/99

SPL ID of sample spiked: 9902187-03A

Sample File ID: S_B2157.TX0

Method Blank File ID:

Blank Spike File ID: S_B2126.TX0

Matrix Spike File ID: S_B2128.TX0

Matrix Spike Duplicate File ID: S_B2129.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)

< = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = $[(<1> - <2>) / <3>] \times 100$

LCS % Recovery = $(<1> / <3>) \times 100$

Relative Percent Difference = $| (<4> - <5>) / [(<4> + <5>) \times 0.5] \times 100$

(**) = Source: SPL-Houston Historical Data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):
 9902353-03A 9902243-27A 9902353-04A 9902353-05A
 9902243-28A 9902243-26A 9902243-17A 9902329-02A



* SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Matrix: Aqueous
Units: ug/L

Batch Id: HP_S990213104500

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	42	84.0	72 - 128
Benzene	ND	50	47	94.0	61 - 119
Toluene	ND	50	47	94.0	65 - 125
EthylBenzene	ND	50	48	96.0	70 - 118
O Xylene	ND	50	48	96.0	72 - 117
M & P Xylene	ND	100	97	97.0	72 - 116

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			MTBE	ND	20	18	90.0	18	90.0
BENZENE	ND	20	18	90.0	17	85.0	5.71	21	32 - 164
TOLUENE	ND	20	18	90.0	17	85.0	5.71	20	38 - 159
ETHYLBENZENE	ND	20	17	85.0	17	85.0	0	19	52 - 142
O XYLENE	ND	20	18	90.0	17	85.0	5.71	18	53 - 143
M & P XYLENE	ND	40	35	87.5	33	82.5	5.88	17	53 - 144

Analyst: CJ

Sequence Date: 02/13/99

SPL ID of sample spiked: 9902329-09A

Sample File ID: S_B2119A.TX0

Method Blank File ID:

Blank Spike File ID: S_B2111A.TX0

Matrix Spike File ID: S_B2113A.TX0

Matrix Spike Duplicate File ID: S_B2114A.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)

< = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):

9902329-03A 9902329-04A 9902329-05A 9902329-07A
9902329-08A 9902329-10A 9902329-11A 9902329-12A
9902329-06A 9902329-09A 9902353-02A



* SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Matrix: Aqueous
Units: ug/L

Batch Id: HP_S990210103900

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
MTBE	ND	50	47	94.0	72 - 128
Benzene	ND	50	50	100	61 - 119
Toluene	ND	50	51	102	65 - 125
EthylBenzene	ND	50	50	100	70 - 118
O Xylene	ND	50	51	102	72 - 117
M & P Xylene	ND	100	100	100	72 - 116

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative ‡ Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
MTBE	ND	20	23	115	22	110	4.44	20	39 - 150
BENZENE	ND	20	23	115	23	115	0	21	32 - 164
TOLUENE	ND	20	23	115	24	120	4.26	20	38 - 159
ETHYLBENZENE	ND	20	23	115	22	110	4.44	19	52 - 142
O XYLENE	ND	20	24	120	23	115	4.26	18	53 - 143
M & P XYLENE	ND	40	46	115	46	115	0	17	53 - 144

Analyst: CJ

Sequence Date: 02/10/99

SPL ID of sample spiked: 9902275-03A

Sample File ID: S_B2085.TX0

Method Blank File ID:

Blank Spike File ID: S_B2078.TX0

Matrix Spike File ID: S_B2080.TX0

Matrix Spike Duplicate File ID: S_B2081.TX0

* - Values outside QC Range due to Matrix Interference (except RPD)

* = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

‡ Recovery = $[(<1> - <2>) / <3>] \times 100$

LCS ‡ Recovery = $(<1> / <3>) \times 100$

Relative Percent Difference = $[(<4> - <5>) / [(<4> + <5>) \times 0.5]] \times 100$

(**) = Source: SPL-Houston Historical Data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):

9902371-05A 9902371-06A 9902371-07A 9902371-08A
9902371-09A 9902353-01A 9902353-05A 9902371-01A
9902371-02A 9902371-03A 9902371-04A



Matrix: Aqueous
Units: mg/L

Batch Id: HP_S990210110700

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
Gasoline Range Organics	ND	1.0	0.91	91.0	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	0.87	96.7	0.89	98.9	2.25	36	36 - 160

Analyst: CJ

Sequence Date: 02/10/99

SPL ID of sample spiked: 9902371-01A

Sample File ID: SSB2086.TX0

Method Blank File ID:

Blank Spike File ID: SSB2079.TX0

Matrix Spike File ID: SSB2082.TX0

Matrix Spike Duplicate File ID: SSB2083.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)

* = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

‡ Recovery = $[(<1> - <2>) / <3>] \times 100$

LCS ‡ Recovery = $(<1> / <3>) \times 100$

Relative Percent Difference = $| (<4> - <5>) | / [(<4> + <5>) \times 0.5] \times 100$

(**) = Source: SPL-Houston Historical data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):
 9902371-05A 9902371-06A 9902371-07A 9902371-08A
 9902371-09A 9902353-01A 9902371-01A 9902371-02A
 9902371-03A 9902371-04A



* SPL BATCH QUALITY CONTROL REPORT **
California LUFT Manual for Gasoline

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Matrix: Aqueous
Units: mg/L

Batch Id: HP_S990213111400

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
Gasoline Range Organics	ND	1.0	0.89	89.0	64 - 131

MATRIX SPIKES

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative ‡ Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
GASOLINE RANGE ORGANICS	0.27	0.90	0.99	80.0	0.93	73.3	8.74	36	36 - 160

Analyst: CJ

Sequence Date: 02/13/99

SPL ID of sample spiked: 9902329-06A

Sample File ID: SSB2118B.TX0

Method Blank File ID:

Blank Spike File ID: SSB2112A.TX0

Matrix Spike File ID: SSB2115A.TX0

Matrix Spike Duplicate File ID: SSB2116A.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)

* = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

‡ Recovery = $\{ (<1> - <2>) / <3> \} \times 100$

LCS ‡ Recovery = $\{ <1> / <3> \} \times 100$

Relative Percent Difference = $\{ (<4> - <5>) / [(<4> + <5>) \times 0.5] \} \times 100$

(**) = Source: SPL-Houston Historical data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):
 9902329-10A 9902329-11A 9902329-12A 9902329-13A
 9902329-06A 9902329-09A 9902353-04A 9902353-02A
 9902329-03A



* SPL BATCH QUALITY CONTROL REPORT **
California LUFT Manual for Gasoline

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Matrix: Aqueous
Units: mg/L

Batch Id: HP_S990212003900

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
Gasoline Range Organics	ND	1.00	0.85	85.0	64 - 131

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	0.59	65.6	0.59	65.6	0	36	36 - 160

Analyst: CJ

Sequence Date: 02/12/99

SPL ID of sample spiked: 9902329-02A

Sample File ID: SSB2138.TX0

Method Blank File ID:

Blank Spike File ID: SSB2127.TX0

Matrix Spike File ID: SSB2130.TX0

Matrix Spike Duplicate File ID: SSB2131.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)

* = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

‡ Recovery = $[(<1> - <2>) / <3>] \times 100$

LCS ‡ Recovery = $(<1> / <3>) \times 100$

Relative Percent Difference = $|(<4> - <5> | / [(<4> + <5>) \times 0.5] \times 100$

(**) = Source: SPL-Houston Historical data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID): 9902329-02A 9902353-03A 9902353-05A

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST



9902353

CHAIN OF CUSTODY

No. 100593

Page 1 of 1

CONSULTANT'S NAME: Blaine Tech Services CONSULTANT'S ADDRESS: 1600 Rodgers Ave, San Jose, CA 95112

BP SITE NUMBER: 11117 BP SITE / FACILITY ADDRESS: 7210 Bancroft, Oakland, CA CONSULTANT PROJECT NUMBER: 990202-X1

CONSULTANT PROJECT MANGER: _____ PHONE NUMBER: _____ FAX NUMBER: _____ CONSULTANT CONTRACT NUMBER: _____

BP CONTACT: _____ BP ADDRESS: _____ PHONE NUMBER: _____ FAX NO.: _____

LAB CONTACT: _____ LABORATORY ADDRESS: _____ PHONE NUMBER: _____ FAX NO.: _____

BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name): _____ RUSH REQUESTED OF (Print Consultant Contact Name): _____ DATE/TIME: _____ SHIPMENT DATE: _____ SHIPMENT METHOD: _____

TAT: 24 Hours 48 Hours 72 Hours Standard 7 or 14 Days

ANALYSIS REQUIRED: _____

AIRBILL NUMBER: 804039488588

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	TPHG	B-TEX	MTBE										COMMENTS	
				NO.	TYPE (VOL.)	LAB SAMPLE #														
A	2-2-99	10:17	W	3			X	X	X											
B	2-2-99	11:06	W	3			X	X	X											
C	2-2-99	9:56	W	3			X	X	X											
D	2-2-99	11:35	W	3			X	X	X											
E	2-2-99	10:37	W	3			X	X	X											

SAMPLED BY (Please Print Name): Kevin Collins SAMPLED BY (Signature): [Signature] ADDITIONAL COMMENTS: 6°

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY / AFFILIATION (Print Name / Signature)	DATE	TIME
<u>[Signature]</u>	<u>2/8/99</u>	<u>1600</u>			
			<u>[Signature]</u>	<u>2/9/99</u>	<u>1000</u>

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 2/9/99	Time: 1000
--	--

SPL Sample ID:

9902353

		<u>Yes</u>	<u>No</u>	
1	Chain-of-Custody (COC) form is present.	✓		
2	COC is properly completed.	✓		
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.	✓		
5	If yes, custody seals are intact.	✓		
6	All samples are tagged or labeled.	✓		
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact	✓		
9	Temperature of samples upon arrival:	6° C		
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	804039488588	
		Other:		
11	Method of sample disposal:	SPL Disposal		
		HOLD		
		Return to Client		

Name: 	Date: 2/9/99
---	--

Field Data Sheets

BP WELL MONITORING DATA SHEET

Project #: <u>990202-X</u>	Job #: <u>11117</u>
Sampler: <u>H.C.</u>	Date: <u>2-2-99</u>
Well I.D.: <u>mw-1</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>36.20</u>	Depth to Water: <u>19.12</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius ² * 0.163

Purge Method:	Sampling Method:
<input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Extraction Pump Other: _____	<input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____

<u>2.7</u>	x	<u>3</u>	=	<u>8.1</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>10:04</u>	<u>65.6</u>	<u>7.4</u>	<u>640</u>	<u>7200</u>	<u>2.5</u>	
<u>10:08</u>	<u>66.0</u>	<u>7.3</u>	<u>700</u>	<u>7200</u>	<u>5.0</u>	
<u>10:12</u>	<u>66.8</u>	<u>7.3</u>	<u>700</u>	<u>184</u>	<u>8.5</u>	

Did well dewater? Yes No Gallons actually evacuated: 8.5

Sampling Time: 10:17 Sampling Date: 2-2-99

Sample I.D.: 11117A Laboratory: (SPL) Other: _____

Analyzed for: ~~(TPH-G)~~ (BTEX) (MTBE) TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

BP WELL MONITORING DATA SHEET

Project #: <u>990202-X</u>	Job #: <u>11117</u>
Sampler: <u>H.C.</u>	Date: <u>2-2-99</u>
Well I.D.: <u>mw-2</u>	Well Diameter: <u>3</u> 3 4 6 8
Total Well Depth: <u>39.56</u>	Depth to Water: <u>20.11</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius ² * 0.165

Purge Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
--	---

<u>3.1</u>	x	<u>3</u>	=	<u>9.3</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>10:49</u>	<u>67.4</u>	<u>7.6</u>	<u>760</u>	<u>7200</u>	<u>3</u>	
<u>10:55</u>	<u>68.0</u>	<u>7.4</u>	<u>860</u>	<u>7200</u>	<u>6</u>	
<u>11:00</u>	<u>68.6</u>	<u>7.4</u>	<u>900</u>	<u>189</u>	<u>9.5</u>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>9.5</u>
Sampling Time: <u>11:06</u>	Sampling Date: <u>2-2-99</u>
Sample I.D.: <u>020410 B</u>	Laboratory: <u>(SPL)</u> Other: _____

Analyzed for: <u>(TPH-D)</u> <u>(BTEX)</u> <u>(MTBE)</u> TPH-D Other: _____
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

BP WELL MONITORING DATA SHEET

Project #: <u>990202-X1</u>	Job #: <u>11117</u>
Sampler: <u>H.C.</u>	Date: <u>2-2-99</u>
Well I.D.: <u>mw-3</u>	Well Diameter: <u>②</u> 3 4 6 8 <u> </u>
Total Well Depth: <u>43.20</u>	Depth to Water: 43.20 <u>19.75</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multplier	Well Diameter	Multplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer <input checked="" type="checkbox"/> Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
---	--

<u>37</u>	x	<u>3</u>	=	<u>111</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
9:40	68.0	7.4	1000	39	3.5	
9:45	68.4	7.2	1000	26	7.0	
9:50	68.8	7.2	900	21	11.5	

Did well dewater? Yes No Gallons actually evacuated: 11.5

Sampling Time: 9:56 Sampling Date: 2-2-99

Sample I.D.: RAWA/B.C. Laboratory: (SPL) Other: _____

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

BP WELL MONITORING DATA SHEET

Project #: <u>990202-x</u>	Job #: <u>11117</u>
Sampler: <u>H.C.</u>	Date: <u>2-2-99</u>
Well I.D.: <u>mw-4</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>39.71</u>	Depth to Water: <u>20.13</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius * 0.163

Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer \times <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer \times <input type="checkbox"/> Extraction Port Other: _____
---	--

<u>3.1</u>	x	<u>3</u>	=	<u>9.3</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>11:20</u>	<u>67.8</u>	<u>7.6</u>	<u>800</u>	<u>7200</u>	<u>3</u>	
<u>11:24</u>	<u>68.2</u>	<u>7.4</u>	<u>850</u>	<u>7200</u>	<u>6</u>	
<u>11:28</u>	<u>68.8</u>	<u>7.3</u>	<u>790</u>	<u>7200</u>	<u>9.5</u>	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: <u>9.5</u>
Sampling Time: <u>11:35</u>	Sampling Date: <u>2-2-99</u>
Sample I.D.: <u>mw-4 D</u>	Laboratory: <u>(SPL)</u> Other: _____

Analyzed for: <u>(TPH-G)</u> <u>(BTEX)</u> <u>(MTBE)</u> TPH-D Other: _____
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV

BP WELL MONITORING DATA SHEET

Project #: <u>990202-x</u>	Job #: <u>11117</u>
Sampler: <u>H.C.</u>	Date: <u>2-2-99</u>
Well I.D.: <u>mw- #10</u>	Well Diameter: <u>②</u> 3 4 6 8
Total Well Depth: <u>35.83</u>	Depth to Water: <u>21.83</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius * 0.163

Purge Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
--	---

<u>2.2</u>	x	<u>3</u>	=	<u>6.6</u>	Gals.
I Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
10:25	65.8	7.4	1000	7200	2	
10:28	66.4	7.3	950	7200	4	
10:30	67.2	7.3	950	7200	7	

Did well dewater? Yes <input checked="" type="checkbox"/> No	Gallons actually evacuated: <u>7.0</u>
Sampling Time: <u>10:37</u>	Sampling Date: <u>2-2-99</u>
Sample I.D.: <u>101011111111 E</u>	Laboratory: <u>(SPL)</u> Other _____

Analyzed for: <u>(TPH-C)</u> <u>(BTEX)</u> <u>(MTBE)</u> TPH-D Other:
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV