

20-318

S. T. Hooton  
Team Leader  
Environmental Remediation Management

ENVIRONMENTAL  
PROTECTION

99 DEC 30 PM 2: 58



BP OIL

BP Exploration & Oil Inc.  
295 SW 41<sup>st</sup> Street, Bldg., 13, STE N  
Renton, WA 98055-4931  
Phone: 425-251-0689  
Fax: 425-251-0736

December 27, 1999

Alameda County Health Care Services Agency  
Attention Ms. Eva Chu  
1131 Harbor Bay Parkway, Room 250  
Oakland, CA 94502-6577

*Why wasn't MW-3 sampled in 9/99*

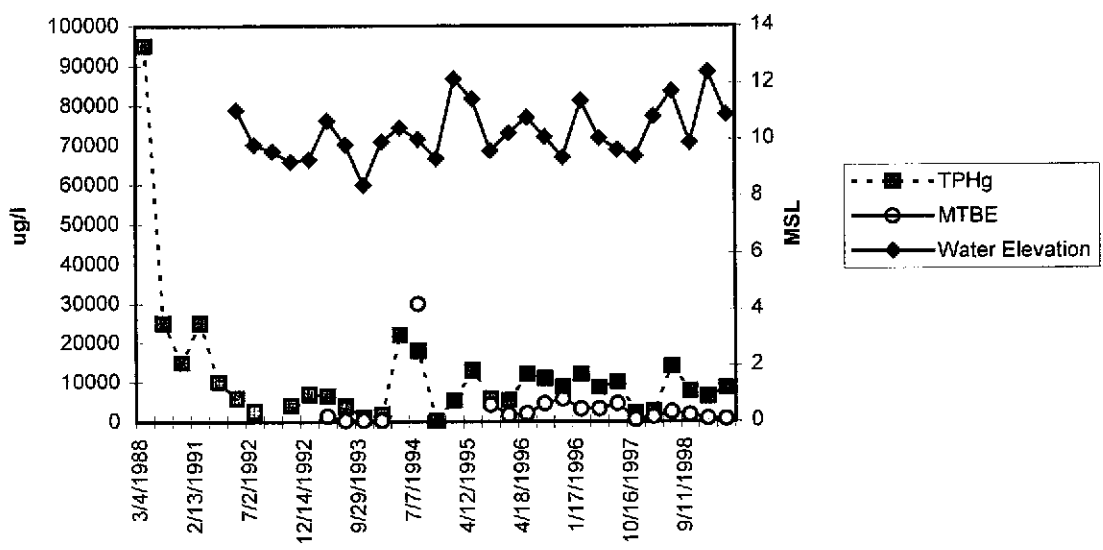
RE: Former BP Oil Site No. 11266  
1541 Park Street (at Lincoln)  
Alameda, CA

Dear Ms. Chu:

This letter transmits a groundwater monitoring and sampling report dated 17 November 1999 prepared on behalf of BP by Blaine Tech Services.

The enclosed groundwater monitoring and sampling report includes laboratory data for samples collected on 23 September 1999. You will note that aromatic petroleum hydrocarbons were detected in samples obtained from monitoring well MW-1. MTBE was detected in samples obtained from wells MW-1 (640 µg/L), MW-2 (84 µg/L), and MW-6 (20 µg/L) on 23 September 1999. Water elevation and concentration data for well MW-1 is shown below.

MW-1 TPHg, MTBE & Water Elevation



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

Sincerely,



Scott Hooton  
Environmental Remediation Management

attachment

cc: site file  
David Camille - Tosco (w/attachment)

**BLAINE**  
TECH SERVICES INC.



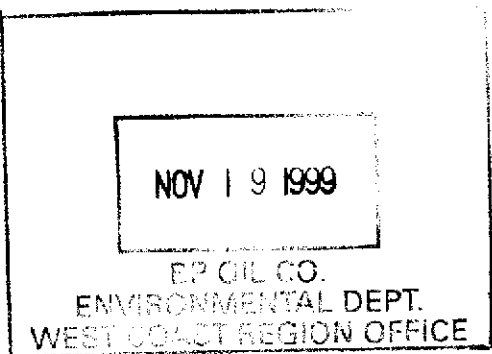
1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95112-1105  
(408) 573-7771 FAX  
(408) 573-0555 PHONE

ENVIRONMENTAL  
PROTECTION

99 DEC 30 PM 2:59

November 17, 1999

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



### 3rd Quarter 1999 Monitoring at 11266

Third Quarter 1999 Groundwater Monitoring  
BP Service Station Number 11266  
1541 Park Street  
Alameda, CA

Monitoring Performed on September 23, 1999

### Groundwater Sampling Report 990923-P-2

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.

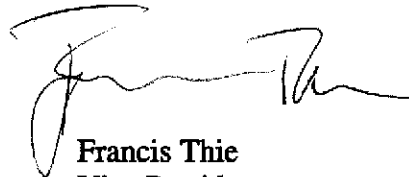
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The **Professional Engineering Appendix** 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,

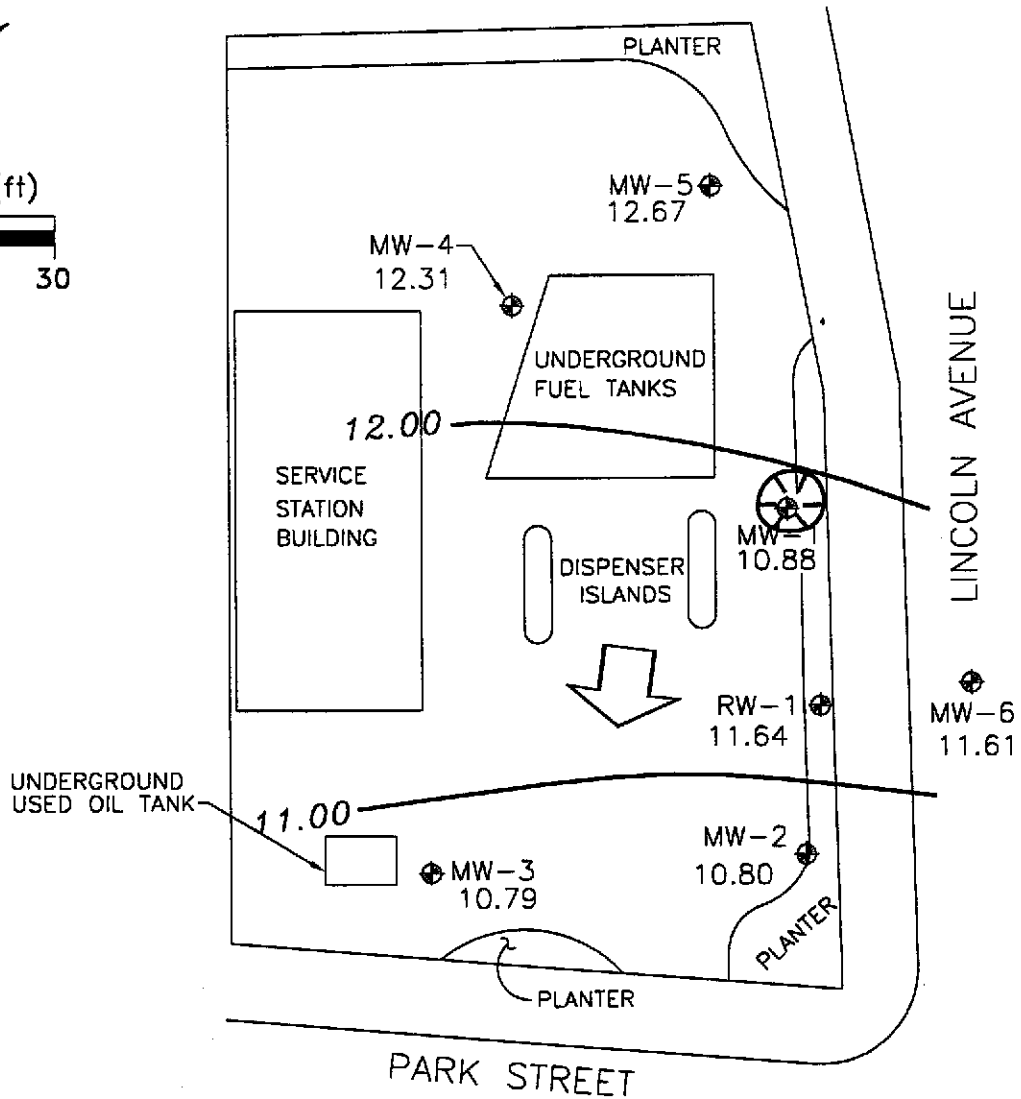
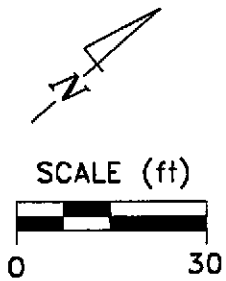


Francis Thie  
Vice President

FPT/cm

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


# **Professional Engineering Appendix**

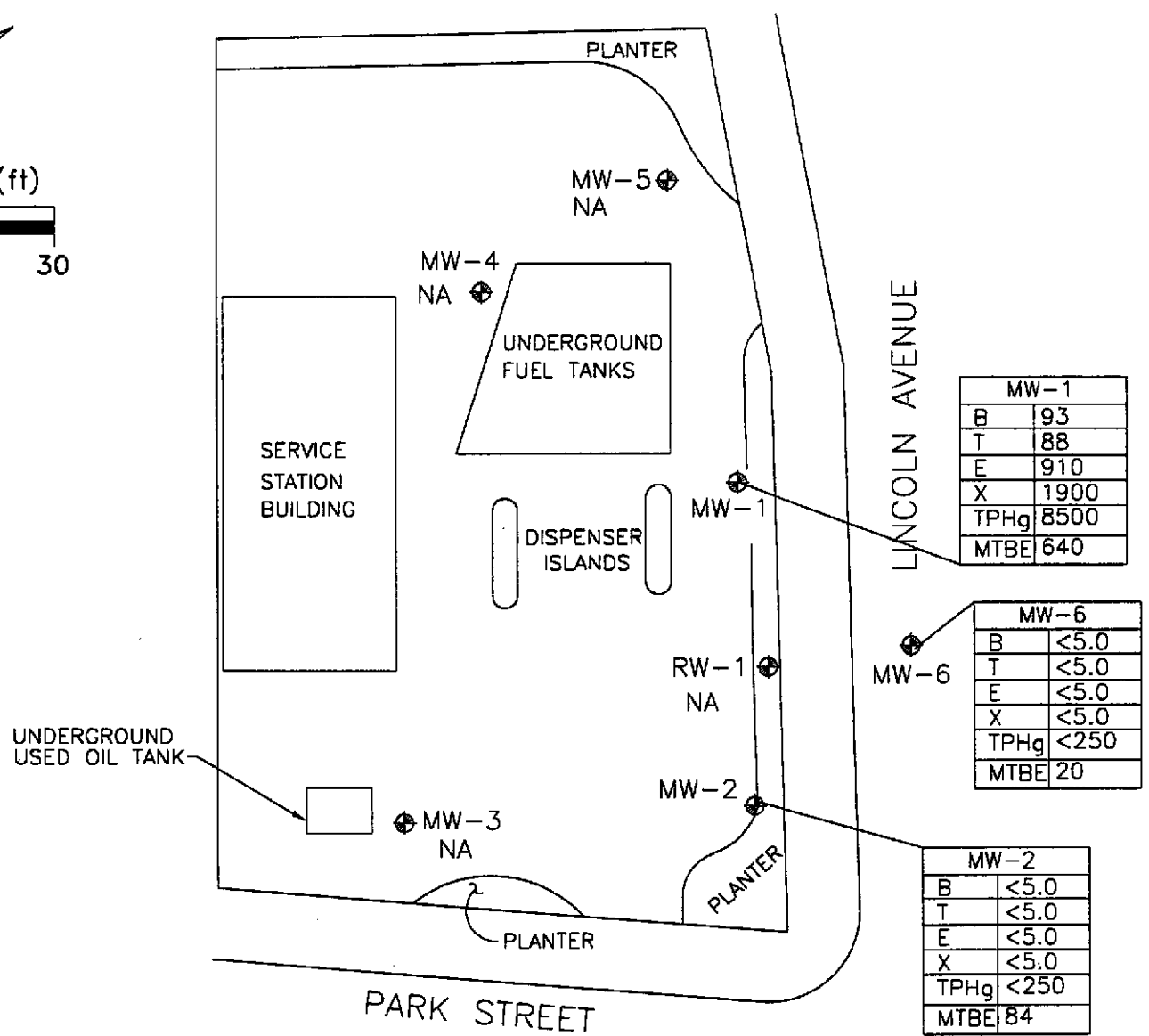
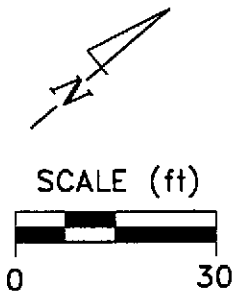


- EXPLANATION**
- ⊕ GROUNDWATER MONITORING WELL
  - 10.79 GROUNDWATER ELEVATION (FT, MSL)
  - 11.00 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
  - ↓ APPROXIMATE GROUNDWATER FLOW DIRECTION;  
APPROXIMATE GRADIENT = 0.02
  - ⊗ GROUNDWATER DEPRESSION



Ref. 11266bm.dwg  
 Basemap from Alisto Engineering Group

PREPARED BY 	<b>BP Oil Service Station No. 11266</b> 1541 Park Street Alameda, California	FIGURE: <b>1</b>
	<b>GROUNDWATER ELEVATION CONTOUR MAP,</b> <b>SEPTEMBER 23, 1999</b>	PROJECT: DAC04



MW-1	
B	93
T	88
E	910
X	1900
TPHg	8500
MTBE	640

MW-6	
B	<5.0
T	<5.0
E	<5.0
X	<5.0
TPHg	<250
MTBE	20

MW-2	
B	<5.0
T	<5.0
E	<5.0
X	<5.0
TPHg	<250
MTBE	84

- EXPLANATION**
- ⊕ GROUNDWATER MONITORING WELL
  - TPHg TOTAL PETROLEUM HYDROCARBON CALCULATED AS GASOLINE IN PARTS PER BILLION (ppb)
  - B BENZENE, ppb
  - T TOLUENE, ppb
  - E ETHYLBENZENE, ppb
  - X XYLENE, ppb
  - MTBE METHYL-TERT-BUTYL-ETHER, ppb
  - MTBE\* MTBE BY 8260
  - NA DATA NOT AVAILABLE

Ref. 11266btex.dwg  
 Basemap from Alisto Engineering Group

PREPARED BY

**RRM**  
 engineering contracting firm

**BP Oil Service Station No. 11266**  
 1541 Park Street  
 Alameda, California

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**HYDROCARBON CONCENTRATION MAP,  
 SEPTEMBER 23, 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 (Feet)	DEPTH TO WATER (Feet) (a)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l) (b)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-1	03/04/88	19.19	---	---	95000	2000	5900	1100	10000	---	---	---
MW-1	03/29/89	19.19	---	---	25000	930	2600	24	3100	---	---	---
MW-1	11/28/89	19.19	---	---	15000	280	880	340	1200	---	---	---
MW-1	02/13/91	19.19	---	---	25000	680	2700	1100	3200	---	---	---
MW-1	01/08/92	19.19	---	---	10000	260	1100	570	2000	---	---	---
MW-1	03/30/92	19.19	8.15	11.04	5800	290	570	500	1100	---	---	PACE
MW-1	07/02/92	19.19	9.38	9.81	2500	170	60	310	300	---	---	ANA
MW-1	07/22/92	19.19	9.62	9.57	---	---	---	---	---	---	---	---
MW-1	10/02/92	19.19	9.98	9.21	4000	86	190	270	350	---	---	ANA
QC-1 (c)	10/02/92	---	---	---	3600	89	180	270	340	---	---	ANA
MW-1	12/14/92	19.19	9.90	9.29	6800	75	540	200	670	---	---	ANA
QC-1 (c)	12/14/92	---	---	---	5900	68	480	190	600	---	---	ANA
MW-1	03/24/93	19.19	8.52	10.67	6400	150	310	370	710	1400	(d)	PACE
MW-1	06/17/93	19.19	9.37	9.82	3800	110	160	310	480	220	(d)	PACE
MW-1	09/29/93	19.19	10.80	8.39	1100	22	16	54	110	320	(d)	PACE
MW-1	12/28/93	19.19	9.27	9.92	1800	26	110	77	300	220	(d)	PACE
MW-1	03/29/94	19.19	8.77	10.42	22000	990	560	970	2000	---	3.1	PACE
MW-1	07/07/94	19.19	9.18	10.01	18000	67	32	250	140	30000	(d)	PACE
MW-1	10/18/94	19.19	9.85	9.34	270	1.9	0.6	ND<0.5	3.2	---	3.6	PACE
MW-1	02/01/95	19.19	7.04	12.15	5400	260	350	1100	990	---	6.5	ATI
MW-1	04/12/95	19.19	7.74	11.45	13000	260	620	960	2600	---	5.0	ATI
MW-1	09/13/95	19.19	9.58	9.61	5800	110	110	510	830	4300	5.2	ATI
QC-1 (c)	09/13/95	---	---	---	5800	110	100	490	800	4500	---	ATI
MW-1	01/11/96	19.19	8.95	10.24	5400	91	130	510	1000	1700	5.2	ATI
QC-1 (c)	01/11/96	---	---	---	5100	89	120	490	950	2000	---	ATI
MW-1	04/18/96	19.19	8.40	10.79	12000	190	420	1100	1560	2100	4.5	SPL
QC-1 (c)	04/18/96	---	---	---	12000	190	390	1100	1440	2000	---	SPL
MW-1	06/28/96	19.19	9.08	10.11	11000	100	130	670	1180	4600	---	SPL
QC-1 (c)	06/28/96	---	---	---	11000	100	140	690	1290	4600	---	SPL
MW-1	11/05/96	19.19	9.81	9.38	8800	55	28	520	430	5700	5.5	SPL
QC-1 (c)	11/05/96	---	---	---	8800	48	ND<25	490	413	5600	---	SPL
MW-1	01/17/97	19.19	7.81	11.38	12000	180	160	1200	1650	3200	8.0	SPL
QC-1 (c)	01/17/97	---	---	---	13000	190	160	1200	1770	3200	---	SPL
MW-1	05/01/97	19.19	9.13	10.06	8600	160	49	950	850	3200	7.0	SPL
QC-1 (c)	05/01/97	---	---	---	9000	160	39	940	820	3100	---	SPL
MW-1	07/09/97	19.19	9.55	9.64	10000	93	27	720	476	4500	6.3	SPL
QC-1 (c)	07/09/97	---	---	---	7600	42	13	340	175	4300	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (a) (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (b) (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-1	10/16/97	19.19	9.77	9.42	2100	71	14	420	194	500	6.8	SPL
QC-1 (c)	10/16/97	---	---	---	2600	80	17	500	276	510	---	SPL
MW-1	01/08/98	19.19	8.36	10.83	2500	33	21	180	183	1200	6.1	SPL
QC-1 (c)	01/08/98	---	---	---	2400	32	20	170	154	1300	---	SPL
MW-1	04/17/98	19.19	7.48	11.71	14000	140	410	730	1980	2400	3.7	SPL
QC-1 (c)	04/17/98	---	---	---	14000	140	460	770	2220	2500	---	SPL
MW-1	09/11/98	19.19	9.30	9.89	7700	65	38	580	880	1700	5.6	SPL
QC-1 (c)	09/11/98	---	---	---	10000	81	59	710	1410	1800	---	SPL
MW-1	03/09/99	19.19	6.80	12.39	6300	93	99	510	790	780/700	(f) ---	SPL
MW-1	09/23/99	19.19	8.31	10.88	8500	93	88	910	1900	640	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (a) (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l) (b)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-2	03/04/88	19.32	---	---	ND	ND	ND	ND	ND	---	---	---
MW-2	03/29/89	19.32	---	---	ND	1.1	0.78	ND	1.7	---	---	---
MW-2	11/28/89	19.32	---	---	170	ND	ND	ND	ND	---	---	---
MW-2	02/13/91	19.32	---	---	150	1.4	ND	ND	0.9	---	---	---
MW-2	01/08/92	19.32	---	---	ND	1.4	ND	ND	1.1	---	---	---
MW-2	03/30/92	19.32	9.03	10.29	91	0.7	ND	ND	ND	---	---	PAGE
MW-2	07/02/92	19.32	9.96	9.36	150	3.1	0.6	0.6	1.1	---	---	ANA
MW-2	07/22/92	19.32	10.12	9.20	---	---	---	---	---	---	---	---
MW-2	10/02/92	19.32	10.42	8.90	56	ND<0.5	0.8	0.8	1.2	---	---	ANA
MW-2	12/14/92	19.32	10.77	8.55	210	1.5	ND<0.5	0.9	2.7	---	---	ANA
MW-2	03/24/93	19.32	9.33	9.99	94	0.8	ND<0.5	ND<0.5	0.9	---	---	PAGE
QC-1 (c)	03/24/93	---	---	---	150	1.8	0.6	1.3	1.3	---	---	PAGE
MW-2	06/17/93	19.32	9.91	9.41	ND<50	ND<0.5	ND<0.5	ND<0.5	0.7	23	(d)	PAGE
MW-2	09/29/93	19.32	11.39	7.93	68	ND<0.5	0.9	0.7	1.9	59	(d)	PAGE
MW-2	12/28/93	19.32	9.75	9.57	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1300	(d)	PAGE
QC-1 (c)	12/28/93	---	---	---	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1100	(d)	PAGE
MW-2	03/29/94	19.32	9.39	9.93	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1600	(d)	4.9 PAGE
QC-1 (c)	03/29/94	---	---	---	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1600	(d)	PAGE
MW-2	07/07/94	19.32	9.68	9.64	1100	0.6	1.7	0.6	3.2	2000	(d)	PAGE
MW-2	10/18/94	19.32	10.22	9.10	290	3.1	0.8	ND<0.5	5.1	---	3.3	PAGE
MW-2	02/01/95	19.32	8.03	11.29	100	ND<0.5	ND<0.5	ND<0.5	ND<1	---	6.0	ATI
MW-2	04/12/95	19.32	8.71	10.61	1200	ND<1.0	ND<1.0	ND<1.0	ND<2.0	---	8.3	ATI
MW-2	09/13/95	19.32	10.19	9.13	480	ND<2.5	ND<2.5	ND<2.5	ND<5.0	2300	7.8	ATI
MW-2	01/11/96	19.32	9.59	9.73	3400	ND<25	ND<25	ND<25	ND<50	11000	5.4	ATI
MW-2	04/18/96	19.32	9.04	10.28	130	ND<0.5	ND<1	ND<1	ND<1	170	5.5	SPL
MW-2	06/28/96	19.32	9.72	9.60	300	ND<0.5	ND<1	ND<1	ND<1	430	4.9	SPL
MW-2	11/05/96	19.32	10.43	8.89	710	ND<2.5	ND<5.0	ND<5.0	ND<5.0	960	5.3	SPL
MW-2	01/17/97	19.32	8.80	10.52	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	24	5.3	SPL
MW-2	05/01/97	19.32	10.06	9.26	80	ND<0.5	ND<1.0	ND<1.0	ND<1.0	100	5.2	SPL
MW-2	07/09/97	19.32	10.50	8.82	150	ND<0.5	ND<1.0	ND<1.0	ND<1.0	170	4.3	SPL
MW-2	10/16/97	19.32	10.18	9.14	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	260	5.0	SPL
MW-2	01/08/98	19.32	9.04	10.28	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	18	4.4	SPL
MW-2	04/17/98	19.32	8.56	10.76	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	3.9	SPL
MW-2	09/11/98	19.32	9.79	9.53	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.1	SPL
MW-2	03/09/99	19.32	7.93	11.39	200	ND<1.0	ND<1.0	ND<1.0	ND<1.0	190	---	SPL
MW-2	09/23/99	19.32	8.52	10.80	<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	84	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (a) (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l) (b)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-3	03/04/88	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	03/29/89	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	11/28/89	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	02/13/91	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	01/08/92	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	03/30/92	19.99	9.71	10.28	ND	ND	ND	ND	ND	---	---	PAGE
MW-3	07/02/92	19.99	10.52	9.47	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	07/22/92	19.99	10.62	9.37	---	---	---	---	---	---	---	---
MW-3	10/02/92	19.99	10.86	9.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	12/14/92	19.99	10.53	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	03/24/93	19.99	9.06	10.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PAGE
MW-3	06/17/93	19.99	10.44	9.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PAGE
MW-3	08/29/93	19.99	11.06	8.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PAGE
MW-3	12/28/93	19.99	9.43	10.56	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PAGE
MW-3	03/29/94	19.99	10.01	9.98	---	---	---	---	ND<0.5	---	---	---
MW-3	07/07/94	19.99	10.14	9.85	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	---	---	PAGE
QC-1 (c)	07/07/94	---	---	---	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	---	---	PAGE
MW-3	10/18/94	19.99	10.56	9.43	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.2	PAGE
MW-3	02/01/95	19.99	8.98	11.01	ND<50	ND<0.5	1.0	0.5	1.9	---	5.9	ATI
MW-3	04/12/95	19.99	9.70	10.29	---	---	---	---	---	---	---	---
MW-3	09/13/95	19.99	10.70	9.29	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.7	ATI
MW-3	01/11/96	19.99	10.18	9.81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.5	ATI
MW-3	04/18/96	19.99	9.53	10.46	---	---	---	---	---	---	---	---
MW-3	06/28/96	19.99	9.21	10.78	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.3	SPL
MW-3	11/05/96	19.99	9.94	10.05	---	---	---	---	---	---	---	---
MW-3	01/17/97	19.99	9.29	10.70	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.0	SPL
MW-3	05/01/97	19.99	10.53	9.46	---	---	---	---	---	---	---	---
MW-3	07/09/97	19.99	10.92	9.07	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.0	SPL
MW-3	10/16/97	19.99	11.24	8.75	---	---	---	---	---	---	---	---
MW-3	01/08/98	19.99	10.12	9.87	---	---	---	---	---	---	---	---
MW-3	04/17/98	19.99	9.62	10.37	---	---	---	---	---	---	---	---
MW-3	09/11/98	19.99	10.83	9.16	---	---	---	---	---	---	---	---
MW-3	03/09/99	19.99	9.00	10.99	17000	8.20	ND<1.0	ND<1.0	5.90	17000	---	SPL
MW-3	09/23/99	19.99	9.20	10.79	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-4	03/04/88	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	03/29/89	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	11/28/89	20.17	---	---	430	6.2	0.6	12	3.3	---	---	---
MW-4	02/13/91	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	01/08/92	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	03/30/92	20.17	8.73	11.44	ND	ND	ND	ND	ND	---	---	PACE
MW-4	07/02/92	20.17	10.04	10.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	07/22/92	20.17	10.26	9.91	---	---	---	---	---	---	---	---
MW-4	10/02/92	20.17	10.63	9.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	12/14/92	20.17	10.02	10.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	03/24/93	20.17	9.08	11.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	06/17/93	20.17	10.03	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	09/29/93	20.17	10.96	9.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	12/28/93	20.17	9.33	10.84	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	03/29/94	20.17	9.42	10.75	---	---	---	---	---	---	---	---
MW-4	07/07/94	20.17	9.82	10.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	10/18/94	20.17	10.36	9.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.1	PACE
MW-4	02/01/95	20.17	7.50	12.67	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	---	9.3	ATI
MW-4	04/12/95	20.17	8.21	11.96	---	---	---	---	---	---	---	---
MW-4	09/13/95	20.17	10.20	9.97	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.3	ATI
MW-4	01/11/96	20.17	9.57	10.60	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.1	ATI
MW-4	04/18/96	20.17	9.03	11.14	---	---	---	---	---	---	---	---
MW-4	06/28/96	20.17	8.73	11.44	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.6	SPL
MW-4	11/05/96	20.17	9.47	10.70	---	---	---	---	---	---	---	---
MW-4	01/17/97	20.17	8.79	11.38	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.4	SPL
MW-4	05/01/97	20.17	10.08	10.09	---	---	---	---	---	---	---	---
MW-4	07/09/97	20.17	10.52	9.65	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.1	SPL
MW-4	10/16/97	20.17	10.85	9.32	---	---	---	---	---	---	---	---
MW-4	01/08/98	20.17	9.60	10.57	---	---	---	---	---	---	---	---
MW-4	04/17/98	20.17	9.11	11.06	---	---	---	---	---	---	---	---
MW-4	09/11/98	20.17	10.32	9.85	---	---	---	---	---	---	---	---
MW-4	03/09/99	20.17	7.30	12.87	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	---	SPL
MW-4	09/23/99	20.17	7.86	12.31	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-5	03/04/88	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	03/29/89	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	11/28/89	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	02/13/91	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	01/08/92	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	03/30/92	19.41	7.85	11.56	ND	ND	ND	ND	ND	---	---	PACE
MW-5	07/02/92	19.41	9.27	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	07/22/92	19.41	9.55	9.86	---	---	---	---	---	---	---	---
MW-5	10/02/92	19.41	9.97	9.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	12/14/92	19.41	9.14	10.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	03/24/93	19.41	8.17	11.24	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	06/17/93	19.41	8.29	11.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (c)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	09/29/93	19.41	10.31	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	PACE
MW-5	12/28/93	19.41	8.91	10.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	03/29/94	19.41	8.50	10.91	---	---	---	---	---	---	---	---
MW-5	07/07/94	19.41	8.99	10.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	10/18/94	19.41	9.61	9.80	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.5	PACE
MW-5	02/01/95	19.41	6.55	12.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	---	7.6	ATI
MW-5	04/12/95	19.41	7.27	12.14	---	---	---	---	---	---	---	---
MW-5	09/13/95	19.41	9.49	9.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.9	ATI
MW-5	01/11/96	19.41	8.82	10.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.9	ATI
MW-5	04/18/96	19.41	8.30	11.11	---	---	---	---	---	---	---	---
MW-5	06/28/96	19.41	8.96	10.45	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.2	SPL
MW-5	11/05/96	19.41	9.69	9.72	---	---	---	---	---	---	---	---
MW-5	01/17/97	19.41	9.02	10.39	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.2	SPL
MW-5	05/01/97	19.41	10.29	9.12	---	---	---	---	---	---	---	---
MW-5	07/09/97	19.41	10.71	8.70	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.2	SPL
MW-5	10/16/97	19.41	11.03	8.38	---	---	---	---	---	---	---	---
MW-5	01/08/98	19.41	10.00	9.41	---	---	---	---	---	---	---	---
MW-5	04/17/98	19.41	8.73	10.68	---	---	---	---	---	---	---	---
MW-5	09/11/98	19.41	9.91	9.50	---	---	---	---	---	---	---	---
MW-5	03/09/99	19.41	6.24	13.17	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	---	SPL
MW-5	09/23/99	19.41	6.74	12.67	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	(a) DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-6	03/04/88	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	03/29/89	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	11/28/89	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	02/13/91	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	01/08/92	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	03/30/92	19.40	8.86	10.54	ND	ND	ND	ND	ND	---	---	PACE
MW-6	07/02/92	19.40	9.94	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	07/22/92	19.40	10.10	9.30	---	---	---	---	---	---	---	---
MW-6	10/02/92	19.40	10.48	8.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	12/14/92	19.40	10.76	8.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	03/24/93	19.40	9.19	10.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	06/17/93	19.40	9.91	9.49	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	09/29/93	19.40	11.49	7.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	12/28/93	19.40	9.88	9.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	03/29/94	19.40	9.36	10.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	5.0	PACE
MW-6	07/07/94	19.40	9.75	9.65	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	38	(d) ---	PACE
MW-6	10/18/94	19.40	10.30	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.3	PACE
MW-6	02/01/95	19.40	7.92	11.48	ND<50	ND<0.5	0.9	ND<0.5	1.1	---	5.4	ATI
MW-6	04/12/95	19.40	8.41	10.99	220	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	4.7	ATI
MW-6	09/13/95	19.40	10.05	9.35	180	ND<1.0	ND<1.0	ND<1.0	ND<2.0	770	4.9	ATI
MW-6	01/11/96	19.40	9.52	9.88	670	ND<2.5	ND<2.5	ND<2.5	ND<5.0	2400	4.6	ATI
MW-6	04/18/96	19.40	9.03	10.37	560	ND<0.5	ND<1	ND<1	ND<1	860	5.1	SPL
MW-6	06/28/96	19.40	8.76	10.64	620	ND<0.5	ND<1	ND<1	ND<1	540	4.9	SPL
MW-6	11/05/96	19.40	9.48	9.92	810	ND<5	ND<10	ND<10	ND<10	970	4.8	SPL
MW-6	01/17/97	19.40	8.58	10.82	830	ND<0.5	ND<1.0	ND<1.0	ND<1.0	960	8.9	SPL
MW-6	05/01/97	19.40	9.92	9.48	780	ND<5	ND<10	ND<10	ND<10	970	7.7	SPL
MW-6	07/09/97	19.40	10.33	9.07	990	ND<0.5	ND<1.0	ND<1.0	ND<1.0	1100	6.0	SPL
MW-6	10/16/97	19.40	10.66	8.74	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	750	6.7	SPL
MW-6	01/08/98	19.40	8.92	10.48	120	ND<0.5	ND<1.0	ND<1.0	ND<1.0	120	5.6	SPL
MW-6	04/17/98	19.40	8.12	11.28	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	62	3.9	SPL
MW-6	09/11/98	19.40	9.31	10.09	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	59	5.5	SPL
MW-6	03/09/99	19.40	7.25	12.15	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.9/ND<10	(f) ---	SPL
MW-6	09/23/99	19.40	7.79	11.61	ND<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	20	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
RW-1	07/22/92	---	9.66	---	13000	1000	3400	380	2800	---	---	ANA
RW-1	10/02/92	---	10.28	---	---	---	---	---	---	---	---	---
RW-1	12/14/92	---	23.28	---	---	---	---	---	---	---	---	---
RW-1	03/24/93	---	8.93	---	660	21	25	8.3	100	315	(d)	PACE
RW-1	06/17/93	---	9.66	---	850	13	1.0	15	100	390	(d)	PACE
RW-1	09/29/93	19.27	23.40	-4.13	1200	26	27	11	150	1800	(d)	PACE
QC-1 (c)	09/29/93	---	---	---	1200	26	28	11	160	1900	(d)	PACE
RW-1	12/28/93	19.27	9.76	9.51	3500	300	220	180	480	1900	(d)	PACE
RW-1	03/29/94	19.27	8.93	10.34	12000	640	1700	450	2200	---	6.3	PACE
RW-1	07/07/94	19.27	9.45	9.82	7600	530	1100	380	1800	410	(d)	PACE
RW-1	10/18/94	19.27	10.11	9.16	5300	47	100	150	280	2500	(d)	PACE
QC-1 (c)	10/18/94	---	---	---	430	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
RW-1	02/01/95	19.27	8.54	10.73	27000	2400	6100	1800	5300	---	4.5	ATI
QC-1 (c)	02/01/95	---	---	---	15000	1300	3300	970	2900	---	---	ATI
RW-1	04/12/95	19.27	8.21	11.06	6200	330	910	350	1500	---	5.2	ATI
QC-1 (c)	04/12/95	---	---	---	7600	400	1100	440	1900	---	---	ATI
RW-1	09/13/95	19.27	9.84	9.43	920	140	60	34	110	1200	5.1	ATI
RW-1	01/11/96	19.27	9.25	10.02	ND<50	0.95	0.61	ND<0.50	2.1	43	5.4	ATI
RW-1	04/18/96	19.27	8.73	10.54	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.7	SPL
RW-1	06/28/96	19.27	9.40	9.87	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.5	SPL
RW-1	11/05/96	19.27	10.12	9.15	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.9	SPL
RW-1	01/17/97	19.27	8.10	11.17	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.8	SPL
RW-1	05/01/97	19.27	9.43	9.84	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.6	SPL
RW-1	07/09/97	19.27	10.83	8.44	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.1	SPL
RW-1	10/16/97	19.27	11.17	8.10	---	---	---	---	---	---	---	---
RW-1	01/08/98	19.27	10.03	9.24	---	---	---	---	---	---	---	---
RW-1	04/17/98	19.27	8.79	10.48	---	---	---	---	---	---	---	---
RW-1	09/11/98	19.27	9.98	9.29	---	---	---	---	---	---	---	---
RW-1	03/09/99	19.27	7.19	12.08	---	---	---	---	---	---	---	---
RW-1	09/23/99	19.27	7.63	11.64	---	---	---	---	---	---	---	---



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
QC-2 (e)	10/02/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2 (e)	12/14/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2 (e)	03/24/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	09/29/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	12/28/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	03/29/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	07/07/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	10/18/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	02/01/95	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	ATI
QC-2 (e)	04/12/95	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (e)	09/13/95	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (e)	01/11/96	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (e)	04/18/96	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
QC-2 (e)	06/28/96	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
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
---	Not measured/applicable/analyzed
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ANA	Anametrix, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

NOTES:

- (a) Casing elevations surveyed to nearest 0.01 foot above mean sea level, with an assigned elevation of 22.82 feet (City datum).
- (b) Groundwater elevations in feet above mean sea level.
- (c) Blind duplicate.
- (d) A copy of the documentation for this data is included in Appendix C of Alisto report 10-050-07-004.
- (e) Travel blank.
- (f) EPA Methods 8020/8260 used

# **Analytical Appendix**



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

October 5, 1999

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

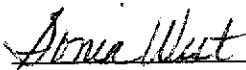
The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on September 28, 1999. The sample(s) was assigned to Certificate of Analysis No. (s) 9909881 and analyzed for all parameters as listed on the chain of custody.

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

  
\_\_\_\_\_  
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: 99-09-881

Approved for Release by:

Sonia West  
Sonia West, Senior Project Manager

10-5-99  
Date

Joel Grice  
Laboratory Director

Ted Yen  
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. H9-9909881-01

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

P.O.#  
 N/A, COC#118682  
 DATE: 10/04/99

PROJECT: #11266, 1541 Park St.  
 SITE: Alameda  
 SAMPLED BY: Blaine Tech Services  
 SAMPLE ID: A

PROJECT NO: 990923-P2  
 MATRIX: WATER  
 DATE SAMPLED: 09/23/99 11:13:00  
 DATE RECEIVED: 09/28/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	20	5.0 P	ug/L
BENZENE	ND	5.0 P	ug/L
TOLUENE	ND	5.0 P	ug/L
ETHYLBENZENE	ND	5.0 P	ug/L
TOTAL XYLENE	ND	5.0 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	ND		ug/L

<b>Surrogate</b>	<b>% Recovery</b>
1,4-Difluorobenzene	93
4-Bromofluorobenzene	100
Method 8020A ***	
Analyzed by: WLR	
Date: 10/01/99	

Gasoline Range Organics	ND	0.25 P	mg/L
-------------------------	----	--------	------

<b>Surrogate</b>	<b>% Recovery</b>
1,4-Difluorobenzene	87
4-Bromofluorobenzene	93
California LUFT Manual for Gasoline	
Analyzed by: WLR	
Date: 10/01/99 03:56:00	

(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. H9-9909881-03

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

P.O.#  
 N/A, COC#118682  
 DATE: 10/04/99

PROJECT: #11266, 1541 Park St.  
 SITE: Alameda  
 SAMPLED BY: Blaine Tech Services  
 SAMPLE ID: C

PROJECT NO: 990923-P2  
 MATRIX: WATER  
 DATE SAMPLED: 09/23/99 11:58:00  
 DATE RECEIVED: 09/28/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	640	5.0 P	ug/L
BENZENE	93	5.0 P	ug/L
TOLUENE	88	5.0 P	ug/L
ETHYLBENZENE	910	5.0 P	ug/L
TOTAL XYLENE	1900	5.0 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	2991		ug/L

Surrogate

% Recovery

1,4-Difluorobenzene

107

4-Bromofluorobenzene

127

Method 8020A \*\*\*

Analyzed by: WLR

Date: 10/01/99

Gasoline Range Organics

8.5

0.25 P

mg/L

Surrogate

% Recovery

1,4-Difluorobenzene

87

4-Bromofluorobenzene

93

California LUFT Manual for Gasoline

Analyzed by: WLR

Date: 10/01/99 04:58:00

(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.  
 SPL California License # 1903

*QUALITY CONTROL*

*DOCUMENTATION*





Matrix: Aqueous  
Units: ug/L

Batch Id: HP\_S990930092100

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	46	92.0	72 - 128
Benzene	ND	50	48	96.0	61 - 119
Toluene	ND	50	49	98.0	65 - 125
EthylBenzene	ND	50	49	98.0	70 - 118
O Xylene	ND	50	49	98.0	72 - 117
M & P Xylene	ND	100	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	1100	20	1100			
BENZENE	49	20	66	85.0	67	90.0	5.71	21	32 - 164
TOLUENE	ND	20	23	115	24	120	4.26	20	38 - 159
ETHYLBENZENE	ND	20	23	115	23	115	0	19	52 - 142
O XYLENE	ND	20	23	115	23	115	0	18	53 - 143
M & P XYLENE	ND	40	45	112	46	115	2.64	17	53 - 144

\* = 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)

Analyst: WLR

Sequence Date: 09/30/99

SPL ID of sample spiked: 9909882-03A

Sample File ID: S\_I4157.TX0

Method Blank File ID:

Blank Spike File ID: S\_I4136.TX0

Matrix Spike File ID: S\_I4152.TX0

Matrix Spike Duplicate File ID: S\_I4153.TX0

SAMPLES IN BATCH(SPL ID):

9909880-01A	9909880-02A	9909880-03A	9909880-04A
9909881-02A	9909881-03A	9909882-02A	9909882-04A
9909808-04A	9909819-03A	9909819-02A	9909819-04A
9909819-04A	9909882-01A	9909805-05A	



Matrix: Aqueous  
Units: ug/L

Batch Id: HP\_S991001093600

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	51	102	72 - 128
Benzene	ND	50	51	102	61 - 119
Toluene	ND	50	52	104	65 - 125
EthylBenzene	ND	50	51	102	70 - 118
O Xylene	ND	50	51	102	72 - 117
M & P Xylene	ND	100	100	100	72 - 116

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
			MTBE	2.6	20	23	102	23	102
BENZENE	ND	20	21	105	21	105	0	21	32 - 164
TOLUENE	7.9	20	28	100	26	90.5	9.97	20	38 - 159
ETHYLBENZENE	2.7	20	23	102	22	96.5	5.54	19	52 - 142
O XYLENE	2.8	20	23	101	22	96.0	5.08	18	53 - 143
M & P XYLENE	9.3	40	50	102	47	94.2	7.95	17	53 - 144

\* = 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)

Analyst: WLR

Sequence Date: 10/01/99

SPL ID of sample spiked: 9909885-01A

Sample File ID: S\_I4201.TX0

Method Blank File ID:

Blank Spike File ID: S\_I4184.TX0

Matrix Spike File ID: S\_I4196.TX0

Matrix Spike Duplicate File ID: S\_I4197.TX0

SAMPLES IN BATCH(SPL ID):

9909882-04A	9909882-05A	9909885-03A	9909885-05A
9909885-06A	9909885-07A	9909885-08A	9909883-05A
9909883-02A	9909885-02A	9909882-02A	9909883-01A
9909883-03A	9909885-01A	9909885-04A	9909881-01A



Matrix: Aqueous  
Units: mg/L

Batch Id: HP\_S990930102100

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	0.96	96.0	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	0.07	0.90	0.97	100	0.92	94.4

Analyst: WLR

Sequence Date: 09/30/99

SPL ID of sample spiked: 9909882-01A

Sample File ID: SSI4158.TX0

Method Blank File ID:

Blank Spike File ID: SSI4138.TX0

Matrix Spike File ID: SSI4154.TX0

Matrix Spike Duplicate File ID: SSI4155.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 =  $\{ (\langle 1 \rangle - \langle 2 \rangle) / \langle 3 \rangle \} \times 100$

LCS % Recovery =  $(\langle 1 \rangle / \langle 3 \rangle) \times 100$

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

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

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

SAMPLES IN BATCH(SPL ID):

9909819-03A 9909819-04A 9909880-01A 9909880-02A  
 9909880-03A 9909880-04A 9909881-01A 9909881-02A  
 9909881-03A 9909882-02A 9909882-04A 9909883-03A  
 9909882-03A 9909882-01A 9909819-02A

*CHAIN OF CUSTODY*  
*AND*  
*SAMPLE RECEIPT CHECKLIST*



9909881

# CHAIN OF CUSTODY

No. 118682

Page 1 of 1

CONSULTANT'S NAME <b>Blain Tech Services, Inc.</b>		CONSULTANT'S ADDRESS <b>1680 Rogers Ave., San Jose, CA 95112</b>	
BP SITE NUMBER <b>11266</b>	BP SITE / FACILITY ADDRESS <b>1541 Park St., Alameda</b>		CONSULTANT PROJECT NUMBER <b>990923-P2</b>
CONSULTANT PROJECT MANGER <b>Doug Sanders</b>		PHONE NUMBER <b>(408)573-0555 X218</b>	FAX NUMBER <b>(408)573-7771</b>
BP CONTACT <b>Scott Hooton</b>	BP ADDRESS <b>295 SW 41st St., Renton, WA</b>	PHONE NUMBER <b>(425)251-0689</b>	FAX NO. <b>(425)251-0736</b>
LAB CONTACT <b>SPL - Sonia West</b>	LABORATORY ADDRESS <b>P.O. Box 20807, Houston, TX</b>	PHONE NUMBER <b>(800)969-6775</b>	FAX NO. <b>(713)660-8975</b>
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 **8069 49045983**

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	TPH-C	BTEX	MTBE									COMMENTS
				NO.	TYPE (VOL.)													
<b>A A</b>	<b>0123</b>	<b>11:13</b>	<b>W</b>	<b>3</b>			<b>X</b>	<b>X</b>	<b>X</b>									
<b>B</b>	<b>↓</b>	<b>11:39</b>	<b>↓</b>	<b>↓</b>			<b>↓</b>	<b>↓</b>	<b>↓</b>									
<b>X C</b>	<b>↓</b>	<b>11:58</b>	<b>↓</b>	<b>↓</b>			<b>↓</b>	<b>↓</b>	<b>↓</b>									

SAMPLED BY (Please Print Name) <b>Paul Sanna</b>			SAMPLED BY (Signature) 			ADDITIONAL COMMENTS <b>3'c</b>		
RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY / AFFILIATION (Print Name / Signature)	DATE	TIME			
	<b>9/27/99</b>	<b>11:45 AM</b>						
				<b>9/28/99</b>	<b>1000</b>			

# SPL Houston Environmental Laboratory

## Sample Login Checklist

Date: <span style="font-size: 1.2em; margin-left: 20px;">9/28/99</span>	Time: <span style="font-size: 1.2em; margin-left: 20px;">1000</span>
---	--

SPL Sample ID: <div style="text-align: center; font-size: 1.5em; margin-top: 10px;">9909881</div>
--

		<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:	3°	C
10	Method of sample delivery to SPL:		
	SPL Delivery		
	Client Delivery		
	FedEx Delivery (airbill #)	806949045983	
	Other:		
11	Method of sample disposal:		
	SPL Disposal	✓	
	HOLD		
	Return to Client		

Name: <span style="font-size: 1.5em; margin-left: 20px;"><i>[Signature]</i></span>	Date: <span style="font-size: 1.2em; margin-left: 20px;">9/28/99</span>
--	---



## BP WELL MONITORING DATA SHEET

Project #: <u>990923-P2</u>	Job #: <u>11266</u>
Sampler: <u>PA-1</u>	Date: <u>9-23-99</u>
Well I.D.: <u>mw-1</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>22.81</u>	Depth to Water: <u>8.31</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
<u>2</u> "	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 Extraction Pump

Other: \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port

Other: \_\_\_\_\_

<u>2.3</u>	x	<u>3</u>	=	<u>6.9</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>11:46</u>	<u>70.2</u>	<u>7.0</u>	<u>896.</u>	/	<u>2.5</u>	
<u>11:49</u>	<u>69.6</u>	<u>7.0</u>	<u>843.</u>		<u>5.0</u>	
<u>11:52</u>	<u>69.4</u>	<u>6.9</u>	<u>826.</u>		<u>7.0</u>	

Did well dewater? Yes  No

Gallons actually evacuated: 7.0

Sampling Time: C

Sampling Date: 9-23-99

Sample I.D.: 11:58

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>990923-P2</u>	Station # <u>11266</u>
Sampler: <u>PA-1</u>	Date: <u>9-23-99</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>24.60</u>	Depth to Water: <u>8.52</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
<u>2"</u>	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: Bailer Disposable Bailer ✓ Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer ✓ Extraction Port Other: _____
--	---

<u>2.5</u>	X	<u>3</u>	=	<u>7.5</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>11:24</u>	<u>70.2</u>	<u>6.7</u>	<u>620</u>	<u>2.5</u>	
<u>11:28</u>	<u>70.0</u>	<u>6.8</u>	<u>630</u>	<u>5.0</u>	
<u>11:32</u>	<u>69.8</u>	<u>6.8</u>	<u>640</u>	<u>7.5</u>	

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Gallons actually evacuated: <u>7.5</u>
Sampling Time: <u>11:39</u>	Sampling Date: <u>9-23-99</u>
Sample I.D. (Blind): <u>B</u>	Laboratory: <u>SPL</u> Other _____
Analyzed for: <u>TPH-G BTEX 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 #: 990923-P2	Job #: 11266
Sampler: Paul	Date: 9-23-99
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8
Total Well Depth: 18.61	Depth to Water: 7.79
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC 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 <sup>2</sup> * 0.163

Purge Method: Bailer Disposable Bailer ✓ Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer ✓ Extraction Port Other: _____
--	---

1.7	x	3	=	5.1	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
11:03	69.8	7.0	869.	/	2	
11:05	69.4	6.9	854.		4	
11:07	69.2	6.9	823.		6	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 6
Sampling Time: 11:13	Sampling Date: 9-23-99
Sample I.D.: A	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