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 24, 1999

Alameda County Health Care Services Agency
Attention Ms. Juliet Shin - Hazardous Materials Specialist
1131 Harbor Bay Parkway, STE 250
Alameda, CA 94502-6577

RE: Former BP Oil Site No. 11102
100 McArthur Boulevard (at Oakland)
Oakland, CA

Dear Ms. Shin:

This transmits the *First Quarter 1999 Groundwater Monitoring* report prepared by Blaine Tech Services on behalf of BP. The report summarizes chemical data obtained since 1989, including results associated with samples recently collected on 9 March 1999. Confirming our discussions on 16 March 1999 the following work is underway:

- Sampling wells MW-1 and MW-2 for chlorinated solvents by US EPA Method 8010
- Sampling wells MW-1 and MW-2 for TPH as diesel
- Sampling wells MW-1 and MW-2 for MTBE and other oxygenates by US EPA Method 8260B
- Performing slug tests on all of the monitoring wells to measure hydraulic conductivity and estimate the horizontal rate of groundwater migration
- Identify, locate and map onsite and offsite utilities to assess the potential preferential migration pathways

The site is currently sampled on a semi-annual basis with work performed during March and September. I have asked Blaine Tech to obtain additional samples for 8010, 8260 and TPH as diesel testing during the September sampling event.

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

Sincerely,

Scott Hooton

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

BLAINE
TECH SERVICES INC

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

April 21, 1999

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

1st Quarter 1999 Monitoring at 11102

First Quarter 1999 Groundwater Monitoring
BP Service Station Number 11102
100 MacArthur Blvd.
Oakland, CA

Monitoring Performed on March 9, 1999

Groundwater Sampling Report **990309-G-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.

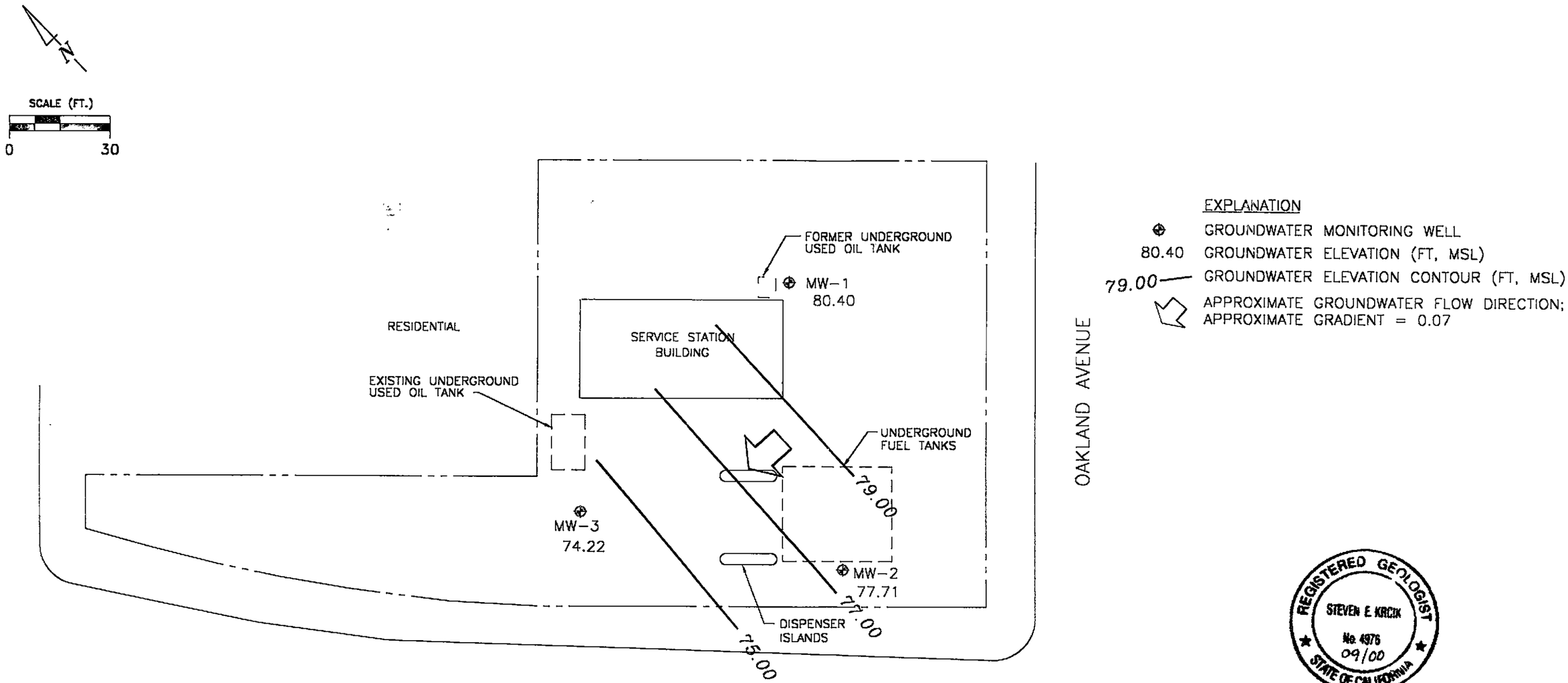
Yours truly,

Francis Thie
Vice President

FPT/ld

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

Professional Engineering Appendix



REGISTERED GEOLOGIST
STEVEN E. KRCIK
No. 4976
09/00
STATE OF CALIFORNIA

Ref. 11102bm.dwg
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

GROUNDWATER ELEVATION CONTOUR MAP, MARCH 9, 1999

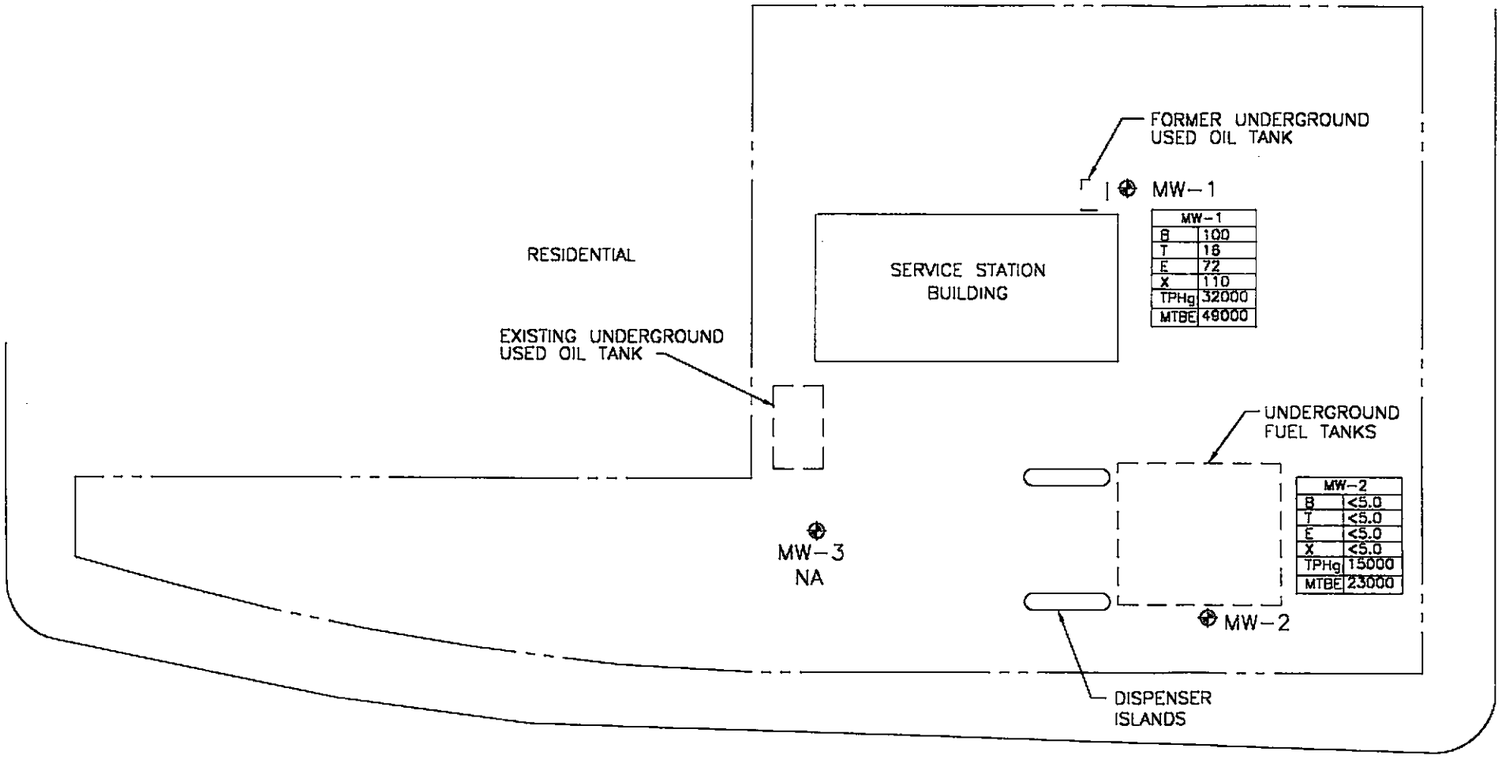
BP Oil Service Station No. 11102
100 MacArthur Boulevard
Oakland, California

FIGURE:
1
PROJECT:
DAC04

N

SCALE (FT.)

0 30



MACARTHUR BOULEVARD

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
NA	DATA NOT AVAILABLE

Ref. 11102tex.dwg
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

HYDROCARBON CONCENTRATION MAP, MARCH 9, 1999

BP Oil Service Station No. 11102
100 MacArthur Boulevard
Oakland, California

FIGURE: 2
PROJECT: DAC04

Table of
Well Data and
Analytical Results

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
MW-1	11/04/89	90.20	13.21	76.99	ND<500	ND<50	3.4	0.6	ND<0.3	ND<0.3	---	ND<5000	---	0.9	---	---	SAL
MW-1	11/11/89	90.20	13.32	76.88	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	04/03/90	90.20	12.46	77.74	820	---	64	1.9	23	34	---	---	---	---	---	---	ANA
MW-1	07/30/90	90.20	12.92	77.28	190	ND<50	11	ND<5.0	ND<5.0	ND<5.0	---	ND<5000	---	ND	---	---	ANA
MW-1	11/20/90	90.20	14.08	76.12	50	79	2.4	ND<0.3	ND<0.3	ND<0.3	---	ND<5000	---	4.0	---	---	SAL
MW-1	03/01/91	90.20	13.61	76.59	ND<100	ND<1000	0.9	ND<0.3	ND<0.3	0.3	---	14000	---	ND	---	---	SAL
MW-1	08/19/91	90.20	15.74	74.46	370	ND<50	35	0.73	6.4	5.6	---	ND<5000	---	1.4	---	---	SEQ
MW-1	11/13/91	90.20	14.08	76.12	60	ND<50	0.68	ND<0.3	ND<0.3	ND<0.3	---	ND<5000	---	1.0	---	---	SEQ
MW-1	02/24/92	90.20	12.52	77.68	140	100	3.9	0.66	1.2	3.8	---	ND<5000	---	1.7	---	---	SEQ
MW-1	05/19/92	90.20	11.8	78.40	4200	910	440	21	250	37	---	ND<5000	---	ND	---	---	SEQ
MW-1	06/17/92	90.20	12.01	78.19	4000	560	350	14	150	17	---	ND<5000	---	ND	---	---	SEQ
MW-1	07/22/92	90.20	12.42	77.78	4000	---	ND<5.0	19	210	61	---	---	---	---	---	---	ANA
MW-1	08/14/92	90.20	12.75	77.45	2400	1700	330	20	150	47	---	ND<5000	---	ND<2.5	---	---	SEQ
MW-1	11/11/92	90.20	13.69	76.51	260	92	30	3.4	7.6	6.8	---	ND<5000	---	ND<2.5	---	---	ANA
MW-1	06/07/93	90.20	10.93	79.27	3400	440	98	11	21	7.6	---	---	6.2	0.9	---	---	PACE
QC-1 (c)	06/07/93	---	---	---	3700	---	120	12	26	9.5	---	---	---	---	---	---	PACE
MW-1	12/02/93	90.20	12.72	77.48	1100	120	8.3	3.6	0.6	1.5	---	ND<5000	2.6	1.8	---	---	PACE
MW-1	06/22/94	90.20	11.81	78.39	2100	ND<50	32	3.8	2.2	17	4000 (d)	ND<5000	2.3	3.3	---	3.2	PACE
QC-1 (c)	06/22/94	---	---	---	2100	---	30	3.2	2.0	15	2000 (d)	---	---	---	---	---	PACE
MW-1	01/10/95	90.20	10.97	79.23	ND<500	420	120	ND<5	ND<5	ND<10	---	---	ND<1	1	---	3.9	ATI
QC-1 (c)	01/10/95	---	---	---	ND<500	---	120	ND<5	5	ND<10	---	---	---	---	---	---	ATI
MW-1	06/21/95	90.20	9.38	80.82	4700	1300	16	ND<5.0	ND<5.0	ND<10	---	2900	2.0	0.38	0.6 (e)	6.7	ATI
QC-1 (c)	06/21/95	---	---	---	3600	---	ND<13	ND<5.0	ND<5.0	ND<10	---	---	---	---	---	---	ATI
MW-1	12/27/95	90.20	11.55	78.65	430	2100	ND<2.5	ND<2.5	ND<2.5	ND<5.0	1200	640	0.67	ND<0.20	---	6.3	ATI
MW-1	06/13/96	90.20	9.28	80.92	3200	920	51	ND<12	ND<12	ND<12	4000	2000	---	---	---	6.3	SPL
MW-1	12/04/96	90.20	11.91	78.29	1400	280	6.2	ND<5	ND<5	ND<5	2600	2000	ND<5.0	ND<5.0	6.0 (f)	6.7	SPL
MW-1	06/10/97	90.20	8.97	81.23	7900	1700	12	ND<10	ND<10	ND<10	15000	ND<5	ND<250	ND<250	ND	6.0	SPL
QC-1 (c)	06/10/97	---	---	---	7700	---	14	ND<25	ND<25	ND<25	13000	---	---	---	---	---	SPL
MW-1	12/12/97	90.20	11.37	78.83	440	760	8.8	ND<1.0	2.6	9.4	6700	1200	ND<1.0	ND<1.0	ND	5.5	SPL
MW-1	06/18/98	90.20	8.02	82.18	7500	2900	ND<2.5	ND<5.0	ND<5.0	ND<5.0	5600	ND<5	ND<5.0	ND<5.0	ND	4.9	SPL
MW-1	03/09/99	90.20	9.80	80.40	32000	---	100	16	72	110	49000	---	---	---	---	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
MW-2	11/04/89	87.91	15.84	72.07	ND<500	---	6.5	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-2	11/11/89	87.91	14.75	73.16	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	04/03/90	87.91	15.25	72.66	ND<500	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-2	07/30/90	87.91	15.59	72.32	61	---	6.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-2	11/20/90	87.91	17.81	70.10	ND<50	---	0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-2	03/01/91	87.91	17.11	70.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	---	4.0	---	---	SAL
MW-2	08/19/91	87.91	17.97	69.94	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-2	11/13/91	87.91	16.76	71.15	38	---	0.32	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-2	02/24/92	87.91	15.07	72.84	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.58	---	---	---	16	---	---	SEQ
MW-2	05/19/92	87.91	14.7	73.21	ND<50	---	0.55	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SEQ
MW-2	07/22/92	87.91	15.6	72.31	90	---	1.3	0.6	0.9	1.9	---	---	---	---	---	---	ANA
MW-2	08/14/92	87.91	15.88	72.03	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	11/11/92	87.91	16.19	71.72	52	---	2.8	ND<0.5	ND<0.5	0.9	---	---	---	---	---	---	ANA
QC-1 (c)	11/11/92	---	---	---	65	---	3.2	ND<0.5	ND<0.5	1.0	---	---	---	---	---	---	ANA
MW-2	06/07/93	87.91	14.42	73.49	1200	---	14	2.8	1.9	1.7	---	---	---	---	---	---	PACE
MW-2	12/02/93	87.91	14.94	72.97	790	---	3.4	0.5	10	ND<0.5	3700 (d)	---	---	---	---	---	PACE
QC-1 (c)	12/02/93	---	---	---	2100	---	32	3.8	2.2	17	3700 (d)	---	2.3	---	---	---	PACE
MW-2	06/22/94	87.91	14.25	73.66	110	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	120 (d)	---	---	---	---	3.9	PACE
MW-2	01/10/95	87.91	13.64	74.27	ND<50	---	ND<0.5	ND<0.5	0.6	1	---	---	---	---	---	4.3	ATI
MW-2	06/21/95	87.91	11.66	76.25	4700	---	ND<10	ND<10	ND<10	ND<20	---	---	---	---	---	7.8	ATI
MW-2	12/27/95	87.91	13.11	74.80	6100	---	ND<25	ND<25	ND<25	ND<50	20000	---	---	---	---	6.7	ATI
QC-1 (c)	12/27/95	---	---	---	6300	---	ND<25	ND<25	ND<25	ND<50	19000	---	---	---	---	---	ATI
MW-2	06/13/96	87.91	10.86	77.05	8300	---	ND<2.5	ND<2.5	ND<2.5	ND<2.5	13000	---	---	---	---	6.5	SPL
QC-1 (c)	06/13/96	---	---	---	8700	---	ND<5	ND<5	ND<5	ND<5	13000	---	---	---	---	---	SPL
MW-2	12/04/96	87.91	13.03	74.88	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	6.3	SPL
QC-1 (c)	12/04/96	---	---	---	5900	---	ND<2.5	ND<5	ND<5	ND<5	11000	---	---	---	---	---	SPL
MW-2	06/10/97	87.91	10.04	77.87	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.8	SPL
MW-2	12/12/97	87.91	12.44	75.47	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.7	SPL
MW-2	06/18/98	87.91	8.89	79.02	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.3	SPL
QC-1 (c)	06/18/98	---	---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	SPL
MW-2	03/09/99	87.91	10.20	77.71	15000	---	ND<5.0	ND<5.0	ND<5.0	ND<5.0	23000	---	---	---	---	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
MW-3	11/04/89	87.02	15.4	71.62	ND<500	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SAL
MW-3	11/11/89	87.02	14.1	72.92	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	04/03/90	87.02	13.90	73.12	ND<100	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
MW-3	07/30/90	87.02	13.77	73.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ND<5000	---	---	---	---	ANA
MW-3	11/20/90	87.02	14.67	72.35	ND<50	---	0.3	0.8	0.4	1.5	---	---	---	---	---	---	SAL
MW-3	03/01/91	87.02	15.22	71.80	ND<100	---	0.4	ND<0.3	ND<0.3	ND<0.3	---	---	---	ND	---	---	SAL
MW-3	08/19/91	87.02	13.15	73.87	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-3	11/13/91	87.02	15.66	71.36	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---	---	---	SEQ
MW-3	02/24/92	87.02	15.01	72.01	ND<50	---	0.65	1.4	0.66	4.4	---	---	---	ND	---	---	SEQ
MW-3	05/19/92	87.02	15.52	71.50	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	SEQ
MW-3	07/22/92	87.02	15.63	71.39	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ND<5000	---	ND<0.50	---	---	ANA
MW-3	08/14/92	87.02	13.57	73.45	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	11/11/92	87.02	14.13	72.89	ND<50	---	ND<0.5	0.7	ND<0.5	1.3	---	---	---	---	---	---	ANA
MW-3	06/07/93	87.02	12.13	74.89	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
MW-3	12/02/93	87.02	13.29	73.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
MW-3	06/22/94	87.02	12.78	74.24	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	2.9	PACE
MW-3	01/10/95	87.02	12.01	75.01	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	1	---	3.8	ATI
MW-3	06/21/95	87.02	11.57	75.45	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	7.4	ATI
MW-3	12/27/95	87.02	13.47	73.55	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	5.7	---	---	---	---	7.3	ATI
MW-3	06/13/96	87.02	11.22	75.80	60	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	---	---	6.8	SPL
MW-3	12/04/96	87.02	13.28	73.74	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	---	---	6.7	SPL
MW-3	06/10/97	87.02	10.22	76.80	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	6.1	SPL
MW-3	12/12/97	87.02	12.61	74.41	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.6	SPL
QC-1 (c)	12/12/97	---	---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	---	SPL
MW-3	06/18/98	87.02	9.07	77.95	50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	---	---	5.3	SPL
MW-3	06/18/98	87.02	12.80	74.22	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER RESULTS

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	HVOC's (ug/l)	DO (ppm)	LAB
QC-2 (g)	11/11/92	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	ANA
QC-2 (g)	06/07/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	12/02/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	06/22/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	---	---	PACE
QC-2 (g)	01/10/95	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	---	---	ATI
QC-2 (g)	06/21/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	---	---	ATI
QC-2 (g)	12/27/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	---	---	---	ATI
QC-2 (g)	06/13/96	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	---	---	---	SPL

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
1,1-DCA	1,1-Dichloroethane
1,2-DCA	1,2-Dichloroethane
HVOC's	Halogenated volatile organic compounds
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/measured/applicable
SAL	Superior Analytical Laboratory
ANA	Anametrix, inc.
SEQ	Sequoia Analytical Laboratory
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

(a) Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.

(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 10-076-06-002.

(e) Tetrachloroethene.

(f) Trans-1,2-Dichloroethene

(g) Travel blank.

Analytical Appendix

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

March 23, 1999

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

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on March 12, 1999. The sample(s) was assigned to Certificate of Analysis No. (s) 9903541 and analyzed for all parameters as listed on the chain of custody.

On March 19, 1999, Doug Sanders with Blaine Tech Services requested that Volatile Organics including Fuel Oxygenates by method 8260 be added to your samples A & B. Due to insufficient sample volume the analyses could not be performed. Doug Sanders was notified of the insufficient sample volume.

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: 99-03-541

Approved for Release by:

Sonia West
Sonia West, Senior Project Manager

3-23-99
Date

Greg Grandits
Laboratory Director

Idelis Williams
Corporate Quality Assurance Director

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

Certificate of Analysis No. H9-9903541-01

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

P.O.# N/A, COC#118683
DATE: 03/22/99

PROJECT: #11102, 100 McArthur Blvd
SITE: Oakland, CA
SAMPLED BY: Blaine Tech Services
SAMPLE ID: A

PROJECT NO: 990309-G2
MATRIX: WATER
DATE SAMPLED: 03/09/99 12:52:00
DATE RECEIVED: 03/12/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	23000	250 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
Surrogate	**% Recovery**		
1,4-Difluorobenzene	109		
4-Bromofluorobenzene	95		
Method 8020A ***			
Analyzed by: DR			
Date: 03/19/99			
Gasoline Range Organics	15	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	427MI		
4-Bromofluorobenzene	93		
California LUFT Manual for Gasoline			
Analyzed by: DR			
Date: 03/17/99 20:25:00			

(P) - Practical Quantitation Limit ND - Not detected.
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.
SPL California License # 1903

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

Certificate of Analysis No. H9-9903541-02

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

P.O.# N/A, COC#118683
DATE: 03/22/99

PROJECT: #11102, 100 McArthur Blvd
SITE: Oakland, CA
SAMPLED BY: Blaine Tech Services
SAMPLE ID: B

PROJECT NO: 990309-G2
MATRIX: WATER
DATE SAMPLED: 03/09/99 13:11:00
DATE RECEIVED: 03/12/99

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	49000	500 P	ug/L
BENZENE	100	10 P	ug/L
TOLUENE	16	10 P	ug/L
ETHYLBENZENE	72	10 P	ug/L
TOTAL XYLENE	110	10 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS	298		ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	93		
Method 8020A ***			
Analyzed by: DR			
Date: 03/19/99			
Gasoline Range Organics	32	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	180MI		
4-Bromofluorobenzene	100		
California LUFT Manual for Gasoline			
Analyzed by: DR			
Date: 03/18/99 00:15:00			

(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.
SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Matrix: Aqueous
Units: ug/L

Batch Id: HP_S990319102100

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	42	84.0	72 - 128
Benzene	ND	50	43	86.0	61 - 119
Toluene	ND	50	46	92.0	65 - 125
EthylBenzene	ND	50	43	86.0	70 - 118
O Xylene	ND	50	45	90.0	72 - 117
M & P Xylene	ND	100	92	92.0	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	1.8	20	22	101	24	111	9.43	20	39 - 150
BENZENE	ND	20	20	100	20	100	0	21	32 - 164
TOLUENE	ND	20	20	100	20	100	0	20	38 - 159
ETHYLBENZENE	ND	20	20	100	20	100	0	19	52 - 142
O XYLENE	ND	20	20	100	20	100	0	18	53 - 143
M & P XYLENE	ND	40	41	102	41	102	0	17	53 - 144

Analyst: DR
Sequence Date: 03/19/99
SPL ID of sample spiked: 9903572-06A
Sample File ID: S_C3155.TX0
Method Blank File ID:
Blank Spike File ID: S_C3148.TX0
Matrix Spike File ID: S_C3150.TX0
Matrix Spike Duplicate File ID: S_C3151.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):

9903541-01A 9903541-02A 9903547-01A 9903547-06A
9903572-05A 9903574-02A 9903573-01A 9903573-03A
9903573-04A 9903573-05A 9903573-07A 9903573-08A
9903573-09A 9903574-01A 9903572-06A 9903573-06A
9903547-03A 9903547-04A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Matrix: Aqueous

Batch Id: HP_S990317101800

Units: mg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	0.94	94.0	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	1.2	0.90	2.0	88.9	2.2	111	22.1	36	36 - 160

Analyst: DR

Sequence Date: 03/17/99

SPL ID of sample spiked: 9903547-01A

Sample File ID: SSC3078.TX0

Method Blank File ID:

Blank Spike File ID: SSC3074.TX0

Matrix Spike File ID: SSC3075.TX0

Matrix Spike Duplicate File ID: SSC3076.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):

9903547-02A 9903547-03A 9903547-05A 9903547-06A
9903572-01A 9903572-02A 9903547-04A 9903547-01A
9903541-01A 9903541-02A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9903541 BAF

CHAIN OF CUSTODY

No. 118683

Page 1 of 1

CONSULTANT'S NAME	CONSULTANT'S ADDRESS		
Blaine Tech Services	1680 Rogers Ave., San Jose, CA		
BP SITE NUMBER	**BP SITE / FACILITY ADDRESS**		**CONSULTANT PROJECT NUMBER**
11102	100 McArthur Blvd., Oakland, CA		990309-G2
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

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-D	BTEX	MTBE	COMMENTS
1 A	3/9/99	1252	water	3	VOAs		X	X		
1 B	"	1311	"	"	"		X	X		

SAMPLED BY (Please Print Name): Morgan Gillies

SAMPLED BY (Signature):

ADDITIONAL COMMENTS: 2°

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY /AFFILIATION (Print Name / Signature)	DATE	TIME
Morgan Gillies	3/11/99	1540			
			Donna Stelly	3/12/99	1000

CLV-16722-A (2/97)
PKG/50

DISTRIBUTION: WHITE - ORIGINAL (WITH DATA) YELLOW - BP PINK - LAB BLUE - CONSULTANT FIELD STAFF

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 3/12/99	Time: 1000

SPL Sample ID: 9903541

			Yes	No
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:		2° C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	804039490154	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name: Mockrum	Date: 3/12/99

Field
Data
Sheets

WELL GAUGING DATA

Project # 990309-6Z Date 3/9/99 Client BP 11102

Site 100 McArthur Blvd., Oakland, CA

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	4					9.80	32.00	TOC	
MW-2	4					10.20	32.35	✓	
MW-3	4					12.80	32.50	✓	

WELL MONITORING DATA SHEET

Project #: 990309-62	Client: BP 11102
Sampler: MB	Start Date: 3/9/99
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 32.00	Depth to Water: 9.80
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer / Disposable Bailer / Middleburg / ~~Electric Submersible~~ / Extraction Pump / Other: _____

Sampling Method: Bailer / ~~Disposable Bailer~~ / Extraction Port / Other: _____

14.4 (Gals.) X 3 = 43.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1300	66.0	6.7	910	107	15	Odor
1302	66.4	6.6	900	81	30	↓
1304	66.5	6.6	870	59	45	↓

Did well dewater? Yes (No)	Gallons actually evacuated: 45
Sampling Time: 1311	Sampling Date: 3/9/99
Sample I.D.: B	Laboratory: SPL
Analyzed for: ~~TPH-G~~ ~~BTEX~~ ~~MTBE~~ TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:

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

WELL MONITORING DATA SHEET

Project #: 990309-62	Client: 11102
Sampler: MC	Start Date: 3/9/99
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 32.35	Depth to Water: 10.20
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer / Disposable Bailer / Middleburg / ~~Electric Submersible~~ / Extraction Pump / Other: ___

Sampling Method: Bailer / ~~Disposable Bailer~~ / Extraction Port / Other: ___

14.4 (Gals.) X 3 = 43.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1243	64.9	8.1	570	>200	15	
1245	65.7	8.0	500	>200	30	
1247	65.6	7.9	480	>200	45	

Did well dewater? Yes (No) Gallons actually evacuated: 45

Sampling Time: 1252 Sampling Date: 3/9/99

Sample I.D.: A Laboratory: SPL

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

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

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