**BP OIL**

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

January 8, 1999

Alameda County Health Care Services Agency
Attention Mr. Scott Seery
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

RE: Former BP Oil Site No. 11105
3159 Castro Valley Boulevard (at Redwood)
Castro Valley, CA

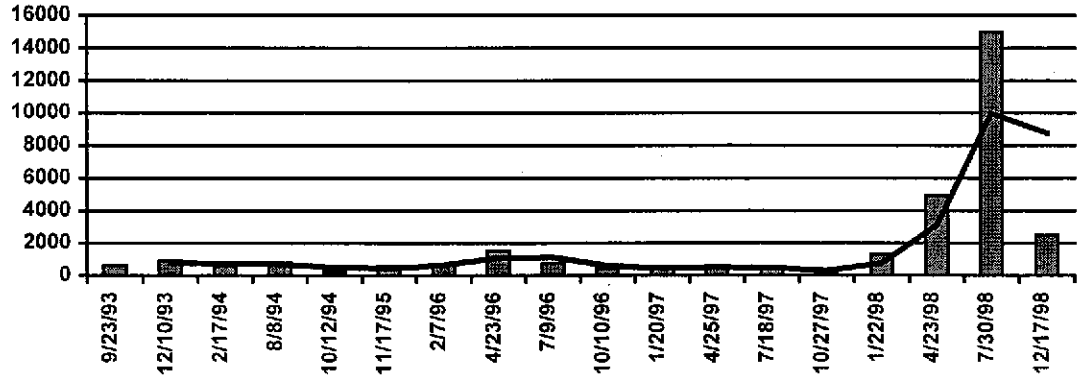
Dear Mr. Seery:

Enclosed find the 5 April 1999 report documenting groundwater monitoring data associated with 17 December 1998.

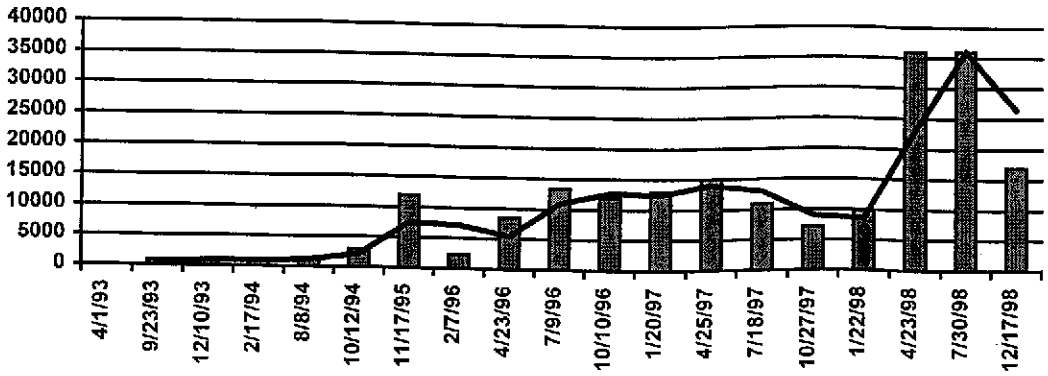
It is noted that petroleum hydrocarbons were reported to be present in the soil and groundwater at this site at the time the property was sold during 1994. Concentrations detected since that time have increased and raise the concern that petroleum releases have occurred subsequent to BP's operation of the facility.

To illustrate the basis for our concern, MTBE concentration data for the two monitoring wells located nearest the underground storage tanks are depicted below. An averaging trend line has been added to the graphs.

**ESE-1 MTBE Concentration Data**



**ESE-2 MTBE Concentration Data**




These data clearly show MTBE concentration increases in groundwater after BP sold the site in 1994.

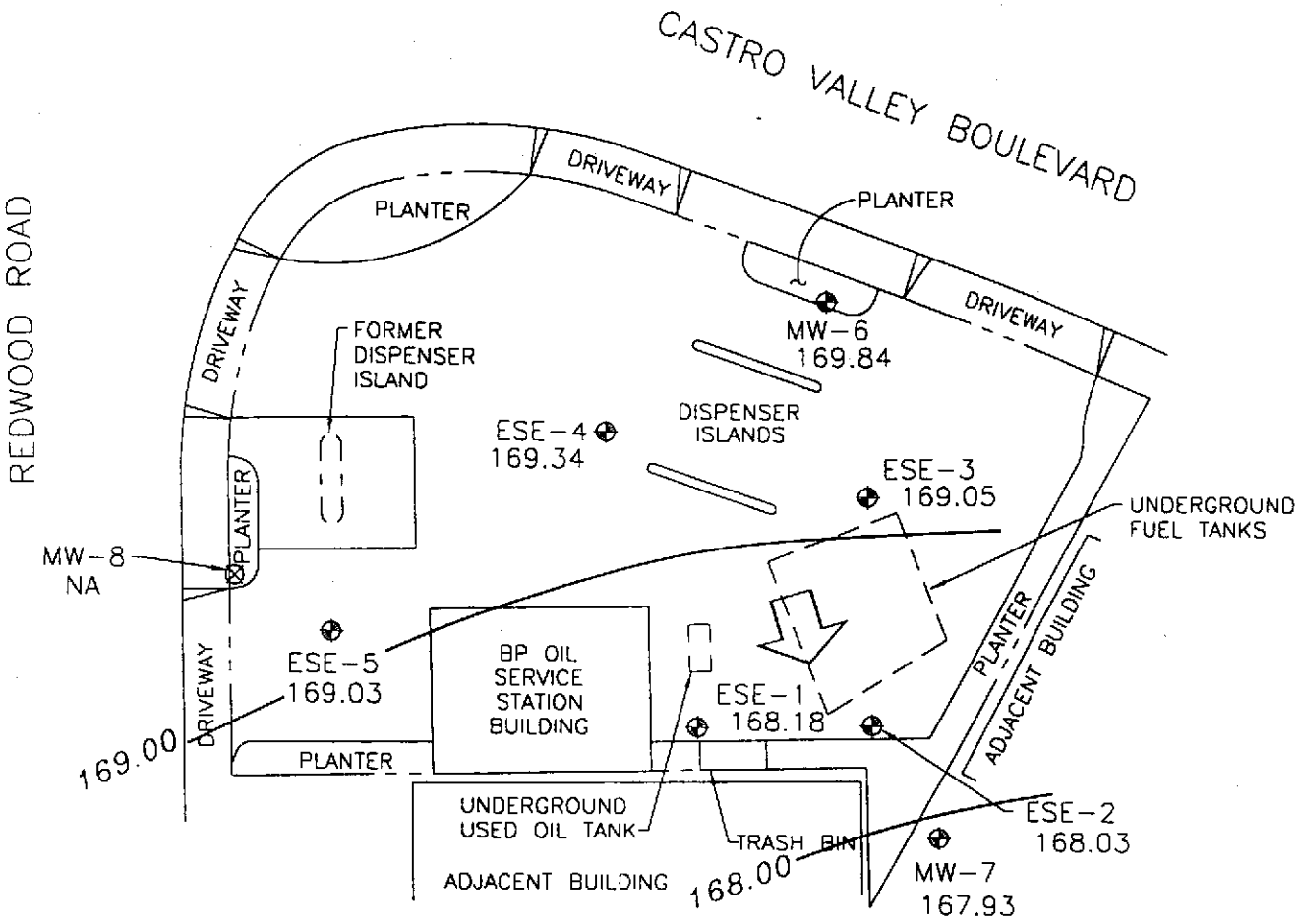
Please contact me at (425) 251-0689 if you have any questions or concerns regarding this submittal.

Sincerely,

Scott Hooton

attachment

cc: site file
A. Fagorala - RWQCB-SFBR
Mr. Azim Shakoori, Castro Valley Chevron, 3519 Castro Valley Boulevard, Castro Valley, CA 94546 (w/attachment)




WELL

T, MSL)
ONTOUR (FT, MSL)

R FLOW DIRECTION;
.01

PREPARED BY

RRM

engineering contracting firm

GROUNDWATER ELEVATION CONTOUR M
DECEMBER 17, 1998

BP Oil Service Station No. 11105
3519 Castro Valley Boulevard
Castro Valley, California

BLAINE
TECH SERVICES inc.

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

April 5, 1999

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

**4th Quarter 1998 Monitoring at 11105**

Fourth Quarter 1998 Groundwater Monitoring at
BP Service Station Number 11105
3519 Castro Valley Blvd.
Castro Valley, CA

Monitoring Performed on December 17, 1998

Groundwater Sampling Report **981217-Z-3**

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 table also contains new groundwater elevation calculations taken from the computer plotted gradient map which is located in the **Professional Engineering Appendix**.

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.

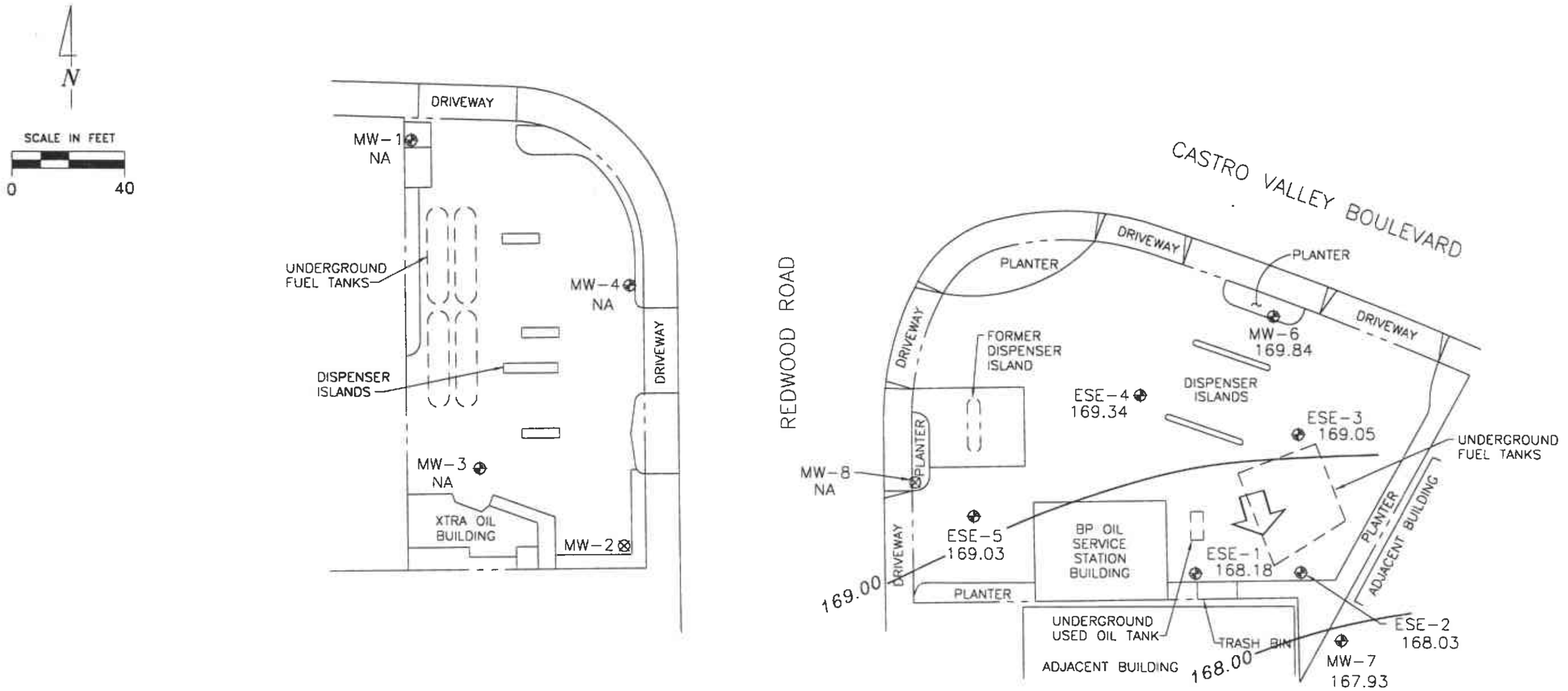
Yours truly,

Francis Thie
Vice President

FPT/ck

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

# Professional Engineering Appendix




EXPLANATION

- ⊕ GROUNDWATER MONITORING WELL
- ⊗ DESTROYED WELL
- 168.18 GROUNDWATER ELEVATION (FT, MSL)
- 168.00 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
- NA DATA NOT AVAILABLE
- ⇩ APPROXIMATE GROUNDWATER FLOW DIRECTION; APPROXIMATE GRADIENT = 0.01

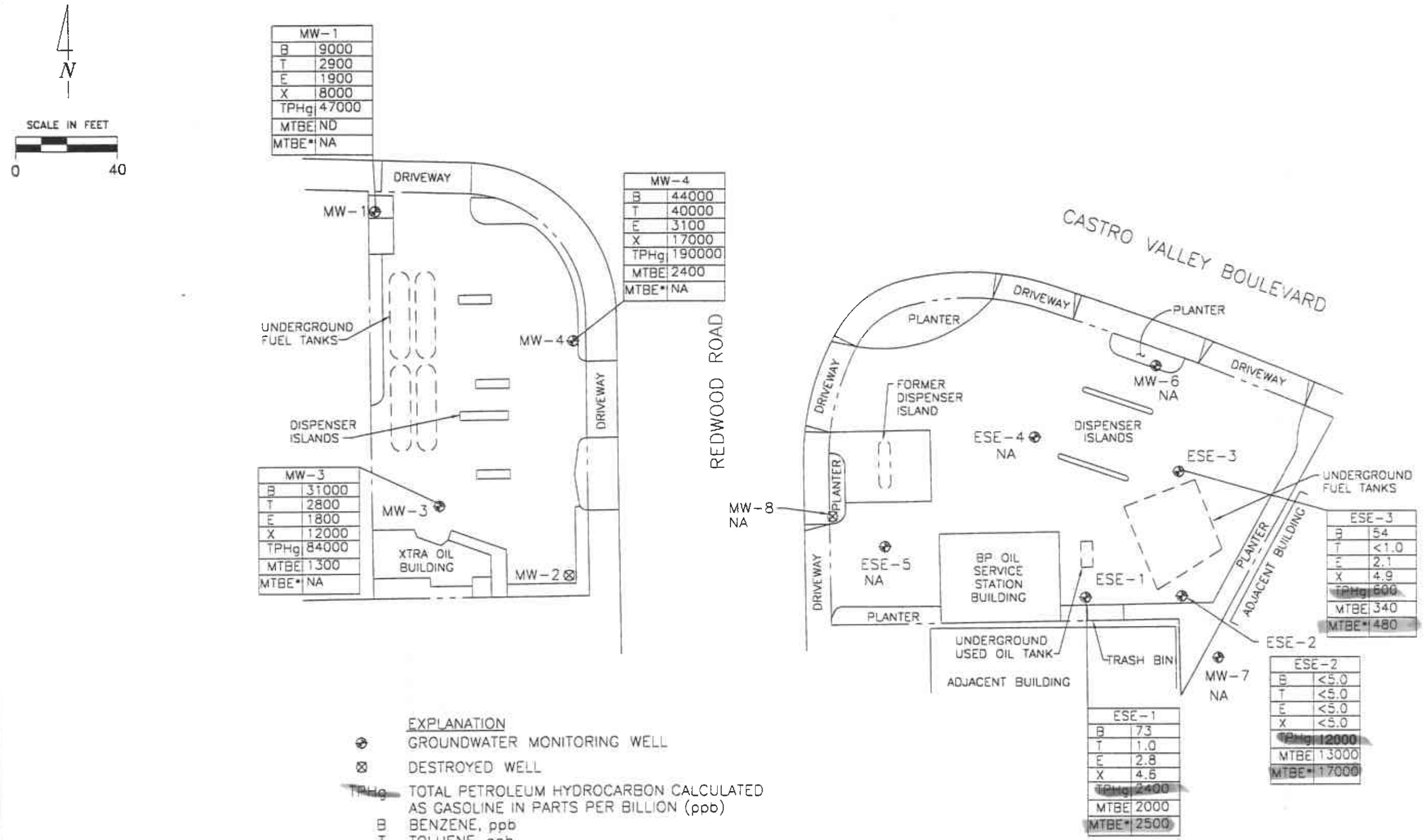
Ref. 11105bm1.dwg
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

**GROUNDWATER ELEVATION CONTOUR MAP, DECEMBER 17, 1998**

**BP Oil Service Station No. 11105**
3519 Castro Valley Boulevard
Castro Valley, California

FIGURE:
1
PROJECT:
DAC04




EXPLANATION

| | |
|---|---|
| ⊕ | GROUNDWATER MONITORING WELL |
| ⊗ | DESTROYED 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. 11105btex.dwg
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

HYDROCARBON CONCENTRATION MAP,
DECEMBER 17, 1998 & JANUARY 29, 1999

BP Oil Service Station No. 11105
3519 Castro Valley Boulevard
Castro Valley, California

FIGURE:
2
PROJECT:
DAC04

# Table of
# Well Data and
# Analytical Results

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ESE-1 (c) | 10/05/92 | 177.69 | 11.22 | 166.47 | 2100 | 370 | 150 | 17 | 110 | --- | --- | --- |
| ESE-1D (d) | 10/05/92 | --- | --- | --- | 2300 | 370 | 160 | 16 | 110 | --- | --- | --- |
| ESE-1 | 04/01/93 | 177.69 | 8.79 | 168.90 | 5900 | 1500 | 410 | 110 | 390 | --- | --- | PACE |
| ESE-1 | 06/29/93 | 177.69 | 10.34 | 167.35 | 7600 | 2900 | 390 | 130 | 460 | --- | --- | PACE |
| ESE-1 | 09/23/93 | 177.69 | 10.91 | 166.78 | 2000 | 490 | 40 | 20 | 56 | 600 (e) | --- | PACE |
| QC-1 (d) | 09/23/93 | --- | --- | --- | 1500 | 420 | 39 | 19 | 56 | 550 (e) | --- | PACE |
| ESE-1 | 12/10/93 | 177.69 | 9.93 | 167.76 | 1800 | 480 | 42 | 19 | 66 | 921 (e) | 3.2 | PACE |
| QC-1 (d) | 12/10/93 | --- | --- | --- | 1500 | 380 | 38 | 17 | 55 | 770 (e) | --- | PACE |
| ESE-1 | 02/17/94 | 177.69 | 9.64 | 168.05 | 1900 | 380 | 48 | 24 | 80 | 590 (e) | --- | PACE |
| QC-1 (d) | 02/17/94 | --- | --- | --- | 2200 | 430 | 42 | 19 | 65 | 680 (e) | --- | PACE |
| ESE-1 | 08/08/94 | 177.69 | 11.72 | 165.97 | 2100 | 450 | 46 | 16 | 50 | 760 (e) | 5.1 | PACE |
| ESE-1 | 10/12/94 | 177.69 | 10.48 | 167.21 | 760 | 240 | 16 | 51 | 39 | 230 (e) | 3.5 | PACE |
| ESE-1 | 01/19/95 | 177.69 | 7.77 | 169.92 | 840 | 600 | 120 | 22 | 58 | --- | 8.0 | ATI |
| ESE-1 | 05/02/95 | 177.69 | 8.69 | 169.00 | 2000 | 640 | 67 | 24 | 98 | --- | 8.5 | ATI |
| ESE-1 | 07/28/95 | 177.69 | 10.12 | 167.57 | 190 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | --- | 7.9 | ATI |
| ESE-1 | 11/17/95 | 177.69 | 10.57 | 167.12 | 200 | 3.4 | ND<1.0 | 1 | ND<2.0 | 600 | 7.7 | ATI |
| ESE-1 | 02/07/96 | 177.69 | 7.41 | 170.28 | 750 | 370 | 23 | 21 | 64 | 680 | 2.5 | SPL |
| ESE-1 | 04/23/96 | 177.69 | 9.12 | 168.57 | 310 | 100 | ND<1 | ND<1 | ND<1 | 1500 | 6.3 | SPL |
| ESE-1 | 07/09/96 | 177.69 | 10.12 | 167.57 | 730 | 230 | 74 | 13 | 63 | 750 | 2.9 | SPL |
| ESE-1 | 10/10/96 | 177.69 | 10.8 | 166.89 | 420 | 26 | 1.6 | 7.3 | 12 | 430 | 7.4 | SPL |
| ESE-1 | 01/20/97 | 177.69 | 8.52 | 169.17 | 660 | 290 | 4.2 | 13 | 36 | 450 | 5.9 | SPL |
| ESE-1 | 04/25/97 | 177.69 | 9.77 | 167.92 | 410 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 580 | 5.3 | SPL |
| ESE-1 | 07/18/97 | 177.69 | 10.55 | 167.14 | 420 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 370 | 5.0 | SPL |
| ESE-1 | 10/27/97 | 177.69 | 10.36 | 167.33 | 300 | 56 | ND<1.0 | 6.5 | ND<1.0 | 220 | 4.8 | SPL |
| ESE-1 | 01/22/98 | 177.69 | 7.52 | 170.17 | 4200 | 440 | 9 | 15 | 17.7 | 1300 | 4.2 | SPL |
| ESE-1 | 04/23/98 | 177.69 | 8.8 | 168.89 | 15000 | 3400 | 190 | 910 | 900 | 4900 | 4.2 | SPL |
| QC-1 | 04/23/98 | --- | --- | --- | 15000 | 2800 | 140 | 730 | 730 | 4400 | --- | SPL |
| ESE-1 | 07/29/98 | 177.69 | 9.73 | 167.96 | --- | --- | --- | --- | --- | --- | --- | --- |
| ESE-1 | 07/30/98 | --- | --- | --- | 15000 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | 15000 | 4.0 | SPL |
| ESE-1 | 12/17/98 | 177.69 | 9.51 | 168.18 | 2400 | 73 | 1.0 | 2.8 | 4.6 | 2000/2500* | --- | SPL |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ESE-2 | 10/05/92 | 178.23 | 11.68 | 166.55 | 300 | 5.4 | 16 | 3.9 | 45 | --- | --- | --- |
| ESE-2 | 04/01/93 | 178.23 | 9.17 | 169.06 | 240 | 27 | ND<0.5 | 17 | 2.6 | 123 (e) | --- | PACE |
| ESE-2 | 06/29/93 | 178.23 | 10.88 | 167.35 | 1700 | 260 | 24 | 110 | 23 | --- | --- | PACE |
| QC-1 (d) | 06/29/93 | --- | --- | --- | 1300 | 240 | 17 | 110 | 25 | --- | --- | PACE |
| ESE-2 | 09/23/93 | 178.23 | 11.56 | 166.67 | 240 | 3.1 | 0.5 | 0.6 | 2.5 | 900 (e) | --- | PACE |
| ESE-2 | 12/10/93 | 178.23 | 10.48 | 167.75 | 250 | 2.4 | 2.4 | 1.5 | 11 | 940 (e) | 2.6 | PACE |
| ESE-2 | 02/17/94 | 178.23 | 10.06 | 168.17 | 900 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 930 (e) | --- | PACE |
| ESE-2 | 08/08/94 | 178.23 | 11.11 | 167.12 | 750 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 1400 (e) | 5.1 | PACE |
| ESE-2 | 10/12/94 | 178.23 | 11.31 | 166.92 | 1700 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 3000 (e) | 3.6 | PACE |
| ESE-2 | 01/19/95 | 178.23 | 8.25 | 169.98 | 300 | 2 | 0.9 | 0.7 | 1 | --- | 8.1 | ATI |
| ESE-2 | 05/02/95 | 178.23 | 9.21 | 169.02 | 1200 | 4 | ND<2.5 | ND<2.5 | ND<5.0 | --- | 8.4 | ATI |
| ESE-2 | 07/28/95 | 178.23 | 10.64 | 167.59 | 2000 | ND<2.5 | ND<2.5 | ND<2.5 | ND<5.0 | --- | 7.7 | ATI |
| ESE-2 | 11/17/95 | 178.23 | 11.13 | 167.10 | 3600 | ND<25 | ND<25 | ND<25 | ND<50 | 12000 | 7.4 | ATI |
| QC-1 (d) | 11/17/95 | --- | --- | --- | 3400 | ND<25 | ND<25 | ND<25 | ND<50 | 12000 | --- | ATI |
| ESE-2 | 02/07/96 | 178.23 | 7.94 | 170.29 | 450 | ND<0.5 | ND<1 | ND<1 | ND<1 | 2300 | 1.8 | SPL |
| ESE-2 | 04/23/96 | 178.23 | 9.73 | 168.50 | 260 | 0.9 | ND<1 | ND<1 | ND<1 | 8600 | 7.2 | SPL |
| ESE-2 | 07/09/96 | 178.23 | 10.7 | 167.53 | 780 | ND<2.5 | ND<5 | ND<5 | ND<5 | 13393 | 3.0 | SPL |
| ESE-2 | 10/10/96 | 178.23 | 11.39 | 166.84 | 2900 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 12000 | 7.0 | SPL |
| ESE-2 | 01/20/97 | 178.23 | 9.04 | 169.19 | ND<250 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | 13000 | 6.2 | SPL |
| ESE-2 | 04/25/97 | 178.23 | 10.31 | 167.92 | 2700 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 15000 | 5.9 | SPL |
| ESE-2 | 07/18/97 | 178.23 | 11.02 | 167.21 | 11000 | ND<5 | ND<10 | ND<10 | ND<10 | 11000 | 5.0 | SPL |
| ESE-2 | 10/27/97 | 178.23 | 10.93 | 167.30 | 6100 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | 7100 | 4.8 | SPL |
| QC-1 (d) | 10/27/97 | --- | --- | --- | 6600 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | 7400 | --- | SPL |
| ESE-2 | 01/22/98 | 178.23 | 7.93 | 170.30 | 13000 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 10000 | 4.6 | SPL |
| QC-1 (d) | 01/22/98 | --- | --- | --- | 13000 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 10000 | --- | SPL |
| ESE-2 | 04/23/98 | 178.23 | 9.34 | 168.89 | 19000 | ND<5 | ND<10 | ND<10 | ND<10 | 36000 | 4.2 | SPL |
| ESE-2 | 07/29/98 | 178.23 | 10.29 | 167.94 | --- | --- | --- | --- | --- | --- | --- | --- |
| ESE-2 | 07/30/98 | --- | --- | --- | 19000 | ND<5 | ND<10 | ND<10 | ND<10 | 36000 | 4.2 | SPL |
| ESE-2 | 12/17/98 | 178.23 | 10.20 | 168.03 | 12000 | ND<5.0 | ND<5.0 | ND<5.0 | ND<5.0 | 13000/17000* | --- | SPL |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ESE-3 | 10/05/92 | 178.2 | 10.58 | 167.62 | 430 | 57 | 31 | 3.6 | 34 | --- | --- | --- |
| ESE-3 | 04/01/93 | 178.2 | 8.14 | 170.06 | 2400 | 460 | 220 | 74 | 210 | --- | --- | PACE |
| ESE-3 | 06/29/93 | 178.2 | 9.72 | 168.48 | 280 | 56 | 14 | 15 | 13 | --- | --- | PACE |
| ESE-3 | 09/23/93 | 178.2 | 10.46 | 167.74 | 72 | 13 | 3.5 | 1.7 | 4.1 | --- | --- | PACE |
| ESE-3 | 12/10/93 | 178.2 | 9.3 | 168.90 | 270 | 71 | 32 | 6.1 | 33 | --- | 2.7 | PACE |
| ESE-3 | 02/17/94 | 178.2 | 8.97 | 169.23 | 520 | 140 | 10 | 20 | 33 | --- | --- | PACE |
| ESE-3 | 08/08/94 | 178.2 | 10.02 | 168.18 | ND<50 | 8.8 | 1.6 | 1.6 | 2.3 | --- | 6.2 | PACE |
| ESE-3 | 10/12/94 | 178.2 | 10.32 | 167.88 | 470 | 190 | 6.4 | 15 | 18 | --- | 3.5 | PACE |
| ESE-3 | 01/19/95 | 178.2 | 7.4 | 170.80 | 330 | 260 | 27 | 21 | 20 | --- | 6.7 | ATI |
| ESE-3 | 05/02/95 | 178.2 | 8.26 | 169.94 | 530 | 180 | 30 | 23 | 44 | --- | 8.6 | ATI |
| ESE-3 | 07/28/95 | 178.2 | 9.54 | 168.66 | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | --- | 8.8 | ATI |
| ESE-3 | 11/17/95 | 178.2 | 10.04 | 168.16 | ND<50 | 1.7 | ND<0.50 | ND<0.50 | ND<1.0 | ND<5.0 | 7.3 | ATI |
| ESE-3 | 02/07/96 | 178.2 | 7.08 | 171.12 | ND<50 | 8.6 | ND<1 | ND<1 | ND<1 | ND<10 | 3.9 | SPL |
| ESE-3 | 04/23/96 | 178.2 | 8.79 | 169.41 | ND<50 | 7.6 | ND<1 | ND<1 | ND<1 | 65 | 6.9 | SPL |
| ESE-3 | 07/09/96 | 178.2 | 10.09 | 168.11 | ND<50 | 12 | 2.6 | 2 | 3.9 | 26 | 3.4 | SPL |
| ESE-3 | 10/10/96 | 178.2 | 10.48 | 167.72 | --- | --- | --- | --- | --- | --- | --- | --- |
| ESE-3 | 10/11/96 | 178.2 | --- | --- | 260 | 140 | ND<1.0 | ND<1.0 | 2.6 | ND<10 | 7.2 | SPL |
| ESE-3 | 01/20/97 | 178.2 | 8.65 | 169.55 | ND<50 | 1.5 | 1.7 | ND<1.0 | ND<1.0 | 14 | 5.7 | SPL |
| ESE-3 | 04/25/97 | 178.2 | 10.02 | 168.18 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 14 | 5.4 | SPL |
| ESE-3 | 07/18/97 | 178.2 | 10.66 | 167.54 | 10000 | 1400 | 1400 | 300 | 1280 | ND<250 | 5.2 | SPL |
| ESE-3 | 10/27/97 | 178.2 | 9.83 | 168.37 | ND<250 | ND<2.5 | ND<5.0 | ND<5.0 | 36 | ND<50 | 5.0 | SPL |
| ESE-3 | 01/22/98 | 178.2 | 7.06 | 171.14 | 130 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 120 | 4.3 | SPL |
| ESE-3 | 04/23/98 | 178.2 | 8.44 | 169.76 | 4800 | 560 | ND<10 | 15 | ND<10 | 4000 | 3.9 | SPL |
| ESE-3 | 07/29/98 | 178.2 | 9.27 | 168.93 | --- | --- | --- | --- | --- | --- | --- | --- |
| ESE-3 | 07/30/98 | --- | --- | --- | 1800 | 6.2 | ND<5.0 | ND<5.0 | ND<5.0 | 1700 | 4.1 | SPL |
| ESE-3 | 12/17/98 | 178.2 | 9.15 | 169.05 | 600 | 54 | ND<1.0 | 2.1 | 4.9 | 340/480* | --- | SPL |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (Feet) | | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ESE-4 | 10/05/92 | 177.73 | | 10.33 | 167.40 | 98 | 7.2 | 1.3 | 1.1 | 6.1 | --- | | --- | --- |
| ESE-4 | 04/01/93 | 177.73 | | 7.88 | 169.85 | 550 | 93 | 20 | 23 | 33 | --- | | --- | PACE |
| ESE-4 | 06/29/93 | 177.66 | (f) | 8.33 | 169.33 | 150 | 23 | 0.6 | 5.4 | 0.5 | 54 | (e) | --- | PACE |
| ESE-4 | 09/23/93 | 177.66 | | 10.05 | 167.61 | 110 | 14 | 1.7 | 3.2 | 4.6 | --- | | --- | PACE |
| ESE-4 | 12/10/93 | 177.66 | | 8.95 | 168.71 | 110 | 21 | 7.2 | 4.2 | 10 | --- | | 2.8 | PACE |
| ESE-4 | 02/17/94 | 177.66 | | 8.65 | 169.01 | 210 | 26 | 1.2 | 4.7 | 11 | 110 | (e) | --- | PACE |
| ESE-4 | 08/08/94 | 177.66 | | 9.76 | 167.90 | 76 | 9.6 | ND<0.5 | 2 | ND<0.5 | 62 | (e) | 7.0 | PACE |
| ESE-4 | 10/12/94 | 177.66 | | 9.62 | 168.04 | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 44 | (e) | 3.2 | PACE |
| ESE-4 | 01/19/95 | 177.66 | | 6.97 | 170.69 | 140 | 56 | 14 | 24 | 23 | --- | | 6.9 | ATI |
| ESE-4 | 05/02/95 | 177.66 | | 7.85 | 169.81 | 130 | 21 | 2.8 | 8.6 | 8.2 | --- | | 9.1 | ATI |
| ESE-4 | 07/28/95 | 177.66 | | 9.20 | 168.46 | ND<50 | ND<0.5 | ND<0.50 | ND<0.50 | ND<1.0 | --- | | 8.1 | ATI |
| ESE-4 | 11/17/95 | 177.66 | | 9.68 | 167.98 | ND<50 | ND<0.5 | 0.6 | ND<0.50 | ND<1.0 | 18 | | 5.7 | ATI |
| ESE-4 | 02/07/96 | 177.66 | | 6.59 | 171.07 | 100 | 2.6 | ND<1 | 1.6 | 4.1 | 42 | | 2.0 | SPL |
| ESE-4 | 04/23/96 | 177.66 | | 8.30 | 169.36 | 160 | 37 | 15 | 16 | 31 | 43 | | 5.4 | SPL |
| ESE-4 | 07/09/96 | 177.66 | | 9.21 | 168.45 | 60 | 17 | 1.5 | 6.8 | 11.6 | 27 | | 3.9 | SPL |
| ESE-4 | 10/10/96 | 177.66 | | 9.97 | 167.69 | --- | --- | --- | --- | --- | --- | | --- | --- |
| ESE-4 | 10/11/96 | 177.66 | | --- | --- | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 18 | | 5.5 | SPL |
| ESE-4 | 01/20/97 | 177.66 | | 7.68 | 169.98 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 130 | | 4.9 | SPL |
| ESE-4 | 04/25/97 | 177.66 | | 9.15 | 168.51 | ND<250 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 4.3 | SPL |
| ESE-4 | 07/18/97 | 177.66 | | 9.71 | 167.95 | ND<50 | 15 | ND<10 | ND<10 | ND<10 | ND<100 | | 4.5 | SPL |
| ESE-4 | 10/27/97 | 177.66 | | 9.38 | 168.28 | ND<250 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 4.9 | SPL |
| ESE-4 | 01/22/97 | 177.66 | | 6.59 | 171.07 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | | 4.3 | SPL |
| ESE-4 | 04/23/98 | 177.66 | | 7.9 | 169.76 | ND<250 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 4.0 | SPL |
| ESE-4 | 07/29/98 | 177.66 | | 8.96 | 168.70 | --- | --- | --- | --- | --- | --- | | --- | --- |
| ESE-4 | 07/30/98 | --- | | --- | --- | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | | 4.2 | SPL |
| ESE-4 | 12/17/98 | 177.66 | | 8.32 | 169.34 | --- | --- | --- | --- | --- | --- | | --- | --- |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ESE-5 | 10/05/92 | 176.08 | 9.22 | 166.86 | 1300 | 200 | 3.8 | 1.2 | 18 | --- | | --- | --- |
| ESE-5 | 04/01/93 | 176.08 | 7.02 | 169.06 | 13000 | 2200 | 26 | 730 | 1000 | --- | | --- | PACE |
| QC-1 (d) | 04/01/93 | --- | --- | --- | 13000 | 2500 | 25 | 740 | 1100 | --- | | --- | PACE |
| ESE-5 | 06/29/93 | 176.08 | 10.21 | 165.87 | 7600 | 1500 | 9.3 | 170 | 100 | --- | | --- | PACE |
| ESE-5 | 09/23/93 | 176.08 | 10.64 | 165.44 | 560 | 19 | 1.2 | 0.9 | 1.8 | --- | | --- | PACE |
| ESE-5 | 12/10/93 | 176.08 | 9.42 | 166.66 | 1700 | 300 | 3 | 76 | 110 | --- | | 2.5 | PACE |
| ESE-5 | 02/07/94 | 176.08 | 9.35 | 166.73 | 3500 | 640 | 7.8 | 90 | 130 | --- | | --- | PACE |
| ESE-5 | 08/08/94 | 176.08 | 8.76 | 167.32 | 2600 | 210 | 4.6 | 9.4 | 4.4 | 33 | (e) | 5.8 | PACE |
| QC-1 (d) | 08/08/94 | --- | --- | --- | 2500 | 230 | 4.6 | 13 | 4.8 | 32 | (e) | --- | PACE |
| ESE-5 | 10/12/94 | 176.08 | 8.95 | 167.13 | 5600 | 560 | 9.5 | 75 | 21 | --- | | 3.6 | PACE |
| QC-1 (d) | 10/12/94 | --- | --- | --- | 6000 | 550 | 10 | 78 | 22 | 77 | (e) | --- | PACE |
| ESE-5 | 01/19/95 | 176.08 | 5.4 | 170.68 | 1900 | 620 | ND<5 | 95 | 15 | --- | | 7.6 | ATI |
| QC-1 (d) | 01/19/95 | --- | --- | --- | 1600 | 620 | ND<5 | 93 | 17 | --- | | --- | ATI |
| ESE-5 | 05/02/95 | 176.08 | 6.48 | 169.60 | 5700 | 1100 | ND<10 | 180 | 58 | --- | | 8.2 | ATI |
| QC-1 (d) | 05/02/95 | --- | --- | --- | 5300 | 1100 | ND<10 | 180 | 58 | --- | | --- | ATI |
| ESE-5 | 07/28/95 | 176.08 | 7.97 | 168.11 | 520 | 15 | ND<0.50 | 1.7 | 1.3 | --- | | 8.2 | ATI |
| QC-1 (d) | 07/28/95 | --- | --- | --- | 460 | 7.2 | ND<0.50 | 1.9 | 1.5 | --- | | --- | ATI |
| ESE-5 | 11/17/95 | 176.08 | 8.39 | 167.69 | 850 | 39 | 1.8 | 7.6 | 2.7 | 24 | | 6.3 | ATI |
| ESE-5 | 02/07/96 | 176.08 | 4.71 | 171.37 | 4100 | 670 | 6 | 190 | 140 | ND<50 | | 1.5 | SPL |
| ESE-5 | 04/23/96 | 176.08 | 7.35 | 168.73 | 3000 | 570 | ND<5 | 79 | 100 | 84 | | 6.5 | SPL |
| ESE-5 | 07/09/96 | 176.08 | 9.4 | 166.68 | 620 | 150 | 1.7 | 9.3 | 6.4 | 25 | | 3.7 | SPL |
| ESE-5 | 10/10/96 | 176.08 | 9.04 | 167.04 | 1100 | 29 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 6.3 | SPL |
| QC-1 (d) | 10/10/96 | --- | --- | --- | 1100 | 31 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | --- | SPL |
| ESE-5 | 01/20/97 | 176.08 | 5.82 | 170.26 | 2100 | 980 | ND<25 | 280 | 80 | ND<250 | | 5.4 | SPL |
| QC-1 (d) | 01/20/97 | --- | --- | --- | 2700 | 910 | 8.8 | 280 | 84 | 180 | | --- | SPL |
| ESE-5 | 04/25/97 | 176.08 | 7.24 | 168.84 | --- | --- | --- | --- | --- | --- | | --- | --- |
| ESE-5 | 04/28/97 | 176.08 | --- | --- | ND<250 | 7.9 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 4.9 | SPL |
| ESE-5 | 07/18/97 | 176.08 | 7.86 | 168.22 | 1200 | ND<5 | ND<10 | ND<10 | ND<10 | ND<100 | | 5.0 | SPL |
| QC-1 (d) | 07/18/97 | --- | --- | --- | 630 | 31 | ND<5.0 | ND<5.0 | ND<5.0 | 130 | | --- | SPL |
| ESE-5 | 10/27/97 | 176.08 | 7.91 | 168.17 | ND<250 | 5.4 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | | 5.2 | SPL |
| ESE-5 | 01/22/98 | 176.08 | 4.64 | 171.44 | 170 | 7.7 | ND<1.0 | ND<1.0 | ND<1.0 | 130 | | 4.6 | SPL |
| ESE-5 | 04/23/98 | 176.08 | 6.31 | 169.77 | 720 | 79 | ND<5.0 | 9.0 | ND<5.0 | 180 | | 4.6 | SPL |
| ESE-5 | 07/29/98 | 176.08 | 7.43 | 168.65 | --- | --- | --- | --- | --- | --- | | --- | --- |
| ESE-5 | 07/30/98 | --- | --- | --- | 840 | 9.8 | ND<1.0 | 4.0 | ND<1.0 | 710 | | 4.3 | SPL |
| ESE-5 | 12/17/98 | 176.08 | 7.05 | 169.03 | --- | --- | --- | --- | --- | --- | | --- | --- |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (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 | 07/28/95 | 179.24 | 10 | 169.24 | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | --- | 8.1 | ATI |
| MW-6 | 11/17/95 | 179.24 | 10.44 | 168.80 | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | ND<5.0 | 6.8 | ATI |
| MW-6 | 02/07/96 | 179.24 | 7.68 | 171.56 | ND<50 | ND<0.5 | ND<1 | ND<1 | ND<1 | ND<10 | 2.4 | SPL |
| MW-6 | 04/23/96 | 179.24 | 9.33 | 169.91 | ND<50 | ND<0.5 | ND<1 | ND<1 | ND<1 | ND<10 | 6.6 | SPL |
| MW-6 | 07/09/96 | 179.24 | 10.1 | 169.14 | ND<50 | ND<0.5 | ND<1 | ND<1 | ND<1 | ND<10 | 2.7 | SPL |
| MW-6 | 10/10/96 | 179.24 | 11 | 168.24 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 6.9 | SPL |
| MW-6 | 01/20/97 | 179.24 | 8.7 | 170.54 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 5.5 | SPL |
| MW-6 | 04/25/97 | 179.24 | 10.16 | 169.08 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 5.1 | SPL |
| MW-6 | 07/18/97 | 179.24 | 10.66 | 168.58 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 4.8 | SPL |
| MW-6 | 10/27/97 | 179.24 | 10.25 | 168.99 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 4.8 | SPL |
| MW-6 | 01/22/98 | 179.24 | 7.76 | 171.48 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 4.0 | SPL |
| MW-6 | 04/23/98 | 179.24 | 9.1 | 170.14 | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 4.2 | SPL |
| MW-6 | 07/29/98 | 179.24 | 10.4 | 168.84 | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-6 | 07/30/98 | --- | --- | --- | ND<50 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | ND<10 | 3.8 | SPL |
| MW-6 | 12/17/98 | 179.24 | 9.40 | 169.84 | --- | --- | --- | --- | --- | --- | --- | --- |

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | DO (ppm) | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-7 | 07/28/95 | 176.55 | 9.25 | 167.30 | ND<50 | 0.54 (g | 0.54 | ND<0.50 | ND<1.0 | --- | 7.1 | ATI |
| MW-7 | 11/17/95 | 176.55 | 9.73 | 166.82 | 1100 | ND<10 | ND<10 | ND<10 | ND<20 | 4000 | 6.3 | ATI |
| MW-7 | 02/07/96 | 176.55 | 6.48 | 170.07 | 610 | ND<0.5 | ND<1 | ND<1 | ND<1 | 2500 | 4.1 | SPL |
| QC-1 (d) | 02/07/96 | --- | --- | --- | 280 | ND<0.5 | ND<1 | ND<1 | ND<1 | 2600 | --- | SPL |
| MW-7 | 04/23/96 | 176.55 | 8.37 | 168.18 | 110 | ND<0.5 | ND<1 | ND<1 | ND<1 | 3500 | 6.4 | SPL |
| QC-1 (d) | 04/23/96 | --- | --- | --- | 230 | ND<0.5 | ND<1 | ND<1 | ND<1 | 3500 | --- | SPL |
| MW-7 | 07/09/96 | 176.55 | 9.24 | 167.31 | 230 | ND<0.5 | ND<1 | ND<1 | ND<1 | 4296 | 3.1 | SPL |
| QC-1 (d) | 07/09/96 | --- | --- | --- | 220 | ND<0.5 | ND<1 | ND<1 | ND<1 | 4400 | --- | SPL |
| MW-7 | 10/10/96 | 176.55 | 10.05 | 166.50 | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-7 | 10/11/96 | 176.55 | --- | --- | 1600 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 3000 | 6.9 | SPL |
| MW-7 | 01/20/97 | 176.55 | 7.51 | 169.04 | ND<50 | 0.63 | 1 | ND<1.0 | ND<1.0 | 2600 | 5.7 | SPL |
| MW-7 | 04/25/97 | 176.55 | 8.79 | 167.76 | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-7 | 04/28/97 | 176.55 | --- | --- | 1500 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 3600 | 5.1 | SPL |
| QC-1 (d) | 04/28/97 | --- | --- | --- | 7700 | 3500 | ND<25 | 74 | 37 | ND<250 | --- | SPL |
| MW-7 | 07/18/97 | 176.55 | 9.5 | 167.05 | 1400 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 2600 | 5.2 | SPL |
| MW-7 | 10/27/97 | 176.55 | 9.19 | 167.36 | 420 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 560 | 4.9 | SPL |
| MW-7 | 01/22/98 | 176.55 | 6.45 | 170.10 | 3100 | ND<0.5 | ND<1.0 | ND<1.0 | 1.4 | 2300 | 4.2 | SPL |
| MW-7 | 04/23/98 | 176.55 | 8.02 | 168.53 | 3800 | ND<0.5 | ND<1.0 | ND<1.0 | ND<1.0 | 3800 | 3.9 | SPL |
| MW-7 | 07/29/98 | 176.55 | 8.88 | 167.67 | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-7 | 07/30/98 | --- | --- | --- | 500 | ND<2.5 | ND<5.0 | ND<5.0 | ND<5.0 | ND<50 | 4.1 | SPL |
| QC-1 (d) | 07/30/98 | --- | --- | --- | 4700 | ND<12 | ND<25 | ND<25 | ND<25 | 4700 | --- | SPL |
| MW-7 | 12/17/98 | 176.55 | 8.62 | 167.93 | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-8 | 07/28/95 | 176.34 | 7.8 | 168.54 | 1100 | ND<2.5 | ND<2.5 | ND<2.5 | ND<5.0 | --- | 7.2 | ATI |
| MW-8 | 11/17/95 | 176.34 | 8.29 | 168.05 | 8300 | 75 | 5.3 | 670 | 240 | 140 | 7.0 | ATI |
| MW-8 | 02/07/96 | 176.34 | 4.99 | 171.35 | 2300 | 33 | ND<10 | 190 | 216 | ND<100 | 1.7 | SPL |
| MW-8 | 04/23/96 | 176.34 | 6.09 | 170.25 | 2000 | 390 | ND<20 | 150 | 26 | ND<250 | 5.1 | SPL |
| MW-8 (h) | 07/09/96 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

? "QC" sample better than initial sample!

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (a) (Feet) | DEPTH TO WATER (Feet) | GROUNDWATER ELEVATION (b) (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 (i) | 04/01/93 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 06/29/93 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 09/23/93 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 12/10/93 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 02/17/94 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 08/08/94 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 10/12/94 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | --- | --- | PACE |
| QC-2 (i) | 01/19/95 | --- | --- | --- | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<1 | --- | --- | ATI |
| QC-2 (i) | 05/02/95 | --- | --- | --- | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | --- | --- | ATI |
| QC-2 (i) | 07/28/95 | --- | --- | --- | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | --- | --- | ATI |
| QC-2 (i) | 11/17/95 | --- | --- | --- | ND<50 | ND<0.50 | ND<0.50 | ND<0.50 | ND<1.0 | ND<5.0 | --- | ATI |
| QC-2 (i) | 02/07/96 | --- | --- | --- | ND<50 | ND<0.5 | ND<1 | ND<1 | ND<1 | ND<10 | --- | SPL |
| QC-2 (i) | 04/23/96 | --- | --- | --- | ND<50 | ND<0.5 | ND<1 | ND<1 | ND<1 | ND<10 | --- | SPL |
| QC-2 (i) | 07/09/96 | --- | --- | --- | 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 |
| ND | Not detected above reported detection limit |
| --- | Not applicable/available/measured/analyzed |
| PACE | Pace, Inc. |
| ATI | Analytical Technologies, Inc. |
| SPL | Southern Petroleum Laboratories |

NOTES:

(a) Top of casing elevations surveyed relative to mean sea level.

(b) Groundwater elevations in feet relative to mean sea level.

(c) Additional analysis of the sample collected from ESE-1 on 10/5/92 detected 96 ug/l total petroleum hydrocarbons as diesel and 1.8 ug/l 1,2-dichloroethane.

(d) Blind duplicate.

(e) A copy of the documentation for this data is included in Appendix C of Alisto report 10-138-09-004.

(f) Top of casing lowered by 0.07 foot after the monitoring event on 4/01/93.

(g) Sample result may be falsely elevated due to matrix interference.

(h) Well destroyed.

(i) Travel blank.

(*) MTBE by EPA 8020/8260

TABLE 1- SUMMARY OF RESULTS OF GROUNDWATER MONITORING

| WELL ID | DATE OF SAMPLING/ MONITORING | CASING ELEVATION (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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 08/19/91 | 175.73 | (a) | 9.31 | 166.42 | 48 | 47 | 13 | 8.4 | 0.99 | 29 | |
| MW-1 | 09/17/91 | 175.73 | | 9.50 | 166.23 | 39 | 19 | 4.9 | 4.1 | 1.2 | 5.9 | |
| MW-1 | 10/10/91 | 175.73 | | 9.70 | 166.03 | 28 | 19 | 4.1 | 4.7 | 1.0 | 4.8 | |
| MW-1 | 11/25/91 | 175.73 | | 9.41 | 166.32 | 170 | 36 | 5.6 | 5.6 | 1.6 | 8.4 | |
| MW-1 | 12/23/91 | 175.73 | | 9.65 | 166.08 | 78 | 34 | 9.3 | 7.3 | 0.54 | 13 | |
| MW-1 | 01/14/92 | 175.73 | | 8.57 | 167.16 | 39 | 19 | 7.3 | 8.7 | 1.3 | 8.9 | |
| MW-1 | 05/29/92 | 175.73 | | 8.59 | 167.14 | 120 | 11 | 8.8 | 16 | 2.3 | 15 | |
| MW-1 | 11/13/92 | 175.73 | | 9.13 | 190.87 | 120 | 4.4 | 5.8 | 10 | 2.1 | 13 | |
| MW-1 | 02/23/93 | 200 | (c) | 7.34 | --- | 100 | 14 | 4.5 | 11 | 2.1 | 12 | |
| MW-1 | 05/18/93 | 177.43 | (d) | 8.12 | 169.31 | 92 | 30 | 4.0 | 11 | 2.5 | 15 | |
| MW-1 | 08/30/93 | 177.43 | | 8.78 | 168.65 | 77 | 9.4 | 6.4 | 11 | 2.2 | 12 | |
| MW-1 | 11/24/93 | 177.43 | | 8.74 | 168.69 | 66 | 8.2 | 8.3 | 8.9 | 2.0 | 11 | |
| MW-1 | 02/28/94 | 177.43 | | 7.44 | 169.99 | 90 | 110 | 11 | 9.6 | 2.1 | 9.9 | |
| MW-1 | 05/19/94 | 177.43 | | 8.05 | 169.38 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 08/22/94 | 177.43 | | 8.67 | 168.76 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 11/18/94 | 177.43 | | 7.14 | 170.29 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 02/23/95 | 177.43 | | 7.72 | 169.71 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 05/02/95 | 177.43 | | 6.96 | 170.47 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 07/28/95 | 177.43 | | 8.27 | 169.16 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 10/26/95 | 177.43 | | 8.45 | 168.98 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 01/29/96 | 177.43 | | 6.17 | 171.26 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 02/07/96 | 177.43 | | 6.09 | 171.34 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 04/23/96 | 177.43 | | 7.47 | 169.96 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 07/09/96 | 177.43 | | 8.16 | 169.27 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 01/20/97 | 177.43 | | 7.12 | 170.31 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 04/25/97 | 177.43 | | 7.98 | 169.45 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 07/24/97 | 177.43 | | 8.71 | 168.72 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 08/26/97 | 177.37 | (e) | 8.51 | 168.86 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 11/06/97 | 177.37 | | 8.79 | 168.58 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 01/24/98 | 177.37 | | 6.61 | 170.76 | --- | --- | --- | --- | --- | --- | |
| MW-1 | 04/26/98 | 177.37 | | 7.50 | 169.87 | 60 | 7.8 | 9.3 | 5.7 | 2.1 | 9.1 | |
| MW-1 | 01/29/99 | 177.37 | | 6.99 | 170.38 | 47000 | 9100 | 9000 | 2900 | 1900 | 8000 | |
| MW-2 | 08/19/91 | 175.45 | | 9.60 | 165.85 | 69 | 19 | 26 | 22 | 2.1 | 18 | |
| MW-2 | 09/17/91 | 175.45 | | 10.23 | 165.22 | 74 | 56 | 10 | 11 | 1.4 | 8.1 | |
| MW-2 | 10/10/91 | 175.45 | | 10.39 | 165.06 | 85 | 360 | 21 | 25 | 2.1 | 14 | |
| MW-2 | 11/25/91 | 175.45 | | 9.81 | 165.64 | 230 | 130 | 11 | 9.7 | 1.4 | 9.7 | |
| MW-2 | 12/23/91 | 175.45 | | 10.39 | 165.06 | 2100 | 700 | 36 | 130 | 79 | 560 | |
| MW-2 | 01/14/92 | 175.45 | | 8.97 | 166.48 | 59 | 1600 | 17 | 14 | 1.8 | 15 | |

TABLE 1- SUMMARY OF RESULTS OF GROUNDWATER MONITORING

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 05/27/95 | 175.45 | | 9.31 | 166.14 | 89 | 130 | 18 | 19 | 1.7 | 14 | |
| MW-2 | 11/13/92 | 198.61 | (c) | 8.70 | 189.91 | 79 | 8.2 | 10 | 13 | 1.4 | 8.6 | |
| MW-2 | 02/23/93 | 198.61 | | 6.39 | 192.22 | 76 | 7.0 | 12 | 17 | 1.6 | 9.6 | |
| MW-2 | 05/18/93 | 176.04 | (d) | 7.73 | 168.31 | 67 | 44 | 9.2 | 12 | 1.4 | 9.3 | |
| MW-2 | 08/30/93 | 176.04 | | 8.64 | 167.40 | 110 | 110 | 11 | 14 | 1.8 | 11 | |
| MW-2 | 11/24/93 | 176.04 | | 8.47 | 167.57 | 12 | 79 | 13 | 17 | 2.5 | 17 | |
| MW-2 | 02/28/94 | 176.04 | | 6.99 | 169.05 | 91 | 13 | 13 | 16 | 1.5 | 9.0 | |
| MW-2 | 05/19/94 | 176.04 | | 7.70 | 168.34 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 08/22/94 | 176.04 | | 8.59 | 167.45 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 11/18/94 | 176.04 | | 6.92 | 169.12 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 02/23/95 | 176.04 | | 7.51 | 168.53 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 05/02/95 | 176.04 | | 6.79 | 169.25 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 07/28/95 | 176.04 | | 7.99 | 168.05 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 10/26/95 | 176.04 | | 8.21 | 167.83 | --- | --- | --- | --- | --- | --- | |
| MW-2 | 01/29/96 | 176.04 | | 5.16 | 170.88 | --- | --- | --- | --- | --- | --- | |
| MW-2 (f) | 02/07/96 | 176.04 | | 5.70 | 170.34 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 08/19/91 | 175 | | 8.95 | 166.05 | 170 | 150 | 82 | 31 | 4.4 | 22 | |
| MW-3 | 09/17/91 | 175 | | 9.20 | 165.80 | 180 | 140 | 47 | 25 | 2.6 | 15 | |
| MW-3 | 10/10/91 | 175 | | 9.43 | 165.57 | 140 | 39 | 57 | 31 | 2.2 | 14 | |
| MW-3 | 11/25/91 | 175 | | 9.19 | 165.81 | 150 | 74 | 65 | 31 | 3.4 | 18 | |
| MW-3 | 12/23/91 | 175 | | 9.37 | 165.63 | 740 | 540 | 30 | 61 | 31 | 180 | |
| MW-3 | 01/14/92 | 175 | | 8.24 | 166.76 | 130 | 270 | 76 | 30 | 3.4 | 21 | |
| MW-3 | 05/29/92 | 175 | | 8.45 | 166.55 | 370 | 27 | 91 | 57 | 3.0 | 21 | |
| MW-3 | 11/13/92 | 175 | | 7.86 | 167.14 | 140 | 4.7 | 38 | 24 | 2.0 | 12 | |
| MW-3 | 02/23/93 | 190.97 | (c) | 8.01 | 182.96 | 110 | 8.1 | 31 | 18 | 1.9 | 11 | |
| MW-3 | 05/18/93 | 176.41 | (d) | 7.12 | 169.29 | 130 | 7.2 | 36 | 21 | 2.1 | 12 | |
| MW-3 | 08/30/93 | 176.41 | | 7.64 | 168.77 | 130 | 32 | 36 | 21 | 1.9 | 8.2 | |
| MW-3 | 11/24/93 | 176.41 | | 7.55 | 168.86 | 160 | 24 | 48 | 26 | 2.2 | 12 | |
| MW-3 | 02/28/94 | 176.41 | | 6.68 | 169.73 | 110 | 210 | 36 | 21 | 1.9 | 11 | |
| MW-3 | 05/19/94 | 176.41 | | 7.15 | 169.26 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 08/22/94 | 176.41 | | 7.65 | 168.76 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 11/18/94 | 176.41 | | 6.05 | 170.36 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 02/23/95 | 176.41 | | 7.24 | 169.17 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 05/02/95 | 176.41 | | 6.50 | 169.91 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 07/28/95 | 176.41 | | 7.80 | 168.61 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 10/26/95 | 176.41 | | 7.72 | 168.69 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 01/29/96 | 176.41 | | 5.77 | 170.64 | --- | --- | --- | --- | --- | --- | |

TABLE 1- SUMMARY OF RESULTS OF GROUNDWATER MONITORING

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 | 02/07/96 | 176.41 | | 5.05 | 171.36 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 04/23/96 | 176.41 | | 6.81 | 169.60 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 07/09/96 | 176.41 | | 7.61 | 168.80 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 01/20/97 | 176.41 | | 6.35 | 170.06 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 04/25/97 | 176.41 | | 7.12 | 169.29 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 07/24/97 | 176.41 | | 7.90 | 168.51 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 08/26/97 | 176.6 | (e) | 7.67 | 168.93 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 11/06/97 | 176.6 | | 7.80 | 168.80 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 01/24/98 | 176.6 | | 5.90 | 170.70 | --- | --- | --- | --- | --- | --- | |
| MW-3 | 04/26/98 | 176.6 | | 6.85 | 169.75 | 100 | 380 | 29.0 | 7.1 | 1.8 | 14 | 9.7 |
| MW-3 | 01/29/99 | 176.6 | | 6.42 | 165.85 | 84000 | 240000 | 31000 | 2800 | 1800 | 12000 | 1300 |
| MW-4 | 08/20/97 | 176.35 | | 7.66 | 168.69 | --- | --- | --- | --- | --- | --- | |
| MW-4 | 08/26/97 | 176.35 | | 8.92 | 167.43 | --- | --- | --- | --- | --- | --- | |
| MW-4 | 11/06/97 | 176.35 | | 9.16 | 167.19 | --- | --- | --- | --- | --- | --- | |
| MW-4 | 01/24/98 | 176.35 | | 6.61 | 169.74 | --- | --- | --- | --- | --- | --- | |
| MW-4 | 04/26/98 | 176.35 | | 6.87 | 169.48 | 190 | 13 | 49 | 37 | 3.2 | 18 | ND |
| MW-4 | 01/29/99 | 176.35 | | 6.68 | 169.67 | 190000 | 7300 | 44000 | 40000 | 3100 | 17000 | 2400 |

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 |
| ug/l | Micrograms per liter |
| --- | Not available |

NOTES:

(a) Top of casing elevations relative to mean sea level.

(b) Groundwater elevations in feet above mean sea level.

(c) Well resurveyed on December 5, 1992.

(d) Well resurveyed on March 24, 1993.

(e) Well resurveyed on August 20, 1997.

(f) Well destroyed February 7, 1996.

# Analytical Appendix

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

January 6, 1999

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

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on December 23, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9812B14 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 results 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: 98-12-B14**

Approved for Release by:

Sonia West
Sonia West, Senior Project Manager

1-7-99
Date

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer


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. H9-9812B14-01

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** A

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 13:50:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| MTBE | 340 | 1.0 P | ug/L |
| BENZENE | 54 | 1.0 P | ug/L |
| TOLUENE | ND | 1.0 P | ug/L |
| ETHYLBENZENE | 2.1 | 1.0 P | ug/L |
| TOTAL XYLENE | 4.9 | 1.0 P | ug/L |
| TOTAL VOLATILE AROMATIC HYDROCARBONS | 61.0 | | ug/L |
| **Surrogate** | **% Recovery** | | |
| 1,4-Difluorobenzene | 113 | | |
| 4-Bromofluorobenzene | 100 | | |
| Method 8020A *** | | | |
| Analyzed by: CJ | | | |
| Date: 12/29/98 | | | |
| Gasoline Range Organics | 0.60 | 0.050 P | mg/L |
| **Surrogate** | **% Recovery** | | |
| 1,4-Difluorobenzene | 83 | | |
| 4-Bromofluorobenzene | 93 | | |
| California LUFT Manual for Gasoline | | | |
| Analyzed by: LJ | | | |
| Date: 12/24/98 22:42:00 | | | |
| MTBE | 480 | 50 P | ug/L |
| **Surrogate** | **% Recovery** | | |
| 1,2-Dichloroethane-d4 | 94 | | |
| Toluene-d8 | 100 | | |

(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. H9-9812B14-01

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** A

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 13:50:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| 4-Bromofluorobenzene | 90 | | |
| Method 8260B *** | | | |
| Analyzed by: JC | | | |
| Date: 12/30/98 | | | |

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. H9-9812B14-02

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** B

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 14:10:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| MTBE | 2000 | 10 P | ug/L |
| BENZENE | 73 | 1.0 P | ug/L |
| TOLUENE | 1.0 | 1.0 P | ug/L |
| ETHYLBENZENE | 2.8 | 1.0 P | ug/L |
| TOTAL XYLENE | 4.6 | 1.0 P | ug/L |
| TOTAL VOLATILE AROMATIC HYDROCARBONS | 81.4 | | ug/L |
| **Surrogate** | **% Recovery** | | |
| 1,4-Difluorobenzene | 107 | | |
| 4-Bromofluorobenzene | 103 | | |
| Method 8020A *** | | | |
| Analyzed by: CJ | | | |
| Date: 12/29/98 | | | |
| Gasoline Range Organics | 2.4 | 0.050 P | mg/L |
| **Surrogate** | **% Recovery** | | |
| 1,4-Difluorobenzene | 90 | | |
| 4-Bromofluorobenzene | 90 | | |
| California LUFT Manual for Gasoline | | | |
| Analyzed by: LJ | | | |
| Date: 12/24/98 22:15:00 | | | |
| MTBE | 2500 | 250 P | ug/L |
| **Surrogate** | **% Recovery** | | |
| 1,2-Dichloroethane-d4 | 102 | | |
| Toluene-d8 | 100 | | |

(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. H9-9812B14-02

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** B

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 14:10:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| 4-Bromofluorobenzene | 94 | | |
| Method 8260B *** | | | |
| Analyzed by: JC | | | |
| Date: 12/30/98 | | | |

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. H9-9812B14-03

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** C

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 14:30:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| MTBE | 13000 | 50 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 | 113 | | |
| 4-Bromofluorobenzene | 100 | | |
| Method 8020A *** | | | |
| Analyzed by: CJ | | | |
| Date: 12/29/98 | | | |
| Gasoline Range Organics | 12 | 0.250 P | mg/L |
| **Surrogate** | **% Recovery** | | |
| 1,4-Difluorobenzene | 87 | | |
| 4-Bromofluorobenzene | 93 | | |
| California LUFT Manual for Gasoline | | | |
| Analyzed by: CJ | | | |
| Date: 12/29/98 15:44:00 | | | |
| MTBE | 17000 | 1000 P | ug/L |
| **Surrogate** | **% Recovery** | | |
| 1,2-Dichloroethane-d4 | 88 | | |
| Toluene-d8 | 102 | | |

(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.

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

# Certificate of Analysis No. H9-9812B14-03

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

P.O.# N/A , COC#100245
DATE: 01/06/99

**PROJECT:** #11105, 3519 Castro Valley
**SITE:**
**SAMPLED BY:** Blaine Tech Services
**SAMPLE ID:** C

**PROJECT NO:** 981217-Z3
**MATRIX:** WATER
**DATE SAMPLED:** 12/17/98 14:30:00
**DATE RECEIVED:** 12/23/98

## ANALYTICAL DATA

| PARAMETER | RESULTS | DETECTION LIMIT | UNITS |
|---|---|---|---|
| 4-Bromofluorobenzene | 92 | | |
| Method 8260B *** | | | |
| Analyzed by: JC | | | |
| Date: 12/30/98 | | | |

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.

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*QUALITY CONTROL*

*DOCUMENTATION*

3A

# WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 9812B14 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: A

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC # | QC. LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 0 | 57 | 114 | 61-145 |
| Trichloroethene | 50 | 0 | 52 | 104 | 71-120 |
| Benzene | 50 | 50 | 100 | 100 | 76-127 |
| Toluene | 50 | 0 | 53 | 106 | 76-125 |
| Chlorobenzene | 50 | 0 | 51 | 102 | 75-130 |

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 56 | 112 | 2 | 14 | 61-145 |
| Trichloroethene | 50 | 50 | 100 | 4 | 14 | 71-120 |
| Benzene | 50 | 100 | 100 | 0 | 11 | 76-127 |
| Toluene | 50 | 51 | 102 | 4 | 13 | 76-125 |
| Chlorobenzene | 50 | 50 | 100 | 2 | 13 | 75-130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: n981230
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LCS
Level: LOW Operator: JC
Data Type: MS DATA SampleType: LCS
SpikeList File: 8260_water.spk Quant Type: ISTD
Sublist File: 8260.sub
Method File: /var/chem/n.i/n981230.b/n8260w.m
Misc Info: N364W1//N364CW1

| | SPIKE COMPOUND | CONC ADDED ug/L | CONC RECOVERED ug/L | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 8 | 1,1-Dichloroethene | 50 | 57 | 114.00 | 61-145 |
| 29 | Trichloroethene | 50 | 49 | 98.00 | 71-120 |
| 25 | Benzene | 50 | 50 | 100.00 | 76-127 |
| 37 | Toluene | 50 | 50 | 100.00 | 76-125 |
| 45 | Chlorobenzene | 50 | 50 | 100.00 | 75-130 |

| | SURROGATE COMPOUND | CONC ADDED ug/L | CONC RECOVERED ug/L | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| $ 21 | 1,2-Dichloroethane | 50 | 49 | 98.00 | 80-120 |
| $ 36 | Toluene-d8 | 50 | 51 | 102.00 | 88-110 |
| $ 56 | Bromofluorobenzene | 50 | 46 | 92.00 | 86-115 |

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

# SPL Blank QC Report



**Matrix:** Aqueous
**Sample ID:** VLBLK
**Batch:** N981230122720

**Reported on:** 01/06/99 11:52
**Analyzed on:** 12/30/98 14:09
**Analyst:** JC

**METHOD 8260/8240/624 N364B01**

| Compound | Result | Detection Limit | Units |
|---|---|---|---|
| Methyl t-Butyl Ether | ND | 10 | ug/L |

| Surrogate | Result | QC Criteria | Units |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 80-120 | % Recovery |
| Toluene-d8 | 100 | 88-110 | % Recovery |
| Bromofluorobenzene | 90 | 86-115 | % Recovery |

**Samples in Batch** 9812B14-01 9812B14-02 9812B14-03

**Notes**
ND - Not detected.

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: VARE981229064400

## 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 | 44 | 88.0 | 72 - 128 |
| Benzene | ND | 50 | 48 | 96.0 | 61 - 119 |
| Toluene | ND | 50 | 50 | 100 | 65 - 125 |
| EthylBenzene | ND | 50 | 50 | 100 | 70 - 118 |
| O Xylene | ND | 50 | 49 | 98.0 | 72 - 117 |
| M & P Xylene | ND | 100 | 98 | 98.0 | 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 | 37 | 20 | 59 | 110 | 54 | 85.0 | 25.6 * | 20 | 39 - 150 |
| BENZENE | 77 | 20 | 96 | 95.0 | 97 | 100 | 5.13 | 21 | 32 - 164 |
| TOLUENE | 26 | 20 | 47 | 105 | 47 | 105 | 0 | 20 | 38 - 159 |
| ETHYLBENZENE | 13 | 20 | 36 | 115 | 35 | 110 | 4.44 | 19 | 52 - 142 |
| O XYLENE | 18 | 20 | 39 | 105 | 40 | 110 | 4.65 | 18 | 53 - 143 |
| M & P XYLENE | 9.7 | 40 | 57 | 118 | 56 | 116 | 1.71 | 17 | 53 - 144 |

Analyst: CJ
Sequence Date: 12/29/98
SPL ID of sample spiked: 9812872-06B
Sample File ID: E_L4059.TX0
Method Blank File ID:
Blank Spike File ID: E_L4049.TX0
Matrix Spike File ID: E_L4054.TX0
Matrix Spike Duplicate File ID: E_L4055.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): 9812B14-03A 9812A36-01A 9812A36-02A 9812A76-01A 9812A75-01A 9812A75-02A 9812A79-06A 9812B74-01A 9812B14-01A 9812B14-02A

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: VARE981224162800

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 | 1.3 | 130 | 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 | ND | 0.900 | 1.14 | 127 | 1.05 | 117 | 8.20 | 36 | 36 - 160 |

Analyst: LJ

Sequence Date: 12/24/98

SPL ID of sample spiked: 9812761-09A

Sample File ID: EEL3151.TX0

Method Blank File ID:

Blank Spike File ID: EEL3118.TX0

Matrix Spike File ID: EEL3147.TX0

Matrix Spike Duplicate File ID: EEL3148.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): 9812B14-02A 9812B14-01A

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HOUSTON, TEXAS 77054
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** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Matrix: Aqueous

Batch Id: VARE981228093600

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 | 1.000 | 0.89 | 89.0 | 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 | ND | 0.90 | 0.87 | 96.7 | 0.87 | 96.7 | 0 | 36 | 36 - 160 |

Analyst: CJ

Sequence Date: 12/29/98

SPL ID of sample spiked: 9812A36-03A

Sample File ID: EEL4032.TX0

Method Blank File ID:

Blank Spike File ID: EEL4050.TX0

Matrix Spike File ID: EEL4019.TX0

Matrix Spike Duplicate File ID: EEL4020.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): 9812A79-05A 9812A79-07A 9812A79-08A 9812B14-03A 9812A79-01A 9812A79-02A 9812A79-03A 9812A79-04A

*CHAIN OF CUSTODY*

*AND*

*SAMPLE RECEIPT CHECKLIST*

9812814

# CHAIN OF CUSTODY

No. 100245

Page 1 of 1

| CONSULTANT'S NAME | CONSULTANT'S ADDRESS | | |
|---|---|---|---|
| Blaine Tech Service | 1680 Rodgers Rd, San Jose | | |
| BP SITE NUMBER | BP SITE / FACILITY ADDRESS | | CONSULTANT PROJECT NUMBER |
| 11105 | 3519 Castro Valley | | 981217-Z3 |
| 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

AIRBILL NUMBER 804039443452

ANALYSIS REQUIRED

| SAMPLE DESCRIPTION | COLLECTION DATE | COLLECTION TIME | MATRIX SOIL/WATER | CONTAINERS NO. | CONTAINERS TYPE (VOL.) | PRESERVATIVE LAB SAMPLE # | TPH-G | BTEX / TPH-G | MTBE by 8260 | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 12/17 | 1350 | W | 5 | | | | | | * Confirm MTBE by 8260 |
| B | | 1410 | | | | | | | | |
| C | | 1430 | | | | | | | | |

SAMPLED BY (Please Print Name): Jeremy

SAMPLED BY (Signature):

ADDITIONAL COMMENTS

| RELINQUISHED BY / AFFILIATION (Print Name / Signature) | DATE | TIME | ACCEPTED BY / AFFILIATION (Print Name / Signature) | DATE | TIME |
|---|---|---|---|---|---|
| Jeremy | 12/22/98 | 4:00 | | | |
| | | | Ruben Stank | 12/23/98 | 1600 |

intact 3c

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: | Time: |
|---|---|
| 12-23-98 | 1600 |

| SPL Sample ID: |
|---|
| 9812B14 |

| | | | 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: | | 3° C | |
| 10 | Method of sample delivery to SPL: | SPL Delivery | | |
| | | Client Delivery | | |
| | | FedEx Delivery (airbill #) | 804394443652 | |
| | | Other: | | |
| 11 | Method of sample disposal: | SPL Disposal | ✓ | |
| | | HOLD | | |
| | | Return to Client | | |

| Name: | Date: |
|---|---|
| Sonia West | 12-23-98 |

# Field
# Data
# Sheets

# WELL GAUGING DATA

Project # 981217-23 Date 12-17-98 Client - BP 11105 3519 CASTRO VALLEY BLVD. CASTRO VALLEY

Site _____

| 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 | |
|---|---|---|---|---|---|---|---|---|---|
| ESE1 | 2 | | | | | 9.51 | 29.40 | TOC | |
| ESE2 | 2 | | | | | 10.20 | 27.15 | | |
| ESE3 | 2 | | | | | 9.15 | 29.80 | | |
| ESE4 | 2 | | | | | 8.32 | 22.75 | | |
| ESE5 | 2 | | | | | 7.05 | 23.75 | | |
| MW6 | 2 | | | | | 9.40 | 29.20 | | |
| MW7 | 2 | | | | | 8.62 | 28.75 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

# WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 981217-Z9 | Client: BP |
| Sampler: JR | Start Date: 12-17-98 |
| Well I.D.: ESE1 | Well Diameter: (2) 3 4 6 8 ___ |
| Total Well Depth: 29.40 | Depth to Water: 9.51 |
| 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 X / Middleburg / Electric Submersible / Extraction Pump / Other: ___

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

3.2 (Gals.) X 3 = 9.6 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 |
|---|---|---|---|---|---|---|
| 1400 | 68.6 | 7.2 | 1100 | >200 | 3.5 | turbid |
| 1404 | 68.8 | 7.1 | 1000 | >200 | 7 | |
| 1408 | 68.4 | 7.1 | 1000 | >200 | 10 | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 10

Sampling Time: 1410 Sampling Date: 12-17-98

Sample I.D.: B Laboratory: SPL

Analyzed for: ~~TPH-G~~ BTEX ~~MTBE~~ TPH-D Other: 8260

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 #: 981217-73 | Client: BP |
| Sampler: JR | Start Date: 12-17-98 |
| Well I.D.: ESE2' | Well Diameter: (2) 3 4 6 8 ___ |
| Total Well Depth: 27.15 | 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: ___

| 2.7 (Gals.) X | 3 | = | 8.1 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 |
|---|---|---|---|---|---|---|
| 1420 | 68.6 | 7.1 | 1490 | 150 | 3 | cloudy |
| 1423 | 67.8 | 6.9 | 1000 | 160 | 6 | |
| 1426 | 67.4 | 6.9 | 1000 | 180 | 8.5 | |
| | | | | | | |
| | | | | | | |

| | |
|---|---|
| Did well dewater? Yes (No) | Gallons actually evacuated: 8.5 |
| Sampling Time: 1430 | Sampling Date: 12-17-98 |
| Sample I.D.: C | Laboratory: SPL |
| Analyzed for: ~~TPH-G~~ ~~BTEX~~ ~~MTBE~~ TPH-D @ Time | Other: 8260 |
| Equipment Blank I.D.: | 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 #: 981217-73 | Client: BP |
| Sampler: JR | Start Date: 12-17-98 |
| Well I.D.: ~~MW~~ 3 | Well Diameter: (2) 3 4 6 8 ___ |
| Total Well Depth: 29.80 | Depth to Water: 9.15 |
| 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 X / Middleburg / Electric Submersible / Extraction Pump / Other: ___

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

3.3 (Gals.) X 3 = 9.9 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 |
|---|---|---|---|---|---|---|
| 1335 | 72.2 | 7.1 | 1500 | >200 | 3.5 | cloudy |
| 1340 | 71.0 | 7.2 | 1100 | 150 | 7 | |
| 1345 | 71.2 | 7.2 | 1000 | 120 | 10 | |
| | | | | | | |
| | | | | | | |

Did well dewater? Yes (No) Gallons actually evacuated: 10

Sampling Time: 1350 Sampling Date: 12-17-98

Sample I.D.: A Laboratory: SPL

Analyzed for: ~~TPH-G BTEX MTBE~~ TPH-D Other: 8260

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 |