



**BP OIL**

April 25, 1996

ENVIRONMENTAL  
PROTECTION  
36 NOV 32 AM 10:48

BP Oil Company  
Environmental Resources Management  
Building 13, Suite N  
285 SW 41st Street  
Renton, Washington 98055-4931  
(206) 251-0867  
Fax No: (206) 251-0738

Ms. Jennifer Eberle  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway Room 250  
Oakland CA 94612

**RE: BP OIL FACILITY #11102  
100 MacArthur Blvd  
Oakland CA**

Dear Ms. Eberle:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED AUGUST 20, 1996** for the above referenced facility. We plan to continue groundwater monitoring during the next quarter.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,  


Scott T. Hooton  
Environmental Resources Management  
Corrective Action Manager

STH:sb msword\ERM11102

cc: Mr. Richard Hiatt, CRWQCB, San Francisco Bay Region, 2101 Webster Street, Suite 500  
Oakland CA 94612

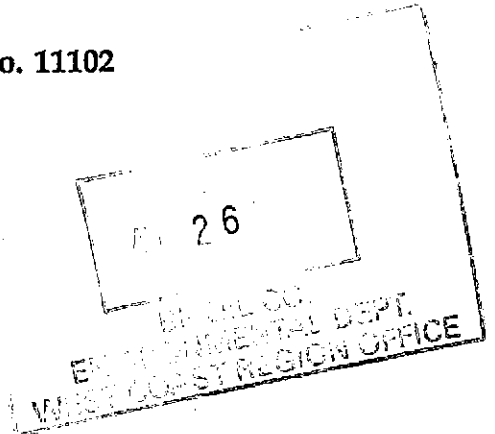
Mr. Brady Nagle, Alisto Engineering Group, 1575 Treat Blvd., Suite 201, Walnut Creek,  
CA 94598

Site File

**GROUNDWATER MONITORING AND SAMPLING REPORT**

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

**Project No. 10-076-05-002**



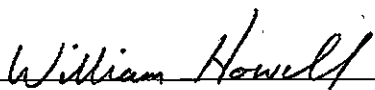
**Prepared for:**


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

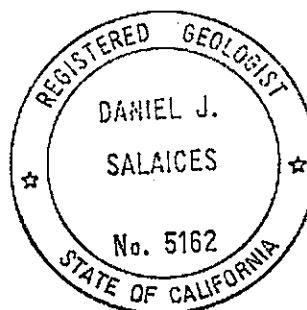
**Prepared by:**

**Alisto Engineering Group  
1575 Treat Boulevard, Suite 201  
Walnut Creek, California**

**August 20, 1996**

  
\_\_\_\_\_  
**William Howell  
Project Manager**

  
\_\_\_\_\_  
**Dan Salices  
Registered Geologist**



# GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-076-05-002

August 20, 1996

## INTRODUCTION

This report presents the results and findings of the June 13, 1996 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11102, 100 MacArthur Boulevard, Oakland, California. A site vicinity map is shown on Figure 1.

## FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, electrical conductivity, and dissolved oxygen. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

## SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous quarters are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown on Figure 2. The results of groundwater analysis are shown on Figure 3. The laboratory report and chain of custody record are presented in Appendix B.



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING  
 BP OIL COMPANY SERVICE STATION NO.11102  
 100 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-076

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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	VOC (ug/l)	MTBE (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	32823.00	90.20	13.32	76.88	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	32966.00	90.20	12.46	77.74	820	--	64	1.9	23	34	--	--	--	--	--	--	ANA
MW-1	33084.00	90.20	12.82	77.28	190	ND<50	11	ND<5.0	ND<5.0	ND<5.0	ND<5000	--	ND	--	--	--	ANA
MW-1	33187.00	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	33288.00	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	33469.00	90.20	15.74	74.46	370	ND<50	35	0.73	8.4	5.6	ND<5000	--	1.4	--	--	--	SEQ
MW-1	33555.00	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	33658.00	90.20	12.52	77.68	140	100	3.9	0.88	1.2	3.8	ND<5000	--	1.7	--	--	--	SEQ
MW-1	33743.00	90.20	11.80	78.40	4200	910	440	21	250	37	ND<5000	--	ND	--	--	--	SEQ
MW-1	33772.00	90.20	12.01	78.19	4000	560	350	14	150	17	ND<5000	--	ND	--	--	--	SEQ
MW-1	33807.00	90.20	12.42	77.78	4000	--	ND<5.0	19	210	61	--	--	--	--	--	--	ANA
MW-1	33830.00	90.20	12.75	77.45	2400	1700	330	20	150	47	ND<5000	--	ND<2.5	--	--	--	SEQ
MW-1	33919.00	90.20	13.69	76.51	260	82	30	3.4	7.6	6.8	ND<5000	--	ND<2.5	--	--	--	ANA
MW-1	34127.00	90.20	10.93	79.27	3400	440	98	11	21	7.6	--	6.2	0.9	--	--	--	PACE
QC-1 (c)	34127.00	--	--	--	3700	--	120	12	26	9.5	--	--	--	--	--	--	PACE
MW-1	12/02/93	90.20	12.72	77.48	1100	120	8.3	3.8	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	3.9	2.2	17	ND<5000	2.3	3.3	--	--	3.2	PACE
QC-1 (c)	06/22/94	--	--	--	2100	--	30	3.2	2.0	15	--	--	--	--	--	--	PACE
MW-1	01/10/95	90.20	10.97	79.23	ND<500	480	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	0.60 (d)	--	6.7	ATI
QC-1 (c)	06/21/95	--	--	--	3800	--	ND<13	ND<5.0	ND<5.0	ND<10	--	--	--	--	--	--	ATI
MW-1	12/27/95	90.20	11.55	76.65	430	2100	ND<2.5	ND<2.5	ND<2.5	ND<5.0	640	0.67	ND<0.20	--	1200	8.3	ATI
MW-1	06/13/96	90.20	9.28	80.92	3200	920	51	ND<12	ND<12	ND<12	2000	--	--	--	4000	6.3	SPL
MW-2	11/04/89	67.91	15.84	72.07	ND<500	--	6.5	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SAL
MW-2	32823.00	67.91	14.75	73.16	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	32966.00	67.91	15.25	72.66	ND<500	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	ANA
MW-2	33084.00	67.91	15.59	72.32	61	--	6.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	ANA
MW-2	33187.00	67.91	17.81	70.10	ND<50	--	0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SAL
MW-2	33288.00	67.91	17.11	70.80	ND<100	--	0.4	ND<0.3	ND<0.3	ND<0.3	--	--	4.0	--	--	--	SAL
MW-2	33469.00	67.91	17.97	69.94	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-2	33555.00	67.91	16.78	71.15	38	--	0.32	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-2	33658.00	67.91	15.07	72.84	ND<50	--	ND<0.5	ND<0.5	ND<0.5	0.58	--	--	18	--	--	--	SEQ
MW-2	33743.00	67.91	14.70	73.21	ND<50	--	0.55	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	SEQ
MW-2	33807.00	67.91	15.80	72.31	90	--	1.3	0.6	0.9	1.9	--	--	--	--	--	--	ANA
MW-2	33830.00	67.91	15.89	72.03	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	33919.00	67.91	16.19	71.72	52	--	2.8	ND<0.5	ND<0.5	0.9	--	--	--	--	--	--	ANA
QC-1 (c)	33919.00	--	--	--	85	--	3.2	ND<0.5	ND<0.5	1.0	--	--	--	--	--	--	ANA
MW-2	34127.00	67.91	14.42	73.49	1200	--	14	2.8	1.9	1.7	--	--	--	--	--	--	PACE
MW-2	12/02/93	67.91	14.94	72.97	790	--	3.4	0.6	10	ND<0.5	--	--	--	--	--	--	PACE
QC-1 (c)	12/02/93	--	--	--	2100	--	32	3.8	2.2	17.00	--	2.3	--	--	--	--	PACE
MW-2	06/22/94	67.91	14.25	73.66	110	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	3.9	PACE
MW-2	01/10/95	67.91	13.64	74.27	ND<50	--	ND<0.5	ND<0.5	0.6	1	--	--	--	--	--	4.3	ATI
MW-2	06/21/95	67.91	11.66	76.25	4700	--	ND<10	ND<10	ND<10	ND<20	--	--	--	--	--	7.8	ATI
MW-2	12/27/95	67.91	13.11	74.80	6100	--	ND<25	ND<25	ND<25	ND<50	--	--	--	--	--	6.7	ATI
QC-1 (c)	12/27/95	--	--	--	6300	--	ND<25	ND<25	ND<25	ND<50	--	--	--	--	--	20000	ATI
MW-2	06/13/96	67.91	10.86	77.05	8300	--	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	10000	6.5	SPL
QC-1 (c)	06/13/96	--	--	--	8700	--	ND<5	ND<5	ND<5	ND<5	--	--	--	--	13000	6.5	SPL

*high aerobic*

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING  
 BP OIL COMPANY SERVICE STATION NO.11102  
 100 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-076

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)	TOG (ug/l)	1,1-DCA (ug/l)	1,2-DCA (ug/l)	VOC (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-3	11/04/89	87.02	15.40	71.62	ND<600	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SAL
MW-3	32823.00	87.02	14.10	72.92	--	--	--	--	--	--	--	--	--	--	--	--	ANA
MW-3	32986.00	87.02	13.90	73.12	ND<100	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	ANA
MW-3	33084.00	87.02	13.77	73.25	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	--	--	--	--	--	ANA
MW-3	33197.00	87.02	14.67	72.35	ND<60	--	0.3	0.8	0.4	1.5	--	--	--	--	--	--	SAL
MW-3	33298.00	87.02	15.22	71.80	ND<100	--	0.4	ND<0.3	ND<0.3	ND<0.3	--	--	ND	--	--	--	SAL
MW-3	33489.00	87.02	13.15	73.87	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-3	33585.00	87.02	15.68	71.38	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	--	--	SEQ
MW-3	33658.00	87.02	15.01	72.01	ND<60	--	0.65	1.4	0.66	4.4	--	--	ND	--	--	--	SEQ
MW-3	33743.00	87.02	15.52	71.50	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	SEQ
MW-3	33807.00	87.02	15.83	71.39	ND<60	ND<60	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<6000	--	ND<0.60	--	--	--	ANA
MW-3	33830.00	87.02	13.57	73.45	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	33919.00	87.02	14.13	72.89	ND<60	--	ND<0.5	0.7	ND<0.5	1.3	--	--	--	--	--	--	ANA
MW-3	34127.00	87.02	12.13	74.89	ND<60	--	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<60	--	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<60	--	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<60	--	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<60	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	--	--	--	--	7.4	ATI
MW-3	12/27/95	87.02	13.47	73.65	ND<60	--	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
QC-2 (e)	33919.00	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	ANA
QC-2 (e)	34127.00	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	PACE
QC-2 (e)	12/02/93	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	PACE
QC-2 (e)	06/22/94	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	PACE
QC-2 (e)	01/10/95	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<1	--	--	--	--	--	--	ATI
QC-2 (e)	06/21/95	--	--	--	ND<60	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	--	--	--	--	--	ATI
QC-2 (e)	12/27/95	--	--	--	ND<60	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	--	--	--	ND<6.0	--	ATI
QC-2 (e)	06/13/96	--	--	--	ND<60	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	ND<10	--	SPL

ABBREVIATIONS:

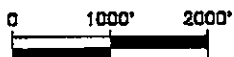
TPH-G Total petroleum hydrocarbons as gasoline  
 TPH-D Total petroleum hydrocarbons as diesel  
 B Benzene  
 T Toluene  
 E Ethylbenzene  
 X Total xylenes  
 TOG Total oil and grease  
 1,1-DCA 1,1-Dichloroethane  
 1,2-DCA 1,2-Dichloroethane  
 VOC Volatile organic compounds  
 MTBE Methyl tert butyl 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

NOTES:

(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) Tetrachloroethene.  
 (e) Travel blank.



SOURCE:  
 USGS MAP, OAKLAND EAST & WEST QUADRANGLES,  
 CALIFORNIA, 7.5 MINUTE SERIES, 1959.  
 PHOTOREVISED 1980.



**FIGURE 1**

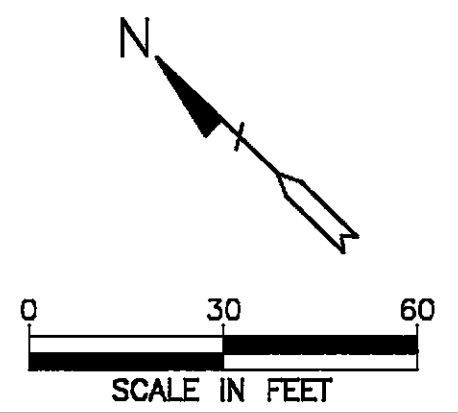
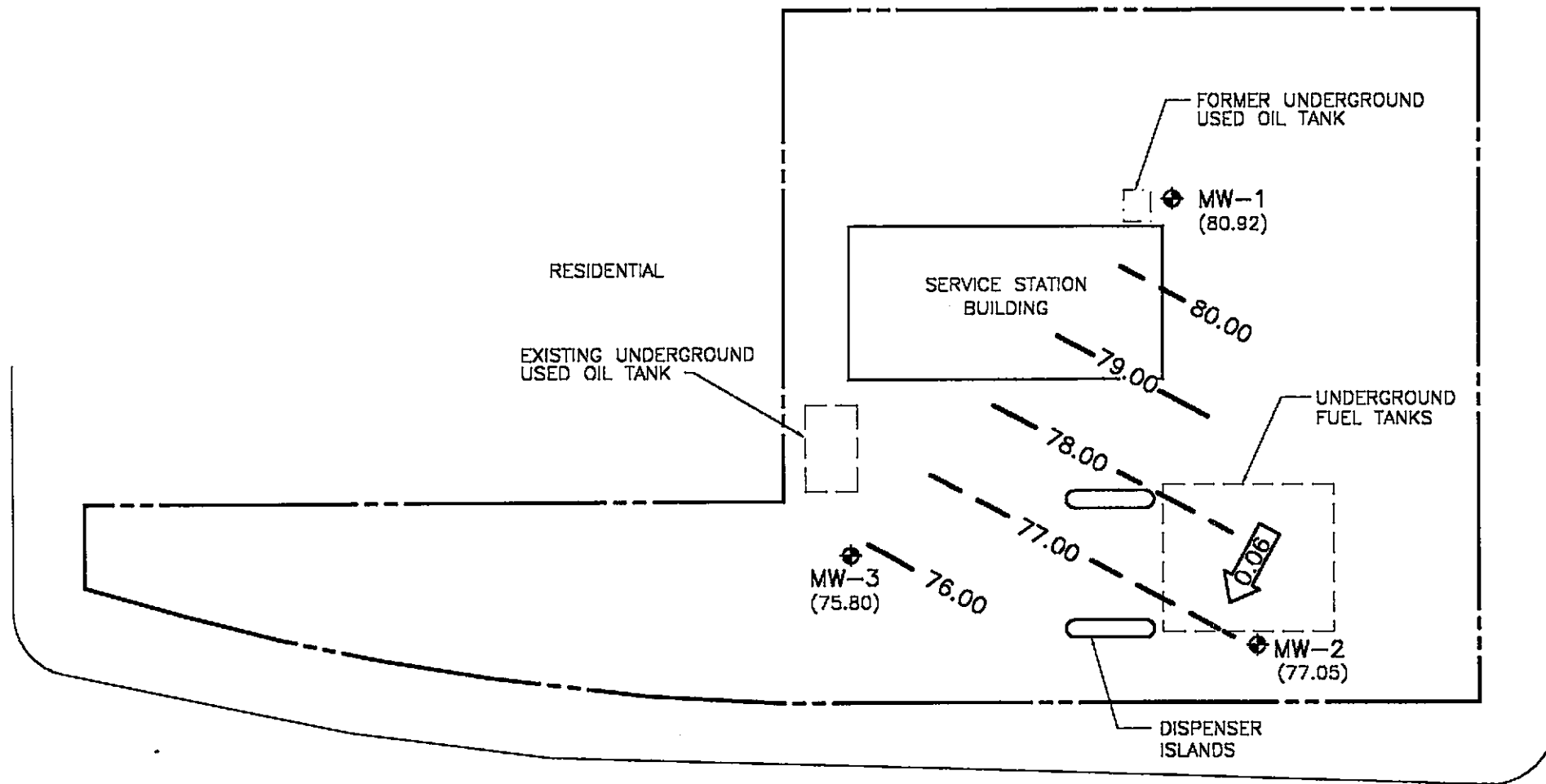
**SITE VICINITY MAP**

**BP OIL SERVICE STATION NO. 11102  
 100 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA**

**PROJECT NO. 10-076**



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - (75.80) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - 76.00 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL-1.0 FOOT)
  - ← 0.06 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

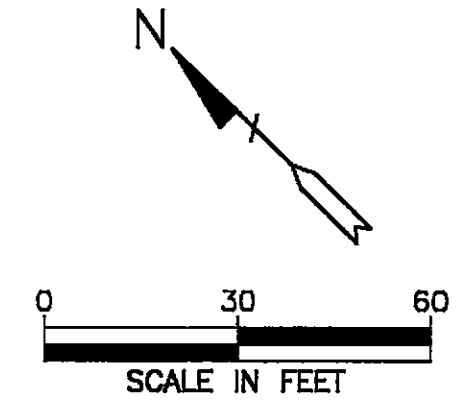
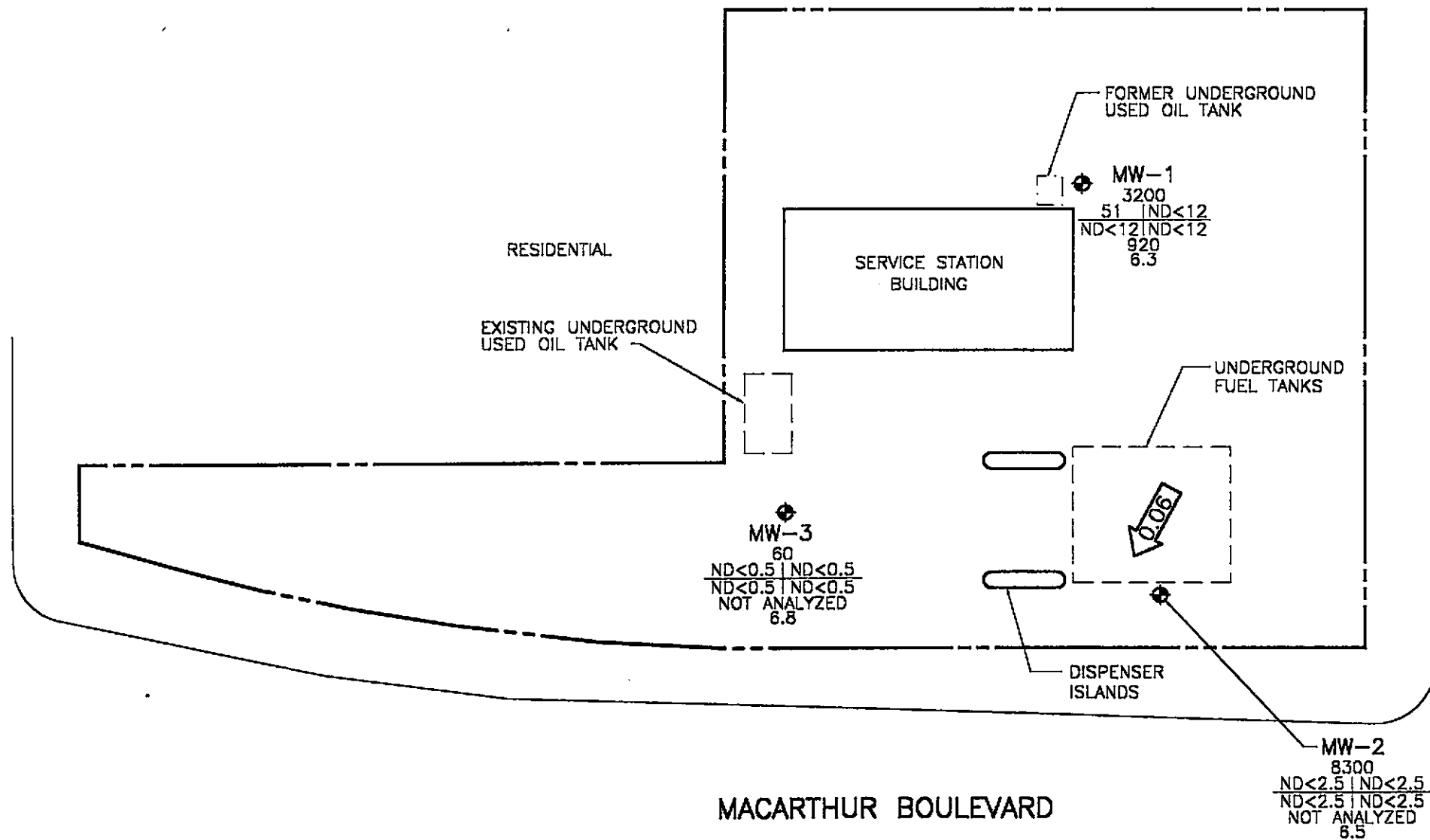
OAKLAND AVENUE

MACARTHUR BOULEVARD


**FIGURE 2**  
**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**  
**JUNE 13, 1996**  
 BP OIL SERVICE STATION NO. 11102  
 100 MACARTHUR BOULEVARD  
 OAKLAND, CALIFORNIA  
 PROJECT NO. 10-076



100760-01-DWG 7-30-96 DON 11-90



**LEGEND**

- 
**GROUNDWATER MONITORING WELL**
- |       |   |       |
|-------|---|-------|
| TPH-G | B | T     |
| E     | X | TPH-D |
| DO    |   |       |

**CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION**
- |       |
|-------|
| TPH-G |
|-------|

**TOTAL PETROLEUM HYDROCARBONS AS GASOLINE**
- |   |
|---|
| B |
|---|

**BENZENE**
- |   |
|---|
| T |
|---|


**TOLUENE**
- |   |
|---|
| E |
|---|

**ETHYLBENZENE**
- |   |
|---|
| X |
|---|

**TOTAL XYLENES**
- |       |
|-------|
| TPH-D |
|-------|

**TOTAL PETROLEUM HYDROCARBONS AS DIESEL**
- |    |
|----|
| DO |
|----|

**DISSOLVED OXYGEN**
- |    |
|----|
| ND |
|----|

**NOT DETECTED ABOVE REPORTED DETECTION LIMIT**
- 
**CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT**

**FIGURE 3**

**CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER**

**JUNE 13, 1996**

BP OIL SERVICE STATION NO. 11102  
100 MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

PROJECT NO. 10-076





**APPENDIX A**  
**WATER SAMPLING FIELD SURVEY FORMS**

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING

GROUP

1575 TREAT BOULEVARD, SUITE 201

WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-076-05-002

Date: 6/13/96

Address 100 MacArthur Blvd

Day: M T W  F

Contract No. G602063

City: Oakland

Station No. BP 11102

Sampler: WB

### DEPTH TO GROUNDWATER SUMMARY

QC-2 = S-5

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	S-3	4"	23.20	9.28	∅	1239	
MW-2	S-2	4"	24.80	10.86	↓	1335	QC-1 S-4 from this well
MW-3	S-1	4"	23.60	11.22	↓	1231	

Semi=June/Dec

### FIELD INSTRUMENT CALIBRATION DATA

pH METER Agua check 4.00 4 7.00 7 10.00 LD TEMPERATURE COMPENSATED  N TIME 1215 WEATHER clear

D.O. METER Agua check ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 67

CONDUCTIVITY METER Agua check 10,000 TURBIDITY METER 5.0 NTU OTHER X

Well ID	Depth to Water	Diam	Cap/Lock	Product	Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-3	11.22	4"	OK	∅	Y	<input checked="" type="checkbox"/> N	8	1250	68.7	7.22	1.18ms	6.6	<input type="checkbox"/> EPA 601
Total Depth - Water Level=							16		67.9	7.14	1.09ms		<input checked="" type="checkbox"/> TPH-G/BTEX <u>ALL</u>
23.60 - 11.22 = 12.38 x .65 = 8.05 + 3 = 24.15							24.5	1301	67.3	7.10	1.06ms	6.8	<input checked="" type="checkbox"/> TPH Diesel
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> ODisp. Tube <input type="checkbox"/> OWinch <input type="checkbox"/> ODisp. Baller(s) <input type="checkbox"/> OSys Port													<input type="checkbox"/> TOG 5520
Comments:													TIME/SAMPLE ID
													1310
MW-2	10.86	4"	OK	∅	Y	<input checked="" type="checkbox"/> N	9	1316	67.9	7.11	1.37ms	6.4	<input type="checkbox"/> EPA 601
Total Depth - Water Level=							18		66.6	6.97	1.27ms		<input checked="" type="checkbox"/> TPH-G/BTEX <u>ALL</u>
24.80 - 10.86 = 13.94 x .65 = 9.06 + 3 = 27.18							27.5	1328	66.3	6.86	1.24ms	6.5	<input type="checkbox"/> TPH Diesel
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> ODisp. Tube <input type="checkbox"/> OWinch <input type="checkbox"/> ODisp. Baller(s) <input type="checkbox"/> OSys Port													<input type="checkbox"/> TOG 5520
Comments: QC-1 S-4 from this well													TIME/SAMPLE ID
													1330

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING

GROUP

1575 TREAT BOULEVARD, SUITE 201

WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-076-05-002

Address 100 MacArthur Blvd

Contract No. G602063

Station No. BP 11102

Date: 6/13/90

Day: M T W TH F

City: Oakland

Sampler: LB

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-1	9.28	4"	OK	Ø	Y (N)	9	1341	68.7	7.44	1.26ms	6.1	<input checked="" type="checkbox"/> EPA 601_HCC
Total Depth - Water Level=						18		67.2	7.24	1.18ms		<input checked="" type="checkbox"/> TPH-G/BTEX_HCC
23.70 - 9.28 = 13.92 X .65 = 9.05 X 3 = 27.15						27.5	1356	66.8	7.21	1.12ms	6.3	<input checked="" type="checkbox"/> TPH Diesel_HCC
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> ODisp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> ODisp. Baller(s) <input type="checkbox"/> OSys Port												<input checked="" type="checkbox"/> TOG 5520_HCC
Comments:												TIME/SAMPLE ID 1400

**APPENDIX B**

**LABORATORY REPORT AND CHAIN OF CUSTODY RECORD**

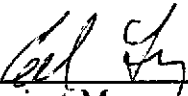


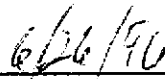
HOUSTON LABORATORY  
8880 INTERCHANGE DRIVE  
HOUSTON, TEXAS 77054  
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 96-06-751

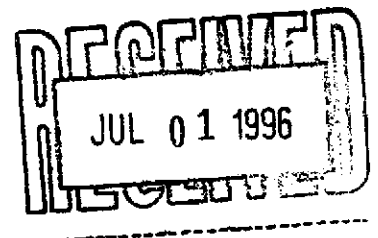
Approved for Release by:

  
\_\_\_\_\_  
Ed Fry, Project Manager

  
\_\_\_\_\_  
Date:

Greg Grandits  
Laboratory Director

Idelis Williams  
Quality Assurance Officer



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

Certificate of Analysis No. H9-9606751-01

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-1

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	0.5 P	µg/L
Ethylbenzene	ND	0.5 P	µg/L
Total Xylene	ND	0.5 P	µg/L

Surrogate

% Recovery

1,4-Difluorobenzene  
 4-Bromofluorobenzene

103  
 123

METHOD 8020\*\*\*

Analyzed by: LJ

Date: 06/23/96

Total Petroleum Hydrocarbons-Gasoline

0.060 0.05 P

mg/L

Surrogate

% Recovery

1,4-Difluorobenzene  
 4-Bromofluorobenzene

97  
 113

CA LUFT - Gasoline

Analyzed by: LJ

Date: 06/23/96 03:38:00

ND - Not detected.

(P) - Practical Quantitation Limit

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

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



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

Certificate of Analysis No. H9-9606751-02

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-2

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	13000	1000 P	µg/L
Benzene	ND	2.5 P	µg/L
Toluene	ND	2.5 P	µg/L
Ethylbenzene	ND	2.5 P	µg/L
Total Xylene	ND	2.5 P	µg/L
<b>Surrogate</b>		<b>% Recovery</b>	
1,4-Difluorobenzene	91		
4-Bromofluorobenzene	95		
METHOD 8020***			
Analyzed by: YN			
Date: 06/24/96			
Total Petroleum Hydrocarbons-Gasoline	8.3	0.25 P	mg/L
<b>Surrogate</b>		<b>% Recovery</b>	
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	80		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 06/24/96 01:07:00			

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

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

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

Certificate of Analysis No. H9-9606751-03

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-3

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	4000	250 P	µg/L
Benzene	51	12 P	µg/L
Toluene	ND	12 P	µg/L
Ethylbenzene	ND	12 P	µg/L
Total Xylene	ND	12 P	µg/L
<b>Surrogate</b>	<b>% Recovery</b>		
1,4-Difluorobenzene	92		
4-Bromofluorobenzene	93		
METHOD 8020***			
Analyzed by: YN			
Date: 06/24/96			
Total Petroleum Hydrocarbons-Gasoline	3.2	0.25 P	mg/L
<b>Surrogate</b>	<b>% Recovery</b>		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	73		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 06/23/96 09:20:00			
Total Petroleum Hydrocarbons-Diesel	0.92	0.050 P	mg/L
<b>Surrogate</b>	<b>% Recovery</b>		
o-Terphenyl	CI		

(P) - Practical Quantitation Limit      ND - Not detected.  
 CI - Coeluting interference.

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

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

Certificate of Analysis No. H9-9606751-03

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-3

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

PARAMETER	ANALYTICAL DATA	RESULTS	DETECTION LIMIT	UNITS
2-Fluorobiphenyl		CI		
CA LUFT - Diesel				
Analyzed by: LT/				
Date: 06/19/96 11:42:00				
BENZENE		45	25 P	ug/L
TOLUENE		ND	25 P	ug/L
ETHYLBENZENE		ND	25 P	ug/L
TOTAL XYLENE		ND	25 P	ug/L
TOTAL VOLATILE AROMATIC HYDROCARBONS		45		ug/L
<b>Surrogate</b>	<b>% Recovery</b>			
1,4-Difluorobenzene		92		
4-Bromofluorobenzene		96		
METHOD 602 *				
Analyzed by: LJ				
Date: 06/23/96				
Liquid-liquid extraction		06/18/96		
METHOD 3510B ***				
Analyzed by: MF				
Date: 06/18/96 14:00:00				
Hydrocarbons by Gravimetry		2	0.5	mg/L
Method 5520 B & F **				
Analyzed by: JN				
Date: 06/18/96 08:00:00				

CI - Coeluting interference. (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. H9-9606751-04

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-4

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTEE	13000	1000 P	µg/L
Benzene	ND	5 P	µg/L
Toluene	ND	5 P	µg/L
Ethylbenzene	ND	5 P	µg/L
Total Xylene	ND	5 P	µg/L

<b>Surrogate</b>	<b>% Recovery</b>
1,4-Difluorobenzene	93
4-Bromofluorobenzene	93

METHOD 8020\*\*\*

Analyzed by: YN

Date: 06/24/96

Total Petroleum Hydrocarbons-Gasoline	8.7	0.5 P	mg/L
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<b>Surrogate</b>	<b>% Recovery</b>
1,4-Difluorobenzene	87
4-Bromofluorobenzene	77

CA LUFT - Gasoline

Analyzed by: LJ

Date: 06/23/96 10:17:00

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

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

**QUALITY ASSURANCE:** These analyses are performed in accordance with EPA guidelines for quality assurance.  
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HOUSTON LABORATORY  
 8880 INTERCHANGE DRIVE  
 HOUSTON, TEXAS 77054  
 PHONE (713) 660-0907

Certificate of Analysis No. H9-9606751-05

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

P.O.#  
 G602063, COC#070741  
 DATE: 06/26/96

PROJECT: BP Oil #11102  
 SITE: Oakland, CA  
 SAMPLED BY: Alisto Engineering  
 SAMPLE ID: S-5

PROJECT NO: 10-076-05/002  
 MATRIX: WATER  
 DATE SAMPLED: 06/13/96  
 DATE RECEIVED: 06/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	0.5 P	µg/L
Ethylbenzene	ND	0.5 P	µg/L
Total Xylene	ND	0.5 P	µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	90
4-Bromofluorobenzene	97

METHOD 8020\*\*\*

Analyzed by: LJ

Date: 06/23/96

Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
---------------------------------------	----	--------	------

Surrogate	% Recovery
1,4-Difluorobenzene	87
4-Bromofluorobenzene	77

CA LUFT - Gasoline

Analyzed by: LJ

Date: 06/23/96 10:45:00

ND - Not detected.

(P) - Practical Quantitation Limit

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

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

*QUALITY CONTROL*

*DOCUMENTATION*



Matrix: Aqueous  
Units: µg/L

Batch Id: HP\_N960622104200

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	47	94.0	20 - 110
Benzene	ND	50	48	96.0	62 - 121
Toluene	ND	50	47	94.0	66 - 136
EthylBenzene	ND	50	51	102	70 - 136
O Xylene	ND	50	49	98.0	74 - 134
M & P Xylene	ND	100	100	100	77 - 140

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

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			MTBE	ND	20	23	115	23	115
BENZENE	ND	20	23	115	23	115	0	25	39 - 150
TOLUENE	ND	20	22	110	22	110	0	26	56 - 134
ETHYLBENZENE	ND	20	24	120	23	115	4.26	38	61 - 128
O XYLENE	ND	20	23	115	23	115	0	29	40 - 130
M & P XYLENE	ND	40	49	122	50	125	2.43	20	43 - 152

Analyst: LJ

Sequence Date: 06/24/96

SPL ID of sample spiked: 9606750-05A

Sample File ID: N\_\_757.TX0

Method Blank File ID:

Blank Spike File ID: N\_\_750.TX0

Matrix Spike File ID: N\_\_772.TX0

Matrix Spike Duplicate File ID: N\_\_773.TX0

\* = Values Outside QC Range

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 (3rd Q '95)

(\*\*\*) = Source: SPL-Houston Historical Data (2nd Q '95)

SAMPLES IN BATCH(SPL ID):

9606751-01A 9606A02-05A 9606751-03A 9606751-03D  
 9606751-04A 9606751-05A 9606A02-01A 9606A02-03A  
 9606A02-04A 9606751-02A 9606750-05A 9606749-08A  
 9606749-09A 9606749-10A 9606749-11A 9606750-01A  
 9606750-02A 9606750-03A 9606750-04A

QC Officer



Matrix: Aqueous  
Units: µg/L

Batch Id: HP\_N960624023200

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	52	104	20 - 110
Benzene	ND	50	49	98.0	62 - 121
Toluene	ND	50	45	90.0	66 - 136
EthylBenzene	ND	50	51	102	70 - 136
O Xylene	ND	50	51	102	74 - 134
M & P Xylene	ND	100	110	110	77 - 140

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

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
MTBE	ND	20	19	95.0	19	95.0	0	20	39 - 150
BENZENE	ND	20	19	95.0	19	95.0	0	25	39 - 150
TOLUENE	22	20	39	85.0	39	85.0	0	26	56 - 134
ETHYLBENZENE	1	20	20	95.0	20	95.0	0	38	61 - 128
O XYLENE	1	20	19	90.0	19	90.0	0	29	40 - 130
M & P XYLENE	2	40	40	95.0	40	95.0	0	20	43 - 152

Analyst: YN

Sequence Date: 06/24/96

SPL ID of sample spiked: 9606A04-02A

Sample File ID: N\_\_812.TX0

Method Blank File ID:

Blank Spike File ID: N\_\_788.TX0

Matrix Spike File ID: N\_\_818.TX0

Matrix Spike Duplicate File ID: N\_\_819.TX0

\* = Values Outside QC Range

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 (3rd Q '95)

(\*\*\*) = Source: SPL-Houston Historical Data (2nd Q '95)

SAMPLES IN BATCH(SPL ID):

9606973-06A 9606973-05A 9606973-04A 9606973-03A  
 9606973-02A 9606973-01A 9606A04-05A 9606751-02A  
 9606751-04A 9606751-03A 9606A04-04A 9606A04-01A  
 9606A04-02A 9606A04-03A 9606973-08A 9606973-10A  
 9606973-11A 9606973-09A 9606A02-06A 9606973-07A

QC Officer



Matrix: Aqueous  
Units: mg/L

Batch Id: HP\_N960623123500

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
Petroleum Hydrocarbons-Gas	ND	1.0	1.1	110	50 - 150

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

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative ‡ Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			PETROLEUM HYDROCARBONS-GAS	ND	0.9	0.94		104	0.94

Analyst: LJ

Sequence Date: 06/22/96

SPL ID of sample spiked: 9606750-03A

Sample File ID: NN\_764.TX0

Method Blank File ID:

Blank Spike File ID: NN\_753.TX0

Matrix Spike File ID: NN\_774.TX0

Matrix Spike Duplicate File ID: NN\_775.TX0

\* = Values Outside QC Range

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

ND = Not Detected/Below Detection Limit

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

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

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

(\*\*) = Source: Temporary Limits

(\*\*\*) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID):

9606749-09A 9606749-10A 9606749-11A 9606750-01A  
 9606750-02A 9606750-03A 9606750-04A 9606751-01A  
 9606A02-05A 9606751-03A 9606751-04A 9606751-05A  
 9606A02-01A 9606A02-02A 9606A02-03A 9606A02-04A  
 9606751-02A 9606750-05A 9606749-08A

QC Officer



Matrix: Aqueous  
 Units: mg/L

Batch Id: HPTT960619053300

B L A N K S P I K E S

S P I K E C O M P O U N D S	Sample Results  <2>	Spike Added  <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(**) (Advisory)	
			Result	Recovery	Result	Recovery		RPD Max.	Recovery Range
			<1>	<4>	<1>	<5>			
DIESEL PETR. HYDROCARBONS	ND	5.0	5.56	111	5.34	107	3.67	43	20 - 130

Analyst: LT/

Sequence Date: 06/19/96

Method Blank File ID:

Sample File ID:

Blank Spike File ID: TT\_794.TX0

Matrix Spike File ID:

Matrix Spike Duplicate File ID:

\* = Values Outside QC Range

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

ND = Not Detected/Below Detection Limit

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

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

(\*\*) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9606751-03B 9606734-06B 9606708-01B 9606708-02B  
 9606355-02C 9606630-01B 9606734-01B 9606734-03B  
 9606734-04B

  
 QC Officer





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

\*\* SPL QUALITY CONTROL REPORT \*\*

Matrix: Aqueous

Reported on: 06/18/96  
Analyzed on: 06/18/96  
Analyst: JN

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Hydrocarbons by Gravimetry  
Method 5520 B & F \*\*

SPL Sample ID Number	Blank Value mg/L	Amt Added mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Recovery %	Relative Percent Difference %	QC Limits Recovery	RPD Max.
BLANK	ND	4.1	105	102	2.9	82. - 112	9.8

960618JN

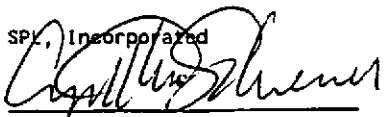
-9606641

Samples in batch:

9606708-01C 9606751-03C

COMMENTS:

SPL, Incorporated

  
QC Officer

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



# SPL Houston Environmental Laboratory

## Sample Login Checklist

Date: 6/15/96	Time: 1000
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SPL Sample ID: 9606751
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		<u>Yes</u>	<u>No</u>
1	Chain-of-Custody (COC) form is present.	✓	
2	COC is properly completed.	✓	
3	If no, Non-Conformance Worksheet has been completed.		
4	Custody seals are present on the shipping container.	✓	
5	If yes, custody seals are intact.	✓	
6	All samples are tagged or labeled.	✓	
7	If no, Non-Conformance Worksheet has been completed.		
8	Sample containers arrived intact	✓	
9	Temperature of samples upon arrival:		3° C
10	Method of sample delivery to SPL:	SPL Delivery	
		Client Delivery	
		FedEx Delivery (airbill #) 9404778046	
		Other:	
11	Method of sample disposal:	SPL Disposal	✓
		HOLD	
		Return to Client	

Name: A. Bonal	Date: 6/15/96
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